The Ecological Emergency: An Anthropological Problem Which Requires the Collective Embracement of the Notion of Interconnectedness.

George Peacock

'A thesis submitted to the University of Gloucestershire in accordance with the requirements of the degree of MA Humanities (by research) in the School of Education and Humanities'

July 2021

Word Count: 32,777

Supervised by Dr Roy Jackson

ABSTRACT

'To end tyranny, we must first understand it'.[1] These were the words of the incredibly influential environmentalist Peter Singer, and this thesis echoes this statement as it attempts to understand the tyranny of humanity in relation to environmental issues. More attention must be given to the fundamental cause of the crisis – anthropocentric chauvinistic idealism. The West has historically embarked on a philosophical evolution which has congealed the notion that we are transcendent from nature. As a result, a dichotomy is present between philosophy and science. Hence, the notion of interconnectedness has failed to be acknowledged, which has proscribed successful environmentalism. However, it is important to assert that the onus of the ecological emergency cannot be entirely attributed to the West as other cultures and traditions have anthropocentric chauvinistic idealistic manifestations too. Therefore, across the world, morality has often not been extended to the natural world. As a result, nature is in peril. However, because of interconnectedness, the peril of the natural world also means that humanity is suffering. This is reflected by the ever-increasing amount of suffering that humanity is experiencing as a result of a change in environmental nature. Therefore, to tackle the ecological emergency, humanity must place interconnectedness at the forefront of its contemplations and manifestations. Crucially, this can be achieved, as certain philosophies such as Buddhism already embrace interconnectedness. Hence, this thesis advocates the transcendence of embracing interconnectedness away from exclusive anthropological parameters and to humanity in general. As the ecological emergency is a global emergency it requires the collective effort. Therefore, this advocation is essential for the wellbeing of this planet. This thesis explores three main topics. Firstly, the unequivocal evidence for the ecological emergency. Secondly, the detrimental ontology of anthropocentric chauvinistic idealism, with a specific focus on the notion of instrumental value. Lastly, ecocentrism and interconnectedness, in contexts of both theory and application. The thesis strives to contribute towards a deeper understanding of the ecological emergency, in the sense of both how we got here, but also how we can pragmatically tackle the crisis.

[1] Peter Singer, *Animal Liberation: With an Introduction by Yuval Harari*, (London: Bodley Head, 2015), p. 213.

DECLARATION

This dissertation is the product of my own work and does not infringe the ethical principles set out in the University's Research Ethics Handbook.

I agree that it may be made available for reference via any and all media by any and all means now known or developed in the future at the discretion of the University.

George Peacock

24h July 2021

DOI: 10.46289/7ZD38H9S

ACKNOWLEDGMENTS

I wanted to take the chance to give my thanks to Dr Roy Jackson for supporting me in the last eight or so months. Not only has he supported me academically, but pastorally too. His guidance has helped me finish not just this thesis, but the other two modules as well. His support is much appreciated.

I also wanted to take the chance to thank Dr Martin Wood for his guidance on the Buddhist elements of this thesis. He pointed me in way of incredibly useful sources that contributed to the development of the thesis. I am grateful for his endless support.

I would like to finish my acknowledgments by thanking my family for the support they have given me throughout my four years at the University of Gloucestershire as both an undergraduate and postgraduate student. It has been a bumpy ride at times, especially in the last eighteen or so months like it has been for everyone else, but their support has guided me through. So, thank you Lesley, James, Grace, Ann, Nicola, and Mike. Couldn't have done it without you.

TABLE OF CONTENTS

INTRODUCTION

Nature is our greatest ally. Our existence and prosperity are contingent on nature. However, the human experience has fundamentally changed, as the natural world has ceased to be a reliable backdrop for anthropological flourishment. Whether you are living in Ethiopia and are experiencing frequent droughts, or whether you are residing in Brazil, and have lost large swathes of native forests. Whether you are a resident in the United Kingdom, and experiencing unpredictable weather, or whether you are living in rural Australia, and are experiencing frequent and intense wildfires, planet earth is changing beyond any precedential recognition. How did humanity deplete the natural order on the scale at which it has? How do we as a species tackle the ecological emergency? These are two fundamental questions which confronts humanity, and this thesis tackles them head-on.

The ecological emergency is fundamentally problematic. Despite some marginal scepticism, it is widely accepted that humanity has both facilitated and intensified the ecological emergency. How did we get to this situation? The answer is very contentious. This is reflected by the immense diversity of opinion on the matter in literature and wider intellect in general. This is one of the research problems. If we cannot grasp the foundations of the crisis, it is logically unfeasible to tackle it. Hence, it is essential that we fully comprehend the deep-rooted causes of the crisis. As Thoreau stated, 'The Question is not what you look at, but what you see'.[2] The second research problem is how to tackle the ecological emergency, in a way that is pragmatic but also effective. Often advocations for solutions are incompatible with reality. For example, the prominent philosopher Næss argued for a vast decline in the human population, which is entirely idealistic and immoral.[3] For any philosophical advocation to be coherent and plausible, it has to work in reality and not just ideology. Hence, any plausible ethic must meet the needs of humanity and the environment simultaneously. Therefore, addressing this research problem is essential. Noticeably, both of the research problems outlined have a common denominator in that a dichotomy between philosophy and science is often present. This prevents effective

[2] Isabella Tree, *Wilding: The return of nature to a British farm* (London, Picador, 2018), p. 117.
[3] Stijn Koenraads, 'Reduction of the Global Human Population: A Rectificatory Argument based on Environmental Considerations' (Dissertation thesis, Linköping University, 2016), p. ii.

environmentalism. Thus, the removal of this dichotomy in our discourses is imperative. This is achievable by advocating philosophical ideals which are grounded in scientific actualities.

The central aim of this thesis is to advocate for a more balanced approach between humanity and the natural world, on the premise of the scientifically verifiable notion that all life is interconnected. This naturally entails the interdependency of ecosystems, via a causal relationship of cause and effect which evidently pertains. Hence nature's demise is humanity's demise. All life is subsequently one 'meta entity'. The thesis strives to illustrate that it is imperative for the wellbeing of humanity to sustain the existence of the natural world, and not drive it to an existential fate. This thesis therefore proposes a shift in philosophical rational within the paradigm of environmental ethics away from normative exclusive anthropocentric idealism, and towards an 'eco-friendlier' way of perceiving the natural world. This is achievable by both acknowledging and embracing interconnectedness. However, this embracement must be collective and transcend lines of identity and division within socially constructed parameters. This transition vitally ensures that there is not a dichotomy between anthropological ideological expression and science. Optimistically, certain philosophies such as Buddhism already embrace interconnectedness. Therefore, much attention is given to Buddhism in this thesis.

However, humanity must go further as the world is in a perilous situation. This concern is echoed by scientists across the world. For example, in 2019, 11,000 scientists from 153 nations warned of 'untold suffering' unless there are widespread changes in our societies.[4] Therefore, this thesis is deep-rooted in reality and is not exclusively ideologically driven. In addition, the thesis is pragmatic in that it is advocating for a solution which scientists resonate. Scientists acknowledge interconnectedness as they have identified the link between humanity and the environment. Hence this thesis is advocating for the extension and transcendence of interconnectedness from exclusive anthropological parameters, thus ensuring interconnectedness is embraced by all. Only then will we start to see the desirable changes required to tackle the ecological emergency.

[4] Damian Carrington, *Climate crisis: 11,000 scientists warn of 'untold suffering'* (2019) <Climate crisis: 11,000 scientists warn of 'untold suffering' | Climate change | The Guardian> [accessed 17 July 2021].

The first research objective of the thesis is to show that there can be no doubt that the ecological emergency is acute. The second is to affirm the notion that the onus of responsibility of the crisis is placed onto humanity. The third is to illustrate the detrimental nature of the anthropocentric chauvinistic ontology of instrumental value, which has an inherently flawed and problematic perception of nature. This indicates that anthropocentrism is a juxtaposition because disregard for anything other than humanity is prohibiting our own flourishment, which anthropocentrism is meant to promote and ensure. This subsequently alludes the importance of philosophy within the parameters of the ecological emergency. The fourth is to explore anthropocentrism's philosophical counterpart – ecocentrism. This too implies the importance of philosophy. Penultimately, to advocate for the collective embracement of interconnectedness, examining it theoretically within the constraints of Buddhism, but also applying it to contemporary issues in order to reveal its credibility. Lastly, to indicate that tackling the ecological emergency does not have to be radical in many instances and evolving our normative anthropocentric frameworks can ensure highly desirable outcomes.

For purposes of clarity, it is important to make key clarifications and distinctions about the thesis. Firstly, when the thesis refers to the 'ecological emergency' it is referring to the environmental and ecological crisis which is both significantly impacting the natural world and humanity simultaneously. Often the term 'climate change' or 'climate crisis' is used when one refers to the adverse effects in our ecological systems. However, this thesis is not exclusively focusing on climate change, as climate is only one aspect of ecology - it does not necessarily incorporate animal species. Instead, the thesis is looking at 'ecological wholes'. Therefore, a term which incorporates ecology is most apposite. Coined by Haeckel, ecology refers to 'the entire science of relations of the organism to the surrounding exterior world, to which relations we can count in the broader sense all the conditions of existence'.[5] This thesis is critiquing humanity's relationship with nature, and alas advocating for transformative change. The term ecology and subsequently 'ecological emergency' embraces this, thereby ensuring its suitability for the thesis.

[5] K. Friederichs, 'A Definition of Ecology and Some Thoughts About Basic Concepts', *Ecology*, 39.1, (1958), 154-159 (p. 154).

The second clarification that ought to be provided is what the thesis means by the term 'environmental ethics'. It is not easy to define environmental ethics.[6] Hence why clarity of this thesis' perception of the ontology of environmental ethics is required. This thesis echoes Comstock's characterisation of environmental ethics as 'a range of different moral theories which share either the idea that humans have direct duties to nature or the idea that humans have significant indirect duties regarding nature'.[7] However, a further distinction about morality ought to be made. This thesis is not theistic in the sense that it is not advocating solutions centred on the premise that a supernatural 'meta' entity exists and consequently are ultimately answerable to. Instead, it is advocating a notion which is logical and present in both science and philosophy. Interconnectedness acknowledges the intricacy of this finite planet, and that our wellbeing is contingent on the wellbeing of the environment. Therefore, it is morally erroneous to consciously deplete the natural order, something which is actively occurring. Hardin was right to deem the ecological emergency a 'tragedy', as we are actively destroying the natural word, but often naïve to the consequences that it has and will continue to have for humanity.[8] Thus, morality in the context of this thesis is detached from any theistic connotations of the term.

It is also important to clarify what this thesis means by the phrase 'embracing interconnectedness'. In this context, 'embracing interconnectedness' is an advocation for humanity to incorporate the fact that everything in this world is interwoven. As rational sentient beings, one has the ability to contemplate their thoughts and actions. However, it is even more imperative that institutions, corporations, and governments embrace interconnectedness too, as they ultimately have the most power and influence. This advocation would ensures a more egalitarian anthropological ethic with the environment, which ultimately benefits all. Often, humanity is too short-sighted, and fails to consider the broader consequences of our actions.

Another clarification that ought to be made is the ethical paradigm in which this thesis is advocating. Often philosophical literature can be classified as 'ecocentric' or 'anthropocentric'. Whilst this thesis critiques anthropocentric chauvinism, it is not

[6] Gary Comstock, 'Theism and environmental ethics', in *A Companion to Philosophy of Religion*, ed. by Philip Quinn, and Charles Taliaferro (Oxford, Blackwell Publishers Ltd, 1997), p. 505.
[7] Ibid.
[8] Elizabeth Fisher, *Environmental Law* (Oxford, Oxford University Press, 2017), p. 17.

advocating for an abandonment of anthropocentrism. Instead, it is arguing for humanity to evolve its anthropocentric frameworks by embracing interconnectedness. Not only does this ensure a more egalitarian approach between humanity and the natural world, but it also enables humanity to prosper. As anthropocentrism puts the interests of humanity at the forefront, it would be illogical to promote the abandonment on anthropocentrism. After all, it is natural to place oneself first. However, as anthropocentric chauvinistic norms are detrimental to both humanity and the environment, it is logical to advocate anthropocentrism to embrace interconnectedness, as it would ultimately benefit humanity. This would remove the inherently contradictory nature of anthropocentric chauvinistic ideals such as instrumental value. Therefore, it can be logically portrayed that embracing interconnectedness is actually anthropocentric, as it is still concerned with the needs of humanity.

It is also necessary to state that additional key terms in this thesis (for example, anthropocentrism, and ecocentrism), are later defined in the thesis. This is ultimately required in order to removal the potential of jargon and subsequent bewilderment for the reader.

Given the colossal latitude of the ecological emergency it is essential to highlight that this thesis is not portraying itself as an entire guide to the crisis. As a species, humanity is incredibly diverse, reflected by the rich array of cultures, religions, traditions, philosophies, ethnicities, and so forth. Hence, an individual thesis cannot possibly cover the whole scope. Nevertheless, this thesis is essential because it identifies the major topics in this area, namely anthropocentrism and ecocentrism. They are both themes that transcend conventional lines of human identity, as they are found throughout the world in an immeasurable number of contexts. However, this thesis cannot logically cover all aspects of these themes, instead it homes in on particular aspects instead, specifically instrumental value and interconnectedness. Therefore, to summarise, this thesis is not hegemonic. There are many other additional factors which are significant that have not been addressed. Hence the thesis aims to contribute to epistemology in this area of study, not attempt to cover the whole issue. Thus, this research should not be used as an exclusive guide to the ecological emergency, but as a complimentary guide.

The philosophical ontology of the thesis does not diminish the worth of this research, instead it adds to the worth, as philosophy shapes human manifestations. As Baggini stated, 'Most people do not consciously articulate the philosophical assumptions they have absorbed and are often not even aware that they have any, but assumptions about the nature of self, ethics, sources of knowledge and the goals of life are deeply embedded in our cultures and frame our thinking without our being aware of them'.[9] By analysing instrumental value, this thesis illustrates that philosophy has heavily contributed to the demise of the natural world, as anthropocentric norms have theoretically justified its demise, and subconsciously our own too. However, philosophy can actually help tackle the ecological emergency. Despite interconnectedness being grounded in scientific actuality, the concept is present in various philosophies, such as Buddhism and ecocentrism. Hence, it is impossible to detach philosophy from the topic of the ecological emergency. In addition, the fight to tackle the crisis is contingent on the evolution of our anthropocentric frameworks. As a species we cannot progress if we do not acknowledge the fundamental inadequacies of our previous thoughts and actions. This is echoed by Minteer who found that environmentalists 'share a common worldview: the jettisoning of older constraints on our manipulation of nature and the transformation of norms and ethical relationships premised on our exercise of restraint on the landscape'.[10] Hence, the need to analyse the causal link between philosophy and the ecological emergency is necessary.

The importance of philosophy in both the topic and this thesis leads to another important clarification to be made. This thesis critiques the philosophical notion of instrumental value, which is significant in traditional Western philosophy, but is also present across the world. This thesis also examines ecocentrism in much detail, and the links between Buddhism and environmentalism too. Therefore, philosophical inquires in this thesis are of philosophies across the world. Thus, the term 'philosophy' in this thesis has been used the broadest possible sense. There is much debate on whether Eastern philosophy can really be framed as a philosophy (in comparison to Western philosophical parameters). As Has indicated, it is often portrayed that there are inherent differences

[9] Julian Baggini, *About time: why western philosophy can only teach us so much* (2018) <About time: why western philosophy can only teach us so much | Philosophy | The Guardian> [accessed 13 July 2021].
[10] Ben A. Minteer, *The Fall of the Wind: Extinction, De-Extinction, and the Ethics of Conservation* (New York, Columbia University Press, 2019), p. 119.

between the two.[11] The East is portrayed as using intuition, whereas the West uses concepts by postulation.[12] Moreover, Eastern philosophers are deemed primarily practical, whereas Western philosophers are deemed primarily theoretical.[13] However, this thesis deploys the term 'philosophy' in a way that surpasses these inherent differences. This thesis views philosophy as 'a way of life'. This means beliefs, ideas, norms, cultures, and traditions which enlighten our contemplations and manifestations. This thesis additionally echoes Russell's categorisation of philosophy as 'something intermediate between theology and science'.[14] Using this categorisation, both Western and Eastern philosophy can indeed be logically portrayed as a philosophy, on the premise that they are both intermediate between theology and science, and that they both advocate ways of living. Hence, it is not illogical to portray them both as a philosophy in their own right.

However, despite the significance of philosophy, its significance has sometimes been underestimated in academic discourses concerning the ecological emergency (outside philosophical academic parameters). Much attention has been given to the scientific aftereffects of the ecological emergency, and the onus has been ascribed to humanity. However, it is fundamental that extensive analysis as to how and why humanity has changed the natural world beyond recognition is undertaken. This analysis must be deep-rooted and not mere identification of actions, such as deforestation and poaching. Deep-rooted analysis of this nature requires examinations of our contemplations – our ideals, norms, and philosophies. Our contemplations shape our manifestations, and our contemplations are often inauspicious. Therefore, analysis of the 'how' we came to be in this situation is not just identification of physical actions, it goes much further than that. Logically, if we cannot analyse and evolve our ideals, norms, and philosophy/ies, then we cannot tackle the ecological emergency, as we are not tackling the deep-rooted issues which have facilitated and intensified the crisis. This analysis is imperative, as a dichotomy between philosophy and science is present in many instances. Therefore, this thesis is innately cross-disciplined, as it is examining the causal link between philosophical ideals and

[11] A. C. Das, 'Similarities in Eastern and Western Philosophy', *The Review of Metaphysics*, 5.4, (1952), 631-638 (p. 631).
[12] Ibid.
[13] Ibid.
[14] Bertrand Russell, *History of Western Philosophy and its Connection with Political and Social Circumstances from the Earliest Times to the Present Day* (Woking, Unwin Brothers Limited, 1946), p. 10.

scientific evidence. This subsequently alludes the innate degree of expository within the thesis.

This research is additionally significant because of the severity of the ecological emergency. As Maslin stated, the environmental crisis means 'a huge increase in misery for billions of people'.[15] This is entirely accurate, as the ecological emergency is also increasing inequality, and causing numerous health issues. As the distinguished David Attenborough stated at a UN Security Council meeting, "Please, make no mistake. Climate change is the biggest threat to security that modern humans have ever faced".[16] Attenborough's sentiments were echoed by UN secretary-general António Guterres who defined the situation as a "crisis multiplier".[17]

The ecological emergency proves that humanity is on an unsustainable trajectory. Hence, the wellbeing of all is contingent on analysis as to how the situation arose and to the intensity at which it has. One cannot put right the errors of the past if one fails to acknowledge the mistakes made. Therefore, central to tackling the ecological emergency is acknowledging how the emergency came to fruition to begin with. Academia therefore has an essential role to play in tackling the ecological emergency. It is important to reiterate that academic inquiry into the ecological emergency is not limited to a specific academic discipline. The crisis transcends conventional lines of academic subjects, as the issue poses questions about the fundamental ontology of humanity. As Maslin stated, the crisis 'is one of the few scientific theories that makes us examine the whole basis of modern society'.[18]

However, like any thesis, naturally there are limitations. For example, this introduction has already identified that the scope of the ecological emergency is far too great for one thesis to cover. Therefore, this makes generalisations illogical. As Cudworth noted, 'our conceptualization of the relations between society and the environment differs historically and cross-culturally'.[19] Thus, critiques of anthropocentric norms such as instrumental value cannot universally be attributed to humanity as a whole, as some

[15] Mark Maslin, *Climate Change*, 3rd edn (Oxford, Oxford University Press, 2014), p. xvii.
[16] Daisy Dunne, *Climate crisis 'biggest security threat humans have faced', Sir David Attenborough tells UN* (2021) <Climate crisis 'biggest security threat humans have faced', Sir David Attenborough tells UN | The Independent> [accessed 14 July 2021].
[17] Ibid.
[18] Mark Maslin, *Climate Change*, 3rd edn (Oxford, Oxford University Press, 2014), p. xvii.
[19] Erika Cudworth, *Environment and Society* (London, Routledge, 2003), p. 1.

cultures do not incorporate the norm as part of their normative ideological frameworks (although many do). However, this does not diminish humanity's responsibility for the ecological emergency. The inability for this thesis to make generalisations also applies to other elements of the thesis. For example, it would be illogical to generalise the ecocentric paradigm as unpragmatic. Hence the thesis specifically critiques Næss. The failure to make generalisations does not diminish the worth of the advocation of the embracement of interconnectedness as it is in the collective interest to do so.

Another potential limitation of the thesis is the resources readily available for research. One resource which was lacking was time, as this thesis has been formulated in a relatively short space of time, due to factors beyond personal control. In addition, due to the ongoing COVID-19 pandemic, access to academic support has been made more difficult. This is no reflection of any individual, but a mere reflection of the situation which contemporarily faces us all. In addition, access to resources has been made much more difficult, and has impacted that the type of research that could be undertaken too. Hence, various websites and online articles have been used when access to physical relevant literature has not been attainable.

This introduction closes with the structural outline of the thesis. Chapter one will undertake an examination of the relevant literature for this thesis as well as exploring some of the key methodologies undertaken for the thesis' research. Chapter two is based on theoretical examinations, as it defines and contextualises anthropocentrism and the Anthropocene, as well as exploring a key scientific concept for the ecological emergency - biodiversity. Chapter three provides key evidence and outlines the significant causes of the ecological emergency, to affirm that evidence for the crisis is unequivocal. It is important to note that this chapter does not cover every factor of the crisis, but instead highlights some of the key factors that are a result of anthropocentric chauvinistic norms in order to validate this thesis' claim/s. Chapter four explores the inextricable link between anthropocentrism and COVID-19 to illustrate that our actions towards the environment are detrimental to humanity as well as the environment. COVID-19 therefore indicates that we must change our normative ways of thinking, as our actions are evidently both unsustainable and detrimental. Chapter five examines a key anthropocentric chauvinistic norm which has greatly intensified the ecological emergency – instrumental value. The notion is defined and

contextualised, before analysis as to why it is so problematic is given. A degree of consideration to instrumental value's counterpart intrinsic value, is also given. Chapter six examines anthropocentrism's philosophical counterpart – ecocentrism. The chapter defines and contextualises the paradigm as well as examining the strengths and limitations of the theory. Chapter seven specifically focuses on one philosophical theory that is often deemed 'ecocentric', and that theory is Buddhism. The chapter examines Buddhist theory and its links to environmentalism, as well as highlighting its plausibility as it is a theory which embraces interconnectedness. Hence why great attention has been given to Buddhism, as it reflects this thesis' advocations. Chapter eight shifts away from theoretical philosophy, and instead focuses on the application of interconnectedness to two key topics within contemporary environmentalism – rewilding and capitalism. For any philosophical theory to be plausible it has to work in reality and not just ideology. Some could claim that this is a juxtaposition, as this statement could be interpreted as an exclusively ideological statement. Hence, it is imperative to apply interconnectedness to reality. To illustrate this, the case study of the reintroduction of the lynx into the United Kingdom as part of a rewilding programme has been analysed, and the case study of the gorilla and tourism in Africa has been used for capitalism. These case studies reveal that this advocation is not merely ideological and is grounded in pragmatism. The last section of the thesis summarises this thesis' findings and advocations, before identifying areas that require further inquiries.

CHAPTER ONE: LITERATURE REVIEW AND METHODOLOGIES

I cannot claim the formulation of this thesis' title to be entirely of my own philosophical ingenuity. The title has been inspired by the title of chapter one *'An Anthropogenic Problem That Requires an Ecocentric Solution'* in the book '*Climate Change and the Voiceless'* by the author Abate.[20]The quote formulated by Abate appropriately summarises the ecological emergency as an 'anthropogenic problem'. Therefore, the quote has been extended and modified to cover the full scope of the thesis, as it largely reflects the ontology of this research. This research aims to identify the cause/s of the ecological emergency, before progressing to advocate for interconnectedness. This thesis therefore strives to contribute to the contemporary development of philosophical epistemology within the environmental ethical paradigm. Hence, the application of this quote highlights the entire telos of this piece and is subsequently a great title to deploy for this thesis.

However, whilst Abate alluded to a shift away from anthropocentrism and towards ecocentrism, my thesis is not advocating for such a radical transformation. This is why the title of Abate's chapter has been altered for this thesis, because despite similarities between this thesis and the book's ontology, there are also inherent differences. This thesis identifies anthropocentrism as a natural phenomenon. However, the thesis seeks to illustrate that anthropocentrism's current perspective of nature is fundamentally flawed, as the depletion of nature is depleting humanity simultaneously. Therefore, anthropocentrism can be contemporarily deemed a juxtaposition. Hence, the thesis advocates humanity to embrace interconnectedness, so that anthropocentrism can enable humanity and the natural world to prosper simultaneously. Hence, via analysis, this thesis is a dialectical attempt to illustrate the epistemological illogicalness of contemporary prescriptive anthropocentric norms, as it fails to encompass significantly crucial scientific evidence notions. Moreover, there is also a large degree of an axiological nature to the thesis, as the notion of the interconnectedness of life bestows value to the environment.

[20] Randall S. Abate, *Climate Change and the Voiceless: Protecting Future Generations, Wildlife, and Natural Resources*, (Cambridge: Cambridge University Press, 2020), p. 1.

Whilst this thesis is largely centred on philosophical inquiry, the topic of the thesis means that the research is innately cross-disciplinary. This gives the thesis a large degree of uniqueness, but a cross-disciplined approach to the topic of the ecological emergency is the most coherent approach to undertake. After all, the ecological emergency contemporarily manifests itself in the realms of geographical, biological, and ecological reality. Nevertheless, philosophy has shaped the ecological emergency's existence, as philosophy is at the heart of what it means to be human. Philosophy has enabled the depletion of the natural order to become theoretically justified, through notions such as speciesism, which are often exacerbated by philosophical and theological doctrines. Therefore, when analysing the ecological emergency, it is impossible to do so through the exclusive scope of scientific or philosophical parameters. In this instance, the two subjects are intertwined, and are subsequently inseparable from one another. Moreover, this thesis is by no means exclusive to science and philosophy either. Religion, sociology, history, geography, economics, and politics are all inseparable from the ecological emergency too. Therefore, this thesis is somewhat unique, as it transcends conventional lines of academic disciplinary borders.

However, whilst this thesis is multi-disciplinary, whilst some quantitative research has been undertaken, qualitative research has been the central focal point for this thesis' research. Qualitative research has been used in this thesis to explain particular phenomena; hence this was the most suitable form of methodology to use. As Queirós, Faria, and Almeida highlighted, qualitative methodology 'intends to understand a complex reality and the meaning of actions in a given context'.[21] In addition, qualitative data can help make sense of quantitative data. For example, quantitative data can identify the number of animals killed for poaching, but qualitative data can explain the cultural and philosophical presuppositions that theoretically and morally justify the act of poaching. Therefore, qualitative research helps one discover the deep-rooted causes of the ecological emergency. Hence, mixed-methods research with a large focus on qualitative research suits this thesis deeply.

In addition, the thesis' title illustrates that qualitative research is well suited to philosophical inquiry. There can be no logical suspicion that the ecological emergency is not

[21] André Queirós, Daniel Faria, Fernando Almeida, 'Strengths and Limitations of Qualitative and Quantitative Research Methods', *European Journal of Education Studies*, 3.9, (2017), 369-387 (p. 369).

an anthropological-induced reality. Although, identifying the causes and factors of the ecological emergency is by no means straightforward. However, the use of qualitative methodology and its unstructured forms such as textual exegesis enabled the level of depth of analysis required to facilitate the identification of the causes of the ecological emergency. This has been achieved by examining how philosophical and cultural notions such as instrumental value enable the manifestation of 'normal' contemporary practises such as logging, poaching, and in general, the depletion of the natural order. Therefore, the link between literature, belief, and reality has been made. This has only been achievable by using mixed-methods research, but with a large focus on qualitative methodology.

This introduction has shown that the thesis contains an innate degree of ethnography to both its ontology and epistemology. Ethnography is a key to this thesis because of the thesis' telos. As Reeves and Hodges stated: 'the central aim of ethnography is to provide rich, holistic insights into people's views and actions, as well as the nature (that is, sights, sounds) of the location they inhabit'.[22] Moreover, as Hammersley stated: 'the task [of ethnographers] is to document the culture, the perspectives, and practises, of the people in these settings. The aim is to 'get inside' the way each group of people sees the world'.[23] The aim of directly 'getting inside' the way each group of people see the world from a 'first-hand' perspective has been somewhat unachievable given the current ongoing situation with the COVID-19 pandemic and its consequential lockdowns. Nevertheless, literature, and other source forms such as videos, and images has enabled the research to tap into and thus discover the way groups of people see the world.

This thesis is analytical and has specifically used conceptual analysis. As Hanna outlined, the theory of conceptual analysis states that 'concepts – general meaning of linguistic predicates – are the fundamental objects of philosophical inquiry, and that insights into conceptual contents are expressed in necessary 'conceptual truths' (analytic propositions)'.[24] A pivotal function of conceptual analysis is the determining of how a notion or concept relates to other philosophical problems. This is a key feature of the research, as

[22] Scott Reeves, and Brian David Hodges, 'Qualitative research methodologies: ethnography', *BMJ*, 337.1, (2008) in <Qualitative research methodologies: ethnography | The BMJ> [accessed 20 May 2021].
[23] Ibid.
[24] Robert Hanna, *Conceptual Analysis* (1998) <Conceptual analysis - Routledge Encyclopedia of Philosophy> [accessed 16 May 2021].

the research determines how anthropocentrism in many of its forms correlates to the ecological emergency. Therefore, without conceptual analysis, the thesis would not be able to make a plausible advocation for the incorporation of interconnectedness into our anthropological normative frameworks, as it would fail to have a coherent philosophical underpinning. Conceptual analysis is at the core of this thesis' main research method; textual exegesis, which is the explanation or critical interpretation of a text.[25] For example, whilst the first part of the thesis portrays the reality and severity of the ecological emergency, the rest of the chapters are contingent on textual exegesis. This thesis criticises anthropocentrism in detail, before examining ecocentrism and interconnectedness in depth.

For purposes of analysing literature, it is important to reiterate that philosophical advocations and solutions within the environment paradigm must work in reality, otherwise they are not plausible. This is a crucial distinction in philosophical academia, but often gets overlooked in the environmental ethic paradigm. This cumulated in the framing of the thesis' major research problem – a dichotomy between philosophy and science which is often present in traditional Western philosophy. Key philosophers within these frameworks often fail to recognise this crucial distinction. For example, Næss was an advocator of biological egalitarianism in order 'to create "an awareness of the equal right (of all things) to live and blossom"'.[26] This is problematic as if defies scientific consensus' about egalitarianism in the natural world, as egalitarianism does not appear to pertain. Nature is often 'brutal' and deeply unequal. The suffering that animals experience from other animals illustrates this. Additionally, Næss proposed that humanity should rapidly reduce its population to assuage pressure on the environment.[27] This is simply not practical or realistic, and innately immoral. Environmental ethical ideologies that possess this rhetoric are not useful and deeply divisive.

Næss' philosophy subconsciously reveals a void between science and philosophy, as Næss' advocations appear conspicuously in philosophical paradigms, with little incorporation of scientific notions, and alas reality. This too is the case for Lovelock, who is

[25] Marriam-Webster, *exegesis* (2021) <Exegesis | Definition of Exegesis by Merriam-Webster> [accessed 18 May 2021].
[26] Timothy W. Luke, 'Deep Ecology: Living as if Nature Mattered: Devall and Sessions on Defending the Earth', *Organization & Environment*, 15.2, (2002), 178-186.
[27] Stijn Koenraads, *'Reduction of the Global Human Population: A Rectificatory Argument based on Environmental Considerations'* (Master's thesis, Linköping University, 2016).

regarded as the founder of the 'Gaia hypothesis'. Whilst this thesis echoes that the world is a self-regulating entity, it rejects Lovelock's belief that 'life defines the material conditions needed for its survival'.[28] If this was the case, that something other than material conditions ensure and sustain life, why is life depleting at an exponential rate due to the decline in quality of material conditions on this earth? Further evidence of a dichotomy between science and philosophy. As Paterson alluded, this is a barrier to successful conservation and wider environmentalism.[29]

This thesis aims to contribute to this, by acquiring an advocation that is philosophically rational and coherent but also takes scientific evidence into deep consideration simultaneously (in order to ensure the thesis is pragmatic). Hence, the thesis' research aims, and objectives are formulated on bridging the gap between science and philosophy. Moreover, this thesis attempts to look at the 'big philosophical picture', and therefore transcends traditional environmental ethical phenomenology such as the moral status of individual animals, or analogies. It is to my opinion, that specific issues or analogies in isolation are mundane in the fight against ecological emergency. This thesis is of a habitually 'meta' nature.

Paterson's journal article *'Ethics for Wildlife Conservation: Overcoming the Human-Nature Dualism'* is the most influential source for this thesis' research as it identifies this dichotomy.[30] This is because its research aim echoes the research aim of this thesis, thus illustrating its commonality. The article explores notions such as instrumental value, intrinsic value, extensionist ethics, and Buddhism too. Whilst each section is not significantly detailed in length, it provides an excellent introductory source that helps this research identify additional sources. Moreover, literature that link philosophy and ethics to the contemporary ecological emergency in this particular way is relatively uncommon. Hence having a source which makes links between the two disciplines is key as it contributes enormously to the development of the research undertaken. Moreover, it is essential to find literature that not

[28] F. Herbet Bormann, 'Review: The Gaia Hypothesis', *Ecology*, 62.2, (1981), 502 (p. 502).
[29] Barbara Paterson, 'Ethics for Wildlife Conservation: Overcoming the Human-Nature Dualism', *Bioscience*, 56.2, (2006), 144-150 (p. 144).
[30] Ibid.

only addresses the voids in your topic, but also reaffirms your own personal rationale and intellect, by providing support to it.

To illustrate that the thesis has been formulated upon extensive analysis of pre-existing literature, it is necessary to provide a summary of some of the prominent texts for this thesis' inquiries. '*Animal Rights'* by DeGrazia is a great introductory text that contributed to the formulation of the structure of the thesis, as it covers various subtopics enabling links between topics to be discovered.[31] One example is the link that DeGrazia made between Eastern philosophy and being environmentally mindful. Furthermore, *'Animal Liberation'* by Singer is key as Singer contributed to the development of this thesis' critique of instrumental value.[32] Moreover, *'Man's Responsibility for Nature'* by Passmore also provided a sound basis for analysis of instrumental value.[33] In addition, Marchesini's journal article *'Against Anthropocentrism*' provided a working definition of anthropocentrism.[34] This provided a solid framework for the thesis to be formulated upon, as it provided a working definition of anthropocentrism which enabled the thesis to later critique anthropocentrism.

Furthermore, McShane's chapter *'Ecocentrism*' in *'Critical Environmental Politics'* was enormously useful to the thesis' research as the chapter provides an in-depth contextual account of the paradigm of ecocentrism.[35]. McShane's chapter enabled a broad understanding of the ecocentric paradigm which later enabled a more specific targeted approach. An essential source for researching Buddhism was Bilimoria's chapter *'Buddha'* in '*Fifty Key Thinkers on the Environment'* as it covers Siddhartha Gautama's philosophy within the context of environmentalism and interconnectedness.[36] This affirmed the notion that Buddhism is innately affiliated with environmentalism. This understanding of Buddhist philosophy was enhanced by the chapter *'Socially Engaged Buddhism'* by King in *'Buddhism*

[31] David DeGrazia, *Animal Rights*, (Oxford: Oxford University Press, 2002).
[32] Peter Singer, *Animal Liberation: With an Introduction by Yuval Harari*, (London: Bodley Head, 2015).
[33] John Passmore, Man's Responsibility for Nature, 2nd edn (London: Gerald Duckworth & Co. Ltd., 1980).
[34] Roberto Marchesini, 'Against Anthropocentrism. Non-human Otherness and the Post-human Project', *Nanoethics*, 9.1, (2015), 75-84.
[35] Katie McShane, 'Ecocentrism', in *Critical Environmental Politics*, ed. by Carl Death (Oxford, Routledge, 2014), pp. 83-90.
[36] Purushottama Bilimoria, 'Buddha', in *Fifty Key Thinkers on the Environment*, ed. by Joy A. Palmer (London: Routledge, 2001).

in the Modern World'.[37] This book applied Buddhist philosophy to contemporary environmentalism. Hence, this chapter informed the thesis of how interconnectedness can be pragmatically extended to environmental affairs.

All the key literature identified in this chapter has so far been philosophical literature. Additional sources outside of philosophical parameters were also significant. For example, various films and documentaries such as *Extinction: The Facts* were explored and examined, as they visibly illustrate the reality of the ecological emergency.[38] This enabled a richer understanding of the crisis which ensured vital context. This ensured that the research and subsequently the thesis merged scientific evidence and philosophical inquires throughout the research. This also enabled the thesis to deduce the coherence of advocating the embracement of interconnectedness, which is present in philosophical / theological and scientific parameters. Therefore, research of sources outside of the philosophy discipline helped 'make sense' of philosophical literature.

There were also additional important book sources outside of philosophical parameters. For example, the book *'Rewilding'* by Jepson and Blythe is key for this thesis, as the authors use a progressive approach to conservation which benefit nature and people simultaneously.[39] Therefore, this book echoes the sentiments that this thesis portrays. In addition, the book *'State of the Wild: A Global Portrait of Wildlife, Wildlands, and Oceans*' was valuable as one particular section by Cook and Karesh explored how diseases are emerging as a consequence of humanity's actions.[40] This thesis uses the example of COVID-19 to illustrate that our relationship with the natural world is fundamentally flawed. Hence, this chapter supported the thesis' ideals.

Given the nature of the research, literature in this area is abundant. However, the literature used for research has been carefully selected. All the literature outlined, has been hugely significant in the identification of topics to address, and the subsequent formulation

[37] Sallie King, 'Socially Engaged Buddhism', in *Buddhism in the Modern World*, ed. by David McMahan (Abingdon, Routledge, 2012), pp. 195-214.
[38] *Extinction: The Facts*, dir. by Serena Davies (BBC, 2020).
[39] Paul Jepson and Cain Blythe, *Rewilding: The Radical New Science of Ecological Recovery*, (London: Icon Books Ltd, 2020).
[40] Robert A. Cook, and William B. Karesh, 'Emerging diseases and conservation: one world, one health', in *State of the Wild: A Global Portrait of Wildlife, Wildlands, and Oceans*, ed. by Eva Fearn (Washington: Island Press, 2009), pp. 71-73.

of the thesis' goal. The combination of literature has ensured that the thesis' advocation is grounded in actuality. Hence, this thesis fills a literature void and contributes to the essential debate about humanity's relationship with the natural world, which is a crucial topic given the ever-worsening of the crisis.

CHAPTER TWO: ESSENTIAL THEORETICAL THEMES AND TERMS

Within the anthropological paradigm are two core themes which this thesis has identified as of being of large significance. These two themes are anthropocentrism, and the Anthropocene. Therefore, this chapter defines and examines both themes, to provide a rational conception of these terms' ontologies. This provides the theoretical framework required to enable the examination of some of the main driving factors of the ecological crisis in the next chapter. Hence this chapter is essential to the overall thesis as it enables the reader to gain a deep level of theoretical understanding. This will subsequently enable the reader in the next chapter to see the inextricable link between anthropocentrism and the natural world's peril. This too enables the argument for the embracement of interconnectedness to be later made in the thesis. In addition, by providing a theoretical definition of anthropocentrism at the early stages of the thesis, one will know what the thesis is referring to when it mentions anthropocentrism throughout. This is vital, as anthropocentrism is criticised throughout the thesis as being inherently detrimental to the natural world and is subsequently at the core of this thesis' discourse. Therefore, defining anthropocentrism ensures clarity and removes any potential for jargon.

However, there is an additional theoretical term that must be addressed in order to supplement the aim and objectives of this thesis. Given the dire state of the natural world, many wildlife species are in peril. Whilst this chapter does not examine this, the next chapter does. Nevertheless, this chapter theoretically defines biodiversity – a term that is critical to the study of species and entire ecosystems. Therefore, in the same way as theoretically defining anthropocentrism and the Anthropocene, defining biodiversity enables the contemporary to be explored in the next chapter. Hence this chapter is based on the theoretical, and the next chapter is based on the reality of the crisis.

Before this chapter examines the three key theoretical themes, it is essential to assert that there is no degree of hegemony to this chapter. This chapter does not cover all theoretical terms and themes for the contemporary ecological emergency. As aforementioned, the scope of this topic is immeasurably seismic. Hence, the phrase

'essential theoretical terms' has been deployed in relation to this thesis' research aims and not the ecological emergency in its entirety.

DEFINING ANTHROPOCENTRISM

Ever-since philosophical discourse encompassed the notion of environmental ethics, much has been centred around the value in which humanity bestows to the natural world.[41] The two contrasting opinions on this debate can be summarised as eco-centric (non-human centred) and anthropocentric (human-centred).[42] Consequently, polarity is present. However, for one to frame how anthropocentrism is responsible for the ecological emergency, one must have a more rigours perception of the term, than just 'human-centred'. Central to this is exploring the nature and different branches of the term.

Marchesini highlighted that anthropocentrism is an 'elusive perspective, which, moreover, contains numerous internal ambiguities and ambivalences'.[43] It is a term that lacks conceptual clarity, and finds itself embedded within academic jargon. However, this does not mean that it is impossible to provide a rational definition of anthropocentrism. Despite Marchesini highlighting the elusiveness and ambiguated nature of anthropocentrism, he did coherently distinguish and define two anthropocentric views. The first view is, 'perspective anthropocentrism' which is based on the concept of 'species individualism that brings us to interact with the world – under an epistemic, aesthetic and ethical profile – through phylogenetic schemes'.[44] This view aims to maintain 'individual identity within the canon of all species'.[45]

Whereas in contrast, the second view can be defined as 'philosophical anthropocentrism' which places humans at the centre of the 'moral universe'.[46] This view shifts humanity away from phylogenesis, as it places more importance on the 'meta-predicative operator'.[47] This is evident within religious phenomena, none more so than in

[41] Helen Kopnina, 'and others', 'Anthropocentrism: More than Just a Misunderstood Problem', *Journal of Agricultural and Environmental Ethics*, 31.1, (2018), 109-127 (p. 110).
[42] Ibid.
[43] Roberto Marchesini, 'Against Anthropocentrism. Non-human Otherness and the Post-human Project', *Nanoethics*, 9.1, (2015), 75-84 (p. 76).
[44] Ibid.
[45] Ibid.
[46] Ibid.
[47] Ibid.

the Judaeo-Christian tradition where the presence of the term '*imago Dei*' emphasises the specialness of humanity[48]. This places us at the centre of creation, thus facilitating a covenant with God.[49] As Marchesini stated, this 'others' humanity from the rest of the natural world'.[50] Therefore, philosophical anthropocentrism is a form of human exceptionalism, as it transcends humanity from nature. It is worth distinguishing that the sacredness of human life is by no means exclusive in religious phenomena to just traditional Judaeo-Christian intellect. As Puffer illustrated, the notion of humanity being created in the 'image of God' is also affirmed by the hadiths of Sahih al-Bukhari – a sacred text within Islamic theology.[51] Hence, philosophical anthropocentrism appears throughout the monotheistic traditions of the Abrahamic religions.

Yet whilst individual examples such as *imago Dei* illustrate how anthropocentrism has manifested human ontology, anthropocentrism cannot be exclusively attributed to a particular culture, religion, or tradition. This is because humanity as a species is fundamentally different to all other sentient species on this earth. Durkheim's formation and deployment of the '*homo duplex*' as an ontological device illustrates this because Durkheim distinguishes how humanity has 'the unique capacity to create and participate in the social. This collective process permits humans to transcend the profane or what he observes as the immoral, passionate, animalistic individualism of nonhuman animals, into social solidarity: a realm generating morality and, ultimately, the sacred'.[52] This led to Durkheim coining the term 'profound anthropocentrism'.[53] It is this very capacity of 'transcending the profane' which enabled the hadiths of Sahih al-Bukhari and the concept of *Imago Dei* to come to fruition.

For an environmental ethic to be plausible, like Durkheim acknowledged, one must acknowledge the ontology of humanity to be fundamentally different to that of the natural world. Anthropocentrism is a largely innate feature of humanity. However,

[48] Wessel Bentley, 'Are we special? A critique of *imago dei*', *Theological Studies*, 73.3, (2017), 1-5 (p. 1).
[49] Ibid.
[50] Roberto Marchesini, 'Against Anthropocentrism. Non-human Otherness and the Post-human Project', *Nanoethics*, 9.1, (2015), 75-84 (p. 76).
[51] Matthew Puffer, 'Human Dignity after Augustine's *Imago Dei*: On the Sources and Uses of Two Ethical Terms', *Journal of the Society of Christian Ethics*, 37.1, (2017), 65-82 (p. 65).
[52] Jeremy A. Ross, 'Durkheim and the Homo Duplex: Anthropocentrism in Sociology', *Sociological Spectrum*, 37.1, (2017), 18-26 (p. 18).
[53] Ibid.

anthropocentrism is not a fixed term, and it must evolve to halt humanity's destruction of the natural world. By evolve, anthropocentrism must become more progressive by shifting away from human hegemony and incorporate interconnectedness into its epistemological nature. The wellbeing of the natural world is contingent on this evolution because anthropocentrism in its current form acts as an 'akin to speciesism and human chauvinism'.[54] This has led to the peril of the natural world. However, due to the interconnectedness of all-life, failure to incorporate interconnectedness within anthropological frameworks prohibits anthropological flourishment and depletes our collective wellbeing - as the example of COVID-19 in chapter four will illustrate. Therefore, anthropocentrism in its current form is a juxtaposition and counterproductive because anthropocentrism has facilitated the peril of the natural world, which has naturally facilitated the peril of humanity simultaneously. As Elliot identified, the extensive modifications to the natural environment caused by human activity threaten the 'well-being of both presently existing and future humans'.[55] Therefore, there should be no dichotomy between the wellbeing of humanity and the wellbeing of nature, as there is no logical basis for one to pertain. Thus, advocations for exclusive anthropocentrism are not cogent, as it fails to acknowledge interconnectedness, a prerequisite for successful environmentalism.

THE ANTHROPOCENE AS A BY-PRODUCT OF ANTHROPOCENTRISM

Such is the extent of damage caused by anthropocentrism, the world has entered a new geological epoch; alas, reflecting a fundamental shift in nature of the environment. This epoch is referred to as the 'Anthropocene', referring to the renaming of our time as the 'age of humans'.[56] Wilson echoed this, additionally conveying that the Anthropocene leads to 'all the rest of life rendered subsidiary'.[57] Wilson therefore refers to the Anthropocene as the 'Eremocene' - 'the Age of Loneliness'.[58] Humans are evidently a 'profoundly disruptive force

[54] Helen Kopnina, 'and others', 'Anthropocentrism: More than Just a Misunderstood Problem', J*ournal of Agricultural and Environmental Ethics*, 31.1, (2018), 109-127 (p. 111).
[55] Robert Elliot, 'Introduction', in *Environmental Ethics*, ed. by Robert Elliot (Oxford: Oxford University Press, 1995), p. 1.
[56] Erle C. Ellis, *Anthropocene* (Oxford: Oxford University Press, 2018), p. 3.
[57] Edward O. Wilson, *The Meaning of Human Existence* (New York: Liveright Publishing Corporation, 2015), p. 123.
[58] Ibid.

like no other on Earth'.[59] However, it is important to note two things about the term. Firstly, as Jackson identified, some may consider the Anthropocene 'hubris' on the basis that humanity has only briefly been on this earth.[60] In addition, the term is not officially recognised by anthropologists, although as Jackson also noted, 'it is becoming increasingly used in modern parlance', as a reference to the impact that the anthropological has had on this planet.[61] Therefore, it is still an appropriate term to deploy.

The term 'Anthropocene' was first coined in the eighties, and then later popularised by Crutzen.[62] The term illustrates both the severity and the reality of the impact which the anthropological has had on the natural world.[63] The term 'Anthropocene' therefore encompasses anthropogeny – a term which demonstrates the impact that humanity has had on the environment.[64] As Ellis stated, evidence for this notion is overwhelming.[65] This is echoed by Pavid, who stated that humanity will have a 'lasting and potentially irreversible influence on Earth's systems, environment, processes, and biodiversity'.[66] The consequences of the Anthropocene cannot be underestimated. As Wignall identified, we may very well be experiencing the sixth mass extinction, which is frequently referred to as the 'Anthropocene mass extinction'.[67] Many additional contemporary examples of the ecological emergency illustrate this, which the next chapter will reveal.

Despite the term 'Anthropocene' being coined only around 40 years ago, it is clear that in ecological actuality, the Anthropocene did not formulate then. As Broswimmer identified, the first step in the etiology of the contemporary ecological disaster began 60,000 years ago when language developed, as this expanded human capacity for culture.[68] This enabled the growth of conscious intentionality (which subsequently led to the

---

[59] Erle C. Ellis, *Anthropocene* (Oxford: Oxford University Press, 2018), p. 12.
[60] Roy Jackson, *Muslim and Supermuslim: The Quest for the Perfect Being and Beyond*, (Cham, Springer Nature, 2020), p. 173.
[61] Ibid., p. 2-3.
[62] Katie Pavid, *What is the Anthropocene and why does it matter? (n.d.)* <What is the Anthropocene and why does it matter? | Natural History Museum (nhm.ac.uk)> [accessed 28 January 2021].
[63] Ibid.
[64] Marriam-Webster, *Anthropogenic (n.d.)* <Anthropogenic | Definition of Anthropogenic by Merriam-Webster (merriam-webster.com)> [accessed 29 March 2021].
[65] Erle C. Ellis, *Anthropocene* (Oxford: Oxford University Press, 2018), p. 2.
[66] Katie Pavid, *What is the Anthropocene and why does it matter? (n.d.)* <What is the Anthropocene and why does it matter? | Natural History Museum (nhm.ac.uk)> [accessed 28 January 2021].
[67] Paul B. Wignall, *Extinction* (Oxford: Oxford University Press, 2019), p. 18.
[68] Franz J. Broswimmer, *Ecocide: A Short History of the Mass Extinction of Species* (London: Pluto Press, 2002), p. 9.

emergence of anthropocentrism).[69] This 'first step' is compatible with Marchesini's identification of 'philosophical anthropocentrism', thus illustrating the innate interconnectedness between the Anthropocene and anthropocentrism, and the plausibility of both academics' analysis.

There have also been other significant factors which have also shaped the etiology of the contemporary ecological disaster. These factors include the human colonization of all continents and the establishment of sedentary agriculture.[70] As the prominent philosopher Rousseau affirmed, the transition to agriculture led to the fatal assumption that Homo sapiens are 'entitled' to dominate the natural order.[71] This was echoed by Bacon who urged human dominion over nature.[72] Moreover, as Jackson highlighted, Descartes perceived the forest 'as a realm of chaos and disorder and, therefore, alien to the ordered, rational human being'.[73] This is why we have a 'psychophobia' attached to the forest.[74] Hence, Descartes believed 'Man can conquer the forest and make it in Man's image'.[75] As Jackson logically concluded, this view-imposed humanity's 'rational faculties upon the world and making use of it as a resource'.[76] This example shows that philosophy and the ecological emergency are interlinked, as the current crisis has philosophical roots. In addition, given the prominence of Rousseau, Bacon, and Descartes, these examples reveal the conflict between traditional Western philosophy and contemporary environmentalism.

However, whilst the beginning of the etiology of the destruction of the natural world can be dated back to 60,000 years ago, it is modernity which has accelerated what Broswimmer refers to as 'ecocidal tendencies'.[77] For Broswimmer, modernity and its economical and ideological characteristics led to the exploitation of nature becoming universalised and commodified.[78] The example of the commodification, marketisation, and

[69] Ibid.
[70] Ibid.
[71] Ibid.
[72] Patrick J. Deneen, *Why Liberalism Failed* (New Haven, Yale University Press, 2018), p. 14.
[73] Roy Jackson, 'Overcoming Physicophobia – Forests as the Sacred Source of Our Human Origins', in *New Perspectives on People and Forests*, ed. by Eva Ritter, and Dainis Dauksta (Dordrecht, Springer, 2011), p. 29.
[74] Ibid.
[75] Ibid.
[76] Ibid.
[77] Franz J. Broswimmer, *Ecocide: A Short History of the Mass Extinction of Species* (London: Pluto Press, 2002), p. 10.
[78] Ibid.

universalisation of fossil fuels logically validates Broswimmer's claim. This enabled the production of the global framework of ecocidal tendencies to proliferate and become the 'anthropological norm'.[79] Therefore, the Anthropocene is a by-product of anthropocentrism, and the effect of this on the environment has facilitated a fundamental shift in the behaviour and nature of the biosphere.

DEFINING BIODIVERSITY

There can be no doubt that the natural world is in peril, and the responsibility for this fully lies with humanity and its ideological norms. One of the key indicators of this 'peril' is the disquieting rate at which flora and fauna are declining. As previously identified, we may well be encountering the 'Anthropocene mass extinction'.[80] Therefore, biodiversity is reducing at an alarming rate, and is consequently a core component of the contemporary ecological emergency. To rationally analyse anthropocentrism in relation to the environment from a philosophical standpoint, 'biodiversity' ought to be defined. Failure to do so would not provide the level of academic rigour necessary to fully grasp the severity of the scale of biodiversity loss. Additionally, it would be harder to grasp the detrimental extent of which anthropocentrism has had on the natural world.

Biodiversity is commonly used to 'connate the variety of life' and it encompasses the 'irreducible complexity of the totality of life'.[81] Hence, the term 'captures variability in biological systems'.[82] The notion of biodiversity originated in conservation biology and Rosen is regarded as the formulator of the term.[83] Rosen coined the term for a conference in 1986 entitled 'The National Forum on Biodiversity'.[84] Therefore, biodiversity is a relatively recent term. Nevertheless, studies of biodiversity have become more urgent and prominent

[79] Ibid.
[80] Paul B. Wignall, *Extinction* (Oxford: Oxford University Press, 2019), p. 18.
[81] Chris R. Dickman, Stuart L. Pimm, and Marcel Cardillo, *Key Topics in Conservation Biology*, ed. by David W. Macdonald and Katrina Service (Oxford: Blackwell Publishing, 2007), p. 1.
[82] Tim Caro, *Conservation by Proxy: Indicator, Umbrella, Keystone, Flagship, and Other Surrogate Species* (Washington, Island Press, 2010), p. 3.
[83] Bram Büscher, 'Biodiversity' in *Critical Environmental Politics*, ed. by Carl Death (Oxford, Routledge, 2014), p. 14.
[84] Ibid.

due to the concern that humanity is eroding natural ecosystems.[85] However, biodiversity does appear to be moving beyond an exclusively empirical term to one that additionally conveys emotion and value.[86] Thus, the ontology of biodiversity is becoming more philosophical. Biodiversity is not a scientific term in its entirety, as contemporary increments of the term do encompass subjective emotions and values. However, there can be no doubt that the definition of biodiversity outlined in this paragraph is scientifically plausible, as the definition acknowledges the interconnectedness of all life.

The interconnectedness of all life can be illustrated by the concept of causation. For example, the deforestation of the rainforest reduces the space available to the native wildlife, so they must adapt and evolve to survive. Reduced space and subsequent increased competition for resources, often leads to many species being unable to do so. Over time, the profound changes to the rainforest lead to the development of other factors such as the reduction of the gene pool. All these factors culminate in the extinction of a species, alas leading to a reduction of biodiversity in said area. The innate meaning of the term 'biodiversity' therefore illustrates the sensitivity of biological systems, which subsequently indicates their vulnerability too.[87] Conceptualising biodiversity in this way enables the ability to measure the number of species and map their distributions. This must be done, otherwise issues of empirical invalidity could arise if there was no scientific-based framework which incorporates a rational understanding of 'biodiversity'.

The reduction of biodiversity has taken centre stage in the conservation discourse and the wider paradigm of environmental activism. As Jepson and Blyth identified, the 1992 Rio Earth summit was a turning point, as the notion of biodiversity was raised to the top of the environmental policy agenda.[88] The drive for an environmental agenda which places biodiversity at its core was strongly influenced by the 'protectionist worldviews of 1970s environmentalism'.[89] Even 51 years later, this agenda has not changed, because contemporarily, the loss of ecosystems is at the core of biodiversity analysis. For example,

[85] Chris R. Dickman, Stuart L. Pimm, and Marcel Cardillo, *Key Topics in Conservation Biology*, ed. by David W. Macdonald and Katrina Service (Oxford: Blackwell Publishing, 2007), p. 1.
[86] Ibid.
[87] Mark Maslin, *Climate Change*, 3rd edn (Oxford: Oxford University Press, 2014), p. 90.
[88] Paul Jepson and Cain Blythe, *Rewilding: The Radical New Science of Ecological Recovery* (London: Icon Books Ltd, 2020), p. 1.
[89] Ibid.

the *World Wide Fund For Nature* classified terrestrial ecosystems into 825 ecoregions and has another 500 ecoregions for freshwater ecosystems.[90] This enables different regions to be ranked in order of biodiversity loss, and this indicates the regions that need priority for conservation action.[91] Therefore, biodiversity is not just a useful term for purposes of philosophical analysis and environmental ethics, it is scientifically valuable too, as it enables conservation to be targeted at regions that require it the most. Hence, biodiversity is still at the forefront of environmental protectionism. The next chapter begins by identifying biodiversity loss, in order to illustrate the severity of the contemporary state of the environment.

CONCLUSION

This chapter set out to define three terms and themes, which are all essential for understanding the contemporary ecological emergency from the angle of which this thesis is derived. Defining anthropocentrism was essential as it has provided the reader with this thesis' perception of the ontology of the term. This enables a deeper understanding of the inherent anthropocentrism in many of humanity's actions which has consequently resulted in the peril of the natural world. This ultimately strengthens the specificity of the thesis' writing as the thesis progresses, as the reader now has a clear understanding of the philosophical facilitator of the ecological emergency.

It was also additionally essential to define the Anthropocene, as it is a term which reflects the reality of the effects that the anthropological has had on the natural world. This argument will of course be further strengthened in the next three chapters. This will illustrate that there is no doubt that the burden of responsibility for this crisis full lies at the doors of humanity. Defining biodiversity was also critical, as it is a term at the centre of contemporary conservation and wider environmentalism. Hence, biodiversity can reveal the extent of the depletion of the natural order. Biodiversity is decreasing at an alarming rate, which the next chapter examines in far greater detail.

[90] Chris R. Dickman, Stuart L. Pimm, and Marcel Cardillo, *Key Topics in Conservation Biology*, ed. by David W. Macdonald and Katrina Service (Oxford: Blackwell Publishing, 2007), p. 3.
[91] Ibid.

Now that these three essential terms and themes have been defined, outlined, and explored, the next chapter will focus on contemporary examples of the natural world in peril. Not only will that allude the importance of this theoretical chapter, but it will also certify humanity's responsibility for the crisis. The next chapter is critical because it reveals the inherent flaws of our contemporary ontologies. This in itself alludes the critical need to evolve our anthropocentric ideological frameworks by embracing interconnectedness.

CHAPTER THREE: EVIDENCE OF THE INEXTRICABLE LINK BETWEEN ANTHROPOCENTRISM AND THE CONTEMPORARY ECOLOGICAL EMERGENCY

This chapter is of a similar nature to the entire thesis, as the chapter strives to demonstrate how the contemporary ontology of humanity is massively disadvantageous to the natural world. The construction of a solid theoretical and academic framework achieved in chapter two, empowers this chapter to explore key themes which shape the contemporary ecological emergency. For example, a key contemporary theme of the ecological emergency is 'weak governance'. Therefore, the coherent definitions of anthropocentrism and the Anthropocene laid out in chapter two, enables these key themes to be explored in detail.

To validate the claim that anthropocentrism is responsible for shaping the ecological emergency, examples which substantially form the current crisis are outlined. Therefore, examples such as environmental disasters, wildlife crime, increasing human population, and deforestation are all deployed. There are an abundant number of examples that can illustrate humanity's responsibility for the natural world. Therefore, this chapter cannot practically cover every single factor, but the factors implemented into this research have been carefully selected to illustrate two things. Firstly, that anthropocentrism in its current form is fundamentally flawed, as it has facilitated this crisis and enabled it to proliferate to become the ecological and global norm. Hence, the crisis cannot logically be ascribed to one country, culture, race, and so forth. Great consideration has been undertaken to ensure that the examples used to corroborate the notion that humans are collectively responsible for this crisis are examples from across the world. This chapter, therefore, illustrates how the ecological crisis transcends traditional lines of human identity, subsequently indicating that it is an issue of human ontology. Secondly, the notion of interconnectedness between humanity and nature to reveal that the depletion of nature is detrimental to humanity. Examples including the increase in environmental disasters, and the decrease in food security have been used to illustrate the plausibility behind this notion. Therefore, the chapter alludes interconnectedness throughout. This chapter is extremely critical, as it

illustrates the severity of the crisis, and the subsequent need for anthropocentrism to incorporate interconnectedness into this ideological framework, which is this thesis' entire research aim.

The telos of this chapter can be summarised as 'painting the scene', by providing evidence of the ecological emergency. This chapter is therefore imperative to the entire thesis, as for one to rationally analyse philosophical theories within the environmental paradigm, one must contemplate the contemporary ecological status of the natural world. This chapter therefore strives to illustrate both the reality and severity of anthropocentrism in its current form. This enables the argument for the need for interconnectedness to be incorporated into the ideological framework of anthropocentrism to be logically formulated in later chapters.

BIODIVERSITY LOSS

The *Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services* report found that one million animal and plant species are now threatened with extinction within the next decade – more than ever before in human history.[92] Many noticeable species have already recently fallen victim to extinction, such as the Indochinese tiger and the Sumatran rhino. Many others face the same fate. This was reiterated by the *International Union for Conservation of Nature*, who identified that over 7000 plant and animal species are currently regarded as 'critically endangered'.[93] This too includes many noticeable species, such as the Amur leopard, and the Sumatran tiger. Such is the acceleration of extinction; species are becoming extinct 100 times faster than the natural rate.[94] The loss of biodiversity is therefore evidently occurring at an alarming rate, alas reflecting the urgent need for action, to halt an ever-increasingly likely mass extinction of species.

[92] United Nations , *UN Report: Nature's Dangerous Decline 'Unprecedented'; Species Extinction Rates 'Accelerating'* (2020) <UN Report: Nature's Dangerous Decline 'Unprecedented'; Species Extinction Rates 'Accelerating' – United Nations Sustainable Development> [accessed 10 December 2020].
[93] ICUN, *Summary Statistics (2020)* <IUCN Red List of Threatened Species> [accessed 10 December 2020].
[94] *A Perfect Planet: Humans*, dir. by Nick Shoolingin-Jordan (BBC, 2021).

DEFORESTATION

A major factor which is fuelling the loss of biodiversity is deforestation.[95] As Sodi et al stated, humanity is degrading and destroying forests at a rate which has no historical precedence.[96] In the last 50 years alone, the world's forests have almost halved.[97] To aid contemplation of the scale of deforestation, the *World Bank* reported that between the years 1990 and 2016, the world lost over 502,000 square miles of forest – an area larger than South Africa.[98] As Nunez stated, 'the mass destruction of trees … continues, sacrificing the long-term benefits of standing trees for short-term gain'.[99] Anthropocentrism is therefore neglecting the short and long-term wellbeing of the natural world, but also the long-term wellbeing of humanity simultaneously.

'The main issue and concern today focuses on the destruction of still-extensive tropical forests for their timber and to make room for agriculture and growing populations'.[100]As forests harbour a large proportion of global biodiversity, when they are depleted, one can rationally postulate that a significant loss of species is a forgone conclusion. As Jeffries stated, 'as the area of a habitat declines, species-area relationships predict that species numbers will decline'.[101] The empirical study of species loss in Singapore validates this. Less than 5% of the original forest remains, which has led to 28% of original species being lost.[102] Unfortunately, this percentage will only increase, as there is often an 'extinction lag'.[103] The lag reveals that there is a delay between loss of habitat and the death of a resident species.[104] As forest fragmentation occurs, the gene pool reduces, gradually

[95] Najvot S. Sodhi 'and others', *Tropical Conservation Biology* (Oxford: Blackwell Publishing, 2007), p. 111.
[96] Ibid., p. 2-3.
[97] Franz J. Broswimmer, *Ecocide: A Short History of the Mass Extinction of Species* (London: Pluto Press, 2002).
[98] Christina Nunez, *Deforestation Explained (2019)* <Deforestation facts and information (nationalgeographic.com)> [accessed 11 March 2021].
[99] Ibid.
[100] Paul B. Wignall, *Extinction* (Oxford: Oxford University Press, 2019), p. 7.
[101] Michael J. Jeffries, *Biodiversity and Conservation*, 2nd edn (Abingdon: Routledge, 2006), p. 139.
[102] Paul B. Wignall, *Extinction* (Oxford: Oxford University Press, 2019), p. 7.
[103] Ibid., p. 8.
[104] Ibid.

leading to the extinction of a species over time. Hence, habitat fragmentation is 'one of the major threats to species diversity'.[105]

However, deforestation is by no means detrimental to biodiversity exclusively. The effect of deforestation is pluralistic. For example, deforestation at the scale of which has taken precedence has contributed to climate change. Forests play the role of 'carbon sinks', as they store large amounts of carbon, thus providing a key role in regulating the earth's atmosphere.[106] As we lose more and more of our forests, higher levels of carbon permeate throughout the world's atmosphere. This is happening on a concerning scale. For example, if tropical deforestation were a country, it would rank third in global CO_2 admissions, with only China and the United States of America emitting more.[107] Furthermore, it is believed that humanity releases 100 times more CO_2 than all of earth's volcanoes combined.[108] Therefore, not only is deforestation causing biodiversity loss, but it is also significantly increasing the volume of CO_2 in our atmosphere, which is inherently problematic.

FOSSIL FUELS

Whilst deforestation is evidently crippling biodiversity and contributing towards climate change, it is the burning of fossil fuels which is the largest contributor to the 'greenhouse effect'.[109] Dobson estimates that the burning of fossil fuels contributes around 50-70% to the greenhouse effect.[110] The role of greenhouse gases cannot be underestimated, because they are 'critically important for understanding the mechanisms underlying accelerated

[105] Olivier Honnay, 'and others', 'Forest fragmentation effects on patch occupancy and population viability of herbaceous plant species', *New Phytologist*, 166.3, (2005), 723-736 (p. 723).
[106] David Whitehead, 'Forests as carbon sinks—benefits and consequences', *Tree Physiology*, 31.10, (2011), 893-902 (p. 894).
[107] Rachel Fritts, *Tropical deforestation now emits more CO2 than the EU (2018)* <Tropical deforestation now emits more CO2 than the EU (mongabay.com)> [accessed 13 December 2020].
[108] *A Perfect Planet: Humans*, dir. by Nick Shoolingin-Jordan (BBC, 2021).
[109] Andrew P. Dobson, *Conservation and Biology* (New York: Scientific American Library, 1998), p. 228.
[110] Ibid.

climate change'.[111] Yet fossil fuels are still being used at an alarming rate. In 2018, output from fossil fuels and industry grew by 2.7% - the largest increase in seven years.[112]

There can be no doubt that the use of fossil fuels is entirely anthropocentric. This was alluded to by Hausfather, who largely attributed the sharp rise of fossil fuel outputs in 2018 to China, 'driven by government stimulus of the construction industry'.[113] The usage of fossil fuels is the perfect example to illustrate how human populations have no acknowledgement of the inherent value in which the natural world pertains for our own wellbeing. The natural world is perceived as a commodity, which intensifies anthropocentric chauvinism. This thesis strives to illustrate the counter-productiveness of this perception of reality, as humanity is inhibiting its own flourishment.

RISING TEMPERATURES AND ENVIRONMENTAL DISASTERS

Due to increasing CO_2 admissions, the planet is warming up, and this is inherently problematic. A *United Nations* report states that by the end of the century, temperatures on average will rise by 3.2°C.[114] This rise is already happening. The year 2019 was the second warmest on record and it resulted in many natural disasters across the globe.[115] In March 2019, Cyclone Idai hit Malawi, Mozambique, and Zimbabwe, resulting in around 900 fatalities.[116] Not only did the disaster take so many lives, the homes, and businesses of hundreds of thousands of families were also destroyed. *World Vision* reported in March 2020 that despite being a year on from the disaster, 100,000 people were still in

[111] Terry L. Root 'and others', 'Managing biodiversity in the light of climate change: current biological effects and future impacts', in *Key Topics in Conservation Biology*, ed. by David W. Macdonald and Katrina Service (Oxford: Blackwell Publishing Ltd, 2007), p. 86.
[112] Zeke Hausfather, *Analysis: Fossil-fuel emissions in 2018 increasing at fastest rate for seven years (2018)* < Analysis: Fossil-fuel emissions in 2018 increasing at fastest rate for seven years | Carbon Brief> [accessed 11 March 2021].
[113] Ibid.
[114] *The Sustainable Development Goals Report 2020.* (New York: United Nations Publications, 2020), p. 52 [accessed 11 December 2020].
[115] Ibid.
[116] Sintia Radu, *The Top 5 Deadliest Disasters in 2019* (2019) <5 of the Deadliest Natural Disasters in 2019 | Best Countries | US News> [accessed 13 December 2020].

resettlement sites with only basic services.[117] Within these sites, conditions have been so poor, that diseases such as cholera began to spread.[118]

However, environmental disasters do not just inflict devastation onto people and their property, they also inflict great tragedy on both flora and fauna too. A very good example to illustrate this is the wildfires that took place in Australia throughout 2019 and 2020. Dr Eeden led a study into the impact that the wildfires had on Australia's natural world.[119] Her results were startling. The fires killed or displaced nearly three billion animals.[120] In total, 143 million mammals, 2.46 billion reptiles, 180 million birds, and 51 million frogs were harmed.[121] As professor Chris Dickman of the University of Sydney exclaimed, "it's a difficult number to comprehend".[122]

A distinction does need to be made however in relation to natural disasters and climate change. Wildfires in Australia are a natural phenomenon; they are and have always been a part of the Australian ecosystem. However, that does not mean that climate change and wildfires are not linked. Climate change is not only facilitating more wildfires, but also intensifying these fires, thus inflicting more devastation. This is according to *WWF-Australia* CEO O'Gorman, who highlighted that rising temperatures and subsequent prolonged droughts are fuelling the bushfires.[123] Climate change is therefore 'pouring fuel onto the fire'. O'Gorman believes that unless we adopt the *International Panel on Climate Change's (IPCC)* recommendation, the strength and frequency of these fires will only increase.[124] The *IPCC* recommendation is that we limit global warming to 1.5°C, and not 2°C, which was its original goal.[125] By limiting the increase of global warming to 1.5°C, 30% of the world's corals can be saved (as temperature-bleaching would not be on the same scale), and 1.3 billion fewer people would be exposed to extreme heatwaves and other complex health

[117] Kathryn Reid, *2019 Cyclone Idai: Facts, FAQs, and how to help* (2020) <2019 Cyclone Idai: Facts, FAQs, and how to help | World Vision> [accessed 13 December 2020].
[118] Ibid.
[119] Daniel Vernick, *3 billion animals harmed by Australia's fires* (2020) <3 billion animals harmed by Australia's fires | Stories | WWF (worldwildlife.org)> [accessed 15 December 2020].
[120] Ibid.
[121] Ibid
[122] Ibid.
[123] Daniel Vernick, *3 billion animals harmed by Australia's fires* (2020) <3 billion animals harmed by Australia's fires | Stories | WWF (worldwildlife.org)> [accessed 15 December 2020].
[124] Ibid.
[125] International Panel on Climate Change, *The Urgency of 1.5°C* (2020) <IPCC 1.5°C | WWF (panda.org)> [accessed 15 December 2020].

issues.[126] The 1.5°C target could also prevent as much as up to 153 million premature deaths from air pollution by 2100.[127]

CLIMATE REFUGEES

Climate change has resulted in hundreds of millions of people being pushed into poverty. Food security is decreasing, as many lands are experiencing 'desertification' and can therefore no longer house certain crops which many people are contingent on for their sustenance. With the natural land ceasing to provide a reliable backdrop for human life, increased frequency of environmental disasters, and an inadequate or non-existing welfare system in many countries, people have been forced to leave their homelands. This is already happening on an incredibly troubling scale. In 2017, over 69 million people were forcibly displaced as climate refugees.[128] Alarmingly, this humanitarian crisis is only going to get worse. The *World Bank* have estimated that Latin America, sub-Saharan Africa, and Southeast Asia will generate 143 million more climate refugees by 2050.[129]

INCREASING HUMAN POPULATION

A substantial factor which is causing these profound issues for both humanity and the natural world alike is an ever-increasing human population. Demographic growth in tropical countries is particularly steep, reflected by a population increase by over three billion in these countries between 1950 and 2000.[130] This steep line shows no sign of abating either, as this population increase is predicted to increase by another two billion by 2030.[131] Therefore, it is plausible that the global population could be as high as 11 billion within the next 100 years.[132] This number is likely to be impossible to sustain, especially given the

[126] Ibid.
[127] GSCC, 'Health impacts of climate change at 1.5°C, 2°C, and 3°C', *WWF: Climate and Energy*, (2017), 1-5 (p. 5).
[128] John Podesta, *The climate crisis, migration, and refugees* (2019) <The climate crisis, migration, and refugees (brookings.edu)> [accessed 8 February 2021].
[129] Ibid.
[130] Najvot S. Sodhi 'and others', *Tropical Conservation Biology* (Oxford: Blackwell Publishing, 2007), p. 16-17.
[131] Ibid., p. 17.
[132] Ibid.

contemporary crisis. Humanity already has issues of food-security, famine, poverty, disease, climate refugees, employment, and access to education. As populations continue to increase, so will the anthropologic need of the urbanization of previously natural lands. Additionally, the demand of natural resources for purposes of commercialization and consumption will continue to intensify too. Therefore, this issue is unambiguously problematic for humanity and the natural world alike.

One consequence of an ever-increasing human population is the intense depletion of the oceans. The *Ellen MacArthur Foundation* predicts that by 2050, ocean plastic will outweigh all the ocean's fish.[133] The *Ellen MacArthur Foundation* also undertook a study with the *World Economic Forum*. This study discovered that '32% of the 78 million tons of plastic packaging produced annually is left to flow into our oceans; the equivalent of pouring one garbage truck of plastic into the ocean every minute'.[134] This is largely down to the lack of sufficient recycling, as only 14% of plastic is recycled and only 2% is reused.[135] Consequently, our oceans have transformed into an anthropological waste site. This indicates the gross reality of contemporary anthropocentrism. In addition, plastic is also inherently problematic for many marine species. The *PEW Trust* identified that plastic waste kills around one million sea birds annually.[136] In addition, *PEW* predict that by 2050, 99% of seabird species would have eaten pieces of plastic.[137] However, many additional species are affected too, such as turtles who frequently mistake a plastic bag for a jellyfish and die as a result.

Moreover, the oceans are being depleted at an incredibly unsustainable level. Over two billion people rely on seafood as their primary source for protein.[138] This is inherently unsustainable. *Sustainable fisheries* report that 33% of our seas are overfished.[139]

---

[133] Graeme Wearden, *More plastic than fish in the sea by 2050, says Ellen MacArthur* (2016) <More plastic than fish in the sea by 2050, says Ellen MacArthur | Davos 2016 | The Guardian> [accessed 11 December 2020].
[134] James Pennington, *Every minute, one garbage truck of plastic is dumped into our oceans. This has to stop* (2016) <Every minute, one garbage truck of plastic is dumped into our oceans. This has to stop | World Economic Forum (weforum.org)> [accessed 11 December 2020].
[135] Ibid.
[136] Simon Reddy, *Plastic Pollution Affects Sea Life Throughout the Ocean (2018)* <Plastic Pollution Affects Sea Life Throughout the Ocean | The Pew Charitable Trusts (pewtrusts.org)> [accessed 15 March 2021].
[137] Ibid.
[138] Sustainable Fisheries, *About us* (2020) <About Us - Sustainable Fisheries UW (sustainablefisheries-uw.org)> [accessed 11 December 2020].
[139] Sustainable Fisheries, *How many Fisheries are Overfished?* (2020) <About Us - Sustainable Fisheries UW (sustainablefisheries-uw.org)> [accessed 11 December 2020].

Furthermore, Broswimmer states that 44% percent of fish stocks are being fished to their 'biological limits'.[140] Lastly, the TV series *A Perfect Planet* reported that overfishing has removed 90% of predatory fish.[141] The large-scale methods used by fisherman are often devastating for the natural world. Some trawler nets are a staggering mile long, and they 'can catch hundreds of tonnes of fish every day'.[142] Additionally, many species unintended for fishing get caught in the nets or are washed up on the shores due to the size of the nets. This is unfortunately a far too frequent occurrence for dolphins in British waters.[143] Fishing is evidently not taking place sustainably.

In addition, the significant increase in the demand for meat is problematic too. In developing countries, demand is predicted to grow faster than production, resulting in a 'trade deficit'.[144] Consequently, food security will decrease, and poverty will inevitably rise. The link between the demand of meat and the depletion of natural resources is evident. As Yates-Doerr highlighted, when the demand for meat is approached from a global scale, 'meat becomes associated with widespread deforestation and a consequent decline in species diversity'.[145] This association is both plausible and logical. For example, swathes of the Amazonia, have been cleared for cattle ranching, and numerous fires have been lit to clear large areas of land.[146] These fires have been started deliberately, to meet the needs of the anthropological, despite it arriving at the expense of the natural world. Therefore, the correlation between the demand for meat consumption and the depletion of the natural order is clear. Concerningly, this demand for natural resources shows no sign of dwindling. Rapid economic development, population expansion and poverty are all key factors of driving land conversion, and subsequently deforestation.[147]

---

[140] Franz J. Broswimmer, *Ecocide: A Short History of the Mass Extinction of Species* (London: Pluto Press, 2002), p. 103.
[141] *A Perfect Planet: Humans*, dir. by Nick Shoolingin-Jordan (BBC, 2021).
[142] Damian Carrington, *Supertrawlers 'making a mockery' of UK's protected seas (2020)* <Supertrawlers 'making a mockery' of UK's protected seas | Fishing | The Guardian> [accessed 15 March 2020].
[143] Nada Farhoud, *Supertrawlers in English Channel 'driving dolphins to their death' on beaches (2020)* < Supertrawlers in English Channel 'driving dolphins to their death' on beaches - Mirror Online> [accessed 15 March 2021].
[144] Emily Yates-Doerr, 'Meeting the demand for meat?', *Anthropology Today,* 28.1, (2012), 11-15 (p. 11).
[145] Ibid.
[146] Umair Irfan , *Brazil's Amazon rainforest destruction is at its highest rate in more than a decade* (2019) <Amazon rainforest: deforestation at highest rate in more than a decade - Vox> [accessed 29 January 2021].
[147] Najvot S. Sodhi 'and others', *Tropical Conservation Biology* (Oxford: Blackwell Publishing, 2007), p. 16.

WEAK GOVERNANCE

One of the reasons as to why the anthropological degradation and depletion of the world's natural resources is so abundant is due to what can only be referred to as 'weak governance'. This term has been designated in this context to refer to many governments and / or government officials that are either corrupt, and / or do not recognise the contemporary ecological emergency as of the upmost importance to their governed lands. As Laurance asserted, 'anaemic national institutions and poor enforcement of legislation remain a major hinderance to curtailing tropical deforestation'.[148] Moreover, as Bryant stated, 'poor forestry practises, weak governance structures and political corruption all work to maintain high deforestation rates in developing countries'.[149] This statement is evidently the case. For example, illegal logging in Indonesia is implicitly backed by businesses, politicians, and the military.[150] Indonesia is a country which has been placed in the conservation spotlight for the deforestation of natural tropical rainforest and replacing it with oil palm. As Indonesia and Malaysia produce 85% of the world's oil palm, the economic value is perceived by government to outweigh the need to preserve the land.[151] The level of deforestation verifies this claim. 'Since 1973, nearly sixteen thousand square miles of rainforest in Borneo have been logged, burned, and bulldozed to make way for oil palm'.[152] In addition, it is reported that half of Indonesia's rainforests have vanished.[153] This is another case study which alludes to the ecological consequences of anthropocentrism which fails to incorporate interconnectedness. This case study also illustrates the extent of which money shapes humanity's perception, actions, and ultimately distorts morality.

The ecological consequences of the production of oil palm in Indonesia is for all to see. It is believed that nearly 150,000 critically endangered Bornean orangutans perished

[148] Ibid., p. 25.
[149] Ibid.
[150] Ibid.
[151] Hillary Rosner, *Palm oil is unavoidable. Can it be sustainable?* (2018) <Palm oil is unavoidable. Can it be sustainable? (nationalgeographic.com)> [accessed 1 February 2021].
[152] Ibid.
[153] John Vidal, *'The Sumatran rainforest will mostly disappear within 20 years'* (2013) <'The Sumatran rainforest will mostly disappear within 20 years' | Global development | The Guardian> [accessed 1 February 2021].

between the years 1999 to 2015.[154] Moreover, the sheer level of deforestation has resulted in the fragmentation of still-standing forests. This too is problematic for many additional species such as the Sumatran tiger, who require large areas of forest to roam. This sub-species of tiger is currently regarded as 'critically endangered', and it is estimated that only two areas of forests in Sumatra are viable for long-term tiger populations.[155] Yet there have been no plans to halt the depletion of Indonesia's natural resources. For example, an Indonesian government initiative to replace diesel cars with biodiesel (which contains oil palm) will require planting an additional 15 million hectares of oil plants.[156] Therefore, at the heart of Indonesian politics, is a plan that consequently further depletes the country's natural resources. As the example of Indonesia shows, 'weak governance' is clearly a barrier to tackling the ecological emergency.

The notion of 'weak governance' is an issue that evidently permeates across the globe. As Dobson stated, 'politicians in both the developed and developing worlds are intimidated by the seemingly formidable costs of attempting to reduce global climate change'.[157] However, the 'formidable cost' will only increase as time passes. This is an ecological and economic issue that cannot be avoided, as the effects of anthropocentrism are becoming more severe as each day passes. For example, rising sea levels will cause both huge natural and economic destruction, as a third of the world's population live in coastal regions.[158] This is already an issue, as sea levels have already risen by 22cm.[159] It is evident that global political and economic cooperation is needed, in order to ensure the encompassing of interconnectedness into anthropocentric frameworks. After all, it is a global crisis, so change is therefore contingent on global action. However, many governments do not see it in this way, as it is often not in their short-term national economic interests. The example of Indonesia illustrates this perfectly, as does the example

[154] Hillary Rosner, *Palm oil is unavoidable. Can it be sustainable?* (2018) < Palm oil is unavoidable. Can it be sustainable? (nationalgeographic.com)> [accessed 1 February 2021].
[155] Basten Gokkon, *Deforestation in Sumatra carves up tiger habitats into ever smaller patches* (2015) < Deforestation in Sumatra carves up tiger habitats into ever smaller patches (mongabay.com)> [accessed 1 February 2021].
[156] Thomson Reuters Foundation, *Indonesia's 'green diesel,' powered by palm oil, fuels threat to forests* (2021) <Indonesia's 'green diesel,' powered by palm oil, fuels threat to forests | The Japan Times> [accessed 19 February 2021].
[157] Andrew P. Dobson, *Conservation and Biology* (New York: Scientific American Library, 1998), p. 228.
[158] Ibid.
[159] Mark Maslin, *Climate Change*, 3rd edn (Oxford: Oxford University Press, 2014), p. 110.

of Brazil. Since the election of the far-right politician Jair Bolsonaro, deforestation in the Amazonia increased by nearly 30%.[160] For context, an area of the Amazonia larger than the Yellowstone National Park was cleared. This is a volume bewildering to comprehend. However, what is most alarming from this example is the premise that Bolsonaro was elected on a manifesto of exploiting the natural resources of the Amazonia to bring economic benefit to the Brazilian economy.[161] Given the immense ecological value of the Amazonia, this is a major barrier in the fight against climate change. It is therefore clear that many do not acknowledge the ecological emergency, or even if they do, acknowledge the severity of the issue, or even regard it as an issue at all.

Moreover, 'weak governance' in relation to tackling wildlife crime is palpable, therefore it ought to be addressed. Various governments continue to fail to have rigorous laws and policies on wildlife protection, which is further facilitating the depletion of nature. Wildlife crime undertakes various forms, including but not limited to; coursing, hunting, trading, cruelty, poisoning, and capturing. Wildlife crime is often marketized, examples such as the illegal trading of live animals and / or poaching of animals and the subsequent selling of parts or products of the deceased animal illustrates this. The marketisation of wildlife is hugely problematic, due to the economic benefits that arise from these morally repugnant acts. Due to its economic lures, the illegal wildlife trade is the fourth largest illegal trade in the world (behind drugs, people smuggling, and counterfeiting).[162] In addition, the *WWF* has reported that the illegal wildlife trade is annually worth 15 billion pounds.[163] Therefore, due to its economic enticements, demands for animal parts or products frequently transcends national borders. Therefore, illegal wildlife trade often involves organized criminal groups that operate transnationally.[164] For example, an investigation found that South African

[160] Umair Irfan, *Brazil's Amazon rainforest destruction is at its highest rate in more than a decade* (2019) <Amazon rainforest: deforestation at highest rate in more than a decade - Vox> [accessed 29 January 2021].
[161] Ibid.
[162] WWF, *TACKLING INTERNATIONAL WILDLIFE CRIME* (2021) <Tackling international wildlife crime | WWF > [accessed 5 February 2021].
[163] Ibid.
[164] United Nations, *World Wildlife Crime Report: Trafficking in protected species 2020*, ed. by Raggie Johansen (United Nations Publication, 2020), p. 29.

traders with China are selling thousands of wild animals, 'under the guise of legal exports'.[165]

What is most troubling is that the same investigation discovered that not one single offender had been prosecuted.[166] This clearly illustrates that there is not a rigours enough legal system to prevent the transnational exploitation of wildlife, alas illustrating the credibility of the notion 'weak governance'. This could be explained due to differing national laws on wildlife, which makes transnational wildlife crime easier to ensue. In addition, many national laws and policies appear to neglect the acknowledgement of animal rights. As Dalton stated, laws on captive-animal welfare in China are 'non-existent'.[167] Yet as the example of China also shows, in many instances, countries have contradictory policies on animal welfare. For example, the Chinese government upgraded pangolins' protection status to Class one (the highest level of protection).[168] Pangolin scales were also removed from the country's official list of ingredients permitted for use of traditional Chinese medicine.[169] Naturally, this was news that was celebrated by conservationists, for both reasons of morality, but of necessity too, due to the pangolins' endangered status.

However, whilst on one hand the Chinese government finally appears to be implementing the necessary laws and policies required, on the other hand they advocated the further exploitation of particular species. As Chelin and Daghar also stated, whilst the policies announced were a 'major step forward in the fight against illegal wildlife trade', it comes with a 'notable caveat'.[170] This is because despite the ban on consuming wildlife, many species other than the pangolin can be still used for other purposes, such as traditional medicine, ornaments, and pets.[171] This law enables animals to continue to be exploited. For example, China's National Health Commission advocated an 'injection that contains bear bile, known as Tan Re Qing injection', to treat COVID-19 patients.[172] What this

[165] Jane Dalton, *South Africa traffics thousands of endangered wild animals to China in 'corrupt and growing' trade, investigation finds* (2020) <South Africa traffics thousands of endangered wild animals to China in 'corrupt and growing' trade, investigation finds | The Independent | The Independent > [accessed 5 February 2021].
[166] Ibid.
[167] Ibid.
[168] Ibid.
[169] Ibid.
[170] Ibid.
[171] Ibid.
[172] Ibid.

example reveals, is that interconnectedness is often excluded from anthropocentric parameters. There is a clear contradiction present, which illustrates that anthropocentrism is often the sole paradigm for policy framework, as 'banning wildlife consumption while at the same time promoting traditional medicine highlights the double standards of China's approach to addressing the illegal wildlife trade'.[173]

TRADITIONAL CHINESE MEDICINE (TCM)

An additional factor which has intensified anthropocentrism is the evolution and significance of 'culture' in shaping norms and values. An appropriate example to illustrate this is TCM where the failure to recognise the suffering of animals as immoral, is evident, as the medicine is deemed to provide anthropological gain. Chinese medicine and philosophy are largely centred around the Eastern philosophical notion of 'qi' – a universal form of energy which embraces 'all manifestations of energy'.[174] For more than 2,000 years, TCM has been practised.[175] However, in 2019, the eleventh version of the *World Health Organization's (WHO)* list known as the *International Statistical Classification of Diseases and Related Health Problems* included these remedies for the first time.[176] Despite the *WHO* advocating for global, 'ethical and evidence-based policy options', the inclusion of TCM is an 'egregious lapse in evidence-based thinking and practise'.[177] *WHO* including TCM in its approved list of medicines is a fundamental mistake for environmentalism, and morality, as

[173] Ibid.
[174] University of Minnesota, *What Is Qi? (and Other Concepts) (2020)* <What Is Qi? (and Other Concepts) | Taking Charge of Your Health & Wellbeing (umn.edu)> [accessed 12 March 2021].
[175] T P Lam, 'Strengths and weaknesses of traditional Chinese medicine and Western medicine in the eyes of some Hong Kong Chinese', *Epidemiol Community Health, 55. 1,* (2001), 762-765 (p. 762).
[176] Scientific American, *The World Health Organization Gives the Nod to Traditional Chinese Medicine. Bad Idea (2019)* <The World Health Organization Gives the Nod to Traditional Chinese Medicine. Bad Idea - Scientific American> [accessed 12 March 2021].
[177] Ibid.

animal thyroid tissue was identified in numerous products.[178] Species included the Asiatic black bear and the saiga antelope, both of which are protected by international law.[179] Furthermore, despite the motion being overturned due to international outcry, the Chinese government had planned to legalize the trade of rhinoceros horn and tiger bone too.[180] Therefore, there are fundamental scientific and moral concerns about TCM, but the use of these products shows no sign of waning. This is partly down to the cultural nature of China, but TCM is massively profitable for the country, increasing the annual revenue of the Chinese economy by 50 billion dollars.[181] Therefore, due to economic lures, TCM proliferates the degradation of the natural world, and WHO's indorsement is backwards. Hence, TCM is a brilliant example to illustrate how anthropocentrism often warps morality, and thus acts as a great intensifier of the ecological emergency.

A VOID IN KNOWLEDGE

There is a concern about the ecological emergency which ought to be addressed. Many more plant and animal species are yet to be discovered. Furthermore, of the plants and animal species already catalogued, only 5% are considered 'well known'.[182] Hence, there is an 'alarming dearth of information on major taxonomic groups such as vascular plants, amphibians, reptiles, and mammals'.[183] Therefore, this educational and scientific void may well suggest that the 'documented impacts of habitat disturbance may represent just the tip of a grossly underestimated iceberg'.[184] Consequently, there are plausible concerns that the impact of anthropocentrism and the status of the ecological emergency could be much worse than currently regarded.

---

[178] Chor Kwan Ching, 'and others', 'Adulteration of proprietary Chinese medicines and health products with undeclared drugs: experience of a tertiary toxicology laboratory in Hong Kong', *British Journal of Clinical Pharmacology*, 84. 1, (2018), 172-178 (p. 172).
[179] Scientific American, *The World Health Organization Gives the Nod to Traditional Chinese Medicine. Bad Idea (2019)* <The World Health Organization Gives the Nod to Traditional Chinese Medicine. Bad Idea - Scientific American> [accessed 12 March 2021].
[180] Ibid.
[181] Ibid.
[182] Franz J. Broswimmer, *Ecocide: A Short History of the Mass Extinction of Species* (London: Pluto Press, 2002).
[183] Najvot S. Sodhi 'and others', *Tropical Conservation Biology* (Oxford: Blackwell Publishing, 2007), p. 49.
[184] Ibid.

CONCLUSION

Whilst chapter two identified the deep-rooted driving mechanisms of the ecological emergency, this chapter contextualises these themes by providing contemporary examples. Each example deployed throughout this piece has been analysed in direct relation to anthropocentrism, to make it evidently clear that anthropocentrism is responsible for this ecological emergency. However, anthropocentrism is not the only theoretical concept which has been used in this piece. Biodiversity and the notion of 'weak governance' have also both been outlined, with the telos of enabling specific examples of the ecological emergency such as deforestation, or wildlife crime to be more easily conceptualised by the reader.

In addition, as the introduction stated, this chapter had two main research aims. The first was to illustrate the interconnectedness of humanity and nature. Therefore, examples such as the increase in environmental disasters, the increase in climate refugees, and the increase in inequality have all been used to illustrate the prosperity of humanity as being contingent on the wellbeing of the natural world. Secondly, the chapter aimed to illustrate that humanity is collectively responsible for this crisis, which has been illustrated by using global contemporary examples which underpin our ecological crises. Therefore, this chapter has shown that evidence for the ecological emergency is unequivocal. Humanity is responsible for this crisis, which has been intensified by our philosophies. By placing humans at the centre of the moral universe, we have illusioned ourselves that we have 'more' value than other beings on this earth. This must change, and humanity must embrace interconnectedness into its ideological anthropocentric frameworks. Both our wellbeing and the natural world's wellbeing is contingent on this philosophical evolution. Now that the theoretical framework and the contemporary ecological emergency has been outlined, deep-rooted philosophical analysis can be undertaken on the premise of a logical underpinning.

However, whilst this chapter has successfully illustrated the interconnectedness of all life, and humanity's responsibility for this emergency, the next chapter will look at one specific example in-depth to further verify these notions. This example is relevant to all of humanity, as humanity is collectively suffering from this. The example is COVID-19. Its anthropocentric origins, and its consequences for humanity will be outlined to reaffirm that all life is interconnected, but also that humans are responsible for the existential threat

which the natural world faces. COVID-19 was a consequence of the blatant and sustained abuse of the natural world by humanity, which has enabled viruses to propagate and thrive. Therefore, COVID-19 is the perfect example to verify the two core notions of which this thesis is built upon, which the next chapter will illustrate.

CHAPTER FOUR: COVID-19 AS A CONSEQUENCE OF ANTHROPOCENTRISM

COVID-19 is the worst crisis facing humanity since World War Two.[185] This is according to U.N. Secretary-General Antonio Guterres.[186] Millions of people have passed away, millions more either have been or are currently ill, unemployment and inequality are surging, and societal division is ever-increasing. Therefore, it is fundamentally pivotal for the wellbeing of humanity to investigate how we as a species ended up in this situation. There can be no doubt that anthropocentrism, and therefore humanity is responsible for this virus. The nature of humanity's collective relationship with nature has enabled the virus to come into existence. Frustratingly, COVID-19 was entirely avoidable. If we acknowledged our interconnectedness with nature, and incorporated this perception into our anthropological ideological frameworks, this virus may very well have been avoidable. Therefore, COVID-19 is a suitable example to use for this thesis, as it verifies the entire notion of the thesis, but it also verifies the two main research aims too. Firstly, COVID-19 illustrates that anthropocentrism in its current form is detrimental to both nature and humanity. Secondly, COVID-19 illustrates the premise of the interconnectedness of all life. Therefore, when nature is harmed, so is humanity. COVID-19 is additionally a useful example to deploy because it illustrates both the reality and severity of anthropocentrism. Thus COVID-19

[185] Edith M. Lederer, *UN chief says COVID-19 is worst crisis since World War II* (2020) <UN chief says COVID-19 is worst crisis since World War II (apnews.com)> [accessed 22 July 2021].
[186] Ibid.

illustrates the urgent need for anthropocentrism to incorporate ecological tendencies into its ideological framework. Therefore, analysing COVID-19 in this manner complements this thesis greatly.

HOW THE VIRUS ORIGINATED

Humanity's perception of nature and subsequent actions are enabling diseases to propagate and thrive. Examples such as land-use change, global warming, and consumption all facilitate the emergence of diseases. Diseases which propagate and thrive because of the Anthropocene have increased significantly in the twenty first century. Swine flu, Ebola, and COVID-19 are all examples of this.

Epidemiological studies of COVID-19 have revealed that the disease appears to have originated in a Wuhan market, where many animals including 'marmots, birds, rabbits, bats and snakes were traded'.[187] *WHO* stated that the most likely ecological reservoirs for SARS-CoV-2 are bats.[188] Virologists at the *Wuhan Institute for Virology* would echo *WHO's* identification of bats being the most likely ecological reservoir for SARS-CoV-2. This is because the institute discovered that the genetic makeup of coronavirus is 96% identical to that of a form of coronavirus in bats.[189] Moreover, it is widely believed that the virus jumped the species barrier to humans from another immediate animal host.[190] Whilst it is not entirely clear what species it was, one animal that has widely been considered to be the immediate animal host is the pangolin.[191]

There can be no doubt that humanity's disregard for the natural world is fuelling and in many instances such as COVID-19, instigating these diseases. As many wildlife experts

[187] Matt Reynold and Sabrina Weiss, *How coronavirus started and what happens next, explained* (2020) <How coronavirus started and what happens next, explained | WIRED UK> [accessed 8 February 2021].
[188] World Health Organization, *Coronavirus disease 2019 (COVID-19), Situation Report – 32 (2019)* <20200221-sitrep-32-covid-19.pdf (who.int)> [accessed 18 March 2021].
[189] Matt Reynold and Sabrina Weiss, *How coronavirus started and what happens next, explained* (2020) <How coronavirus started and what happens next, explained | WIRED UK> [accessed 8 February 2021].
[190] World Health Organization, *Coronavirus disease 2019 (COVID-19), Situation Report – 32 (2019)* <20200221-sitrep-32-covid-19.pdf (who.int)> [accessed 18 March 2021].
[191] Smriti Mallapaty, *Animal source of the coronavirus continues to elude scientists (2020)* <Animal source of the coronavirus continues to elude scientists (nature.com)> [accessed 18 March 2021].

have stated, 'the animal-borne disease is the outbreaks of the destruction of nature'.[192] This is clearly the case, as humanity is 'destructing nature on an unprecedented scale'.[193] For example, animals in the pet or meat trade in South-East Asia including bats and pangolins are notoriously known for being captured, held, and slaughtered in morally repugnant ways. There are numerous pieces of footage which reveal the dire state that animals are locked up in across the world, and it is distressing to see. Yet as COVID-19 indicates, this is not just a matter of subjective emotion, value, and morality, but it is a matter of virology too. Diseases thrive in dirty, cramped, and warm areas, so these cages which animals are held in immorally, facilitates the risk of emerging diseases. As of writing this chapter (early 2021), over two million people have already fallen victim to COVID-19.[194] This is an incredibly sombre statistic, and unfortunately hundreds and thousands more are additionally likely to perish, which illustrates two things. Firstly, the dire contemporary relationship between humanity and the wider natural world, and secondly, the interconnectedness of all life.

FAILURE TO LEARN FROM PAST LESSONS

Evidence implies that as a species, we are not universally acknowledging the emergence of COVID-19 because of our long-term depletion and degradation of the natural world. This is the biggest challenge to overcome in the fight against the ecological emergency. One would hope that due to the price that humanity is collectively paying for COVID-19, we would finally acknowledge that we cannot continue to deplete and disrupt the natural order as we are. If any good at all can come out of this pandemic, is that we have an opportunity to reflect and reframe not just our perceptions of our natural world, but the inherent value that we must place on it. This is a prerequisite for any plausible environmental ethic, yet anthropocentric greed is still overriding this necessity.

[192] Shefali Arora, Kanchan Deoli Bhaukhandi, and Pankaj Kumar Mishra, 'Coronavirus lockdown helped the environment to bounce back', *Science of the Total Environment*, 742.1, (2020), 1-9 (p. 7).
[193] Patrick Greenfield, *Humans exploiting and destroying nature on unprecedented scale – report (2020)* <Humans exploiting and destroying nature on unprecedented scale – report | Environment | The Guardian> [accessed 17 March 2021].
[194] John Elflein, *COVID-19 deaths worldwide as of February 8, 2021, by country* (2021) <Coronavirus deaths worldwide by country | Statista> [accessed 8 February 2021].

Even though wet and wildlife markets and its immoral treatment of animals probably caused the global pandemic, the abuse and complete disregard for nature is still taking place. Despite international calls for tighter restrictions on wet and wildlife markets in South-East Asia, the markets are still incredibly prevalent, and operating in the same way as before COVID-19 emerged. Knowles and Boyle revealed in an article in the *Independent*, that cats are still being crammed into filthy cages in Guangxi.[195] These cats are 'piled haphazardly on top of each other and slaughtered side by side on a concrete floor splattered with dirt, blood and animal parts'.[196] Alarmingly, this is not isolated to China either. Knowles and Boyle also provided evidence of further inhumane treatments of animals in Hong Kong and Indonesia too.[197] If a global pandemic is not a powerful enough indicator to reveal to people of the severity of the ecological emergency, it does lead you to sceptically question whether humanity will ever save both itself and nature from running it into the ground.

If we continue this current trajectory, it will not be the last pandemic that we experience, and pandemics will become both more frequent and prevalent. On reflection, COVID-19 has caused great emotion, pain, and anger. Humanity is clearly responsible for this pandemic, not the animals that are immorally abused. Importantly, immoral abuse of natural wildlife is sadly not new, therefore indicating that this pandemic was predictable and subsequently preventable. This is the biggest fuelling of anger; humanity is placing its short-term greed over both its own and nature's collective and long-term wellbeing. As a species, we are currently fundamentally short-sighted. For example, whilst the issue of markets and morality has persisted for a long time, so has its virological concerns. In 2003, there was a SARS outbreak in Guangzhou.[198] Over 800,000 animals were reportedly confiscated from wet markets.[199] This figure highlights two severe concerns. Firstly, the scale of which this immoral practise is taking place highlights its abundance and abhorrence. Secondly, the virological concerns of the practise of wet markets. In 2003, during the

[195] George Knowles and Louise Boyle, *Coronavirus: Live animal markets and wildlife trade continue in Asia amid growing calls for crackdown* (2020) <Coronavirus: Live animal markets and wildlife trade continue in Asia amid growing calls for crackdown | The Independent | The Independent> [accessed 8 February 2021].
[196] Ibid.
[197] Ibid.
[198] Robert A. Cook, and William B. Karesh, *State of the Wild: A Global Portrait of Wildlife, Wildlands, and Oceans*, ed. by Eva Fearn (Washington: Island Press, 2009), p. 73.
[199] Ibid.

outbreak of SARS, three species of horseshoe bat were found to be the 'natural reservoir host for closely related SARS-like coronaviruses'.[200] Therefore, COVID-19 'did not come out of the blue'. Scientists, environmentalists, and virologists have all been warning humanity of the consequences that our destructive relationship with nature will have for some time. Humanity has evidently not listened. Consequently, all life is now threatened by changes in the environment which allows disease organisms to mutate, adapt, and spread. Hence, the threat of zoonoses has increased largely.[201] The link between human encroachment and diseases is therefore not a recent scientific discovery. It has existed for a while, but short-term interest has been at the centre of anthropological perception and subsequent action, thus facilitating diseases such as COVID-19. As more and more evidence are provided such as COVID-19, Broswimmer's notion of 'ecocide' is becoming increasingly apparent.[202]

COVID-19, INEQUALITY, PROTECTIONISM, AND POPULISM

Mortality is not the only consequence of COVID-19 for humanity. COVID-19 has deepened and will continue to deepen inequality. There are numerous ways in which the pandemic is increasing inequality. Firstly, COVID-19 and subsequent government measures to suppress the virus such as lockdown has financially impacted the poor the most.[203] Sen used an example of a stall holder in India being unable to trade, whilst professionals can continue to earn from home.[204] Hence, 'disadvantaged groups will suffer disproportionately from the adverse effects of the pandemic.[205] Moreover, Sen also highlighted that the pandemic is accelerating technological change.[206] For countries such as Singapore, this acceleration will be a 'boon'.[207] Whereas many countries are lagging behind in regard to technology.[208] Sen

[200] Ibid.
[201] Ibid., p. 71.
[202] Franz J. Broswimmer, *Ecocide: A Short History of the Mass Extinction of Species* (London: Pluto Press, 2002).
[203] Kunal Sen, *Five ways coronavirus is deepening global inequality* (2020) < Five ways coronavirus is deepening global inequality (theconversation.com)> [accessed 9 February 2021].
[204] Ibid.
[205] Michael Danquah, Simone Schotte, and Kunal Sen, 'COVID-19 and employment Insights from the sub-Saharan African experience', *Decent Work and Economic Growth,* 63.1, (2020), 1-8 (p. 1).
[206] Kunal Sen, *Five ways coronavirus is deepening global inequality* (2020) < Five ways coronavirus is deepening global inequality (theconversation.com)> [accessed 9 February 2021].
[207] Ibid
[208] Ibid.

used the example of many Sub-Saharan African countries will fall further behind, alas increasing the digital divide and further fuelling inequality.[209]

In addition, there are concerns about the economic effect that COVID-19 will have in shaping law, policy, and trade. Protectionism is rising in many countries, illustrated by the trade war between the United States of America, and China.[210] Protectionism was already on the rise, but COVID-19 will intensify and accentuate protectionism.[211] This is problematic for many countries, as globalisation has accelerated and enhanced economic growth in many countries - especially in Asia.[212] However, as Sen stated, 'protectionism will limit its capacity to reduce the wide disparities in incomes between the rich and the poor in the post-pandemic world'.[213] In addition, there are real concerns that the COVID-19 vaccines will deepen health inequality. Virologically, the vaccines are crucial to suppressing and overcoming this virus, as the vaccines will 'determine the scale and speed of recovery from the pandemic'.[214] This will differ across rich and poor countries, alas further accentuating inequality.[215] This is already happening, as *WHO* has already warned of 'vaccine nationalism'.[216] In addition, Berkley has already highlighted how countries are still seeking bilateral deals with vaccine manufacturers.[217] This risk places additional constraints on supplies, and the consequence is that many countries currently have a short supply of vaccines.[218] Therefore, significant disparities remain in the global vaccination effort.[219]

Furthermore, due to COVID-19, there is an inevitability that anti-mainstream politics and populism will continue to rise. Populism is already influencing global political discourse

---

[209] Ibid.
[210] Ibid.
[211] Ibid.
[212] Machiko Nissanke, and Erik Thorbecke, *Linking Globalization to Poverty in Asia, Latin America and Africa* (Finland: United Nations University: World Institute for Development Economics Research, 2010), p. 1.
[213] Kunal Sen, *Five ways coronavirus is deepening global inequality* (2020) <Five ways coronavirus is deepening global inequality (theconversation.com)> [accessed 9 February 2021].
[214] Ibid.
[215] Ibid.
[216] Martin Farrer, *Global report: WHO warns against dangers of 'vaccine nationalism'* (2020) <Global report: WHO warns against dangers of 'vaccine nationalism' | Coronavirus | The Guardian> [accessed 9 February 2021].
[217] Seth Berkley, *Vaccine nationalism will leave everyone more at risk of coronavirus* (2021) <Vaccine nationalism will leave everyone more at risk of coronavirus | New Scientist> [accessed 9 February 2021].
[218] Ibid.
[219] Anna Rouw, 'and others', *Global COVID-19 Vaccine Access: A Snapshot of Inequality (2021)* <Global COVID-19 Vaccine Access: A Snapshot of Inequality | KFF> [accessed 19 March 2021].

and is on the march across the globe. This is illustrated by the election of Donald Trump in 2016, Jair Bolsonaro in 2019, and even the prominence of populism within the Brexit paradigm.[220] Due to the profound changes and socio-economic 'damages' that many nations are experiencing due to COVID-19, populism could be a benefactor. In certain countries such as Turkey, and Hungary, the polls have already increased for their populist leaders.[221] In addition, as Meyer highlighted, populists that are currently out of power will learn how to exploit mainstream governments' policy mistakes in relation to the virus.[222] Yet crucially this is by no means limited to populist politicians. As Senthilingam identified, endemics / pandemics inevitably become a political agenda.[223] Therefore, the effects of an epidemic / pandemic are monumental, as it sends waves of ripple effects throughout or society and its institutions, thus fundamentally changing the 'human experience'.

CONCLUSION

The profound impact of COVID-19 which will challenge humanity for a long-time to come, has arisen because of anthropocentrism which has not just facilitated COVID-19, but the wider ecological emergency. Therefore, highlighting the effects of the pandemic on humanity was needed to emphasise both the reality and severity of the ecological emergency which humanity is entirely responsible for. This illustrates the premise that humanity and nature is interconnected, because when one suffers, the other does simultaneously. For example, the economic, cultural, political, and social consequences of COVID-19 are a result of the dire state of the natural world. As COVID-19 has revealed to humanity, the treatment of the natural world has a profound ramification for the wellbeing of humanity. We therefore evidently cannot stay on the trajectory that we are currently on. For humanity to be protected and flourish, ecocentrism must be at the heart of our

[220] George Burdon, 'Brexit's contingency on populism' (Dissertation thesis, University of Gloucestershire, 2020).
[221] Denes Albert, *Hungary: PM Orbán is 5th most popular EU leader during coronavirus crisis* (2020) <Hungary: PM Orbán is 5th most popular EU leader during coronavirus crisis (rmx.news)> [accessed 9 February 2021].
[222] Brett Meyer, Pandemic Populism: An Analysis of Populist Leaders' Responses to Covid-19', *Tony Blair Institute for Global Change*, (2020), 1-16 (p. 13).
[223] Meera Senthinlingam, *Outbreaks and Epidemics: Battling Infection from Measles to Coronavirus,* (London: Icon Books Ltd, 2020), p. 38.

environmental, economic, and political discourse. Both natures and humanity's wellbeing are contingent on it.

Now that this thesis has provided evidence, and an in-depth level of analysis of the ecological emergency, the theme of the next chapter will logically flow from this chapter, as it criticises a key notion within the anthropocentric paradigm – instrumental value. This is a term which this thesis has already alluded throughout because its ontology means that humanity does not need to value nature, because we are transcendent from it. Hence, we can use it for our gain. This of course fails to recognise interconnectedness. Therefore, the next chapter examines instrumental value in great detail to reveal the philosophical illogicalness of the notion. This analysis enables the rest of the thesis to explore interconnectedness and ecocentrism, with the assurance that anthropocentrism cannot provide a logical basis for environmental theory.

CHAPTER FIVE: A CRITIQUE OF INSTRUMENTAL VALUE

So far, this thesis has revealed the severity of the ecological emergency. As previously highlighted, the ecological emergency began 60,000 years ago when humanity developed the ability of conscious intentionality.[224] Since then, various norms spanning numerous cultures have come to fruition that assert anthropocentric chauvinistic idealism. One of these notions is instrumental value. This notion spans numerous cultures, across the world, reflected by a diverse range of examples provided in this chapter. Hence, instrumental value has played a significant role in intensifying the ecological emergency. This affirms the thesis' identification of anthropocentrism being responsible for intensifying the ecological emergency. Analysis of this notion is therefore imperative. However, it is also imperative to highlight those criticisms of instrumental value cannot be exclusively attributed to traditional Western philosophy, as instrumental value is also present in societies outside of 'Western parameters'. This is supported by the chapter providing examples of instrumental value from around the world.

The chapter begins by providing a definition of the instrumental value which instantaneously uncovers its anthropocentrism. Then the chapter explores how

[224] Franz J. Broswimmer, *Ecocide: A Short History of the Mass Extinction of Species* (London: Pluto Press, 2002), p. 9.

instrumental value is theoretically vindicated. This is explored throughout the chapter, and numerous examples of the inextricable link between instrumental value and traditional Western philosophy is outlined. The chapter also examines how the value of nature is contemporarily derived within the scope of instrumental value. However, the telos of this analysis is to show that instrumental value is inherently problematic in the fight to overcome the ecological emergency, for issues of theory, morality, and practicality. This chapter also seeks to illustrate how the ecological actuality of interconnectedness, reveals the contradictory and detrimental essence of instrumental value. This chapter therefore enables the later chapters to explore alternative philosophical approaches to the environment, namely ecocentrism, and the specific notion of interconnectedness. The chapter finishes by examining an alternative approach in traditional Western philosophy which is 'extensionist environmental ethics' and the deployment of intrinsic value as the foundation for moral theory. Nevertheless, this approach is also fundamentally problematic. Therefore, the chapter affirms that traditional Western philosophy is inherently chauvinistic, and alas problematic for dealing with environmental matters. Hence, an alternative approach is required. Given the presence and significance of traditional Western philosophy in our contemporary human ontology, a critique of instrumental value is imperative, as it reveals the problematical ontology of anthropocentric idealism.

DEFINING INSTRUMENTAL VALUE

Within the context of environment ethics, instrumental value derives value by the value that species provides for humanity.[225] Therefore value is always conditional.[226] Instrumental value is often placed into the paradigm of 'shallow ecology' which reaffirms that the natural world is a source readily available for anthropological utilization. This is theoretically justified by the notion of speciesism, which asserts humanity has more value than the natural world. For example, Aristotle claimed that animals lacked 'reason', consequently meaning that animals are below humanity in the natural hierarchy, and 'are therefore

[225] Barbara Paterson, 'Ethics for Wildlife Conservation: Overcoming the Human-Nature Dualism', *Bioscience*, 56.2, (2006), 144-150 (p. 145).
[226] Ronald Sandler, 'Intrinsic Value, Ecology, and Conservation', *Nature Education Knowledge*, 3.10, (2012), 1-7 p. 2.

appropriate resources for human purposes'.[227] Aristotle subsequently presented a hierarchical assessment of nature.[228] This is something which instrumental value inherently affirms.

The notion that natural phenomena is available for anthropological utilization is centred around 'management ethics' and not 'environmental ethics … thus highlighting its selfish, socially unjust, and exploitative nature'.[229] Shallow ecology and other theoretical similarities allude the pre-eminence of the anthropological. Clearly, instrumental value and the wider shallow ecology does not value the environment in itself, and only has anthropocentric concerns at its forefront.

Instrumental value is problematic for nature, and humanity alike, yet is highly prominent in Western philosophical ontology and epistemology. The identification of Aristotle's remarks reveals this. This claim is upheld by DeGrazia who identified that traditional Western philosophy largely upheld the perspective of human primacy.[230] This is a logical conclusion. For example, for centuries, Christianity preached the concept that all human life, but crucially only human life was sacred, subsequently implying an innate difference in value.[231] Moreover, as DeGrazia also identified, fundamental philosophers such as Descartes, Hobbes, Locke, and Kant all in one way or another failed to grant significant moral status to animals.[232] This has already been highlighted in chapter two, where analyses of Descartes' perception of the forest was outlined. However, Descartes also deduced it was natural for one to view animals as 'organic machines', as animals were bereft of feelings.[233] This is undeniable evidence that traditional Western philosophy and the depletion of the natural order are inseparable.

There are plenty of other examples to affirm traditional Western philosophy's largely negative view of the natural world. For example, Kant justified the anthropological use of

---

[227] David DeGrazia, *Animal Rights* (Oxford, Oxford University Press, 2002), p. 3.
[228] E. Szűcs, 'and others', 'Animal Welfare in Different Human Cultures, Traditions, and Religious Faiths', *Asian-Australian Journal of Animal Sciences*, 25.11, (2012), 1499-1506 (p. 1501).
[229] David Heyd, *Genethics: Moral Issues in the Creation of People* (Los Angeles, University of California Press, 1992), p. 204.
[230] David DeGrazia, *Animal Rights* (Oxford, Oxford University Press, 2002), p. 4.
[231] Peter Singer, *Animal Liberation: With an Introduction by Yuval Harari* (London: The Bodley Head, 2015), p. 191.
[232] David DeGrazia, *Animal Rights* (Oxford, Oxford University Press, 2002), p. 4.
[233] Ibid.

animals, on the principle of autonomy.[234] Szűcs et al highlighted how Kant defended the practice of vivisection, on the grounds that it has the potential to benefit humanity.[235] However, as Western philosophy evolved, philosophers such as Hume, Bentham, and Schopenhauer did undertake an 'eco-friendlier' view of nature.[236] Nevertheless, it was largely the case that in the Western philosophical tradition, moral status was often not extended to anything other than humanity, alas ensuring that instrumental value was at the centre of Western philosophical ontology.

INSTRUMENTAL VALUE CONTRASTS THE CONVENTION ON BIODIVERSITY

The essence of instrumental value is in direct contrast to the Convention on Biodiversity, which affirms the intrinsic value (something's value lies within itself) of biological diversity and subsequently nature in general.[237] The essence of instrumental value appears instantaneously incoherent, as the interconnectedness of all life means all species are of value to humanity. Moreover, the theory of evolution substantiates the presence of species on this earth for millions of years before *homo sapiens*. Therefore, the notion that nature is here for our own utilization appears totally irrational. This reveals the presence of a dichotomy between science and philosophy, something which Paterson resonates.[238] This demonstrates that traditional Western Philosophy is totally problematic for the environment as it facilitates norms such as instrumental value, which enables nature to be commodified and freely depleted.

AN EXAMPLE OF INSTRUMENTAL VALUE

Instrumental value is ethically problematic, as morality in this context is not extended to nature, as it is simply a commodity available for anthropological exploitation. This instantly appears to be entirely incompatible with any rational environmental ethic. The example of

[234] Ibid.
[235] E. Szűcs, 'and others', 'Animal Welfare in Different Human Cultures, Traditions, and Religious Faiths', *Asian-Australian Journal of Animal Sciences*, 25.11, (2012), 1499-1506 (p. 1504).
[236] David DeGrazia, *Animal Rights* (Oxford, Oxford University Press, 2002), p. 5-6.
[237] Barbara Paterson, 'Ethics for Wildlife Conservation: Overcoming the Human-Nature Dualism', *Bioscience*, 56.2, (2006), 144-150 (p. 144).
[238] Ibid.

the 'tiger' reveals the logicality of such conclusion. As Kane stated: "the tiger is now being commodified, it has street value like gold, like drugs, like diamonds".[239] Throughout much of East Asia, tigers are bred and held captive in morally repugnant conditions, in what is often referred to as 'tiger farms'. Many tigers are also seized from the wild too. These tigers are subject to physical and mental abuse and live a life of unimaginable suffering. The purpose of these farms is to harvest tiger bones. These bones are 'often used for wine or medicinal paste; the skin is used for furniture upholstery and décor such as rugs or wall hangings, and the teeth may be set in gold and turned into jewellery'.[240] Moreover, the tigers are killed in ethically indefensible ways too. For example, an undercover investigation by *National Geographic* provided video footage of a tiger being tied within a tiny cage and being electrocuted several times.[241] This moral injustice is abundant too. As Bale reported, fewer than 4,000 tigers remain in the wild, but roughly 8,000 tigers are held in captive facilities in Asia alone.[242]

The case study of the tiger is inextricably linked to cultural and philosophical presuppositions which are of an innately anthropocentric nature, which trivialise the tendencies of instrumental value. As Bale highlighted, demand for tiger bone is high because the bone is considered a coveted status symbol in many Chinese and Vietnamese traditions.[243] Moreover, as Gabriel identified, tigers symbolize 'strength, power, beauty, and charm'.[244] Kane echoes this, and highlighted how the mythical link between tigers and power make tiger products very demandable to consumers.[245] Additionally, tiger products have been a significant part of traditional Chinese medicine for centuries.[246] Furthermore, 'glue' can even be made from tigers and is used frequently in Laos and Vietnam, as it is claimed to 'enhance' sexual performances.[247] Therefore, for numerous reasons, tiger products are highly sort after. This has inflated the price of tiger products. As Kane also

---

[239] *Tigers: Hunting the Traffickers*, dir. by Laura Warner (BBC, 2020).
[240] Rachael Bale, *Exclusive: Illegal Tiger Trade Fed by 'Tiger Farms,' New Evidence Reveals* (2018) <Exclusive Investigation Shows Tiger Farms Linked to Trafficking in Southeast Asia (nationalgeographic.com)> [accessed 3 June 2021].
[241] Ibid.
[242] Ibid.
[243] Ibid.
[244] Laurel Neme, *Tiger farming and traditional Chinese medicine* (2010) <Tiger farming and traditional Chinese medicine (mongabay.com)> [accessed 3 June 2021].
[245] *Tigers: Hunting the Traffickers*, dir. by Laura Warner (BBC, 2020).
[246] Ibid.
[247] Ibid.

reported, a kilo of tiger bones is worth $7,000, and therefore has a higher street value than a kilo of cocaine in South America.[248]

What this example shows is that instrumental value is morally indefensible within environmental ethical paradigms. The essence of instrumental value alludes the absence of any moral ramifications for these moral injustices delineated. As tigers have no value independent of the anthropological, these practices can be morally justified, because of the 'benefits' it brings to humanity. Simply put, tigers are there to exploit, for our own gain, just like any species on this earth. In this context, the pain and cruelty that the tigers experience is never contemplated or regarded as significant, because of the supposed benefits for humanity the practise provides. Therefore, this case study reveals both the presence and severity of human chauvinism, which is inherently hegemonic. This too reveals the gravity of anthropocentrism, and the theoretical justification of the abuse of animals. Instrumental value is evidently reprehensible, and a facilitator of the ecological emergency, as it enables the depletion of the natural world to become normalised and maintains the concept of anthropological superiority. What this case study also reveals is the presence of instrumental value across the world, including in the East. This is despite Eastern philosophies often having a more environmentalist nature than Western philosophies. Therefore, a void is evident between philosophy and manifestation.

HOW IS THE INSTRUMENTAL VALUE OF NATURE DERIVED?

Whilst on one hand, instrumental value can theoretically and morally justify the abuse of natural resources in order to provide anthropological benefit, on the other hand, instrumental value can provide reasoning for protecting certain natural resources. This is based on the premise that natural resources which are of benefit for the anthropological are worth protecting. However, this too is inherently problematic. Firstly, nature has worth independent of humanity, so selectively protecting aspects of nature for our own benefit is exclusively anthropocentric and does not reflect the need for humanity to embrace interconnectedness. Secondly, whilst species may not appear to have any immediate value for the anthropological, species are part of an intricate ecosystem, and thus play a crucial

[248] Ibid.

role in maintaining its biodiversity. If a species did not have purpose, it would simply not exist. Once the ecosystem is disrupted and unbalanced, it can have serious ramifications for humanity, as this thesis has already revealed. Therefore, selectively protecting aspects of nature is incompatible with ecological actuality. Thirdly, how does one determine the value that nature has for humans? Whilst one natural resource may be valuable to one individual or community, it may not be valuable to another. Evidently, the pith of instrumental value is innately subjective, and thus relative, so instrumental value cannot theoretically provide a sound basis for any plausible environmental ethic. Therefore, instrumental value is not just morally problematic, but theoretically problematic too.

ECONOMIC AND AESTHETHIC VALUE

Nevertheless, instrumental value is a prominent notion in our environmental discourses as it is a value which is commonly translated into economic terms.[249] Therefore, economics is at the centre of the debate. On one hand, economics supports the depletion of natural resources. As Paterson identified, many people's livelihoods depend on the extraction of natural resources.[250] However, on the other hand economics can in many instances support the conservation effort. As Child identified, some wildlife species are of high economic value for tourism.[251] This is certainly the case for many renowned African species such as the elephant, giraffe, or lion. Scholtz reported that more than 30 million tourists a year visit Africa, contributing more than US 36$ billion in 2012 alone.[252] This makes up 2.8% of the continents GDP.[253] Tourism is a crucial part of the collective African economy. This alone provides reasoning to protect certain species, because of the economic benefits that tourism provides. If these species were to become extinct, tourism would decline massively, and it would be hugely detrimental to the local economy. Therefore, it is not in the economic interest to push certain species towards extinction.

[249] Barbara Paterson, 'Ethics for Wildlife Conservation: Overcoming the Human-Nature Dualism', *Bioscience*, 56.2, (2006), 144-150 (p. 144).
[250] Ibid.
[251] Graham Child, 'Wildlife utilization and management in Botswana', *Biological Conservation*, 3.1, (1970), 18-22.
[252] Marco Sholtz, *Why millions chose Africa as their safari destination* (2016) <Why millions chose Africa as their safari destination (theconversation.com)> [accessed 4 June 2021].
[253] Ibid.

In addition, the aesthetic value that people bestow on species provides reasoning for protecting certain species. As Myers identified, particular species have aesthetic value, 'in that they contribute to the diversity and beauty of this planet'.[254] For example, the safari and ecotourism industries are reliant on people attaching aesthetic value to species in order for those people to spend money and go on these trips.[255] Hence, the wildlife experience of the tourist is translated into monetary value for local communities.[256] Therefore, the aesthetic value of wildlife is inseparably linked to an economic value.

INSPIRATION AS A SOURCE OF VALUE

Moreover, the natural world often acts as a source of inspiration, for many people around the world. The simple idea that we share the Earth with amazing creatures such as elephants or tigers is inspiring for many.[257] Therefore, the value bestowed in this context is general, in the sense that the value of the species is just its very existence, and not a specific characteristic or feature of said species. Many will never see that species in the wild.[258] This is down to scientific factors such as the natural distribution of wildlife but also socio-economic factors such as a trip to the other side of the world being unaffordable. Instead, they will often encounter the reality of the species by watching documentaries or visiting zoos. Nevertheless, inspiration in this context still falls within the paradigm of instrumental value, as the species is only deemed of value, because of the emotional attachment that a human has conferred onto that particular species. Furthermore, this branch of instrumental value is exceptionally subjective, as whilst one may find an elephant inspiring, a local Indian farmer whose crops are frequently destroyed by elephants is unlikely to echo the same sentiments. This exemplifies the permanent conflict with one another and the natural environment as a consequence of instrumental value, which is because of its subjective, relative, and ultimately immoral ontology.

---

[254] Norman Myers, *The Sinking Ark: A new look at the problem of disappearing species* (Oxford, Pergamon Press, 1979).
[255] Barbara Paterson, 'Ethics for Wildlife Conservation: Overcoming the Human-Nature Dualism', *Bioscience*, 56.2, (2006), 144-150 (p. 145).
[256] Ibid.
[257] Ibid.
[258] John Andrew Fisher, 'Aesthetics', in *A Companion to Environmental Philosophy*, ed. by Dale Jamieson (Oxford, Blackwell, 2001), pp. 265-274.

CULTURAL, AND PHILOSOPHICAL VALUE

Both aesthetic value and inspiration are often interwoven with philosophy, and this is certainly the case for the natural world. As Paterson stated: 'nature and wildlife are also a great philosophical and spiritual resource, serving as inspiration for religious, philosophical, and spiritual thought and existence'.[259] This is evidently the case, and there are an immeasurable number of examples to illustrate this. In Ancient Egypt, cats were revered, as they killed local pests such as rats and snakes.[260] This led to cats being regarded as a symbol of poise and grace.[261] Moreover, animals shape a seismic part of Hindu theology. As Das asserted: 'each Hindu deity has a particular animal-vehicle or *vahana* on which it travels … these vehicles, which are either animals or birds, represent the various spiritual and psychological forces that carry each deity and represent it'.[262]Many deities have an innately animalistic nature. For example, Ganesh is a Hindu god with an elephant's head.[263] Additionally, Ganesh's *vahana* is the mouse.[264]

Furthermore, the notion of reincarnation is a core Hindu tenet. As Nagaraj et al defined, reincarnation is the belief that 'the soul or spirit, after biological death, begins a new life in a new body that may be human, animal or spiritual depending on the moral quality of the previous life's actions'.[265] Moreover, as Ayers identified: 'the concept of reincarnation places elephants as one of the highest ranked animals to come back as'.

Animal importance is by no means exclusive to religious tenets either. The example of the tiger previously outlined in this chapter shows this clearly. Animals often attain high

---

[259] Barbara Paterson, 'Ethics for Wildlife Conservation: Overcoming the Human-Nature Dualism', *Bioscience*, 56.2, (2006), 144-150 (p. 145).
[260] Benjamin Plackett, *Why were the ancient Egyptians obsessed with cats?* (2021) <Why were the ancient Egyptians obsessed with cats? | Live Science> [accessed 7 June 2021].
[261] Matt Ayres, *7 sacred animals from around the world* (2016) <7 sacred animals from around the world | Animalogic> [accessed 7 June 2021].
[262] Subhamoy Das, *Vehicles of the Hindu Gods: the Vahanas* (2019) <Vehicles of the Gods—Hindu Deities and Their Vahanas (learnreligions.com)> [accessed 7 June 2021].
[263] Wendy Doniger, *Ganesha: Hindu deity* (2021) <Ganesha | Meaning, Symbolism, & Facts | Britannica> [accessed 7 June 2021].
[264] Subhamoy Das, *Vehicles of the Hindu Gods: the Vahanas* (2019) <Vehicles of the Gods—Hindu Deities and Their Vahanas (learnreligions.com)> [accessed 7 June 2021].
[265] Anil Kumar Mysore Nagaraj, Raveesh Bevinahalli Nanjegowda, and S. M. Purushothama, 'The mystery of reincarnation', *Indian Journal of Psychiatry*, 57.4, (2013), 171-176 (p. 173).

cultural importance too. Therefore, this chapter has illustrated the importance of animals in various religious, philosophical, and cultural discourses. The examples outlined also show that the regard for animals in this context is innately anthropocentric, as there is an inextricable link to human ontology, as species are only of value in relation to anthropological religiosity, spirituality, philosophy, and culture.

AGRICULTURAL, INDUSTRIAL, AND MEDICINAL VALUE

Instrumental value is contemporarily at the centre of our societies, because humanity uses nature for agricultural, industrial, and medicinal benefits, which establish a fundamental part of our every-day lives.[266] For example, *Animal Aid* reports that one billion animals a year are killed for food in the UK alone.[267] This figure does not include seafood as they are killed in such enormous numbers, so instead, are counted in tonnes.[268] The sheer scale of this illustrates the extent of the presence of instrumental value in society. Moreover, animals around the world are used for medicinal purposes. This thesis has already illustrated this, such as a COVID-19 vaccine in China that contains bear bile.[269] It can be argued that nature is subsequently worth protecting, because of the contribution that they make to enhancing our lives. However, as Rolston rationally asserted, species are thus protected for their 'enlightened exploitation'.[270]

The agricultural, industrial, and medicinal benefits that species provide humans cannot be the sole reason for its protection. Its telos for humanity does not automatically subside its natural telos in serving its ecosystem. Of course, this does not necessarily always apply to animals born in captivity and industry. Nevertheless, it is immoral to exclusively focus on the benefit/s that a species provides humanity without considerations of the animal itself. Animal species are not objects, but sentient beings with the capacity to experience pain and emotion. Hence, shooting a rhino and taking its horn, or cooking an

---

[266] Barbara Paterson, 'Ethics for Wildlife Conservation: Overcoming the Human-Nature Dualism', *Bioscience*, 56.2, (2006), 144-150 (p. 145).
[267] Animal Aid, *Animal Farming* (2021) <Animal Farming - Animal Aid> [accessed 9 June 2021].
[268] Ibid.
[269] Jane Dalton, *South Africa traffics thousands of endangered wild animals to China in 'corrupt and growing' trade, investigation finds* (2020) <South Africa traffics thousands of endangered wild animals to China in 'corrupt and growing' trade, investigation finds | The Independent | The Independent > [accessed 5 February 2021].
[270] Holmes Rolston, 'Biodiversity', in *A Companion to Environmental Philosophy*, ed. by Dale Jamieson (Oxford, Blackwell, 2001), pp. 403-415.

animal alive is morally indefensible. Sentience is finally being formally recognised and written into UK law, which is hugely welcome.[271] Any plausible environmental ethic takes into consideration the 'experience' of animals. Thus, one can logically conclude that instrumental value is entirely incompatible with protecting the natural world. This is especially the case as instrumental value can theoretically justify the extermination of an entire species if it is deemed a 'pest' – in other words the species fails to conform to anthropological ideals.[272]

INSTRUMENTAL VALUE IS ALSO PRACTICALLY PROBLEMATIC

Instrumental value is practically problematic for conservationists, as it alludes that species are only worth protecting for human benefit.[273] Therefore, natural resources should be carefully managed for anthropological exploitation and prosperity.[274] Nonetheless, this is morally problematic, for example, this would theoretically justify the killing of an individual elephant. After all, thousands of elephants' roam Africa and Asia, so what harm will killing one elephant do, as it will not affect the wider elephant population? Especially if the killing of one elephant provides medicinal, and economic benefits. This shows that the idea of carefully managing natural resources for anthropological exploitation and prosperity is fundamentally incompatible with any cogent environmental ethic, as there is no regard for animals on an individual level (i.e., sentience). This enables and subsequently permits the moral injustices that are so contemporarily prevalent across the world today, such as elephant poaching to become trivial.

In addition, many conservationists seek to protect all wildlife, so clearly the nature of conservationists and instrumental value are irreconcilable. This claim is supported by Standler who asserted: 'if non-human organisms, species, and ecosystems possess only instrumental value, their value-and by extension the conservation and management goals

[271] Fiona Harvey, *Animals to be formally recognised as sentient beings in UK law* (2021) <Animals to be formally recognised as sentient beings in UK law | Animal welfare | The Guardian> [accessed 9 June 2021].
[272] Barbara Paterson, 'Ethics for Wildlife Conservation: Overcoming the Human-Nature Dualism', *Bioscience*, 56.2, (2006), 144-150 (p. 146).
[273] Ibid., p. 145.
[274] Ibid.

they justify-are highly contingent, defeasible, and unstable'.[275] This is echoed by Paterson, who coherently identified that when instrumental value is the notion that drives the conservation effort, the onus is on the conservationist to explicitly prove the value of the species in question.[276] As Paterson also highlighted, this 'presents ongoing challenges for endangered species conservation', as many endangered species have little instrumental value.[277] Yet to a large degree, this is a red herring, because of the 'metaphysical fact of interconnectedness'.[278] Instrumental value therefore prohibits the effectiveness of the conservation effort, and alas shows the urgent need for humanity to abandon this chauvinistic norm.

INTRISNIC VALUE: ALSO, FUNDAMENTALLY PROBLEMATIC

The ecological emergency is evidentially an anthropogenic problem, and interconnectedness must be embraced in order to secure a more egalitarian anthropological approach to the environment. Contemporarily, there is much debate on how this can be achieved. One concept is to extend certain aspects of traditional Western philosophy to environmental ethics. This approach is often categorised as 'extensionist environmental ethics'.[279] This is somewhat controversial, given the chauvinistic nature of traditional Western philosophy. Moreover, there is credible doubt on the plausibility of this method, given that traditional moral theory concerned itself with the interactions between humans, and not nature. Can a philosophical theory which was formulated for a different ethical telos be logically applicable for the ecological emergency, especially given the intricacy of the crisis? Clearly, this approach is also innately anthropocentric, and as this thesis has revealed, a philosophical shift is required. Nevertheless, it is prominent in the contemporary environmentalism conversation.

[275] Ronald Sandler, 'Intrinsic Value, Ecology, and Conservation', *Nature Education Knowledge*, 3.10, (2012), 1-7 (p. 2).
[276] Barbara Paterson, 'Ethics for Wildlife Conservation: Overcoming the Human-Nature Dualism', *Bioscience*, 56.2, (2006), 144-150 (p. 145).
[277] Ibid.
[278] Freya Matthews, 'Value in nature and meaning in life', in *Environmental Ethics,* ed. by Robert Elliot (Oxford: Oxford University Press, 1995), p. 143.
[279] Barbara Paterson, 'Ethics for Wildlife Conservation: Overcoming the Human-Nature Dualism', *Bioscience*, 56.2, (2006), 144-150 (p. 146).

Within extensionist environmental ethics, the most common approach of extending traditional moral theory to environmentalism is by using instrumental value's contrasting notion – intrinsic value. This approach searches for commonality between humanity and nature, in order to assert that there is natural value in species. Therefore, this approach examines what gives humans intrinsic value, in order to assert that other species may have the same qualities too.[280] For example, sentience is a quality found in both humanity and many wildlife species, including renowned species such as elephants.[281] Since 'animals share the ability to experience their own environment and to suffer, human actions that inflict suffering on animals are morally wrong'.[282] Another moral criterion which is commonly used in extensionist environmental ethics is rationality.[283] Many animals demonstrate their ability to be rationale in their day-to-day lives, such as coordinating a hunt, or problem solving. Therefore, this approach asserts that animals should be protected because of their manifestation of 'rudimentary form of reasoning'.[284]

Like instrumental value, whilst intrinsic value can often provide grounds for protecting certain species, it is still nevertheless inherently problematic. For instance, if one used sentience as the moral criterion, whilst this would protect many species, many other species such as fungi, single-celled organisms, and plants are 'effectively ruled out'.[285] This is problematic given the interconnectedness of life. In addition, if one used rationality as the moral criterion, many other species such as invertebrates would be ruled out.[286] All of the types of species outlined are crucial for maintaining the environment, so intrinsic value is illogical for environmentalism. As Paterson stated, the problem with intrinsic value is that 'the scope of moral consideration will extend only to some but not all species'.[287] This

[280] Ibid.
[281] Frans De Waal, *Mama's Last Hug: Animal Emotions and What They Teach Us about Ourselves* (London, Granta Publications, 2020), p. 239.
[282] Peter Singer, 'Animals', in *A Companion to Environmental Philosophy*, ed. by Dale Jamieson (Oxford, Blackwell, 2001), pp. 416-425.
[283] Robin Downie, 'Kantian ethics', in *The Oxford Companion to Philosophy*, ed. by Ted Honderich (Oxford, Oxford University Press, 1995), pp. 438-439.
[284] Barbara Paterson, 'Ethics for Wildlife Conservation: Overcoming the Human-Nature Dualism', *Bioscience*, 56.2, (2006), 144-150 (p. 146).
[285] Ibid.
[286] Ibid.
[287] Ibid.

automatically reveals the illogicalness of the theory, as all wildlife has value, in that it contributes to the protection, maintenance, and prosperity of its ecosystem.

In addition, as Paterson also identified, extensionist arguments often focuses on individuality rather than the species as a whole.[288] Therefore there are no 'moral consideration of animal or plant populations, or of endemic, rare, or endangered species, let alone biotic communities or ecosystems, because entities and aggregations such as these have no apparent psychological experience'.[289] This is entirely incompatible with the telos of conservationists who strive to protect whole species and entire ecosystems, and therefore do not use the exclusive parameters of individuality. Of course, this does not mean that conservationists do not care about individual animals. Therefore, as Cafaro and Primack deduced, it is questionable whether individualistic approaches can 'serve as an ethical underpinning for wildlife conservation'.[290] Finally, intrinsic value is also problematic because animals still only have value if they correspond to the humanity's chauvinistic norms and values such as sentience or rationality. Irrespective of the psychological capacities of a species, all nature has a purpose, it simply would not be on this earth if it did not. Clearly a new approach and a shift from traditional Western philosophical normativism is necessary. However, intrinsic value outside of traditional Western philosophical parameters can be largely ecocentric not anthropocentric. This is something that is explored in the following chapter.

CONCLUSION

If we were bestowing value onto the natural world in a logical way, we would immediately place an infinite degree of value onto the natural world, because humanity cannot prosper if the natural world is not prospering either. The fact that we are collectively not indicates we are subconsciously overlooking a key ecological prerequisite for overcoming the ecological emergency. This illustrates the power that cultural, philosophical, religious, and societal norms have in shaping our thoughts and actions. A dichotomy between science and

[288] Ibid.
[289] Ibid.
[290] Philip Cafaro, and Richard Primack, 'Ethical issues in biodiversity protection', in *Encyclopaedia of Biodiversity*, ed. by Simon Levin (San Diego, Academic Press, 2001), pp. 593-607.

philosophy is certainly present, and this must be addressed. There can be no doubt that instrumental value has facilitated the ecological crisis, as it has enhanced humanity's ability to carelessly deplete the natural world and show no regard for others that we share this finite planet with. The depletion of the natural world began with humanity's evolutionary ability to reason and communicate. This led to the formation of ideological presuppositions such as instrumental value which are still evidently notorious today. Hence why the capture, imprisonment, torture, and callous killing of animals is so prominent and mainstream across the world.

Instrumental value is at the core of our anthropocentrism and intensifies our chauvinistic and hegemonic tendencies. The notion of instrumental value has been justified, intensified, and maintained by traditional Western philosophy. Analysis throughout this chapter illustrates this. Notions of human superiority are still deeply woven into our societal and cultural fabrics, which this chapter's explorations has disclosed. As a species, we need to shift away from instrumental value exclusivity, and embrace interconnectedness. This shift is imperative, as instrumental value creates an intangible view of the natural world, because all species have value for humanity (in the sense of the general wellbeing of the entire environment in which our health and prosperity is conditional on). Selectively protecting aspects of the natural order is both morally erroneous and ecologically illogical. In addition, instrumental value has monetised aspects of the natural order. This has justified its depletion, yet it is not in humanity's economic interest to deplete the natural order on the unprecedented scale in which it is contemporarily doing. Sustainability is essential for the contemporary and future protection of all as the world is finite and fragile. The ontology of instrumental value is evidently contradictory and has overseen both natures demise and our own.

The chapter finished by illustrating why an alternative approach is needed in environmental ethics. The notion of intrinsic value is often deployed in contemporary environmentalism but as this chapter has shown, it is inherently problematic too. Therefore, both instrumental and intrinsic value fail to incorporate the key ecological prerequisite of any plausible environmental ethic – interconnectedness. This is something that ecocentrism does often acknowledge, thus illustrating the need for a philosophical inquiry of

ecocentrism and an abandonment of traditional Western philosophical normative concepts. The next chapter will explore ecocentrism in considerable detail.

CHAPTER SIX: EXAMINING ECOCENTRISM

This thesis has clearly illustrated that anthropocentrism and its key notions such as dominion, instrumental value, human chauvinism, and speciesism are of evident detriment to the wellbeing of not just the natural world, but humanity too. Traditional Western largely fails to acknowledge the interconnectedness of life, which in itself provides logical reasoning for protecting the natural world. Moreover, as the analysis of traditional Western philosophy and anthropocentrism revealed, humanity often transcends itself from nature, which enables the theoretical justification of the depletion of the natural order. Clearly a new ethic is required. This chapter begins by identifying that new ethic – ecocentrism.

The definition of ecocentrism is then outlined in detail, supported by key various academic texts. Then the chapter makes a key distinction between intrinsic value in traditional Western philosophy and in ecocentrism. However, in order to ensure accuracy of this work, the chapter also examines some of the theoretical challenges that ecocentrism faces from other non-anthropocentric approaches, specifically sentientism and biocentrism. Once this is addressed, the chapter outlines the key three strengths of ecocentrism, before moving onto the criticisms that the theory faces. However, this chapter concludes that as ecocentrism is a diverse paradigm, there are plausible realistic approaches, that fill the voids required, and ensure a more harmonious approach to engaging with the natural world. This is achieved by examining Buddhism in the next chapter. Therefore, whilst this chapter is mostly theoretically, the next chapter has a higher degree of contemporary application to it.

DEFINING ECOCENTRISM

'Ecocentrism is the view that the interests of ecosystems are of direct moral importance'.[291] Ecocentric theories often detach themselves from individualistic parameters, and instead looks at environmental 'wholes'.[292] Ecocentrism therefore takes a 'meta' approach. As Washington et al described, ecocentrism 'is the broadest of all worldviews'.[293] This is upheld by Gray, Whyte, and Curry who identified ecocentrism's ability to see the ecosphere 'as life's sole source of sustenance'.[294] This alludes ecocentrism's recognition of the interconnectedness of all life. As this thesis strives to illustrate, interconnectedness must be at the core of any plausible environmental ethic, and ecocentrism acknowledges this. Hence, why ecocentrism places intrinsic value on all of nature.[295]

However, to avoid this thesis appearing paradoxical, a distinction must be made. Intrinsic value in the Western philosophical tradition is problematic because it is chauvinistically anthropocentric as it searches for commonality between humanity and nature.[296] Commonality includes concepts such as rationality.[297] Simply put, if there is no degree of rationality that resembles human rationality, then there is no intrinsic value for that species. Yet, intrinsic value within the paradigm of ecocentrism is used in an entirely different context, as intrinsic value is bestowed on all of nature, regardless of a species 'commonality' with humanity. Intrinsic value in this context is subsequently conferred because of its very existence, and automatic ecological importance, hence why it is importantly not anthropocentric. Values are granted to nature regardless of its purpose for humanity. This is highly significant, as it shows the abandonment of the anthropogenic chauvinistic norm of instrumental value, which has been hugely detrimental to the natural world, something which many ecocentric philosophers such as Callicott echo.[298] Ecocentrism

[291] Katie McShane, 'Ecocentrism', in *Critical Environmental Politics*, ed. by Carl Death (Oxford, Routledge, 2014), p. 83.
[292] Haydn Washington, Bron Taylor, Helen Kopnina, Paul Cryer, and John J Piccolo, 'Why ecocentrism is the key pathway to sustainability', *The Ecological Citizen*, 1.1, (2017), 35-41 (p. 35).
[293] Ibid.
[294] Joe Gray, Ian Whyte, and Patrick Curry, 'Ecocentrism: What it means and what it implies', *The Ecological Citizen*, 1.2, (2018), p. 130.
[295] Robin Attfield, *Environmental Ethics* (Oxford, Oxford University Press, 2018), p. 12.
[296] Barbara Paterson, 'Ethics for Wildlife Conservation: Overcoming the Human-Nature Dualism', *Bioscience*, 56.2, (2006), 144-150 (p. 146).
[297] Ibid.
[298] John Baird Callicott, 'Non-Anthropocentric Value Theory and Environmental Ethics', *American Philosophical Quarterly*, 21.1, (1984), 299-309.

therefore sharply contrasts anthropocentric speciesism and provides a plausible philosophical alternative. This is crucial for tackling the ecological emergency. As Lautensach stated, 'The deep and lasting changes to human behaviour that are required to address the global environmental crisis necessitate profound shifts in moral foundations'.[299]

THEORETICAL CHALLENGES FOR ECOCENTRISM

However, some such as McShane argue ecocentrism has theoretical challenges to overcome.[300] As McShane stated, 'a rejection of anthropocentrism is not yet a justification for ecocentrism'.[301] This conclusion was reached on the premise of the presence of other ideological alternatives to anthropocentrism, such as sentientism and biocentrism.[302] However, as the last chapter showed, ethical formulations on the foundations of sentientism are problematic, as ethical consideration is failed to be given to non-sentient species such as fungi, single-celled organisms, and plants.[303] This is affirmed by Feinberg, who stated 'a being cannot intelligibly be said to possess moral rights unless that being satisfies the "interest principle", and that only the subclass of human and higher animals among living beings satisfies this principle'.[304] This is clearly incompatible with the ecological notion of interconnectedness, as it fails to recognise ecosystems as 'wholes'.

Moreover, biocentrism is problematic for two reasons. Firstly, as McShane identified, biocentrism is concerned with the welfare of individual living organisms.[305] As the previous chapter also illustrated, individualistic environmental ethics is illogical. This is because the telos of conservationists is to protect whole species and ecosystems, alas placing doubt on

[299] Alexander K. Lautensach, 'The Ethical Basis for Sustainable Human Security: A Place for Anthropocentrism?', *Bioethical enquiry*, 6.1, (2009), 437-455 (p. 437).
[300] Katie McShane, 'Ecocentrism', in *Critical Environmental Politics*, ed. by Carl Death (Oxford, Routledge, 2014), p. 84.
[301] Ibid.
[302] Ibid.
[303] Barbara Paterson, 'Ethics for Wildlife Conservation: Overcoming the Human-Nature Dualism', *Bioscience*, 56.2, (2006), 144-150 (p. 146).
[304] Kenneth Goodpaster, 'On Being Morally Considerable', in *Environmental Ethics: Readings in Theory and Application*, ed. by Louis Pojman, 4th edn (Belmont, Wadsworth, 2005), p. 135.
[305] Katie McShane, 'Ecocentrism', in *Critical Environmental Politics*, ed. by Carl Death (Oxford, Routledge, 2014), p. 84.

the credibility of this approach.[306] Secondly, individualistic environmental ethics only considers the psychological experience of individuals, and therefore not biotic communities and ecosystems.[307] This is affirmed by Cairoli who reiterated that biocentrism does not consider chemical or geographical elements of the environment to be significant.[308] This is not something that is denied by bio-centrists. For example, Goodpaster explicitly stated that different species have differing degrees of moral significance.[309] Therefore, both sentientism, and biocentrism fail to acknowledge the interconnectedness of all life. The interconnectedness of life instinctively includes chemical and geographical elements, as they are interconnected with all other life (therefore playing a crucial role in ecosystems). Therefore, whilst McShane was right in identifying additional alternatives to anthropocentrism than just ecocentrism, McShane failed to acknowledge that ecocentrism can be contemporarily justified as the plausible alternative to anthropocentrism.

THE STRENGTHS OF ECOCENTRISM

The justification for ecocentrism does not solely rely on the limitations of sentientism, and biocentrism. Ecocentrism in itself is a highly plausible ideology, as it pervades the voids of biocentrism, by undertaking a holist non-anthropocentric approach (as opposed to biocentrism's individualist non-anthropocentrism). Holists claim that our environmental goals are ultimately about the protection and welfare of ecological wholes, rather than individuals.[310] Ecocentrism is therefore grounded in the cosmos.[311] For many such as Johnson, this is both the morally right and logical approach to take.[312] Crucially, this approach aligns with the telos of conservationists, as conservation requires taking the long

[306] Philip Cafaro, and Richard Primack, 'Ethical issues in biodiversity protection', in *Encyclopaedia of Biodiversity*, ed. by Simon Levin (San Diego, Academic Press, 2001), pp. 593-607.
[307] Barbara Paterson, 'Ethics for Wildlife Conservation: Overcoming the Human-Nature Dualism', *Bioscience*, 56.2, (2006), 144-150 (p. 146).
[308] Sarah Cairoli, *Differences Between Ecocentric and Biocentric* (2018) <Differences Between Ecocentric & Biocentric (sciencing.com)> [accessed 21 June 2021].
[309] Robin Attfield, *Environmental Ethics* (Oxford, Oxford University Press, 2018), p. 22.
[310] Katie McShane, 'Ecocentrism', in *Critical Environmental Politics*, ed. by Carl Death (Oxford, Routledge, 2014), p. 84.
[311] Dorothy Kleffel, 'Environmental paradigms: moving toward an ecocentric perspective', *ANS Advances in nursing science*, 18.4, (1996), 1-10, (p. 1).
[312] Lawrence Johnson, *A Morally Deep World: An Essay on Moral Significance and Environmental Ethics* (Cambridge, Cambridge University Press, 1993).

view, namely preserving 'whole evolutionary branches and ecological systems'.[313] As McShane coherently identified, focusing on individuals, can often lead to inadequate policy implementations.[314] Ecocentrism acknowledges this, which further illustrates its credibility. Moreover, holistic approaches to the environment are likely to provide humanity with more protection from diseases. As COVID-19 illustrates, aspects of our normative ways of thinking are detrimental to all. Therefore, 'we must leverage concerns about human health to develop more holistic approaches to wildlife disease'.[315]

Another strength of ecocentrism is that the philosophy acknowledges the interconnectedness of all life.[316] As Forsyth indicated, ecological science has revealed that life is highly interrelated and interdependent.[317] Any ethic which acknowledges this, should not operate by dividing the natural world into fragments based on anthropological chauvinistic concepts of identity and / or ability such as sentience or rationality.[318] Instead, the ethic should be based on the irreducibility of all life being interconnected (including humanity). As Naess asserted, by contemplating ecological communities to which one inherently belongs to, humans can transcend the limitations of both anthropocentrism and individualism and see that the ecological community's wellbeing is constitutive of one's own good.[319] This is evidently the case, as the peril of the natural world oversees the peril of humanity too (as revealed in chapters two and three). Therefore, as McShane stated, 'an ethic that takes seriously the lessons of ecology should start from a conception of the ecological common good and set about trying to protect the relationships and processes that contribute to that good'.[320] Ecocentrism achieves this, as it focuses on the flourishing of

[313] Bram Büscher, 'Biodiversity', in *Critical Environmental Politics*, ed. by Carl Death (Oxford, Routledge, 2014), pp. 13-21.
[314] Katie McShane, 'Ecocentrism', in *Critical Environmental Politics*, ed. by Carl Death (Oxford, Routledge, 2014), p. 84.
[315] David Quammen, 'Zoonoses in the Twenty-First Century', in *State of the Wild: A Global Portrait of Wildlife, Wetlands, and Oceans*, ed. by Eva Fearn, and Kent Redford (Washington, Island Press, 2009), p. 75.
[316] Bruce Morito, 'Intrinsic value: A modern albatross for the ecological approach', *Environmental Values*, 12.1, (2003), 317-336.
[317] Tim Forsyth, 'Science', in *Critical Environmental Politics*, ed. by Carl Death (Oxford, Routledge, 2014), pp. 218-229.
[318] Anthony Weston, 'Beyond intrinsic value: Pragmatism in Environmental Ethics', *Environmental Ethics*, 7.1, (1985), 321-339.
[319] Warwick Fox, *Toward a Transpersonal Ecology: Developing New Foundations for Environmentalism* (Albany: SUNY Press, 1995).
[320] Katie McShane, 'Ecocentrism', in *Critical Environmental Politics*, ed. by Carl Death (Oxford, Routledge, 2014), p. 84.

'wholes', and subsequently extends moral consideration to all life, to ensure its flourishment.

Lastly, ecocentrism is additionally credible because it shifts away from the concept of the human-nature dualism (which is present throughout much of traditional Western philosophy) and towards unity. As Ingold argued, the duality of humanity and animality 'is an assumption that Westerners import from their own cultural ontologies … Animals do not participate with humans only in a domain of virtual reality, as resented within culturally constructed, intentional worlds, superimposed upon the naturally given substratum of organism-environment interactions. They participate as real-world creatures, endowed with powers of feeling and autonomous action, whose characteristic behaviours, temperaments, and sensibilities one gets to know in the course of one's everyday practical dealings with them'.[321] Therefore, in ecocentrism, there are parallels between how one works with another person, and an animal, 'by forming relationships of reciprocity and respect'.[322] This ensures that there are mutually beneficial ways of life that sustain the functions and prosperity of communities in the long run. Ecocentrism therefore acknowledges three key prerequisites for a plausible environmental ethic: interconnectedness, environmental wholes, plus nature having a natural telos and value independent of humanity. In addition, ecocentrism has science-deep rooted into its ontologies and epistemologies. As Brennan stated, ecocentrism 'combines a view of the world influenced by scientific findings on ecology with a set of norms for reforming our relationship with nature'.[323] Therefore, not only does ecocentrism remove the duality of humanity and nature, but it also removes the dichotomy between science and philosophy. This is crucial for tackling the ecological emergency.

CRITICISMS OF AND CHALLENGES FOR ECOCENTRISM

[321] Tim Ingold, *The Perception of the Environment: Essays on Livelihood, Dwelling and Skill* (London, Routledge, 2000), p. 52.
[322] Katie McShane, 'Ecocentrism', in *Critical Environmental Politics*, ed. by Carl Death (Oxford, Routledge, 2014), p. 86.
[323] Andrew Brennan, 'Ecological Theory and Value in Nature', in *Environmental Ethics*, ed. by Robert Elliot (Oxford, Oxford University Press, 1995), p. 188.

However, given the somewhat radical ontology of ecocentrism (especially in the context of Western cultural parameters), it should be to no-one's surprise that ecocentrism does face criticisms. For example, ecocentrism often advocates a departure from many mainstream ethical theories and social sciences' notions, as ecocentrism challenges the legitimacy, and justifications of our subconscious thoughts and actions.[324] Therefore, ecocentrism poses somewhat of a pessimistic view of global contemporary human ontology. One may claim that ecocentrism, especially Deep Ecology is revealing 'uncomfortable truths', and explores the real reasons for the ecological emergency, such as greed and ignorance.[325] This is echoed by Andolan who upheld the notion that Deep Ecology 'questioned a dominating cultural paradigm, that of excessive anthropocentrism'.[326] Nevertheless, it does face the challenge of gaining mainstream trajectory, due to its perceived misanthropies.

In addition, ecocentrism and the environmentalist movement in general has been inevitably politicised. This includes being labelled as 'elitist'.[327] Additionally, eco-centrists have been accused of being 'ecofascist'.[328] As Cammack indicated, whilst environmentalism is laudable and necessary, we must make sure it does not become 'anti-human'.[329] Whilst the movement has not broadly become 'anti-human', certain prominent ecocentric philosophers (especially advocators of deep ecology) have been accused of such. For example, Naess (the classical formulator of ecocentrism) explicitly advocated for the reduction of the human population. For Naess, this could be achieved by government policy, which 'are to serve as an externalized will and force us to act as we would if we were fully realized beings'.[330] As Gardiner highlighted, the use of the term 'force' reveals the deep side of deep ecology, as he is advocating the coercion of the human population.[331] In addition, as Attfield identified, Naess' advocations led some of his followers 'to welcome catastrophes

[324] Ibid., p. 87.
[325] Daniel Henning, 'Buddhism and Deep Ecology: Protection of Spiritual and Cultural Values for Natural Tropical Forests in Asia', *USDA Forest Service Proceedings*, 4.1, (1998), 108-112 (p. 109).
[326] Narmada Bachao Andolan, 'Naess, Arne (1912-)', in *Encyclopedia of Religion and Nature*, ed. by Bron Taylor (London and New York, Continuum, 2005), p. 1149.
[327] Denton Morrison, and Riley Dunlap, 'Environmentalism and elitism: a conceptual and empirical analysis', *Environmental Management*, 10.1, (1986), 581-589.
[328] Katie McShane, 'Ecocentrism', in *Critical Environmental Politics*, ed. by Carl Death (Oxford, Routledge, 2014), p. 84.
[329] Shaun Cammack, *Don't Let Environmentalism Turn into Anti-Capitalism (or Worse)* (2019) <Don't Let Environmentalism Turn into Anti-Capitalism (or Worse) - Areo (areomagazine.com)> [accessed 21 June 2021].
[330] Anne Barbeau Gardiner, *A Lesson in Deep Ecology* (2008) <A Lesson in Deep Ecology | Anne Barbeau Gardiner | First Things> [accessed 21 June 2021].
[331] Ibid.

like famines'.[332] This instinctively appears morally abhorrent, and therefore one should perhaps be cautious of the 'Deep Ecology platform'.[333]

However, ecocentrism is a diverse ideology, so is therefore equivocal and ambiguous. There are more suitable notions of ecocentrism (even within Deep Ecology such as Buddhism) that are plausible, realistic, and remove the dichotomy between science and philosophy. Moreover, we do not need a radical departure from our normative ways of life, such as the abandonment of capitalism. We simply need to act with the notion of the interconnectedness of life at the forefront of our rationalities. We need to evolve where necessary to ensure anthropocentrism embraces ecocentrism, as the wellbeing of the environment ensures the wellbeing of humanity. The next chapter will examine this in greater detail.

CONCLUSION

This chapter strived to explore ecocentrism in great detail, via a theoretical standpoint. Therefore, this chapter did not focus on the application of ecocentrism as such (although some examples are outlined when appropriate), but instead focused on the theoretical possibilities of ecocentrism. This was achieved by numerous different steps. Firstly, the requirement of 'a new ethic' was briefly identified, with historical contextualisation's provided. Great detail was not required for this given the ontology of the last two chapters. Once the requirement of a new ethic had been identified, the chapter provided a robust and coherent definition of ecocentrism, supported by key literature in this field of philosophy. The definition also outlined some of ecocentrism's immutable characteristics, such as its broadness and 'meta' approach to ethics. Then to avoid this chapter appearing as a paradox, a pivotal distinction between intrinsic value in anthropocentric philosophies and ecocentric philosophies was outlined.

In order to show acute awareness of other non-anthropocentric approaches, this chapter then explored the theoretical challenges that ecocentrism faces from sentientism and biocentrism. However, a conclusion was made that ecocentrism is the most plausible

[332] Robin Attfield, *Environmental Ethics* (Oxford, Oxford University Press, 2018), p. 8.
[333] Ibid.

non-anthropocentric approach to environment ethics for a number of reasons. Firstly, the abandonment of individualism and the inclusion of broad parameters as a framework for ethical advocations, by viewing the environment as 'wholes'. This ensures that the telos of ecocentrism aligns with that of conservation, who endeavour to protect ecosystems. Secondly, the acknowledgment and incorporation of the notion of interconnectedness into the ecocentric ethic, consequently making ecocentrism more plausible than other non-anthropocentric approaches. This subsequently removes the dualistic view of humanity and nature, which is present throughout much of traditional Western philosophy. Therefore, ecocentrism incorporates the three key prerequisites for any logical contemporary environmental ethic.

However, this chapter finished by exploring some of the challenges and criticisms that ecocentrism faces, such as being 'anti-human' and a radical way of thinking. However, the next chapter will illustrate that ecocentrism is a paradigm, and there are logical non-revolutionary ecocentric theories. This will be achieved by examining Eastern philosophy, but with a specific focus on Buddhism. Once the logicalness of Buddhist environmental philosophy is revealed, the link between Buddhist philosophy and contemporary examples of environmentalism, namely rewilding will be made. This will illustrate how Buddhist philosophy can manifest itself in our contemporary reality and ensure more harmony between humanity and the natural world.

CHAPTER SEVEN: BUDDHISM: ENVIRONMENTALISM, AND INTERCONNECTEDNESS

As the last chapter showed, ecocentrism unambiguously contrasts anthropocentrism's ideological norms. Anthropocentric norms are often of great detriment to the wellbeing of the natural environment and humanity. Nevertheless, ecocentrism does face many critics too, particularly the 'Deep Ecology' movement. Therefore, there is a void between critiquing anthropocentrism and providing a plausible ethical 'alternative' within exclusive Western philosophical parameters. However, when one extends their ethical horizons to the Eastern World, one will see an innate degree of environmentalism in the philosophies that permeate across the region. This will be illustrated with a targeted focus on Buddhism.

The chapter begins by making three important distinctions which are essential for academic authenticity. The chapter also explores significant Buddhist concepts in detail, including interconnectedness, *dukkha*, and impermanence. Analysis of the Pali Canon is also encompassed. Then in order to ensure that the theoretical analysis of Buddhism is coherent, the chapter examines whether Buddhism has always been ecocentric or not. This is before the chapter crucially distinguishes between ecocentrism and environmentalism. However, this chapter shows that there is an innate affiliation between Buddhism and environmentalism. This claim is supported by extensive analysis of Siddhartha Gautama. Then the chapter focuses on modern Buddhism. This is essential as any plausible environmental ethic has to have relevance to the contemporary environmental crisis. This focus begins by examining the philosophy/ies of Daisaku Ikeda, with analysis of his notions of dependent origination and *esho fuuni*. The chapter then finishes by identifying and examining Socially Engaged Buddhism.

The analysis of Socially Engaged Buddhism illustrates how Buddhist philosophy manifests itself into contemporary environmentalism. The illustration of Socially Engaged Buddhism enables the concept of interconnectedness to be extended into crucial environmental topics in the next chapter. This strengthens the conclusion that Buddhism provides a coherent environmental ethic, as any ethic must work in reality and not just ideology in order to ensure its plausibility. Therefore, the chapter uses Buddhism to enable the thesis to reach its main research aim. To reiterate, the aim is to illustrate both how and why humanity needs to evolve its normative ways of thinking, by embracing interconnectedness. This in-turn would ensure anthropocentrism meets the needs of nature as well as humanity. Harmony between humanity and nature is required, and Buddhism largely achieves this, hence why this chapter is essential for the overall thesis. This enables the last chapter to focus on applying interconnectedness to contemporary environmentalism, with the reassurance that the concept of interconnectedness when applied coherently removes the dichotomy between science and philosophy. It is therefore crucial to state that this chapter does not advocate a global adoption of Buddhism, but a global adoption of philosophical theories that are embedded with scientific rationality, such as interconnectedness. Buddhism is therefore deployed as a singular example of a philosophical theory which embraces interconnectedness.

IMPORTANT DISTINCTIONS

It is worth distinguishing between philosophy and manifestation. For example, whilst much of East Asia is Buddhist, despite its ecocentric proclivities, many anthropocentric actions are being widely facilitated. This has already been pinpointed throughout the thesis. This claim is endorsed by Passmore who stated, 'Eastern religions have not in practice usually prevented the degradation of the environment in the countries of their greatest influence'.[334] Hence, there is a disparity present between a country or region identifying as Buddhist, but not being socially or politically Buddhist. Nevertheless, Buddhist philosophy is logical and plausible, thus presenting an insight into how environmental intellect can manifest itself into reality. Additionally, Buddhism removes the dichotomy between science and philosophy (which this chapter will show). As Paterson upheld this removal is crucial for tackling the ecological emergency.[335] The pre-empt of the need for anthropocentrism to tweak its normative expressions in order to embrace interconnectedness is compatible with Buddhism. Therefore, Buddhism demonstrates that we do not need to abandon anthropocentrism, but instead evolve it in order to ensure the wellbeing of humanity and the environment simultaneously.

It is also important to highlight that Buddhism is an incredibly enormous, rich, and diverse philosophy. Hence, there are varying views within the Buddhist paradigm. This is illustrated by its various branches, including Theravada, Mahayana, and Tibetan Buddhism. It would be inaccurate to characterize Buddhism as one singular philosophy. Moreover, Buddhism undertakes additional forms given its cultural, social, geographical, ecological, linguistic, and demographical diversities.[336] Furthermore, as Sponsel identified, many Buddhists adhere to more than one religion, such as Animism, Confucianism, Daoism, and Shintoism.[337] Nevertheless, the core concepts, teachings, and doctrines of Buddhism, such as the Pali Canon are environmentally cognizant. Also, extensive analysis of the

[334] Robin Attfield, *Environmental Ethics* (Oxford, Oxford University Press, 2018), p. 93.
[335] Barbara Paterson, 'Ethics for Wildlife Conservation: Overcoming the Human-Nature Dualism', *Bioscience*, 56.2, (2006), 144-150 (p. 144).
[336] Leslie Sponsel, and Poranee Natadecha-Sponsel, 'Environment and Nature in Buddhism', in *Encyclopedia of the History of Science, Technology, and Medicine in Non-Western Cultures*, ed. by Helaine Selin (Dordrecht, Springer, 2008).
[337] Ibid.

environmental attitudes of key individuals such as Siddhartha Gautama have already been carried out in academia. This is the case for some prominent contemporary Buddhist environmentalists too, such as Daisaku Ikeda. Additionally, despite Buddhism's diversity, there is a global discourse amongst Buddhists about ecological issues.[338] Therefore, environmentalism does play a central role in Buddhist ontology and epistemology, and this chapter will reflect it.

Lastly, it is important to note that ecocentrism is not exclusive to Eastern philosophy. Western ecocentrism is present too. This is reflected by prominent philosophers such as Singer.[339] The wellbeing of the natural world is contingent on the anthropological progression of morality. Buddhism has a plausible environmental ethic, that reflects this, so it is necessary to note that Buddhism is a singular example – not an exclusive one.

SIGNIFICANT BUDDHIST CONCEPTS

Religious notions often transcend cultural, social, and racial parameters. Westerners and Easterners alike will often refer to the sacrality of life.[340] However, as DeGrazia crucially noted, 'only the Easterner is likely to have in mind all life'.[341] All Buddhist practises and teachings come under the heading of 'dharma', which means: truth and the path to truth or phenomena.[342] For Buddhists, all outside and inside phenomena are interlinked, thus accentuating the interconnectedness of all life.[343] Therefore, there are commonalities between Buddhism and the Deep Ecology movement.[344] However, this does not mean that criticisms of the Deep Ecology movement identified in the previous chapter automatically transmits to Buddhist philosophy.

[338] David McMahan, 'Buddhist Modernism', in *Buddhism in the Modern World*, ed. by David McMahan (Abingdon, Routledge, 2012), p. 172.
[339] Peter Singer, *Animal Liberation: With an Introduction by Yuval Harari* (London: The Bodley Head, 2015).
[340] David DeGrazia, *Animal Rights* (Oxford, Oxford University Press, 2002), p. 6.
[341] Ibid.
[342] Kevin Fossey, *Buddhism as an Ecological Religion or a Religious Ecology* (2003) <Buddhism as an Ecological Religion or a Religious Ecology (environment-ecology.com)> [accessed 23 June 2021].
[343] Ibid.
[344] Daniel Henning, 'Buddhism and Deep Ecology: Protection of Spiritual and Cultural Values for Natural Tropical Forests in Asia', *USDA Forest Service Proceedings*, 4.1, (1998), 108-112 (p. 108).

Buddhism places a large emphasis on interconnectedness and is often prescribed through rhetoric such as 'oneness'.[345] This claim would be supported by Fossey who portrayed Buddhism as a 'ecological religion'.[346] This subsequently alludes the ignoration of Western duality between humanity and nature, as oneness is naturally duality's counterpart. This is evident in the Buddhist concept of the universe. Buddhist thought divides the universe into two categories: 'the physical universe, which is thought of as a receptacle … (*bhājana*), and the 'beings' (*sattva*)'.[347] The physical universe is formed by the engagement of the five elements: earth, water, fire, air, and space (*ākāśa*).[348] As Keown highlighted, Buddhists believe that the engagement of these elements evolve 'world systems'.[349] Therefore, the elements enable and sustain human life. Hence, there is commonality between Buddhist philosophy and the concept of 'ecological wholes'.

As Attfield concluded, the teaching about *dukkha* is significant in Buddhist environmental thought. *Dukkha* is commonly translated as 'suffering', 'unhappiness', or 'pain'.[350] Hence, Henning summarized Buddhism 'as the extinguishing of suffering'.[351] *Dukkha* promotes *karuṇā* which translates to compassion.[352] In the Buddhist tradition, compassion extends to the natural world as well. Therefore, Attfield was right to conclude that 'the distinctive religious tradition of Buddhism can and often does facilitate benign attitudes to the natural world'.[353] This is reasserted by the concept of *mettā*, which translates to kindness 'towards all creatures of all quarters without restriction'.[354] As De Silva highlighted, Buddhism promotes a reverential attitude to all forms of life.[355] This is additional reasserted by the Buddhist concept of karma and rebirth. This is endorsed by

[345] Ibid.
[346] Kevin Fossey, *Buddhism as an Ecological Religion or a Religious Ecology* (2003) <Buddhism as an Ecological Religion or a Religious Ecology (environment-ecology.com)> [accessed 23 June 2021].
[347] Damien Keown, *Buddhism*, 2nd edn (Oxford, Oxford University Press, 2013), p. 33.
[348] Ibid.
[349] Ibid.
[350] Jay Forrest, *Translating Dukkha as Unhappiness* (2017) <Translating Dukkha as Unhappiness – The Spiritual Naturalist Society (snsociety.org)> [accessed 27 June 2021].
[351] Daniel Henning, 'Buddhism and Deep Ecology: Protection of Spiritual and Cultural Values for Natural Tropical Forests in Asia', *USDA Forest Service Proceedings*, 4.1, (1998), 108-112 (p. 108).
[352] Dr. Mohd Ashraf Dar, 'Concept of Compassion in Buddhism, Its Ethical Implication in the Contemporary World', *Journal of Culture, Society and Development*, 49.1, (2019), 22-26 (p. 22).
[353] Robin Attfield, *Environmental Ethics* (Oxford, Oxford University Press, 2018), p. 103.
[354] Lily De Silva, 'The Buddhist Attitude Towards Nature', in *Environmental Ethics: Readings in Theory and Application*, ed. by Louis Pojman, 4th edn (Belmont, Wadsworth, 2005), p. 297.
[355] Ibid.

Szűcs et al, who categorised the two aspects of human-animal relationships in the Eastern religions.[356] Firstly, non-injury to living beings (*ahisma*) and an often repeated, cyclical embodiment of all living beings (*samsara*). Therefore, animals and humans are directly interlinked not just for ecological reasons, but for spiritual reasons too, as one may reborn and embody an animal. This accounts as to why many Buddhists practise vegetarianism.[357] It is important to highlight that vegetarianism is not a canonical demand, but instead is a logical follow on from Buddhist teachings.

The Pali Canon comprises enough material to deduce the Buddhist attitude towards nature.[358] For Buddhists, the term 'nature means everything in the which is not organised and constructed by man'.[359] However, as De Silva also identified, the term 'nature' is absent in the Pali Canon.[360] Instead, the terms *loka* (world) and *yathābhūta* (things as they really are) can be found.[361] Lastly, the terms *dhammatā* and *niyama* are used in the Pali Canon to mean 'natural law or way'.[362] A significant Buddhist belief is that change is 'inherent in nature'.[363] Hence, Buddhism is rooted in impermanence.[364] However, humanity's actions is accelerating the change, alas prohibiting human wellbeing and happiness.[365] The link between the depletion of the environment and the wellbeing of humanity is evident, illustrated by this thesis.

There are additional examples which identify close ties between Buddhist anthropological morality and the natural environment. One key example is in *Cakkavattishanāda Sutta* which states: 'When mankind is demoralised through greed, famine is the natural outcome; when moral degeneration is due to ignorance, epidemic is the inevitable result; when hatred is the demoralising force, widespread violence is the

[356] E. Szűcs, 'and others', 'Animal Welfare in Different Human Cultures, Traditions and Religious Faiths', *Asian-Australian Journal of Animal Sciences*, 25.11, (2012), 1499-1506 (p. 1501).
[357] Ibid.
[358] Lily De Silva, 'The Buddhist Attitude Towards Nature', in *Environmental Ethics: Readings in Theory and Application*, ed. by Louis Pojman, 4th edn (Belmont, Wadsworth, 2005), p. 295.
[359] Ibid.
[360] Ibid.
[361] Ibid.
[362] Ibid.
[363] Ibid.
[364] Daniel Henning, 'Buddhism and Deep Ecology: Protection of Spiritual and Cultural Values for Natural Tropical Forests in Asia', *USDA Forest Service Proceedings*, 4.1, (1998), 108-112 (p. 108).
[365] Lily De Silva, 'The Buddhist Attitude Towards Nature', in *Environmental Ethics: Readings in Theory and Application*, ed. by Louis Pojman, 4th edn (Belmont, Wadsworth, 2005), p. 297.

ultimate outcome. If and when mankind realises that large-scale devastation has taken places as a result of his moral degeneration, a change of heart takes place'.[366] Hence, the Buddha pronounced that the world is led by the mind - *cittena niyata loko*.[367] Therefore, the notions expressed in early Buddhism reveal that humanity and nature is interdependent, reiterating Buddhism's perception of nature.[368]

HAS BUDDHISM ALWAYS BEEN ECOCENTRIC?

The notion of a close relationship between humanity morality and the natural environment in Buddhism is clear.[369] However, as previously highlighted, it can be argued that this is for matters of spirituality and not ecocentrism. As Bilimoria highlighted, 'the tradition has come to privilege human life vis-à-vis spiritual realization'.[370] In addition, various contemporary Buddhist students argue that 'green Buddhism is a very recent concoction with no secure basis in the Buddhist tradition', thus alluding a rather 'New Age-ish' variety of Buddhist environmentalism.[371] This claim is supported by De Silva's analysis, which coherently identified that the environmental crisis is a problem of the modern age.[372] To a large extent, this thesis would echo those sentiments, as the ecological emergency has intensified in modern history.

However, as aforementioned, the first step in the etiology of the contemporary ecological emergency began 60,000 years ago when humans evolved the ability of conscious intentionality.[373] In addition, notions which are detrimental to the natural world such as instrumental value were present at the time of Buddhism's emergence. As Bilimoria underlined, Siddhartha Gautama reacted to the 'rapid commercial urbanization and the rise

[366] Ibid.
[367] Ibid.
[368] Ibid.
[369] David Cooper, and Simon James, *Buddhism, Virtue and Environment* (Aldershot, Ashgate Publishing Limited, 2005), p. 106.
[370] Purushottama Bilimoria, 'Buddha, fifth century BCE', in *Fifty Key Thinkers on the Environment*, ed. by Joy Palmer (London, Routledge, 2001), p. 3.
[371] David Cooper, and Simon James, *Buddhism, Virtue and Environment* (Aldershot, Ashgate Publishing Limited, 2005), p. 107.
[372] Lily De Silva, 'The Buddhist Attitude Towards Nature', in *Environmental Ethics: Readings in Theory and Application*, ed. by Louis Pojman, 4th edn (Belmont, Wadsworth, 2005), p. 295.
[373] Franz J. Broswimmer, *Ecocide: A Short History of the Mass Extinction of Species* (London: Pluto Press, 2002), p. 9.

of merchant and artisan classes in his region, and a concomitant agrarian economy responsible for the deforestation of the Ganges region and consequent vanishing of animal life from its natural habitat'.[374] This accounts as to why Gautama deemed a forest as being an appropriate place to strive for the ultimate realization of Nirvana.[375] Hence, the claim that Gautama 'was born, attained enlightenment, and died under trees'.[376] Given that Buddhists place an important emphasis on the life of the Buddha as a key source of authority and wisdom, this is significant.

There are additional indicators of Gautama's love of and involvement with nature. For example, 'Birds and animals bear witness to the Buddha's testimony, and they also become dialogic partners in the ensuing discourses'.[377] As Bilimoria also highlighted, 'The Buddha Among the Birds' is one of 550 stories from the tradition of Jataka which narrates Buddha's life among animals.[378] Therefore, it is apparent that the Buddha was reassessing the human-cosmos relationship present in the Indic civilization.[379] For example, the Vedic Aryans practised animal sacrifice, which is documented in the Yajurveda.[380] Hence, the Buddha strove to shift perception of a 'brahmanic pan-naturalism … to that of the benign disposition of nature'.[381] It can subsequently be concluded that the Buddha did realize the diversity and interconnectedness of all life, which constitutes the contingent basis for any plausible environmental ethic.

Therefore, whilst ecocentrism and Buddhism may be a relatively recent comparative link, Buddhism is innately affiliated with environmentalism. As King stated, 'Buddhist philosophy is very congenial to modern ecological and environmental concerns'.[382] Thus, concerns surrounding human interactions with the environment is at the core of Buddhist epistemology. Furthermore, its inextricable links with the environment reveal that there is

[374] Purushottama Bilimoria, 'Buddha, fifth century BCE', in *Fifty Key Thinkers on the Environment*, ed. by Joy Palmer (London, Routledge, 2001), p. 1.
[375] Ibid.
[376] Ibid.
[377] Ibid.
[378] Ibid.
[379] Ibid.
[380] James Lochtefeld, *The Illustrated Encyclopaedia of Hinduism* (New York, Rosen Publishing Group, 2002), p. 41.
[381] Purushottama Bilimoria, 'Buddha, fifth century BCE', in *Fifty Key Thinkers on the Environment*, ed. by Joy Palmer (London, Routledge, 2001), p. 1-2.
[382] Sallie King, 'Socially Engaged Buddhism', in *Buddhism in the Modern World*, ed. by David McMahan (Abingdon, Routledge, 2012), p. 206.

no dichotomy present between science and philosophy in Buddhism (within the context of environmental constraints). Additionally, there is also no dichotomy between the sacred and the profane present in Buddhism.[383] These assertions are endorsed by Ravichandra who defined Buddhism as an anti-metaphysical and empiricist religion.[384] Buddhism presents itself as a plausible ideology for tackling the ecological emergency. This claim is supported by Cooper and James who advocated that Buddhist virtues 'should be exercised with respect to non-human life'.[385]

DAISAKU IKEDA

As previously identified, despite Buddhism's innate environmental ontologies, Buddhism emerged long before the ecological emergency was intensified to the scale at which it is today. Thus, there will always be sceptical doubts on the suitability and relevance of Buddhism for tackling the ecological emergency. However, this does not automatically diminish the plausibility of Buddhist ethics. Analysis of Siddhartha Gautama reveals this. However, Buddhism is contemporarily relevant too. This is because various recent and contemporary Buddhists remove the dichotomy between philosophy and science. For example, Ikeda is a Japanese Buddhist philosopher, author, and former leader of Soka Gakkai International. Ikeda's philosophy is formulated on the Buddhist concept of dependent origination, which expresses the interdependence of all living things.[386] This concept is absolutely essential to Buddhist ontology. As Shulman deduced, dependent origination or *pratītyasamutpāda*, is potentially the most fundamental Buddhist principle.[387]

Dependent origination asserts that phenomena cannot exist by itself, but exists because of its relationships with other phenomena/s. Everything comes into existence in

[383] Ibid.
[384] Bh. Ravichandra, 'Buddhism and its Relevance in Modern World', *Paripex – Indian Journal of Research*, 3.7, (2014), 215-217 (p. 215).
[385] David Cooper, and Simon James, *Buddhism, Virtue and Environment* (Aldershot, Ashgate Publishing Limited, 2005), p. 137.
[386] Barbara Paterson, 'Ethics for Wildlife Conservation: Overcoming the Human-Nature Dualism', *Bioscience*, 56.2, (2006), 144-150 (p. 147).
[387] Eviatar Shulman, 'Early Meanings of Dependent-Origination', *Journal of Indian Philosophy*, 36.1, (2008), 297-317 (p. 297).

'response to internal causes and external conditions'.[388] Nothing can arise in isolation and everything is contingent on another for its very existence.[389] Ikeda articulated this view, 'when one particular cause or set of causes exists then a certain result comes about; when one entity comes into being, so does another entity'.[390] Therefore, 'the individual and the external world are interlinked through a network of causality'.[391] The scientific concept of 'food chains' supports this notion. Hence, dependent origination asserts the interconnectedness of life, but in another linguistic way.

Ikeda's concept of the oneness of life is what is truly influential for environmental ethics. For Ikeda, 'life and environment, sentient beings and non-sentient beings, are inseparable'.[392] Further evidence of the absence of Western philosophical rationality. Ikeda explains the concept of inseparability via the term *esho* funi, referring to the impossibility of separating individual and environment.[393] Nevertheless, the individual can influence the environment, but is ultimately contingent on it.[394] As Paterson highlighted, Ikeda uses the analogy of the body and its shadow: 'The body creates the shadow, and when the body moves, the shadow changes. But in a sense the shadow also creates the body because the absence of the shadow means that there is no bodily form'.[395] Therefore, whilst humans shape our environment, we are also products of the environment. This dialectic is vital for contemplating the interrelationships between human existence and the environment.[396] Critically because humanity is inseparable from the environment, the state of the environment is 'a reflection of the minds of the people who inhabit it'.[397] Hence, why our anthropocentric norms have sent the natural world into peril. Therefore, avarice and

[388] Barbara Paterson, 'Ethics for Wildlife Conservation: Overcoming the Human-Nature Dualism', *Bioscience*, 56.2, (2006), 144-150 (p. 147).
[389] Ibid.
[390] Ji Xianlin, Jiang Zhongxin, and Daisaku Ikeda, 'Dialogues on Eastern wisdom', *Journal of Oriental Studies*, 11.1, (2001), 2-86 (p. 9).
[391] Barbara Paterson, 'Ethics for Wildlife Conservation: Overcoming the Human-Nature Dualism', *Bioscience*, 56.2, (2006), 144-150 (p. 147).
[392] Daisaku Ikeda, *Unlocking the Mysteries of Birth and Death: Buddhism in the Contemporary World* (London, Warner, 1994).
[393] Barbara Paterson, 'Ethics for Wildlife Conservation: Overcoming the Human-Nature Dualism', *Bioscience*, 56.2, (2006), 144-150 (p. 148).
[394] Arnold Toynbee, and Daisaku Ikeda, *Choose Life: A Dialogue* (Düsseldorf, Claassen, 1982).
[395] Barbara Paterson, 'Ethics for Wildlife Conservation: Overcoming the Human-Nature Dualism', *Bioscience*, 56.2, (2006), 144-150 (p. 148).
[396] Ibid.
[397] Ibid.

ignorance have resulted in 'a downward spiral of negativity'.[398] Ikeda enunciated this by highlighting that 'life cannot flourish in an environment that is altered without maintaining its supporting energy, just as food that is eaten without digesting it does not nourish a body'.[399]

For Ikeda, dependent origination, the interconnectedness of all, 'manifests the ordering principle of the cosmos'.[400] The failure to recognise this (which this thesis has shown to be often the case) is a 'fundamental delusion, leading to a self-destructive egocentrism'.[401] Thus, awareness of the interrelated ontology of life, ensures that one has empathic relationships with others. Ikeda's philosophy is exceedingly credible. Firstly, it is compatible with the historical environmental awareness' of Buddhism, merging the contemporary with the historical. Secondly, it is compatible with various scientific concepts such as symbiosis.[402] Thirdly, it removes the dichotomy between science and philosophy which is often present. Fourthly, it avoids the duality of Western philosophy and its norms.[403] Fifthly, it is empirically coherent as it incorporates key ecological prerequisites, specifically interconnectedness. Penultimately, it denunciates humanity's responsibility for the ecological emergency and advocates the requisites of our philosophical shifts in our contemplations. Lastly, the philosophy is not radical or revolutionary, and incorporates the wellbeing of humanity and nature simultaneously. Therefore, Ikeda's philosophy takes a harmonious approach to humanity and nature, which is required for tackling the ecological emergency. Evidently, Ikeda and the wider Buddhist philosophy present a highly logical rationale for tackling the environmental crisis. In addition, Ikeda's philosophical sentiments echo the sentiments of this thesis, that humanity must evolve its normative ways of thinking, by embracing the interconnectedness of all life.

SOCIALLY ENGAGED BUDDHISM

[398] Ibid.
[399] Daisaku Ikeda, *Life – An Enigma, a Precious Jewel* (New York, Kodansha International, 1982).
[400] Barbara Paterson, 'Ethics for Wildlife Conservation: Overcoming the Human-Nature Dualism', *Bioscience*, 56.2, (2006), 144-150 (p. 149).
[401] Ibid.
[402] Daisaku Ikeda, *Life – An Enigma, a Precious Jewel* (New York, Kodansha International, 1982).
[403] Barbara Paterson, 'Ethics for Wildlife Conservation: Overcoming the Human-Nature Dualism', *Bioscience*, 56.2, (2006), 144-150 (p. 148).

For any philosophical notion or theory to be wholly logical, it has to work in reality and not just ideology. Otherwise, the theory is extraneous, and alas, unseemly for dealing with real and palpable issues such as the ecological emergency. Buddhism acknowledges and incorporates this philosophical prerequisite. This is evidently the case, as Socially Engaged Buddhism draws upon its own worldviews and traditions 'to develop creative responses to the environmental dilemmas facing the modern world'.[404]

There are numerous examples which illustrate Buddhism immersing itself into contemporary environmentalism. Firstly, as King highlighted, various Buddhist monasteries intentionally continue the tradition of monasteries as wildlife sanctuaries.[405] One example is in Cambodia in the Oddar Meanchy province, where a new wildlife sanctuary was built around a Buddhist monastic community forest in 2018.[406] The purpose of this sanctuary is 'to contribute to the reduction of climate change and natural disasters, to be a place of sanctuary for animals, to preserve natural resources and biodiversity and also be a place for Cambodian people to learn about, experience, and actively protect the environment'.[407] In addition, Buddhist monks across various Asia bless, mark, and list trees for their protection.[408] These monks are often labelled as 'ecology monks', who educate the rural population about sustainability in common practises such as agriculture and find ways to support the poorest in ways that are not detrimental to the environment.[409] For example, the monks invite laypeople to give tree seedlings instead of cash to the temple 'to earn merit'.[410] Once the trees are grown, they produce an income or food source for the laypeople. This is a perfect example to illustrate interconnectedness in action and balancing the needs of all.

However, Socially Engaged Buddhism faces opposition. For example, the 'ecology monks' and environmentalists in general often face threats and harm from the lucrative

[404] Sallie King, 'Socially Engaged Buddhism', in *Buddhism in the Modern World*, ed. by David McMahan (Abingdon, Routledge, 2012), p. 206.
[405] Ibid.
[406] Silene, *New Wildlfie Sanctuary created around Buddhist Monastic Community Forest* (2018) <New wildlife sanctuary created around Buddhist Monastic Community Forest · Silene> [accessed 27 June 2021].
[407] Ibid.
[408] Dipen BD, *Buddhist Monks Battle to Save Cambodia's Forests* (2018) <Buddhist Monks Battle to Save Cambodia's Forests | Buddhistdoor> [accessed 27 June 2021].
[409] Sallie King, 'Socially Engaged Buddhism', in *Buddhism in the Modern World*, ed. by David McMahan (Abingdon, Routledge, 2012), p. 206.
[410] Ibid., p. 206-207.

logging companies.[411] Chut Wutty – a renowned environmental activist was murdered at a military checkpoint in Cambodia.[412] At the time of his murder, he was with two journalists investigating illegal logging.[413] Moreover, there can be challenges from within. For example, 'conservative' Buddhists can take a more 'sceptical' approach to Socially Engaged Buddhism. However, as Thich Nhat Hanh articulated, "Buddhism is already engaged Buddhism. If it is not, it is not Buddhism".[414] Hanh additionally argued that Buddhism has always been socially engaged, because of its attempts to overcome suffering.[415] For example, in Sri Lanka, Buddhists were always historically socially engaged until the colonization and the emergence of Christianity in the country, which oversaw the shutting down of Buddhism's secular functions.[416]

In addition, there are theoretical challenges to Socially Engaged Buddhism. Some Buddhists argue that Buddhism is about escaping samsara. However, Socially Engaged Buddhists argue that samsara should be seen as a problem with humanity, not the natural world.[417] Therefore, surmounting our own shortcomings oversees a reduction in *dukkha*.[418] Hence, Socially Engaged Buddhists argue that Buddhism is about fixing samsara, and not trying to escape it.[419] Moreover, Socially Engaged Buddhists face criticisms of being 'Westernised', with 'the implication being that it makes it suspect of invalid'.[420] However, as King identified, this is a multi-faceted issue.[421] Whilst there has been Western influence, prominent Socially Engaged Buddhists, particularly the Dalai Lama have markedly influenced Western societies.[422] In addition, Socially Engaged Buddhists are not passive in being influenced by Westernism. In fact, often they challenge Western norms, such as 'excessive

[411] Ibid., p. 207.
[412] Fran Lambrick, *Who is responsible for the death of Cambodia's foremost forest activist?* (2012) <Who is responsible for the death of Cambodia's foremost forest activist? | Environmental activism | The Guardian> [accessed 8 August 2020].
[413] Ibid.
[414] Amod Lele, 'Disengaged Buddhism', *Journal of Buddhist Ethics*, 26.1, (2019), 239-289 (p. 239).
[415] Sallie King, 'Socially Engaged Buddhism', in *Buddhism in the Modern World*, ed. by David McMahan (Abingdon, Routledge, 2012), p. 207.
[416] Ibid.
[417] Ibid.
[418] Ibid.
[419] Ibid.
[420] Ibid., p. 209.
[421] Ibid.
[422] Ibid., p. 210.

individualism'.[423] Moreover, given Buddhism's global prominence, Socially Engaged Buddhism is found throughout the world - East and West. Therefore, Socially Engaged Buddhism and its environmental work transcends the East and West divide, which is somewhat inveterate in philosophical, and religious rationalities. One example to illustrate this is the Zeb Mountain Monastery in New York, which formally protects 80% of its property as 'forever wild'.[424] The monastery offers regular retreats in the wild, often combining spiritual and natural experiences.[425] As the ecological emergency is a global one, we need a movement or philosophy which is not limited to areas or branches of anthropological identification. Socially Engaged Buddhism is not, thus illustrating the usefulness of this example for tackling the environmental crisis.

CONCLUSION

Buddhism is evidently innately affiliated with concerns relating to the wellbeing of both humanity and the environment. Analysis of the Pali Canon, key Buddhist concepts, and Siddhartha Gautama highlights this unambiguously. Therefore, within the Buddhist paradigm, there is no dichotomy between philosophy and science. In addition, Buddhism possesses a notion which is pivotal for tackling the ecological emergency – interconnectedness. If humanity placed interconnectedness into the forefront of our thoughts and actions, the natural world would be in a much healthier state, as we would not just be thinking about ourselves, but the environment too.

Buddhism's embracement of interconnectedness is illustrated by both the Buddhist teachings and the actions of Socially Engaged Buddhists. Hence, this chapter is imperative to the overall thesis, as Buddhism reveals that environmentalism does not have to be revolutionary and radical, which ecocentric approaches such as Deep Ecology often are. Globally, the majority of Buddhists live what would be described as 'normal' lives, in the sense that they live in mainstream societies. Therefore, applying Buddhist notions to our normative ways of thinking is achievable. This is illustrated by contemporary Buddhist

[423] Ibid.
[424] Ibid., p. 206.
[425] Ibid.

philosophers such as Ikeda, whose theory of dependent origination and *esho funi* reaffirms Buddhism's attitude towards nature.

As previously highlighted, it is important to establish that the concept of interconnectedness and inseparability are not exclusive to Buddhist philosophical parameters. Both the wider ecocentric movement and conservationists advocate the notion too. Therefore, Buddhism was used a singular example to illustrate the theory of interconnectedness – not an exclusive one. Nevertheless, given Buddhism's inextricable link with spirituality, Buddhism is the perfect example to illustrate that science and philosophy do not need to rival each other. This is why the chapter was so essential for the entire thesis - to illustrate that science and philosophy are compatible with one another. Therefore, this chapter does not seek to advocate a global adoption of Buddhism, but instead advocates the embracement of interconnectedness. Moreover, as Buddhist philosophy falls outside of the traditional Western philosophical framework, Buddhism was additionally a useful example for two further reasons. Firstly, the coherence of Buddhism's environmental philosophy illustrates philosophical alternatives to anthropocentric concepts which have been central features of Western philosophical ontology. Secondly, that evolving the normative anthropological frameworks and ensuring anthropocentrism embraces interconnectedness is beneficial for all. Clearly Buddhism was a great example for various different reasons.

Now that the plausibility of a philosophy which contains the notion of interconnectedness has been explored in great detail, the last chapter will focus on the application of the notion. There are various examples which could be used, but the chapter will focus on two: rewilding, and capitalism. These two examples are essential because of the importance of them both in the fight against the ecological emergency. Therefore, the next chapter aims to assert that applying interconnectedness benefits everyone simultaneously. Hence, the wellbeing of all is contingent on the anthropological embracement of interconnectedness.

CHAPTER EIGHT: APPLYING INTERCONNECTEDNESS

As identified in the introduction, the notion of interconnectedness is only coherent if it works not just in ideology but reality too. The last chapter revealed how the Buddhist concept of interconnectedness enables a more harmonious approach between us and nature. The last chapter also analysed how Socially Engaged Buddhism already applies the concept of interconnectedness to environmentalism. This chapter follows on from the last chapter as it seeks to 'socially engage' the concept of interconnectedness to two hugely important contemporary themes: rewilding, and capitalism.

It is important to reiterate that Buddhism is a singular example of philosophical environmentalism - not an exclusive one. For example, ecocentric advocators, environmentalists, and scientists all accentuate the interconnectedness of the world too, thus demonstrating the congruence between philosophical environmentalism and science. Therefore, the propagation of interconnectedness is already happening, under the parameters of numerous environmentally orientated organisations. Hence, this chapter does not cover Buddhism, but instead specifically focuses on the notion of interconnectedness, which is transcendent from exclusive religious, cultural, and philosophical frameworks.

This chapter begins by both defining and contextually outlining rewilding, before providing examples of rewilding, which is already transpiring around the world. Then the chapter specifically focuses on one rewilding case study – the reintroduction of the Eurasian lynx into the United Kingdom. Full analysis of the case study is undertaken, such as the opposition to the programme from farmers. However, with the notion of interconnectedness at the core of analysis, this chapter concludes that the reintroduction of the lynx is beneficial to nature and humanity alike. This conclusion has been reached on the premise that the natural landscape and ecosystem would improve, and the programme is economically beneficial too.

Then the chapter focuses on the second theme – capitalism. Analysing capitalism under the parameters of interconnectedness is essential given that capitalism dominates the global economic order. Therefore, failure of capitalism to incorporate interconnectedness would prohibit the required intensity for tackling the ecological emergency. The chapter examines the justified criticisms of capitalism – such as its historical and often contemporary incompatibilities with environmentalism. However, this chapter crucially distinguishes that the ecological emergency is not an issue exclusive to a singular economic framework. The crisis transcends day-to-day systems, and instead poses fundamental questions about human ontology. Therefore, by using analysis and originality, the chapter concludes that capitalism can be adapted to embrace interconnectedness. This claim is supported by the presence of eco-capitalism, and two examples outlined. These examples are solar energy and eco-tourism / conservation. Both examples focus on one specific case study – the advantages of solar for the Bangladeshi community, and the vast

number of benefits that protecting the mountain gorilla in Africa has brought to local communities. Crucially, these two case studies also affirm the interconnectedness of life.

Therefore, this chapter illustrates that the application of interconnectedness is not radical or revolutionary as it is already occurring. Applying interconnectedness is practical, pragmatic and ultimately beneficial to everyone in eventuality. Therefore, the telos of this chapter is to illustrate this very analysis, in order to advocate the extension of interconnectedness into our normative frameworks. This ensures the erosion of anthropocentric norms, which are detrimental to all. Humanity and nature are entwined; hence this chapter uses specific examples to illustrate this.

REWILDING

The term rewilding was coined in the 1990s by various US conservation biologists led by Forman.[426] As Jepson and Blythe identified, the group were influenced by Deep Ecology philosophy.[427] The telos of rewilding is 'to restore self-regulating land communities through the creation of large wilderness complexes and supporting populations of top predators … that reassert top-down trophic controls'.[428] Therefore, rewilding can mean the physical restoration of lands or the reintroduction of species that once roamed the lands. The two are interlinked of course. As this thesis has shown, humans have depleted the natural world on a level to which the landscape becomes unrecognisable. Hence, rewilding is an essential part of tackling the ecological emergency. Encouragingly, rewilding in many instances is already happening across the world. For example, the *Forest Landscape Restoration for Asia-Pacific Forests* is a sizeable project which is rapidly gaining attention in the area.[429] Moreover, a major initiative in the Amazon aims to restore 30 thousand hectares of the forest in the next six years, which corresponds to over 70 million trees.[430]

[426] Paul Jepson, and Cain Blythe, *Rewilding: The Radical New Science of Ecological Recovery* (London, Icon Books Ltd, 2020), p. 5.
[427] Ibid.
[428] Ibid., p. 5-6.
[429] *Forest landscape restoration for Asia-Pacific forests*, ed. by Simmathiri Appanah (Bangkok, The Food and Agriculture Organization of the United Nations and RECOFTC – The Center for People and Forest, 2016).
[430] Amazonia Live, *The greatest restoration effort ever made in the Amazon rainforest* (2021) <The greatest restoration effort ever made in the Amazon rainforest - Believe Earth> [accessed 28 June 2021].

There are also many examples of rewilding in the United Kingdom. For example, in 2020, the Eurasian beaver was reintroduced in Plymouth, as part of the 'Green Minds Project'.[431] This reintroduction is hugely significant for the rewilding movement given the indispensable role that beavers have in their ecosystems. Beavers create wetlands habitats which enable fish, birds, and invertebrates to thrive.[432] They also 'slow the flow' of water, which helps prevent or reduce flooding.[433] Therefore, this example demonstrates the interconnectedness of life, and how the application of this notion benefits humanity and nature simultaneously.

Another rewilding project which has received a lot of media spotlight, is the aim to reintroduce the Eurasian lynx to parts of the United Kingdom, including the Kielder Forest in Northumberland.[434] Since the Eurasian lynx, European brown bear, and grey wolf were hunted to extinction on the British Isles, there are no apex predators in the UK's ecosystem. This is significant as these predators were a fundamental part of the 'ancient character of the land'.[435] This has had a hugely detrimental impact on the natural landscape, as the deer population has consequently grown exponentially. In 2021, it was reported that two million deer live in the United Kingdom – the highest number in 1000 years.[436] This has naturally led to the destruction of the ecosystem. As Putman and Moore highlighted, 'there is increasing awareness and concern over damage to agriculture/horticulture and forestry, as well as damage to sensitive vegetation in conservation areas'.[437] This in-turn affects tens of species, including many birds which have fewer nesting spots, and butterfly's which have fewer egg-nesting sites.[438] Rear even reported that areas where deer are present have overseen a 50%

[431] Plymouth City Council, *Beaver released in Plymouth at part of Green Minds project* (2020) <Beaver released in Plymouth at part of Green Minds project | PLYMOUTH.GOV.UK> [accessed 28 June 2021].
[432] Ibid.
[433] Ibid.
[434] Hannah Graham, *Second bid to reintroduce lynx to Kielder Forest set to be submitted by 'very confident' campaigners* (2021) <Second bid to reintroduce lynx to Kielder Forest set to be submitted by 'very confident' campaigners - Chronicle Live> [accessed 28 June 2021].
[435] George Monbiot, *Feral: Rewilding the Land, Sea and Human life* (London, Penguin Group, 2014), p. 69.
[436] Katie Feehan, *Wild lynx is set to be reintroduced to Britain to cut soaring deer population despite farmers' fears they will attack sheep instead* (2021) <Wild lynx is set to be reintroduced to Britain to cut soaring deer population | Daily Mail Online> [accessed 28 June 2021].
[437] R. J. Putman and N. P. Moore, 'Impact of deer in lowland Britain on agriculture, forestry and conservation habitats', *Mammal Review*, 28.1, (1998), 141-164 (p. 142).
[438] Katie Feehan, *Wild lynx is set to be reintroduced to Britain to cut soaring deer population despite farmers' fears they will attack sheep instead* (2021) <Wild lynx is set to be reintroduced to Britain to cut soaring deer population | Daily Mail Online> [accessed 28 June 2021].

reduction in the number of woodland birds.[439] Therefore, failing to have a natural apex predator in the United Kingdom has contributed (amongst other various factors) to the demise of the entire ecosystem. Further evidence of the interconnectedness of life and the impact that humanity has had on the natural landscape. Davis even went as far as concluding that the United Kingdom is 'one of the most nature-depleted countries in Europe'.[440]

The reintroduction of the lynx would be a conspicuous step in tackling the ecological emergency. Having a natural predator would drastically reduce the deer population down to sustainable numbers.[441] Not only that, but the lynx would also ensure that grazing species such as the deer are constantly on the move, ensuring that landscapes do not get overgrazed, thus facilitating the restoration of the land.[442] This is echoed by Bliss who declared, 'the overall effect on carbon sequestration across the UK could be substantial'.[443] The lynx would also enable other animal species to thrive once again too, as the ecosystem would be much healthier.

However, concerns to livelihoods are a common opposition to rewilding projects around the world. As Gillson asserted, rewilding projects have aesthetic, cultural, and ethical issues which ought to be contemplated by any rewilding project.[444] For example, there are frequent concerns that the lynx would adversely impact farmers by predating on livestock such as sheep. The National Farmers Union Scotland said plans to reintroduce the lynx were 'wholly unacceptable'.[445] However, this should not deter the reintroduction effort given the innumerable advantages it would bring. Therefore, one solution is having an effective compensation system for farmers, and grants to ensure that farmers can

---

[439] Jack Rear, *A UK lynx reintroduction could boost eco-tourism* (2018) <A UK lynx reintroduction could boost eco-tourism - Verdict> [accessed 28 June 2021].
[440] Josh Davis, *UK has 'led the world' in destroying the natural environment* (2020) <UK has 'led the world' in destroying the natural environment | Natural History Museum (nhm.ac.uk)> [accessed 28 June 2021].
[441] Dominic Bliss, *Lynx and wolf may soon be roaming Britain's wild places again. Is it a good idea?* (2019) < Lynx and wolf may soon be roaming Britain's wild places again. Is it a good idea? | National Geographic> [accessed 28 June 2021].
[442] Rewilding Britain, *Eurasian Lynx* (2021) <Eurasian lynx | Rewilding Britain> [accessed 28 June 2021].
[443] Dominic Bliss, *Lynx and wolf may soon be roaming Britain's wild places again. Is it a good idea?* (2019) < Lynx and wolf may soon be roaming Britain's wild places again. Is it a good idea? | National Geographic> [accessed 28 June 2021].
[444] Lindsey Gillson, *Biodiversity Conservation & Environmental Change: Using Palaeoecology to Manage Dynamic Landscapes in the Anthropocene* (Oxford, Oxford University Press, 2015), p. 51.
[445] BBC News, *Into the wild: Could lynx be reintroduced to Scotland?* (2021) <Into the wild: Could lynx be reintroduced to Scotland? - BBC News> [accessed 28 June 2021].

adequately secure their livestock. This is already endorsed by the official lynx reintroduction programme.[446] In addition, given the sheer number of deer across the United Kingdom, it is highly unlikely many sheep would be taken, given that deer are the lynx's preferential pray.[447] Taylor echoes this and stated its significance, by underlining the importance of adequate wild prey for successful reintroduction of apex predators.[448]

The reintroduction of the lynx in the United Kingdom would also be incredibly beneficial for humanity. The lynx does not pose any threat to human life or wellbeing as they are furtive creatures. This sentiment is echoed by the Lynx UK Trust who declared, 'throughout recorded history, lynx across Europe and Asia have never attacked a human being, child or adult'.[449] In addition, the lynx would drive ecotourism, potentially contributing millions of pounds to the economy. This is already the case in mainland Europe where the lynx has successfully been re-introduced. As Hallowell stated, 'I have seen first-hand the hugely positive impacts that lynx have brought to struggling rural communities in Spain and I have no doubt that we can emulate this success'.[450] It was reported that in northern Germany, the lynx gave a £12.5 million boost to the regional economy, as tourism increased.[451] Therefore, there is a social and economic benefit to the reintroduction of the lynx too.[452] What this case study shows is that interconnectedness and the general notion that everything is interlinked is scientifically accurate. In addition, once the concept is applied, it is beneficial for all. Thus, rewilding is a great example to show how manifesting the notion of interconnectedness into contemporary environmentalism is beneficial for

[446] Katie Feehan, *Wild lynx is set to be reintroduced to Britain to cut soaring deer population despite farmers' fears they will attack sheep instead* (2021) <Wild lynx is set to be reintroduced to Britain to cut soaring deer population | Daily Mail Online> [accessed 28 June 2021].
[447] Dominic Bliss, *Lynx and wolf may soon be roaming Britain's wild places again. Is it a good idea?* (2019) < Lynx and wolf may soon be roaming Britain's wild places again. Is it a good idea? | National Geographic> [accessed 28 June 2021].
[448] Peter Taylor, *Beyond Conservation: A Wildland Strategy* (London, Earthscan, 2005), p. 26.
[449] Dominic Bliss, *Lynx and wolf may soon be roaming Britain's wild places again. Is it a good idea?* (2019) < Lynx and wolf may soon be roaming Britain's wild places again. Is it a good idea? | National Geographic> [accessed 28 June 2021].
[450] Katie Feehan, *Wild lynx is set to be reintroduced to Britain to cut soaring deer population despite farmers' fears they will attack sheep instead* (2021) <Wild lynx is set to be reintroduced to Britain to cut soaring deer population | Daily Mail Online> [accessed 28 June 2021].
[451] Dominic Bliss, *Lynx and wolf may soon be roaming Britain's wild places again. Is it a good idea?* (2019) < Lynx and wolf may soon be roaming Britain's wild places again. Is it a good idea? | National Geographic> [accessed 28 June 2021].
[452] Ibid.

nature and humanity alike. Rewilding also does not possess a dichotomy between philosophy and science, as the notion of interconnectedness fuses the two together.

CAPITALISM

Whilst there is a lack of a general consensus about the origins of capitalism, Fulcher identified that capitalism began under the guise of 'merchant capitalism' when English ships undertook an expedition to the East Indies.[453] The ships returned to England with various ingredients and made a profit of 95% on their investment.[454] As time passed, capitalism disseminated and became the global economic norm. As Swedberg asserted, 'Capitalism is the dominant economic system in today's world'.[455] Logically, in order to ensure that humanity tweaks our anthropocentric normative frameworks and embrace interconnectedness, capitalism must be able to do so too. Otherwise, the dominant global economic system prohibits humanity achieving this environmental prerequisite, alas overseeing the further peril of the natural world.

Capitalism has faced justified widespread criticism for the significant role that it has in facilitating the depletion of the natural world. Criticism of capitalism can even be traced back to the 19th century, where Reverend Charles Kingsley identified that Victorian capitalism had implications for the environment, illustrated by the 'Great Stink' in 1858.[456] These criticisms have continued and manifested into the contemporary. As Fisher acknowledged, the concept of 'environmental justice' is prevalent, and 'stems from the workings of capitalism'.[457] Yet crucially, the impact of capitalism on the environment is not always immediately perceptible. As Nixon defined, many environmental issues amount to a form of 'slow violence'.[458] Nixon stated, 'stories of toxic build-up, massing greenhouses gases, and accelerated species loss due to ravaged habitats are all cataclysmic, but they are scientific convoluted cataclysms in which casualties are postponed, often for

[453] James Fulcher, *Capitalism*, 2nd edn (Oxford, Oxford University Press, 2015), p. 1.
[454] Ibid.
[455] Vikas Shah, *Capitalism – What Comes Next?* (2018) <Capitalism - What Comes Next? - Thought Economics> [accessed 1 July 2021].
[456] Elizabeth Fisher, *Environmental Law* (Oxford, Oxford University Press, 2017), p. 39.
[457] Ibid., p. 117.
[458] Ibid.

generations'.[459] This is echoed by many. For example, the European Commission has explicitly highlighted the long-term effects of the ecological emergency: melting ice, rising sea levels, extreme weather, risks for human health, economical and societal losses, and risks for wildlife.[460]

Fisher's and Nixon's analysis of capitalism's role in intensifying the ecological emergency is certainly accurate. This is because the ontology of capitalism directly facilitates the advocation and justification of the utilization of natural phenomena in order to maximise profit. It can subsequently be concluded that there is an indivisible link between the ontology of capitalism and the notion of instrumental value. As Benton stated, 'Capitalist modernisation has … associated values in favour of external purposes and instrumental values'.[461] Capitalism often demands the commercialisation and commodification of natural resources in order to oversee economic growth. Alexander noted 'Capitalism demands limitless economic growth, yet research shows that trajectory is incompatible with a finite planet'.[462] Capitalism can be logically postulated as a considerable component of the anthropogenic-induced climate change, as it propagates anthropocentrism. As Hansen highlighted, 'Commercial agriculture, timber extraction, and infrastructure development are causing habitat loss and our reliance on fossil fuels is a major contributor to climate change'.[463] This identification is endorsed by Hannah who stated, 'Global warming is rooted in an economic system that has a parasitoid relationship with the Earth upon which we live'.[464] A metaphor of oil and water not mixing well has even been attributed to the relationship between capitalism and conservation.[465] This has led to the frequent conclusion that 'Capitalism is incompatible with the conservation of nature'.[466]

---

[459] Ibid.
[460] European Commission, *Climate change consequences* (2014) <Climate change consequences | Climate Action (europa.eu)> [accessed 1 July 2021].
[461] Ted Benton, 'Environmental Values and Human Purposes', *Environmental Values*, 17.2, (2008), 201-220 (p. 201).
[462] Samuel Alexander, *Can capitalism and the planet truly coexist?* (2020) <Can capitalism and the planet truly coexist? (phys.org)> [accessed 1 July 2021].
[463] Drew Hansen, *Unless it Changes, Capitalism Will Starve Humanity by 2050* (2016) <Unless It Changes, Capitalism Will Starve Humanity By 2050 (forbes.com)> [accessed 1 July 2021].
[464] Simon Hannah, *The fight against climate change is a fight against capitalism* (2019) <The fight against climate change is a fight against capitalism | openDemocracy> [accessed 1 July 2021].
[465] Noel Castree, and George Henderson, 'The capitalist mode of conservation, neoliberalism and the ecology of value', *Journal of Marxism and Interdisciplinary Inquiry*, 7.1, (2014), 16-37 (p. 33).
[466] Daniel Fernández Méndez, 'The Real Relationship Between Capitalism and the Environment', *Mises Institute*, (2018).

However, this conclusion is far from unanimous. As Méndez deduced from research by *World Bank*, 'The greater the economic freedom, the better the environmental quality indexes'.[467] This can be interpreted as a subtle indorsement of capitalism, as the economic system embraces the notion of laissez-faire, unlike its other economic counterparts. Moreover, it is not credible for environmentalists to advocate for an alternative pre-existing economic model when there is no plausible alternative. Porritt alludes this analysis, highlighting how communism is not sustainable, both in an environmental and non-environmental sense, as the example of Eastern Europe demonstrates.[468] In addition, other communist regimes such as the Khmer Rouge in Cambodia facilitated the peril of the natural land, by relocating hundreds of thousands of people to work in agriculture under morally abhorrent conditions. Furthermore, the Khmer Rouge were economically dependent on the extraction of timber, which has had seismic impacts.[469]As Wolf reported, deforestation in Cambodia has affected the country's irrigation system, 'leading to floods, drought, and harvest failure'.[470] Moreover, various animal species have all but disappeared in Cambodia, such as the tiger.

It is worth highlighting that capitalism is not solely responsible for the ecological emergency. The environmental crisis transcends conventional lines of anthropogenically constructed lines of identification and operations, such as economic systems. The crisis poses fundamental questions about human ontology. Therefore, the ecological emergency is a 'meta' issue, and is subsequently transcendent in relation to economic systems. This does not mean that capitalism is not responsible for intensifying the crisis. Instead, we have to evolve our ways of normative thinking. Nevertheless, humanity must abandon its normative anthropocentric norms which have depleted the natural world. This involves reframing our contemplations and manifestations, which naturally involves economics. Moreover, our advocations for the protection of the environment must be deep-rooted in realism. Capitalism is the global economic system in which the vast majority of countries subscribe too. Abandoning capitalism entirely is not logical. As Porritt said,

---

[467] Ibid.
[468] Carlos Castro, 'Book Review: Jonathon Porritt. Capitalism As If the World Matters. London: Earthscan, 2005', *Organization & Environment*, 20.2, (2007), 266-268 (p. 266).
[469] Heather Wolf, 'Deforestation in Cambodia and Malaysia: The Case for an International Legal Solution', *Washington International Law Journal*, 5.2, (1996), 429-455 (p. 434).
[470] Ibid.

'environmentalists ought to be pragmatic and accept capitalism for the sake of the environment'.[471] Therefore, we ought to evolve capitalism, not abandon it.

Developing capitalism to ensure it embraces the essential notion of interconnectedness is both possible and achievable. As Porritt concluded, 'environmental sustainability can be achieved under capitalism'.[472] Therefore, sustainable capitalism is a conceptual form of capitalism based upon sustainable practises that protect both the natural world and humanity. This is often labelled as 'eco-capitalism' or 'green capitalism' - the two allude the same ontology. The ontology of this conceptual form does lead many including Schweickart to pose the question 'Is Sustainable Capitalism an Oxymoron?'[473] Moreover, there is also the additional issue of sustainable capitalism gaining global trajectory and momentum. For example, various geopolitical meetings and conferences including the 1992 Earth Summit in Rio de Janeiro, the 1997 Kyoto Protocol, and the 2009 Copenhagen Climate Change Conference (were the vast majority of the nations present operate via capitalism) all failed to have the desired and required impact.[474] However, as Guttman outlined, the 2015 Climate Change Agreement in Paris was 'historic'.[475] The agreement was signed by 195 countries, which committed government to 'steady reductions in the emission of greenhouse gases'.[476] As the vast majority of the countries which signed the agreement are capitalist, this naturally meant governments to a large degree had to embrace 'eco-capitalism'.

Crucially, this conceptual branch of capitalism does incorporate interconnectedness, as the environment's wellbeing is at the forefront of economic contemplations. For example, the emergence and widespread introduction of solar panels as an energy source has benefited all. The cost of solar has 'fallen dramatically', ensuring that green forms of energy are affordable for many.[477] It is also estimated that by 2030, 'solar will have become

---

[471] Carlos Castro, 'Book Review: Jonathon Porritt. Capitalism As If the World Matters. London: Earthscan, 2005', *Organization & Environment*, 20.2, (2007), 266-268 (p. 266).
[472] Ibid.
[473] David Schweickart, 'Is Sustainable Capitalism an Oxymoron?', *Perspectives on Global Development and Technology*, 8.1, (2009), 559-580.
[474] Robert Guttmann, *Eco-Capitalism: Carbon Money, Climate Finance, and Sustainable Development* (Cham, Springer International Publishing AG, 2018), p. 1.
[475] Ibid.
[476] Ibid.
[477] Gerard Reid, *The Future Looks Bright for Solar Energy* (2020) <Why the future looks bright for solar energy | World Economic Forum (weforum.org)> [accessed 5 July 2021].

the most important source of energy for electricity production'.[478] The impact that the cost and accessibility of solar panel cannot be underestimated, as it has transformed lives, whilst benefiting the environment simultaneously. Hutt shed light on the momentous impact that solar energy has had on the Bangladeshi community, where 20 million people have benefited from the nationwide solar energy programme.[479] For millions of Bangladeshis, 'basic' day-to-day activities such as cooking, cleaning, and studying are impossible after sundown.[480] However, the programme has ensured that off-grid solar power is provided to the poorest in society, which is literally saving lives.[481] Moreover, solar power markedly benefits the environment too. Solar energy systems 'provide significant environmental benefits in comparison to the conventional energy sources, thus contributing, to the sustainable development of human activities'.[482] Therefore, the impact that the application of interconnectedness has is visible, but crucially as the solar panel example illustrates is attainable.

Eco-capitalism to a large extent surrounds us. From reusable coffee cups to plastic straws at food outlets, from taxing carrier bag usage to buying eco-friendly light bulbs, measures and products have been implemented and produced throughout society to become more 'environmentally friendly'. However, as this thesis has shown, humanity has got an exceptionally long way to go. Globally, we are not doing nearly enough, and transformative measures need to continue to be implemented at all political levels in order to witness the required results. However, it would be erroneous to imply that humanity has not made progressive steps. Often humanity has embraced the notion of interconnectedness and the results have been significant. There is one additional example which undoubtedly demonstrates the plausibility behind the advocation of the embracement of interconnectedness.

The next example is a specific case study that links to eco-capitalism. The case study is also inextricably linked to rewilding too. The case study is set in the Virunga Mountains.

---

[478] Ibid.
[479] Rosamond Hutt, *Life for millions in Bangladesh is being transformed thanks to this simple solution* (2020) <Solar power is changing lives in Bangladesh | World Economic Forum (weforum.org)> [accessed 5 July 2021].
[480] Ibid.
[481] Ibid.
[482] Theocharis Tsoutsos, Niki Frantzeskaki, and Vassilis Gekas, 'Environmental Impact Assessment of Solar Energy Systems', *Energy Policy*, 33.3 (2005), 289-296 (p. 289).

The mountains span three countries: Rwanda, Uganda, and the Democratic Republic of the Congo. In 1970, it was reported that only 250 mountain gorillas lived in the entire area.[483]. Natural land was continuously converted into agricultural fields and poaching for bushmeat and money was rife too.[484] The decline of the gorilla was particularly prominent in an area in Rwanda, where poverty was ubiquitous, and the area was densely populated.[485] Therefore, deforestation and poaching were the only way for people to survive. This alludes the presence of instrumental value, as utilising natural phenomena secures anthropological gain. Therefore, the idea of coexistence between humans and gorillas was not entertained.

However, the situation improved over the following decades. Governments in all three countries, conservation organisations and local communities all collaborated.[486] With the notion of interconnectedness at the core, innovation was used to protect the gorilla and help humanity simultaneously. Together, around 200 rangers were employed to monitor, track, and protect the entire gorilla population.[487] This in itself benefits gorillas and people simultaneously. In addition, in 2005, a tourism revenue-sharing scheme was established.[488] As the gorillas and the natural land were protected, the landscape transformed. This attracted tourists from across the world. Tourists would pay a fee and be shown around the areas of forests where gorillas were present. A part of the fee was immediately redistributed to the adjacent communities. The rest of the fee was distributed to local conservation.[489]

The programme has had enormous impacts on the area. ‘As a result, $1.83m has been distributed over the past nine years to fund 360 community projects across the country, ranging from roads, bridges, beekeeping, water and sanitation, small and medium enterprises, and handicrafts. The Rwanda Development Board estimates that 39,000 people have benefitted.[490] Deforestation has now ceased, and the gorilla population recovered.

---

[483] *Extinction: The Facts*, dir. by Serena Davies (BBC, 2020).
[484] Ibid.
[485] Ibid.
[486] Ibid.
[487] Ibid.
[488] Ibid.
[489] Ibid.
[490] Usher Komugisha, *How Rwanda's gorillas are helping to sustain entire communities* (2014) <How Rwanda's gorillas are helping to sustain entire communities | Natural resources and development | The Guardian> [accessed 5 July 2021].

Today, the population exceeds 1,000 individuals.[491] As a result of the scheme, humans and gorillas now coexist, and the gorillas has even been pictured walking through agricultural fields and past humans harmoniously.

This case study reveals numerous things. Firstly, capitalism can facilitate the protection of the natural environment. As previously identified, eco-tourism is an essential industry for many African economies.[492] In addition, eco-tourism is an ever-growing market. As Duffy and Moore highlighted, the '*United Nations* declared 2002 the International Year of Ecotourism, a clear reflection of the global expansion of tourism'.[493] Eco-tourism is largely capitalist as profit is at the centre of its ontology. Nevertheless, eco-tourism ensured the protection of gorillas and economic support to local communities. As Nielsen and Spenceley highlighted, the private sector played a significant role in ensuring the success of the programme.[494]

The case study also shows that the notion of interconnectedness is entirely accurate. When the natural world prospers, so does humanity. Gorillas and their habitat have been restored and our now flourishing, and local communities have been subsequently supported. Therefore, there is no need for instrumental value in this milieu. The abandonment of anthropocentric norms and the embracement of interconnectedness evidently benefits all.

Lastly, the case study shows that this thesis' advocations are not unrealistic, and when applied pragmatically and with innovation are achievable. As Masozera stated (referring to the gorilla case study), 'If it can be achieved here where human population pressure is so high, where the politics can be very complicated, especially among different states, I believe it can be achieved elsewhere as well'.[495] Attenborough echoes Masozera's statement, further adding 'it shows what we can achieve when we put our mind to it'.[496]

---

[491] *Extinction: The Facts*, dir. by Serena Davies (BBC, 2020).
[492] Marco Sholtz, *Why millions chose Africa as their safari destination* (2016) <Why millions chose Africa as their safari destination (theconversation.com)> [accessed 4 June 2021]
[493] Rosaleen Duffy, and Lorraine Moore, 'Neoliberalising Nature?', in *Capitalism and Conservation*, ed. by Dan Brockington, and Rosaleen Duffy (Chichester, Wiley-Blackwell, 2011), p. 277.
[494] Hannah Nielsen, and Anna Spenceley, *The success of tourism in Rwanda – Gorillas and more* (World Bank, and The Netherlands Development Organisation, 2010), p. 7. <The success of tourism in Rwanda.pdf (videa.ca)> [accessed 5 July 2021].
[495] *Extinction: The Facts*, dir. by Serena Davies (BBC, 2020).
[496] Ibid.

Humanity evidently has a long way to go, but the manifestation of interconnectedness into the protection of the environment, oversees the increasing wellbeing of humanity and the natural world. Therefore, we need to propagate this throughout anthropological institutions and systems such as capitalism and extend it as far as attainable.

CONCLUSION

The application of interconnectedness is essential for tackling the ecological emergency. As the case studies in this chapter show, interconnectedness is not just ideologically plausible, but its plausibility is also deep-rooted in reality. Therefore, the application of interconnectedness is achievable. Given the extent of the damage that anthropocentric chauvinism has had on the natural order, only time will tell as to whether humanity can fully overcome the ecological emergency. However, it is depraving to not at least attempt to evolve our moralities and rationalities, as facilitating the peril of the natural world oversees the peril of humanity concurrently.

Analysis of rewilding and capitalism reveals that humanity does not require a radical utopia, but instead evolving our normative contemplations and manifestations can bring about hugely desirable results in relation to environmental affairs. Applying interconnectedness to our actions ensures that nature receives much more protection that in it currently does. Additionally, in many instances interconnectedness decreases economic inequality. Many poorer communities reap the benefits of ecotourism and other environmentally orientated activities which embrace interconnectedness.

Therefore, to tackle the ecological emergency, humanity needs to in many instances embrace what is already happening. Therefore, this thesis advocates the extension of the application of interconnectedness. Thus, an important distinction ought to be made. There is a distinction between the concept of interconnectedness and its application, as its application can be contingent on instrumental tendencies, for example eco-tourism. Therefore, interconnectedness is not transcendent from other theoretical paradigms, as internal connections are present, but what is essential is that interconnectedness is at the core of our manifestations and informs our ethical decision making.

The contemporary examples of applying interconnectedness outlined in this chapter are all encouraging but humanity must go further. Despite the progress made, anthropocentric chauvinism is still too prevalent, as this thesis has shown. Governments, organisations, and institutions must come together and propagate the notion of interconnectedness using innovation and pragmatism. This in-turn would ensure the dilution of anthropological chauvinism. As this chapter has illustrated, this has already been achieved, so there are no logical reasons present which would cast doubt on this thesis' advocations. Embracing interconnectedness ensures the protection of people, but the protection of nature too. If nature suffers, so does humanity. Therefore, moving forward, interconnectedness has to be at the centre of our discourses. The wellbeing of everyone is contingent on this pivotal advocation.

CONCLUSION

The coherence of the thesis' advocation of the collective embracement of interconnectedness largely rests on the success of where it has been achieved already. Hence the advocation of interconnectedness passes the threshold of being pragmatic. This is essential as any advocation for tackling the ecological emergency cannot be exclusively ideologically driven – it must be compatible with contemporary actuality, and interconnectedness is. Hence there is no dichotomy present between philosophy and science within the parameters of interconnectedness. When a dichotomy between the two is present, effective environmentalism is proscribed. As instrumental value has shown, anthropocentric chauvinistic ideals are simply incompatible with any plausible environmental ethic, as nature is only a commodity for anthropological utilization. Moreover, as interconnectedness is a notion discoverable in philosophy, religion, and science, it reveals that the two can be unified and do not have to rival one another. Hence it is possible to have a philosophy that is deep-rooted in scientific actuality. To progress, it is evident that philosophies must be scientifically conscious in order to ensure it is not detrimental to both the natural world and humanity.

The last two chapters identified a range of diverse examples to illustrate the plausibility of interconnectedness. Therefore, this thesis has developed what is already happening, and has shown that we must further extend interconnectedness to the fundamental aspects of our lives, such as our economies, and philosophies. Only then can we fully tackle the ecological emergency at the intensity that is required, as a shift of this magnitude is necessary.

Whilst this thesis has shown the plausibility of interconnectedness as a focal point for targeted environmentalism, this thesis has also shown that the onus of responsibility for the ecological emergency fully lies at the door of humanity. This inference has been supported by extensive identifications of the causes of the ecological emergency. There are two forms of causes that support this. Firstly, the direct causes of the ecological emergency, such as deforestation, poaching, and so forth. Secondly, a deep-rooted philosophical presupposition that both morally and theoretically justifies the actions of depleting the natural order – instrumental value. Hence anthropocentric idealism is a fundamental intensifier of the ecological emergency.

The thesis has additionally made a crucial identification that anthropocentrism is currently a juxtaposition, as it is putting humanity first but harming humanity simultaneously. By transcending humanity from nature, an illusion is subconsciously conferred that we can 'do as we please' when interacting with the natural world, because it is a source readily available for anthropological utilization. However, as this thesis has repeatedly illustrated throughout, depleting nature depletes humanity simultaneously. As a result of this gross misconception, this finite planet has become incredibly unsustainable and alas unpredictable.

The human experience is fundamentally changing, illustrated by COVID-19, but also various other examples including climate refugees, food shortages, floods, and wildfires. However, we cannot logically abandon anthropocentrism as putting oneself is natural. Hence why this thesis does not advocate for radical alternative utopias. Instead, this thesis has attempted to show that evolving our anthropocentric ideological frameworks can secure a more harmonious and egalitarian relationship between humanity and the natural world. This is something that will ultimately benefit all.

As the topic is innately multi-disciplinary, in order to ensure the thesis' logical rationality, it was imperative to be both philosophically and scientifically cognizant. The methodologies undertaken for this thesis has been extensively outlined in chapter one. However, the methodologies deployed have affirmed the expectations at the beginning of the thesis. It was clear that evidence for the ecological emergency was unequivocal. It was also clear that humanity was responsible for facilitating and intensifying the crisis. It was also additionally apparent that our reckless actions towards the environment required a profound shift in our moral foundations, contemplations, and manifestations.

However, what was less apparent at the beginning of the research was how humanity subconsciously transcended itself away from nature. Framed in another way, what this means is that whilst the actions that have facilitated and intensified the ecological emergency were apparent, the deep-rooted causes that enable the actions of depleting of the natural order were less so. The significance of instrumental value was only fully realized when extensive research was undertaken.

In addition, widespread research of ecocentrism led to the thesis changing its title. Originally, the thesis aimed to advocate for the removal of anthropocentrism, and the embracement of its philosophical counterpart – ecocentrism. However, research led to the detection that ecocentrism is a diverse and subsequently varied paradigm. In addition, as previously identified, research led to the further discovery that Næss (who is deemed a pivotal ecocentric figure) advocated a solution that was both unpragmatic and immoral – a drastic reduction in the human population.[497] In addition, ecocentrism often promotes the removal of anthropocentrism in its entirety which appeared immediately illogical, given that self-need and preservation is innate within humanity. For example, no government is logically or realistically going to introduce a policy that would be detrimental to their people. Therefore, the telos of this thesis appeared incompatible with ecocentrism in both its origins and ontology.

However, one notion that is present in ecocentrism is interconnectedness, and it is highly pragmatic. Hence why during the research for this thesis, the title was adapted, because ultimately the thesis' telos changed to a less radical advocation, than it previously set out with. Hence why this thesis advocates anthropocentrism to evolve its normative ideological frameworks by embracing interconnectedness, as opposed to embracing ecocentrism and abandoning anthropocentrism in its entirety. Interconnectedness is both anthropocentric and ecocentric as it benefits both humanity and the natural world. Thus, it is an incredibly pragmatic advocation. Therefore, whilst the ontology of the thesis changed, this change was necessary in order to advocate for a more balanced approach between humanity and the natural world.

The introduction laid out some of the limitations of this thesis. To reiterate, any thesis will have inevitable limitations. Moreover, such is the inherently subjective nature of any humanities topic, there will be people that inevitably disagree with one's own analysis and advocations. However, as the research was carried out, and the thesis was subsequently formulated, the extent of one of the limitations of the thesis was discovered. That limitation is the size of the topic of the 'ecological emergency'. For a 30,000-33,000-word thesis, it is

[497] Stijn Koenraads, 'Reduction of the Global Human Population: A Rectificatory Argument based on Environmental Considerations' (Dissertation thesis, Linköping University, 2016), p. ii.

impossible to fully cover the whole topic. In fact, one ought to go as far as declaring the impossibility of covering the whole ecological emergency in one piece of literature – irrespective of size.

However, what was not fully appreciated at the beginning of the research was the sheer complexity of logically attributing the blame for the ecological emergency onto humanity in a logical and pragmatic way. As previously affirmed, it is evident that humanity is responsible for facilitating and intensifying the crisis. However, the difficulty was that specific notions cannot be generalised to the whole species of humanity. Therefore, when constructing the thesis, there was a conflict between generalising humanity (which in this context was certainly relevant) and pinpointing a specific notion which was present throughout humanity. The human race is incredibly diverse; therefore, one thesis can never outline all of the factors that illustrate humanity's responsibility for the ecological emergency (especially within the constraints of this particular word count). Therefore, the approach to focus on one specific anthropocentric chauvinistic notion (instrumental value) was undertaken. Instrumental value was carefully selected and was not a notion deduced from randomicity. This notion was selected as it transcends conventional anthropological frameworks. Simply, it is present in many places across the world. Whilst much focus was centred on instrumental value within the parameters of traditional Western philosophy, the thesis clearly clarified that it was a notion in other parts of the world too. Global examples outlined in the thesis help clarified this vital distinction. Hence this specific notion was selected, as it was the most widespread notion in humanity detected that reveals the detrimental nature of anthropocentric chauvinism. In addition, whilst various philosophies such as Buddhism avoid instrumental value, in 'Buddhist' countries, instrumental value is still present. The example of the majority of East Asia being Buddhist but the widespread mistreatment of animals, and high rates of deforestation in that geographical area illustrates this clearly. Nevertheless, focusing on one specific notion could be framed as somewhat of a limitation of the thesis, given that other notions could not be covered due to practical considerations.

This conclusion has already alluded the imperativeness of this topic receiving more attention in academia from various multiple disciplines. This conclusion has additionally identified the innately meta scope of the subject. Thus, there are an abundance of other

topics and issues within the parameters of the ecological emergency that one ought to address. This is why the introduction proclaimed that this thesis should be used as a complimentary guide to the ecological emergency, not an exclusive one. In addition, given the inherently multidisciplinary nature of the topic, topics that require addressing are naturally multidisciplinary too.

However, there were some issues that directly arose from the research that ought to be addressed. For example, whilst researching governments and the environmental crisis, I pondered whether the Western democratic framework of having elections every few years is compatible with ensuring governments embrace interconnectedness and implement long-term policies that protect the environment. For example, the United States of America signed up to the 2015 Paris Agreement, but then left after the election of Donald Trump in 2016. Although the country has re-signed under the Joe Biden administration, it does ponder one to question whether we need governments in power for longer, in order to ensure that that the required environmental policies are implemented and are ultimately successful. However, there is a conflict here, as reducing the number of elections would likely be regarded undemocratic. In addition, as Donald Trump was legally elected, he had a legitimate manifesto to reverse some of the United States environmental policies. Prohibiting political leaders from making these decisions appears undemocratic and could in certain instances conflict with the 'will of the people'. Therefore, this is a topic which requires addressing as the environmental crisis is ever-worsening, and democracy is contemporarily relatively fragile anyway, given the high-levels of fake news and corruption in our political systems. In addition, this issue raises the question of the degree of state intervention required for seismic issues. This is already an ongoing issue in the context of COVID-19 restrictions, such as lockdowns, and mandatory vaccinations. Hence the question as to whether further state intervention for necessary issues is deemed undemocratic and illiberal. In addition, if a reduction in the frequency of elections was the solution, then this could have the opposite effect. For example, a climate-sceptic such as Donald Trump would have longer in power, thus facilitating the further peril of the natural world. Therefore, a solution to this problem is inevitably going to be contentious, but nevertheless needs addressing, in order to ensure governments, embrace interconnectedness, but also ensures the protection of democracy.

In addition, another issue that this thesis could not cover was the practicalities of this thesis' advocations. By that, I mean the thesis took the meta-approach to examining the ecological emergency, which was entirely pertinent, as it is an inherently meta issue. However, whilst examples were provided of interconnectedness being successfully embraced, the advocation of extending interconnectedness across the world and through our institutions, corporations, and governments needs further detailed examination. This is in the practical sense, so detail needs to be given to how interconnectedness can pragmatically be implemented on the meta scale, so that the environment is protected but not at the cost of humanity.

The previous issue identified naturally flows into this issue which is the socio-economic cost of 'going greener' by embracing interconnectedness. For example, many developing countries are contingent on the extracting natural phenomena for anthropological utilization. Therefore, prohibiting this would facilitate increased global wealth disparities. Moreover, the costs of becoming more sustainable often prohibit desired changes. The example of substituting diesel cars for electric cars illustrates this greatly. Consequently, there is a huge barrier to overcome, in terms of encouraging leaders across the world to embrace interconnectedness, and ensuring sustainability is affordable simultaneously.

This thesis has identified the presence of a dichotomy between science and philosophy. However, another dichotomy between animals and humans is present which requires urgent addressing. As the population of humanity continues to increase, so does demand for natural resources. This demand is simply incompatible with protecting what is already a fragile finite natural ecosystem. Therefore, this is a huge issue for humanity that requires in-depth inquiries, given that food security and wildlife population is ever decreasing. In addition, as the population of humanity continues to grow exponentially, and the space for wildlife subsequently continues to decrease, animal vs human conflict is inevitably rising. This massively prohibits wildlife protection. Crucially, as the case study of the gorilla in Africa revealed, solutions can be achieved. However, solutions such as this must be extended to as many cases of animal vs human conflict as possible. This issue also alludes a significant problem for rewilding. Is it possible to rewild the land when human population and consequently demand is ever-increasing? This is another topic that needs

addressing in order to ensure the success of advocating for the embracement of interconnectedness.

Finally, it is worth noting that there are many more topics and issues relating to the ecological emergency that ought to be addressed. Within this context, it is imperative that additional topics and issues are identified and addressed, as ultimately the success of the widespread embracement of interconnectedness is contingent on it.

This research was urgently required, because of the severity of the ecological emergency. It is a crisis which is worsening each day. Even at the time of writing this conclusion, 170 people in Germany and Belgium have died because of severe flooding.[498] This in itself reflects the grim reality of the anthropological-induced ecological emergency. What is even more alarming is the multitudinous array of examples that could have been selected. We simply cannot go on like this. The ecological emergency is literally killing people and nature simultaneously. Hence inquiries into the situation are of the upmost urgency.

In order for one to grasp an understanding of the ecological emergency, it is essential that one takes the 'meta' approach to the issue, then apply specificity after a broad understanding of the crisis. This thesis has done just that. It identified the origins of the ecological emergency – conscious intentionality, then it identified a key contemporary intensifier of the ecological emergency – instrumental value. This affirmed the often-present dichotomy between philosophy and science. Hence it was apparent that any plausible advocation for the environment must remove any void between philosophy and science. Crucially, the advocation of interconnectedness does, thus certifying that this thesis has made a significant contribution. Whilst this thesis was not the first to detect the philosophy and science dichotomy, it has built upon that by formulating the advocation of interconnectedness. This is something that Paterson's journal article did not do. Hence, this thesis is making an original contribution.

In addition, this thesis is pragmatic as the notion of interconnectedness is practically applicable. It is absolutely essential that humanity embraces interconnectedness at all

[498] Petra Wischgoll, and David Sahl, *Death toll rises to 170 in Germany and Belgium floods* (2021) <Death toll rises to 170 in Germany and Belgium floods | Reuters> [accessed 19 July 2021].

levels, in order to ensure the protection of both the natural world and humanity. Failure to do so is likely to bring unthinkable consequences, as the crisis is ever-worsening. If COVID-19 has taught us anything, it is that we cannot go on as we are, and our widespread practises our unsustainable on this finite planet. The wellbeing of all is contingent on anthropocentrism evolving and embracing interconnectedness. The human experience is changing, and as a result, so must we. Thus, this thesis has demonstrated that the ecological emergency is 'An Anthropological Problem Which Requires the Collective Embracement of the Notion of Interconnectedness'.

BIBLIOGRAPHY

A Perfect Planet: Humans, dir. by Nick Shoolingin-Jordan (BBC, 2021)

Abate, S, Randall, *Climate Change and the Voiceless: Protecting Future Generations, Wildlife, and Natural Resources*, (Cambridge: Cambridge University Press, 2020)

Albert, Denes, *Hungary: PM Orbán is 5th most popular EU leader during coronavirus crisis* (2020) <Hungary: PM Orbán is 5th most popular EU leader during coronavirus crisis (rmx.news)> [accessed 9 February 2021]

Alexander, Samuel, *Can capitalism and the planet truly coexist?* (2020) <Can capitalism and the planet truly coexist? (phys.org)> [accessed 1 July 2021]

Amazonia Live, *The greatest restoration effort ever made in the Amazon rainforest* (2021) <The greatest restoration effort ever made in the Amazon rainforest - Believe Earth> [accessed 28 June 2021]

Andolan, Bachao, Narmada, 'Naess, Arne (1912-)', in *Encyclopedia of Religion and Nature*, ed. by Bron Taylor (London and New York, Continuum, 2005)

Animal Aid, *Animal Farming* (2021) <Animal Farming - Animal Aid> [accessed 9 June 2021]

Arora, Shefali, and Bhaukhandi, Deoli, Kanchan, and Mishra, Kumar, Pankaj, 'Coronavirus lockdown helped the environment to bounce back', *Science of the Total Environment*, 742.1, (2020), 1-9

Attfield, Robin, *Environmental Ethics* (Oxford, Oxford University Press, 2018)

Ayres, Matt, *7 sacred animals from around the world* (2016) <7 sacred animals from around the world | Animalogic> [accessed 7 June 2021]

Baggini, Julian, *About time: why western philosophy can only teach us so much* (2018) <About time: why western philosophy can only teach us so much | Philosophy | The Guardian> [accessed 13 July 2021]

Bale, Rachael, *Exclusive: Illegal Tiger Trade Fed by 'Tiger Farms,' New Evidence Reveals* (2018) <Exclusive Investigation Shows Tiger Farms Linked to Trafficking in Southeast Asia (nationalgeographic.com)> [accessed 3 June 2021]

BBC News, *Into the wild: Could lynx be reintroduced to Scotland?* (2021) <Into the wild: Could lynx be reintroduced to Scotland? - BBC News> [accessed 28 June 2021]

Bentley, Wessel, 'Are we special? A critique of *imago dei*', *Theological Studies*, 73.3, (2017), 1-5

Benton, Ted, 'Environmental Values and Human Purposes', *Environmental Values*, 17.2, (2008), 201-220

Berkley, Seth, *Vaccine nationalism will leave everyone more at risk of coronavirus* (2021) <Vaccine nationalism will leave everyone more at risk of coronavirus | New Scientist> [accessed 9 February 2021]

BD, Dipen, *Buddhist Monks Battle to Save Cambodia's Forests* (2018) <Buddhist Monks Battle to Save Cambodia's Forests | Buddhistdoor> [accessed 27 June 2021]

Bilimoria, Purushottama, 'Buddha', in *Fifty Key Thinkers on the Environment*, ed. by Joy A. Palmer (London: Routledge, 2001)

Bliss, Dominic, *Lynx and wolf may soon be roaming Britain's wild places again. Is it a good idea?* (2019) < Lynx and wolf may soon be roaming Britain's wild places again. Is it a good idea? | National Geographic> [accessed 28 June 2021]

Bormann, Herbet, F, 'Review: The Gaia Hypothesis', *Ecology*, 62.2, (1981), 502

Brennan, Andrew, 'Ecological Theory and Value in Nature', in *Environmental Ethics*, ed. by Robert Elliot (Oxford, Oxford University Press, 1995)

Broswimmer, J, Franz, *Ecocide: A Short History of the Mass Extinction of Species* (London: Pluto Press, 2002)

Burdon, George, 'Brexit's contingency on populism' (Dissertation thesis, University of Gloucestershire, 2020)

Büscher, Bram, 'Biodiversity' in *Critical Environmental Politics*, ed. by Carl Death (Oxford, Routledge, 2014)

Cafaro, Philip, and Primack, Richard, 'Ethical issues in biodiversity protection', in *Encyclopaedia of Biodiversity*, ed. by Simon Levin (San Diego, Academic Press, 2001)

Cairoli, Sarah, *Differences Between Ecocentric and Biocentric* (2018) <Differences Between Ecocentric & Biocentric (sciencing.com)> [accessed 21 June 2021]

Callicott, Baird, John, 'Non-Anthropocentric Value Theory and Environmental Ethics', *American Philosophical Quarterly*, 21.1, (1984), 299-309

Cammack, Shaun, *Don't Let Environmentalism Turn into Anti-Capitalism (or Worse)* (2019) <Don't Let Environmentalism Turn into Anti-Capitalism (or Worse) - Areo (areomagazine.com)> [accessed 21 June 2021]

Caro, Tim, *Conservation by Proxy: Indicator, Umbrella, Keystone, Flagship, and Other Surrogate Species* (Washington, Island Press, 2010)

Carrington, Damian, *Climate crisis: 11,000 scientists warn of 'untold suffering'* (2019) <Climate crisis: 11,000 scientists warn of 'untold suffering' | Climate change | The Guardian> [accessed 17 July 2021]
----------, *Supertrawlers 'making a mockery' of UK's protected seas (2020)* <Supertrawlers 'making a mockery' of UK's protected seas | Fishing | The Guardian> [accessed 15 March 2020]

Castree, Noel and Henderson, George, 'The capitalist mode of conservation, neoliberalism and the ecology of value', Journal of Marxism and Interdisciplinary Inquiry, 7.1, (2014), 16-37

Castro, Carlos, 'Book Review: Jonathon Porritt. Capitalism As If the World Matters. London: Earthscan, 2005', Organization & Environment, 20.2, (2007), 266-268

Child, Graham, 'Wildlife utilization and management in Botswana', *Biological Conservation*, 3.1, (1970), 18-22

Ching, Kwan, Chor, 'and others', 'Adulteration of proprietary Chinese medicines and health products with undeclared drugs: experience of a tertiary toxicology laboratory in Hong Kong', *British Journal of Clinical Pharmacology*, 84. 1, (2018), 172-178

Comstock, Gary, 'Theism and environmental ethics', in *A Companion to Philosophy of Religion*, ed. by Philip Quinn, and Charles Taliaferro (Oxford, Blackwell Publishers Ltd, 1997)

Cook, A, Robert, and Karesh, B, William, 'Emerging diseases and conservation: one world, one health', in *State of the Wild: A Global Portrait of Wildlife, Wildlands, and Oceans*, ed. by Eva Fearn (Washington: Island Press, 2009)

Cooper, David, and James, Simon, *Buddhism, Virtue and Environment* (Aldershot, Ashgate Publishing Limited, 2005)

Cudworth, Erika, *Environment and Society* (London, Routledge, 2003)

Dalton, Jane, *South Africa traffics thousands of endangered wild animals to China in 'corrupt and growing' trade, investigation finds* (2020) <South Africa traffics thousands of endangered wild animals to China in 'corrupt and growing' trade, investigation finds | The Independent | The Independent > [accessed 5 February 2021]

Danquah, Michael, and Schotte, Simone, and Sen, Kunal, 'COVID-19 and employment Insights from the sub-Saharan African experience', *Decent Work and Economic Growth,* 63.1, (2020), 1-8

Dar, Ashraf, Mohd, Dr. 'Concept of Compassion in Buddhism, Its Ethical Implication in the Contemporary World', *Journal of Culture, Society and Development*, 49.1, (2019), 22-26

Das, C, A, 'Similarities in Eastern and Western Philosophy', *The Review of Metaphysics*, 5.4, (1952), 631-638

Das, Subhamoy, *Vehicles of the Hindu Gods: the Vahanas* (2019) <Vehicles of the Gods—Hindu Deities and Their Vahanas (learnreligions.com)> [accessed 7 June 2021]

Davis, Josh, *UK has 'led the world' in destroying the natural environment* (2020) <UK has 'led the world' in destroying the natural environment | Natural History Museum (nhm.ac.uk)> [accessed 28 June 2021]

DeGrazia, David, *Animal Rights*, (Oxford: Oxford University Press, 2002)

Deneen, J, Patrick, *Why Liberalism Failed* (New Haven, Yale University Press, 2018)

Dickman, R, Chris, and Pimm, L, Stuart, and Cardillo, Marcel, *Key Topics in Conservation Biology*, ed. by David W. Macdonald and Katrina Service (Oxford: Blackwell Publishing, 2007)

Dobson, P, Andrew, *Conservation and Biology* (New York: Scientific American Library, 1998)

Doerr-Yates, Emily, 'Meeting the demand for meat?', *Anthropology Today,* 28.1, (2012), 11-15

Doniger, Wendy, *Ganesha: Hindu deity* (2021) <Ganesha | Meaning, Symbolism, & Facts | Britannica> [accessed 7 June 2021]

Downie, Robin, 'Kantian ethics', in *The Oxford Companion to Philosophy*, ed. by Ted Honderich (Oxford, Oxford University Press, 1995)

Duffy, Rosaleen, and Moore, Lorraine, 'Neoliberalising Nature?', in *Capitalism and Conservation*, ed. by Dan Brockington, and Rosaleen Duffy (Chichester, Wiley-Blackwell, 2011)

Dunne, Daisy, *Climate crisis 'biggest security threat humans have faced', Sir David Attenborough tells UN* (2021) <Climate crisis 'biggest security threat humans have faced', Sir David Attenborough tells UN | The Independent> [accessed 14 July 2021]

Elflein, John, *COVID-19 deaths worldwide as of February 8, 2021, by country* (2021) <Coronavirus deaths worldwide by country | Statista> [accessed 8 February 2021]

Elliot, Robert, 'Introduction', in *Environmental Ethics*, ed. by Robert Elliot (Oxford: Oxford University Press, 1995)

Ellis, C, Erle, *Anthropocene* (Oxford: Oxford University Press, 2018)

Engels, Anita, 'Understanding how China is championing climate change mitigation', *Palgrave Communications*, 101.4, (2018), 1-6

European Commission, *Climate change consequences* (2014) <Climate change consequences | Climate Action (europa.eu)> [accessed 1 July 2021]

Extinction: The Facts, dir. by Serena Davies (BBC, 2020)

Farhoud, Nada, *Supertrawlers in English Channel 'driving dolphins to their death' on beaches (2020)* < Supertrawlers in English Channel 'driving dolphins to their death' on beaches - Mirror Online> [accessed 15 March 2021]

Farrer, Martin, *Global report: WHO warns against dangers of 'vaccine nationalism'* (2020) <Global report: WHO warns against dangers of 'vaccine nationalism' | Coronavirus | The Guardian> [accessed 9 February 2021]

Feehan, Katie, *Wild lynx is set to be reintroduced to Britain to cut soaring deer population despite farmers' fears they will attack sheep instead* (2021) <Wild lynx is set to be reintroduced to Britain to cut soaring deer population | Daily Mail Online> [accessed 28 June 2021]

Fisher, Andrew, John, 'Aesthetics', in *A Companion to Environmental Philosophy*, ed. by Dale Jamieson (Oxford, Blackwell, 2001)

Fisher, Elizabeth, *Environmental Law* (Oxford, Oxford University Press, 2017)

Forest landscape restoration for Asia-Pacific forests, ed. by Simmathiri Appanah (Bangkok, The Food and Agriculture Organization of the United Nations and RECOFTC – The Center for People and Forest, 2016)

Forrest, Jay, *Translating Dukkha as Unhappiness* (2017) <Translating Dukkha as Unhappiness – The Spiritual Naturalist Society (snsociety.org)> [accessed 27 June 2021]

Forsyth, Tim, 'Science', in *Critical Environmental Politics*, ed. by Carl Death (Oxford, Routledge, 2014), pp. 218-229

Fossey, Kevin, *Buddhism as an Ecological Religion or a Religious Ecology* (2003) <Buddhism as an Ecological Religion or a Religious Ecology (environment-ecology.com)> [accessed 23 June 2021]

Fox, Warwick, *Toward a Transpersonal Ecology: Developing New Foundations for Environmentalism* (Albany: SUNY Press, 1995)

Friederichs. K, 'A Definition of Ecology and Some Thoughts About Basic Concepts', *Ecology*, 39.1, (1958), 154-159

Fritts, Rachel, *Tropical deforestation now emits more CO2 than the EU (2018)* <Tropical deforestation now emits more CO2 than the EU (mongabay.com)> [accessed 13 December 2020]

Fulcher, James, *Capitalism*, 2nd edn (Oxford, Oxford University Press, 2015)

Gardiner, Barbeau, Anne, *A Lesson in Deep Ecology* (2008) <A Lesson in Deep Ecology | Anne Barbeau Gardiner | First Things> [accessed 21 June 2021]

Gillson, Lindsey, *Biodiversity Conservation & Environmental Change: Using Palaeoecology to Manage Dynamic Landscapes in the Anthropocene* (Oxford, Oxford University Press, 2015)

Gokkon, Basten, *Deforestation in Sumatra carves up tiger habitats into ever smaller patches* (2015) < Deforestation in Sumatra carves up tiger habitats into ever smaller patches (mongabay.com)> [accessed 1 February 2021]

Goodpaster, Kenneth, 'On Being Morally Considerable', in *Environmental Ethics: Readings in Theory and Application*, ed. by Louis Pojman, 4th edn (Belmont, Wadsworth, 2005)

Graham, Hannah, *Second bid to reintroduce lynx to Kielder Forest set to be submitted by 'very confident' campaigners* (2021) <Second bid to reintroduce lynx to Kielder Forest set to be submitted by 'very confident' campaigners - Chronicle Live> [accessed 28 June 2021]

Gray, E, David, Doing Research in the Real World (New York: Sage Publications Ltd, 2013)

Gray, Joe, and Whyte, Ian, and Curry, Patrick, 'Ecocentrism: What it means and what it implies', *The Ecological Citizen*, 1.2, (2018), 130-131

Greenfield, Patrick, *Humans exploiting and destroying nature on unprecedented scale – report (2020)* <Humans exploiting and destroying nature on unprecedented scale – report | Environment | The Guardian> [accessed 17 March 2021]

GSCC, 'Health impacts of climate change at 1.5°C, 2°C, and 3°C', *WWF: Climate and Energy*, (2017), 1-5

Guttmann, Robert, *Eco-Capitalism: Carbon Money, Climate Finance, and Sustainable Development* (Cham, Springer International Publishing AG, 2018)

Hanna, Robert, *Conceptual Analysis* (1998) <Conceptual analysis - Routledge Encyclopedia of Philosophy> [accessed 16 May 2021]

Hannah, Simon, *The fight against climate change is a fight against capitalism* (2019) <The fight against climate change is a fight against capitalism | openDemocracy> [accessed 1 July 2021]

Hansen, Drew, *Unless it Changes, Capitalism Will Starve Humanity by 2050* (2016) <Unless It Changes, Capitalism Will Starve Humanity By 2050 (forbes.com)> [accessed 1 July 2021]

Harvey, Fiona, *Animals to be formally recognised as sentient beings in UK law* (2021) <Animals to be formally recognised as sentient beings in UK law | Animal welfare | The Guardian> [accessed 9 June 2021]

Hausfather, Zeke, *Analysis: Fossil-fuel emissions in 2018 increasing at fastest rate for seven years (2018)* < Analysis: Fossil-fuel emissions in 2018 increasing at fastest rate for seven years | Carbon Brief> [accessed 11 March 2021]

Henning, Daniel, 'Buddhism and Deep Ecology: Protection of Spiritual and Cultural Values for Natural Tropical Forests in Asia', *USDA Forest Service Proceedings*, 4.1, (1998), 108-112

Heyd, David, *Genethics: Moral Issues in the Creation of People* (Los Angeles, University of California Press, 1992)

Honnay, Olivier, 'and others', 'Forest fragmentation effects on patch occupancy and population viability of herbaceous plant species', *New Phytologist*, 166.3, (2005), 723-736

Hutt, Rosamond, *Life for millions in Bangladesh is being transformed thanks to this simple solution* (2020) <Solar power is changing lives in Bangladesh | World Economic Forum (weforum.org)> [accessed 5 July 2021]

ICUN, *Summary Statistics (2020)* <IUCN Red List of Threatened Species> [accessed 10 December 2020]

Ikeda, Daisaku, *Life – An Enigma, a Precious Jewel* (New York, Kodansha International, 1982)

----------, *Unlocking the Mysteries of Birth and Death: Buddhism in the Contemporary World* (London, Warner, 1994)

Ingold, Tim, *The Perception of the Environment: Essays on Livelihood, Dwelling and Skill* (London, Routledge, 2000)

International Panel on Climate Change, *The Urgency of 1.5°C* (2020) <IPCC 1.5°C | WWF (panda.org)> [accessed 15 December 2020]

Irfan, Umair, *Brazil's Amazon rainforest destruction is at its highest rate in more than a decade* (2019) <Amazon rainforest: deforestation at highest rate in more than a decade - Vox> [accessed 29 January 2021]

Jackson, Roy, *Muslim and Supermuslim: The Quest for the Perfect Being and Beyond*, (Cham, Springer Nature, 2020)

----------,'Overcoming Physicophobia – Forests as the Sacred Source of Our Human Origins', in *New Perspectives on People and Forests*, ed. by Eva Ritter, and Dainis Dauksta (Dordrecht, Springer, 2011)

Jeffries, J, Michael, *Biodiversity and Conservation*, 2nd edn (Abingdon: Routledge, 2006)

Jepson, Paul, and Blythe, Cain, *Rewilding: The Radical New Science of Ecological Recovery*, (London: Icon Books Ltd, 2020)

Johnson, Lawrence, *A Morally Deep World: An Essay on Moral Significance and Environmental Ethics* (Cambridge, Cambridge University Press, 1993)

Kennedy, Huddart, Emily, and Horne, Christine, 'Accidental environmentalism or ethical elite? The moral dimensions of environmental impact', *Poetics*, 82.1, (2020), 1-12

Keown, Damien, *Buddhism*, 2nd edn (Oxford, Oxford University Press, 2013)

King, Sallie, 'Socially Engaged Buddhism', in *Buddhism in the Modern World*, ed. by David McMahan (Abingdon, Routledge, 2012)

Kleffel, Dorothy, 'Environmental paradigms: moving toward an ecocentric perspective', *ANS Advances in nursing science*, 18.4, (1996), 1-10

Knowles, George, and Boyle, Louise, *Coronavirus: Live animal markets and wildlife trade continue in Asia amid growing calls for crackdown* (2020) <Coronavirus: Live animal markets and wildlife trade continue in Asia amid growing calls for crackdown | The Independent | The Independent> [accessed 8 February 2021]

Koenraads, Stijn, 'Reduction of the Global Human Population: A Rectificatory Argument based on Environmental Considerations' (Dissertation thesis, Linköping University, 2016)

Komugisha, Usher, *How Rwanda's gorillas are helping to sustain entire communities* (2014) <How Rwanda's gorillas are helping to sustain entire communities | Natural resources and development | The Guardian> [accessed 5 July 2021]

Kopnina, Helen, 'and others', 'Anthropocentrism: More than Just a Misunderstood Problem', *Journal of Agricultural and Environmental Ethics*, 31.1, (2018), 109-127

Lambrick, Fran, *Who is responsible for the death of Cambodia's foremost forest activist?* (2012) <Who is responsible for the death of Cambodia's foremost forest activist? | Environmental activism | The Guardian> [accessed 8 August 2020]

Lam, P, T, 'Strengths and weaknesses of traditional Chinese medicine and Western medicine in the eyes of some Hong Kong Chinese', *Epidemiol Community Health, 55. 1,* (2001), 762-765

Lautensach, K, Alexander, 'The Ethical Basis for Sustainable Human Security: A Place for Anthropocentrism?', *Bioethical enquiry*, 6.1, (2009), 437-455

Lederer, M, Edith, *UN chief says COVID-19 is worst crisis since World War II* (2020) <UN chief says COVID-19 is worst crisis since World War II (apnews.com)> [accessed 22 July 2021]

Lele, Amod, 'Disengaged Buddhism', *Journal of Buddhist Ethics*, 26.1, (2019), 239-289

Lochtefeld, James, *The Illustrated Encyclopaedia of Hinduism* (New York, Rosen Publishing Group, 2002)

Luke, W, Timothy, 'Deep Ecology: Living as if Nature Mattered: Devall and Sessions on Defending the Earth', *Organization & Environment*, 15.2, (2002), 178-186

Mallapaty, Smriti, *Animal source of the coronavirus continues to elude scientists (2020)* <Animal source of the coronavirus continues to elude scientists (nature.com)> [accessed 18 March 2021]

Marchesini, Roberto, 'Against Anthropocentrism. Non-human Otherness and the Post-human Project', *Nanoethics*, 9.1, (2015), 75-84

Marriam-Webster, *Anthropogenic (n.d.)* <Anthropogenic | Definition of Anthropogenic by Merriam-Webster (merriam-webster.com)> [accessed 29 March 2021]

----------, *exegesis* (2021) <Exegesis | Definition of Exegesis by Merriam-Webster> [accessed 18 May 2021]

Maslin, Mark, *Climate Change*, 3rd edn (Oxford, Oxford University Press, 2014)

Matthews, Freya, 'Value in nature and meaning in life', in *Environmental Ethics,* ed. by Robert Elliot (Oxford: Oxford University Press, 1995)

McMahan, David, 'Buddhist Modernism', in *Buddhism in the Modern World*, ed. by David McMahan (Abingdon, Routledge, 2012)

McShane, Katie, 'Ecocentrism', in *Critical Environmental Politics*, ed. by Carl Death (Oxford, Routledge, 2014)

Méndez, Fernández , Daniel, 'The Real Relationship Between Capitalism and the Environment', Mises Institute, (2018).

Meyer, Brett, Pandemic Populism: An Analysis of Populist Leaders' Responses to Covid-19', *Tony Blair Institute for Global Change*, (2020), 1-16

Minteer, A, Ben, *The Fall of the Wind: Extinction, De-Extinction, and the Ethics of Conservation* (New York, Columbia University Press, 2019)

Monbiot, George, *Feral: Rewilding the Land, Sea and Human life* (London, Penguin Group, 2014)

Morito, Bruce, 'Intrinsic value: A modern albatross for the ecological approach', *Environmental Values*, 12.1, (2003), 317-336

Morrison, Denton, and Dunlap, Riley, 'Environmentalism and Elitism: a Conceptual and Empirical analysis', *Environmental Management*, 10.1, (1986), 581-589

Myers, Norman, *The Sinking Ark: A new look at the problem of disappearing species* (Oxford, Pergamon Press, 1979)

Nagaraj, Mysore, Kumar, Anil, and Nanjegowda, Bevinahalli, Raveesh, and Purushothama, M, S, 'The mystery of reincarnation', *Indian Journal of Psychiatry*, 57.4, (2013), 171-176

Neme, Laurel, *Tiger farming and traditional Chinese medicine* (2010) <Tiger farming and traditional Chinese medicine (mongabay.com)> [accessed 3 June 2021]

Nielsen, Hannah, and Spenceley, Anna, *The success of tourism in Rwanda – Gorillas and more* (World Bank, and The Netherlands Development Organisation, 2010), p. 7. <The success of tourism in Rwanda.pdf (videa.ca)> [accessed 5 July 2021]

Nissanke, Machiko, and Thorbecke, Erik, *Linking Globalization to Poverty in Asia, Latin America and Africa* (Finland: United Nations University: World Institute for Development Economics Research, 2010)

Nunez, Christina, *Deforestation Explained (2019)* <Deforestation facts and information (nationalgeographic.com)> [accessed 11 March 2021]

Passmore, John, Man's Responsibility for Nature, 2nd edn (London: Gerald Duckworth & Co. Ltd., 1980)

Paterson, Barbara, 'Ethics for Wildlife Conservation: Overcoming the Human-Nature Dualism', *Bioscience*, 56.2, (2006), 144-150

Pavid, Katie, *What is the Anthropocene and why does it matter? (n.d.)* <What is the Anthropocene and why does it matter? | Natural History Museum (nhm.ac.uk)> [accessed 28 January 2021]

Pennington, James, *Every minute, one garbage truck of plastic is dumped into our oceans. This has to stop* (2016) <Every minute, one garbage truck of plastic is dumped into our oceans. This has to stop | World Economic Forum (weforum.org)> [accessed 11 December 2020]

Plackett, Benjamin, *Why were the ancient Egyptians obsessed with cats?* (2021) <Why were the ancient Egyptians obsessed with cats? | Live Science> [accessed 7 June 2021]

Plymouth City Council, *Beaver released in Plymouth at part of Green Minds project* (2020) <Beaver released in Plymouth at part of Green Minds project | PLYMOUTH.GOV.UK> [accessed 28 June 2021]

Podesta, John, *The climate crisis, migration, and refugees* (2019) <The climate crisis, migration, and refugees (brookings.edu)> [accessed 8 February 2021]

Puffer, Matthew, 'Human Dignity after Augustine's *Imago Dei*: On the Sources and Uses of Two Ethical Terms', *Journal of the Society of Christian Ethics*, 37.1, (2017), 65-82

Putman, J, R, and Moore, P, N, 'Impact of deer in lowland Britain on agriculture, forestry and conservation habitats', *Mammal Review*, 28.1, (1998), 141-164

Quammen, David, 'Zoonoses in the Twenty-First Century', in *State of the Wild: A Global Portrait of Wildlife, Wetlands, and Oceans*, ed. by Eva Fearn, and Kent Redford (Washington, Island Press, 2009)

Queirós, André, and Faria, Daniel, and Almeida, Fernando, 'Strengths and Limitations of Qualitative and Quantitative Research Methods', *European Journal of Education Studies*, 3.9, (2017), 369-387

Radu, Sintia, *The Top 5 Deadliest Disasters in 2019* (2019) <5 of the Deadliest Natural Disasters in 2019 | Best Countries | US News> [accessed 13 December 2020]

Ravichandra, BH, 'Buddhism and its Relevance in Modern World', *Paripex – Indian Journal of Research*, 3.7, (2014), 215-217

Rear, Jack, *A UK lynx reintroduction could boost eco-tourism* (2018) <A UK lynx reintroduction could boost eco-tourism - Verdict> [accessed 28 June 2021]

Reddy, Simon, *Plastic Pollution Affects Sea Life Throughout the Ocean (2018)* <Plastic Pollution Affects Sea Life Throughout the Ocean | The Pew Charitable Trusts (pewtrusts.org)> [accessed 15 March 2021]

Reid, Kathryn, *2019 Cyclone Idai: Facts, FAQs, and how to help* (2020) <2019 Cyclone Idai: Facts, FAQs, and how to help | World Vision> [accessed 13 December 2020]

Reeves, Scott, and Hodges, David, Brian, 'Qualitative research methodologies: ethnography', *BMJ*, 337.1, (2008) in <Qualitative research methodologies: ethnography | The BMJ> [accessed 20 May 2021]

Reid, Gerard, *The Future Looks Bright for Solar Energy* (2020) <Why the future looks bright for solar energy | World Economic Forum (weforum.org)> [accessed 5 July 2021]

Rewilding Britain, *Eurasian Lynx* (2021) <Eurasian lynx | Rewilding Britain> [accessed 28 June 2021]

Reynold, Matt, and Weiss, Sabrina, *How coronavirus started and what happens next, explained* (2020) <How coronavirus started and what happens next, explained | WIRED UK> [accessed 8 February 2021]

Rolston, Holmes, 'Biodiversity', in *A Companion to Environmental Philosophy*, ed. by Dale Jamieson (Oxford, Blackwell, 2001)

Root, L, Terry, 'and others', 'Managing biodiversity in the light of climate change: current biological effects and future impacts', in *Key Topics in Conservation Biology*, ed. by David W. Macdonald and Katrina Service (Oxford: Blackwell Publishing Ltd, 2007)

Rosner, Hillary, *Palm oil is unavoidable. Can it be sustainable?* (2018) <Palm oil is unavoidable. Can it be sustainable? (nationalgeographic.com)> [accessed 1 February 2021]

Ross, A, Jeremy, 'Durkheim and the Homo Duplex: Anthropocentrism in Sociology', *Sociological Spectrum*, 37.1, (2017), 18-26

Rouw, Anna, 'and others', *Global COVID-19 Vaccine Access: A Snapshot of Inequality (2021)* <Global COVID-19 Vaccine Access: A Snapshot of Inequality | KFF> [accessed 19 March 2021]

Russell, Bertrand, *History of Western Philosophy and its Connection with Political and Social Circumstances from the Earliest Times to the Present Day* (Woking, Unwin Brothers Limited, 1946)

Sandler, Ronald, 'Intrinsic Value, Ecology, and Conservation', *Nature Education Knowledge*, 3.10, (2012), 1-7

Schweickart, David, 'Is Sustainable Capitalism an Oxymoron?', *Perspectives on Global Development and Technology*, 8.1, (2009), 559-580

Scientific American, *The World Health Organization Gives the Nod to Traditional Chinese Medicine. Bad Idea (2019)* <The World Health Organization Gives the Nod to Traditional Chinese Medicine. Bad Idea - Scientific American> [accessed 12 March 2021]

Sen, Kunal, *Five ways coronavirus is deepening global inequality* (2020) < Five ways coronavirus is deepening global inequality (theconversation.com)> [accessed 9 February 2021]

Senthinlingam, Meera, *Outbreaks and Epidemics: Battling Infection from Measles to Coronavirus,* (London: Icon Books Ltd, 2020)

Shah, Vikas, *Capitalism – What Comes Next?* (2018) <Capitalism - What Comes Next? - Thought Economics> [accessed 1 July 2021]

Sholtz, Marco, *Why millions chose Africa as their safari destination* (2016) <Why millions chose Africa as their safari destination (theconversation.com)> [accessed 4 June 2021]

Shulman, Eviatar, 'Early Meanings of Dependent-Origination', *Journal of Indian Philosophy*, 36.1, (2008), 297-317

Silene, *New Wildlfie Sanctuary created around Buddhist Monastic Community Forest* (2018) <New wildlife sanctuary created around Buddhist Monastic Community Forest · Silene> [accessed 27 June 2021]

Silva, De, Lily, 'The Buddhist Attitude Towards Nature', in *Environmental Ethics: Readings in Theory and Application*, ed. by Louis Pojman, 4th edn (Belmont, Wadsworth, 2005)

Singer, Peter, 'Animals', in *A Companion to Environmental Philosophy*, ed. by Dale Jamieson (Oxford, Blackwell, 2001)

----------,*Animal Liberation: With an Introduction by Yuval Harari*, (London: Bodley Head, 2015)

Sodhi, S, Navjot, 'and others', *Tropical Conservation Biology* (Oxford: Blackwell Publishing, 2007)

Sponsel, Leslie, and Sponsel-Natadecha, Poranee, 'Environment and Nature in Buddhism', in *Encyclopedia of the History of Science, Technology, and Medicine in Non-Western Cultures*, ed. by Helaine Selin (Dordrecht, Springer, 2008)

Sustainable Fisheries, *About us* (2020) <About Us - Sustainable Fisheries UW (sustainablefisheries-uw.org)> [accessed 11 December 2020]

----------, *How many Fisheries are Overfished?* (2020) <About Us - Sustainable Fisheries UW (sustainablefisheries-uw.org)> [accessed 11 December 2020]

Szűcs, E, 'and others', 'Animal Welfare in Different Human Cultures, Traditions, and Religious Faiths', *Asian-Australian Journal of Animal Sciences*, 25.11, (2012), 1499-1506

Taylor, Peter, *Beyond Conservation: A Wildland Strategy* (London, Earthscan, 2005)

The Sustainable Development Goals Report 2020. (New York: United Nations Publications, 2020), p. 52 [accessed 11 December 2020]

Thomson Reuters Foundation, *Indonesia's 'green diesel,' powered by palm oil, fuels threat to forests* (2021) <Indonesia's 'green diesel,' powered by palm oil, fuels threat to forests | The Japan Times> [accessed 19 February 2021]

Tigers: Hunting the Traffickers, dir. by Laura Warner (BBC, 2020)

Toynbee, Arnold, and Ikeda, Daisaku, *Choose Life: A Dialogue* (Düsseldorf, Claassen, 1982)

Tree, Isabella, *Wilding: The return of nature to a British farm* (London, Picador, 2018)

Tsoutsos, Theocharis, and Frantzeskaki, Niki, and Gekas, Vassilis, 'Environmental Impact Assessment of Solar Energy Systems', *Energy Policy*, 33.3 (2005), 289-296

United Nations , *UN Report: Nature's Dangerous Decline 'Unprecedented'; Species Extinction Rates 'Accelerating'* (2020) <UN Report: Nature's Dangerous Decline 'Unprecedented'; Species Extinction Rates 'Accelerating' – United Nations Sustainable Development> [accessed 10 December 2020]

----------, *World Wildlife Crime Report: Trafficking in protected species 2020*, ed. by Raggie Johansen (United Nations Publication, 2020)

University of Minnesota, *What Is Qi? (and Other Concepts) (2020)* <What Is Qi? (and Other Concepts) | Taking Charge of Your Health & Wellbeing (umn.edu)> [accessed 12 March 2021]

Vernick, Daniel, *3 billion animals harmed by Australia's fires* (2020) <3 billion animals harmed by Australia's fires | Stories | WWF (worldwildlife.org)> [accessed 15 December 2020]

Vidal, John, *'The Sumatran rainforest will mostly disappear within 20 years'* (2013) <'The Sumatran rainforest will mostly disappear within 20 years' | Global development | The Guardian> [accessed 1 February 2021]

Waal, De, Frans, *Mama's Last Hug: Animal Emotions and What They Teach Us about Ourselves* (London, Granta Publications, 2020)

Washington, Haydn, 'and others', 'Why ecocentrism is the key pathway to sustainability', *The Ecological Citizen*, 1.1, (2017), 35-41

Wearden, Graeme, *More plastic than fish in the sea by 2050, says Ellen MacArthur* (2016) <More plastic than fish in the sea by 2050, says Ellen MacArthur | Davos 2016 | The Guardian> [accessed 11 December 2020]

Wells-Wallace, David, *The Unhabitable Earth: A Story of the Future* (London, Penguin Books, 2019)

Weston, Anthony, 'Beyond intrinsic value: Pragmatism in Environmental Ethics', *Environmental Ethics*, 7.1, (1985), 321-339

Whitehead, David 'Forests as carbon sinks—benefits and consequences', *Tree Physiology*, 31.10, (2011), 893-902

Wignall, B, Paul, *Extinction* (Oxford: Oxford University Press, 2019)

Wilson, O, Edward, *The Meaning of Human Existence* (New York: Liveright Publishing Corporation, 2015)

Wischgoll, Petra, and Sahl, David, *Death toll rises to 170 in Germany and Belgium floods* (2021) <Death toll rises to 170 in Germany and Belgium floods | Reuters> [accessed 19 July 2021]

Wolf, Heather, 'Deforestation in Cambodia and Malaysia: The Case for an International Legal Solution', *Washington International Law Journal*, 5.2, (1996), 429-455

World Health Organization, *Coronavirus disease 2019 (COVID-19), Situation Report – 32 (2019)* <20200221-sitrep-32-covid-19.pdf (who.int)> [accessed 18 March 2021]

WWF, *TACKLING INTERNATIONAL WILDLIFE CRIME* (2021) <Tackling international wildlife crime | WWF > [accessed 5 February 2021]

Xianlin, Ji, and Zhongxin, Jiang, and Ikeda, Daisaku, 'Dialogues on Eastern wisdom', *Journal of Oriental Studies*, 11.1, (2001), 2-86