

# Northumbria Research Link

Citation: Washington, Haydn, Piccolo, John, Gomez-Baggethun, Erik, Kopnina, Helen and Alberro, Heather (2021) The Trouble with Anthropocentric Hubris, with Examples from Conservation. *Conservation*, 1 (4). pp. 285-299. ISSN 2673-7159

Published by: MDPI

URL: <https://doi.org/10.3390/conservation1040022>  
<<https://doi.org/10.3390/conservation1040022>>

This version was downloaded from Northumbria Research Link:  
<http://nrl.northumbria.ac.uk/id/eprint/47416/>

Northumbria University has developed Northumbria Research Link (NRL) to enable users to access the University's research output. Copyright © and moral rights for items on NRL are retained by the individual author(s) and/or other copyright owners. Single copies of full items can be reproduced, displayed or performed, and given to third parties in any format or medium for personal research or study, educational, or not-for-profit purposes without prior permission or charge, provided the authors, title and full bibliographic details are given, as well as a hyperlink and/or URL to the original metadata page. The content must not be changed in any way. Full items must not be sold commercially in any format or medium without formal permission of the copyright holder. The full policy is available online: <http://nrl.northumbria.ac.uk/policies.html>

This document may differ from the final, published version of the research and has been made available online in accordance with publisher policies. To read and/or cite from the published version of the research, please visit the publisher's website (a subscription may be required.)



**Northumbria  
University**  
NEWCASTLE



**UniversityLibrary**

Review

# The Trouble with Anthropocentric Hubris, with Examples from Conservation

Haydn Washington <sup>1,\*</sup>, John Piccolo <sup>2</sup>, Erik Gomez-Baggethun <sup>3,4</sup>, Helen Kopnina <sup>5</sup> and Heather Alberro <sup>6</sup>

<sup>1</sup> Earth and Sustainability Science Research Centre (ESSRC), School of Biological, Earth and Environmental Sciences, Level 5, Biological Sciences Building (D26) Kensington Campus, UNSW, Sydney, NSW 2052, Australia

<sup>2</sup> Department of Environmental and Life Sciences, Karlstad University, 65188 Karlstad, Sweden; john.piccolo@kau.se

<sup>3</sup> Department of International Environment and Development Studies (Noragric), Faculty of Landscape and Society, Norwegian University of Life Sciences (NMBU), 1432 Ås, Norway; erik.gomez@nmbu.no or erik.gomez@nina.no

<sup>4</sup> Norwegian Institute for Nature Research (NINA), Sognsveien 68, NO-0855 Oslo, Norway

<sup>5</sup> Newcastle Business School, University of Northumbria, Newcastle NE1 8ST, UK; helen.kopnina@northumbria.ac.uk

<sup>6</sup> School of Arts and Humanities, Nottingham Trent University, Room 332 MAE, Nottingham NG11 8NS, UK; heather.alberro@ntu.ac.uk

\* Correspondence: h.washington@unsw.edu.au

**Abstract:** Anthropocentrism in Western (modern industrial) society is dominant, goes back hundreds of years, and can rightly be called ‘hubris’. It removes almost all moral standing from the nonhuman world, seeing it purely as a resource. Here, we discuss the troubling components of anthropocentrism: worldview and ethics; dualisms, valuation and values; a psychology of fear and denial; and the idea of philosophical ‘ownership’. We also question whether it is a truly practical (or ethical) approach. We then discuss three troubling examples of anthropocentrism in conservation: ‘new’ conservation; ecosystem services; and the IPBES values assessment. We conclude that anthropocentrism is fuelling the environmental crisis and accelerating extinction, and urge academia to speak out instead for ecocentrism.

**Keywords:** anthropocentrism; hubris; ecocentrism; conservation; human supremacy; worldview; denial; ethics; ownership; practicality

**Citation:** Washington, H.; Piccolo, J.; Gomez-Baggethun, E.; Kopnina, H.; Alberro, H. The Trouble with Anthropocentric Hubris, with Examples from Conservation. *Conservation* **2021**, *2*, 285–299. <https://doi.org/10.3390/conservation1040022>

Academic Editor: Michael Getzner

Received: 2 September 2021

Accepted: 29 September 2021

Published: 1 October 2021

**Publisher’s Note:** MDPI stays neutral with regard to jurisdictional claims in published maps and institutional affiliations.



**Copyright:** © 2021 by the authors. Submitted for possible open access publication under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

## 1. Introduction

This article seeks to discuss the troubling aspects of ‘anthropocentric hubris’ in modern industrial society (now widely globalized), and discusses a number of examples in conservation where a dominant anthropocentric worldview is a barrier to society (and humanity as a whole) reaching an ecologically sustainable future. We refer to ‘modern industrial’ society here (often called Western society). This refers to the culture, worldview and ethics that became dominant in the USA and Europe, was then exported to Canada and Australia (and later globalized around the world). We are not arguing that all people in modern industrial society support or uphold anthropocentrism, but that it is a dominant ideology. Many great conservationists and environmentalists came from ‘the West’, such as Thoreau [1], Leopold [2], Carson [3], Berry [4] and the Ehrlichs [5]. We would observe however that their writing happened *in response* to the major degradation of nature caused in the West (to which we argue anthropocentrism has been a major contributor).

## 2. The Trouble with ‘Hubris’

Hubris has been defined as ‘excessive pride or self-confidence’ or ‘a way of talking or behaving that is too proud’ (Cambridge Dictionary). It is often seen as synonymous with arrogance [6]. In ancient Greek usage, *hubris* referred to ‘outrage’: actions that violated natural order, or which shamed and humiliated the victim, sometimes for the pleasure or gratification of the abuser [7]. Often hubris is associated also with *pretension*, where the person pretends to greater knowledge or ability than they actually have [8]. The anthropocentric hubris of modern industrial society is operationalised through the denial of the anthropogenic drivers of the environmental crisis (e.g., climate change) [9], a techno-optimism fixation, and a common insistence that all environmental problems are overstated [10]. Arguably, such anthropocentric hubris and arrogance ignores or denies any thought that nonhuman Nature has moral standing, agency or rights [11–15]. Vetlesen [16] (p. 260) observes that the intelligence we pride ourselves on:

... amounts to mindless destructive hubris if our way of enacting it in the world is not informed by the modesty that goes with a sense of awe toward the non-human manifestations of value on earth.

Piccolo [17] (p. 1587) notes: ‘The modern environmental sciences operate with increasingly unabashed hubris—we more and more wish to believe that humans are all that really matter’. We are concerned that the hubris of modern industrial society has become entrenched in the sciences.

## 3. What is Anthropocentrism?

Anthropocentrism literally means ‘human-centred’ in regard to our ethics and what we value. The Oxford English Dictionary definition is: ‘Regarding humankind as the central or most important element of existence’. Fortuna et al. [18] define it as a: ‘a set of beliefs about man as the main point of reference in the world’. The *Ecological Citizen* [19] describes it as follows:

Anthropocentrism restricts value to human beings, either mostly or entirely. ... From a broader, deeper and longer point of view, such an approach to nature underwrites ecocide, whether gradual or sudden, as a result of its failure to recognise and address the natural world in ethical terms.

Inevitably there is an academic complexity involved. Callicott [20] (pp. 9–10) argues there are three types of anthropocentrism:

1. Metaphysical anthropocentrism, where humans are seen to occupy a privileged place in the order of being.
2. Moral anthropocentrism, where the base class of ethics (and ethical regard) is limited to humans.
3. Tautological anthropocentrism, which claims all humans’ experience of value is *human*, and therefore tautologically anthropocentric.

Tautological anthropocentrism has also been called ‘epistemic’ anthropocentrism [21]. Metaphysical anthropocentrism denotes the perspective where humans are deemed ‘special’ on the basis of religion or rationality [13]. Callicott [20] notes metaphysical anthropocentrism is often used as the justification for moral anthropocentrism. However, there may be other reasons for moral anthropocentrism, such as the anthropocentric utilitarianism of neoclassical economics, which is not: ‘justified by appeal to metaphysical anthropocentrism, rather its anthropocentrism seems to be unapologetically arbitrary’ [20] (p. 10). However, tautological anthropocentrism is debatable, even though some scholars maintain this [20,21]. This claim has been questioned [13,22], as it is an example of the ‘Anthropocentric Fallacy’ [22,23] discussed later. Accordingly, ‘Tautological anthropocentrism’ we see as a misnomer for anthropogenic valuation (done by humans). Some of this valuation will indeed be anthropocentric, but it need not be [13].

Some scholars speak of *weak* and *strong* anthropocentrism, e.g., [24,25], though definitions vary. According to Vilkkka [25], strong anthropocentrism presupposes that Nature is created from, or exists purely for, human purposes. Strong anthropocentrism or ‘human supremacy’ [26] never takes Nature into moral account, as it is seen as without ‘agency’ [11]. Fortuna et al. [18] note that anthropocentrism is strongly linked to right-wing authoritarianism. However, it has been argued that anthropocentrism effectively removes all compassion [13] and lessens empathy [27] for nonhuman Nature in human ethics.

There are other terms that resonate with the anthropocentric lexicon. The first is *humanism*, which the OED describes as ‘The character or quality of being human; devotion to human interests’, but which Vilkkka [25] argues is where humans are seen as the most significant beings on Earth. What Ehrenfeld [28] called the ‘Arrogance of Humanism’ is still abundantly alive in modern industrial (aka Western) society, as illustrated by, for example, the widespread dominance of legal systems in western countries that exclude nonhuman nature from the community of justice. Plumwood [29] argued that humanism has arguably helped us to lose touch with ourselves as beings who are *also natural*, and have their roots in the Earth. Other terms affiliated with anthropocentrism are listed in Table 1 by Washington [13] (p. 142):

**Table 1.** Terms affiliated with anthropocentrism.

Human supremacy	The belief that humans are the superior life form of the planet [26,30].
Human exceptionalism	The belief that humans are categorically or essentially different than all other animals [31].
Human chauvinism	Humans are the only subjects of moral consideration [32].
Speciesism	The assignment of different values or rights to individuals solely on the basis of their species [33].
Human exemptionalism	Humans are deemed ‘exempt’ from ecological influences. [34].
Resourcism	The view that the nonhuman world exists only as raw material for human purposes [35].

All these lie in the categories of metaphysically and morally strong anthropocentrism. The variants of anthropocentrism listed above are arguably aspects of the same concept [18]. We argue that strong anthropocentrism is the *dominant meaning* of ‘anthropocentrism’ in modern industrial society today.

Anthropocentrism is generally contrasted with *ecocentrism*, a worldview characterized by a nature-centred system of values that recognises that humanity is part of nature, and must treat it with responsibility and respect [36]. The *Ecological Citizen* defines it as: ‘Ecocentrism recognises the Earth as the ultimate source of value, meaning and enablement for all beings, including—but not only—human beings’ [37]. Ecocentrism is closely related to Leopold’s [2] ‘The Land Ethic’ and to Naess’s [38] ‘Deep Ecology’ [39,40].

#### 4. Why Has Modern Industrial Society Become Overwhelmingly Anthropocentric?

Several scholars, e.g., [13,15,27,37] note that many Indigenous societies had (or still have) an *ecocentric* (i.e., non-anthropocentric) worldview. Taylor et al. [15] (p. 4) state that Indigenous societies often: ‘express and promote values that have affinities with ecocentrism, including kinship feelings and responsibilities toward nonhuman organisms’ cf. [41]. Given most Indigenous cultures did not uphold this view, it is important to

understand *why* modern industrial (or Western) society adopted strong anthropocentrism. The decisive socio-historical influences put forward are:

- Ancient Greek philosophy [42,43];
- The Judeo-Christian tradition [43–45];
- The mechanistic thought of the Renaissance/Reformation [43,46–48];
- Neoclassical economics [49–52] and neoliberalism [10];
- Modernism and postmodernism [53–56].

Taken together they represent the establishment of a paradigm so radical: ‘that the very meaning of the word *Nature* was changed’ from organic to mechanistic [43] (p.76). Smith [57] suggests that anthropocentrism has dominated Western society since at least the sixteenth century. Its roots have been said to lie in ancient Greek philosophy and its attitude to Nature [42,43]. In *Politics* (350 B.C.E.), for example, Aristotle [58] (p. 13) famously mused that, though human beings are animals, all other animals exist for the sake of Man. White [44] and Oelschlaeger [43] charged Christianity as promoting Nature domination, while paganism and animism celebrated nonhuman Nature, and were far more environmentally friendly.

During the Renaissance, the rediscovered works of Plato and Aristotle became a philosophical underpinning of Western thought [43]. This ‘removal of kinship’ with the non-human world, as Evernden [46] (p. 89) called it: ‘places humans, as the beings capable of reason, in charge of that process: it gives us license to adjudicate the contents and behaviour of Nature’. In the Renaissance, Descartes proposed that mind and matter are ontologically distinct [47,59], while Newton’s work provided an understanding of Nature as a lifeless mechanism [43]. As David Abram [47] has noted, conceiving Nature as a ‘machine’ allows the human mind to retain an elevated, God-like position ‘outside’ the world. The mechanical view thus arguably remains in prominence today because of the deification of human powers that it tacitly promotes.

The key ideology aiding anthropocentrism is *modernism* [13,39,56]. Modernism took a strong anthropocentric view of the world as being just a resource for human use. Modernism continued the domestication of wild Nature begun in the Neolithic, and operated through science, technology and liberal democracy [43]. It consists of several intertwined social and intellectual movements; the Renaissance, the Reformation, the Enlightenment and the democratic, industrial and scientific revolutions [43]. Modernism sees Nature as: ‘nothing more than matter-in-motion’ [43] (p. 69). It is worth noting that while postmodernism reacted *against* modernism, it too has largely remained anthropocentric [53,60], and generally has a negative attitude to large natural areas (aka ‘wilderness’) [60].

Anthropocentric thinking has also been furthered by dominant schools of economic thinking. Economist Adam Smith [61] has been said to set in motion: ‘that modern shrine to the Unattainable: infinite needs’ [43] (p. 92). Unlimited growth was both the aim of, and ethical justification for, capitalism. Neoclassical economics took a strongly utilitarian approach [27]. As Daly [62] explains:

... the neoclassical view is that man will surpass all limits and remake Creation to suit his subjective preferences, which are considered the root of all value. In the end, economics is religion.

Spash and Hache [52] note that in ‘biodiversity economics’ all concepts of Nature are reduced to capital, and natural capital upholds a purely anthropocentric and utilitarian view of Nature. A recent term developed by some neoMarxist writers in regard to economic *unsustainability* is the ‘Capitalocene’ [63]. Roos [64] argues that this is an epoch in which the capitalist formula of “accumulation for accumulation’s sake” has penetrated into every nook and cranny of the planet’s biophysical environment, to the point where the survival of the capitalist system has come to constitute an existential threat to the survival of humanity as a whole. Roos [64] argues 71 percent of global emissions can be traced back to the activities of just 100 mega-corporations, and that unbridled *over-accumulation* has brought about an ‘irreparable rift’ in the metabolic interaction between humanity and

the rest of Nature. Since the advent and spread of capitalism, a profound alienation is seen as increasingly corroding interpersonal relations, wherein people (human and nonhuman), places and things appear as mere commodities to be traded for a particular exchange value. Nonhuman animals in particular, traditionally rendered mute objects devoid of agency and subjectivity, are further reduced to mere living material for biotechnological agriculture, cosmetic and pharmaceutical industries, and related profit-seeking enterprises [65,66].

Springer et al. [67] note that neoliberalism is broadly defined as the extension of competitive markets into all areas of life. Washington [10] (p. 71) notes that neoliberalism:

... privileges the market above ethics, above sustainability, and indeed ... above survival. Both the economy and the market are ideas, neither thinks about what is wrong with the world, neither cares for society or Nature.

The culminating convergence of the above socio-historical and intellectual developments is that modern industrial society has become *strongly anthropocentric*, and this has now been widely globalized.

### 5. The Overarching Trouble with Anthropocentrism

The universality and insidious propensities of anthropocentrism in modern industrial society has been attested to by many scholars, e.g., [12,13,15,27,28,45,57,68–73]. Its influence in society and academia however is often unacknowledged (see examples later). The key troubles with anthropocentrism are:

- Worldview and ethics;
- Dualisms, valuation and values, and the anthropocentric fallacy;
- A psychology of fear and denial;
- Ownership;
- Practicality.

The first is discussed below, the others later in the article. Anthropocentrism, as a worldview and ethics, excludes all other species (and all landscapes) from having *moral standing*. Nonhuman Nature is seen as having no value other than being for human use. In effect we are meant to believe that life has evolved on Earth for 3.5 billion years, flowering into an amazingly diverse web of life—just to become the resource plaything of humanity, a species that has existed at most for 500,000 years [13]. Nonhuman Nature is seen as having no agency, rights or need to be respected [11,13,14]. Crist [26] argues that human supremacy has become so entrenched in society that the wondrous diversity of life is reduced down to just ‘resources’. Seeing the beauty of the world as just ‘things’ (resources for our use) has thus become *normal* in modern industrial society. Crist [74] (p. 145) writes that the concept of ‘resources’ has become: ‘a gaping wound on the face of language’ and has engraved the delusion of human supremacy into common sense, science and politics. She argues that if we continue to uphold human supremacy, it will extinguish the possibility of: ‘yet-to-be-imagined (sane, harmonious, beautiful) ways of being on Earth’ [74] (p. 145). Anthropocentrism is also dominant in much of academia and government [13].

### 6. The Trouble with Dualisms, Valuation and Values, and the Anthropocentric Fallacy

There is a great deal of discussion in academia about ‘dualisms’ (or dichotomies) such as the Nature/human dualism see [13] (pp. 115–9). While seeing humanity as separate from Nature has been spoken of by many scholars as a problem of anthropocentrism, e.g., [1,2,4,39,40,45], it has also been claimed (strangely in our view) that ecocentrism accepts or promotes such a dualism, e.g., [75]. Space does not permit detailed discussion of the human/Nature dualism, but Washington [13] (p. 118) concludes:

The response by Gare [53], Rolston [55], and Plumwood [29] to this topic seems useful—that humans and their culture *are* a part of nature, but we are a ‘distinctive’ part. ... We need a conception of nature which allows humans to be

essentially ‘cultural beings’, while still seeing them as part of, and within, nature [53]. ... We can recognise ‘difference’ without seeking to create dualisms. We can thus continue to use words such as ‘culture’ and ‘nature’, just as we can recognise that any landscape will be a result of a spectrum of natural and cultural influences [76].

Another thorny issue is values and valuation, and tends to be parcelled around: *intrinsic value* (inherent in Nature); *instrumental value* (value as a means to acquiring something else); and *relational value* (relations between humans and Nature). It has been said that by being human: ‘we can only be anthropocentric: we seek our own good, not what we suppose is Nature’s’ [77] (p. 40). Moreover, this is a factually problematic claim since many humans disagree with it. We suggest rather that this is just an ideological statement, not a rational or ethical argument. This proposition, common in the literature on nature valuation (e.g., [21]), has been rejected, and labelled as the ‘anthropocentric fallacy’ [13,22,23,25]. Taylor [78] (p. 67) points out that humans *can* take an animal’s standpoint: ‘without a trace of anthropocentrism’. Human valuation is done by humans (as we all agree) which makes it *anthropogenic* (carried out by humans) not necessarily *anthropocentric* [13]. Human valuation clearly does not have to centre on ourselves (only the egoism in modern industrial society assumes this [79]). Humans are quite capable of cultivating an ecocentric consciousness [21,23,39,40], and recognising intrinsic value in Nature. Indeed many Indigenous cultures did (and still do) just that, seeing nonhuman nature as ‘people’ [13,27,80].

Vilkka [19] discusses the confusion between *values* and *valuers*. We evaluate the world as humans, but a distinction must be made between the valuing subject, and the object or content that is valued. The key question is whether we *discover* value in Nature, value that is already there, or whether it is all our attribution of value. Fox [23] (p. 247) argues that our connectedness means we can scarcely not: ‘care for the unfolding of the world in all its aspects’. Vetlesen [16] (p. 251) maintains that value exists self-evidently in non-human entities, arguing for ‘a realist notion of value—understood as a property of nature, operative in nature’, and that this ‘provides ecophilosophy with a sorely needed ontological foundation’. Western philosophy has commonly assumed that in finding value, we thereby ‘create’ value [73]. We find stars using a telescope, but the stars—and their values—are arguably as inherently ‘there’ as anything can be [73]. Recently there have been arguments to include ‘relational’ values (values embedded in desirable relationships between nature and people, [81]). Such values can be seen to include: flourishing, heritage, beauty, self-transformation, sense of place, spirituality, livelihoods, justice, conviviality, care, and kinship [21] (p. 3). They can also be seen as including a ‘sense of wonder’ towards Nature [13] and ‘ecoreciprocity’ [80]. We thus agree that relational values are important. However, Piccolo [70] points out that some recent conservation articles seem to argue that ‘relational’ values are the *most* important aspect, e.g., [82,83]. This is discussed further when we consider the IPBES case. As philosopher Holmes Rolston [84] (pp. 118, 120) argues:

Some values are already there, discovered not generated by the valuer because the first project here is really the natural object, nature’s project; the principal projecting is nature creating formed integrity. ... The theory of anthropogenic intrinsic value needs to give place to a theory of autonomous intrinsic value. ... Humans can and ought to see outside their own sector and affirm non-anthropogenic, non-cultural values.

Washington [13] (p. 65) concludes:

Nature is the *generator of value*, having created so many wondrous and amazing things, including humanity. Through wonder, we engage with the beauty and unique value of different aspects of nature. ... All of our evolutionary kin, plus the geodiversity that forms their homes, *have value*. How can they not? Only the

blinkers and arrogant hubris of strong anthropocentrism cuts people off from a recognition of such intrinsic value, a value that most children understand.

We advocate a need for ‘ethical extensionism’ in respect to intrinsic value [25,85]. Intrinsic value should be extended from: (1) just humanity; (2) to sentient beings; (3) to all of life; (4) to ecosystems; (5) to geodiversity; (6) to the whole planet [13].

### 7. The Trouble with the Psychology of Anthropocentrism—Fear and Denial

The dominance of anthropocentrism suggests that: ‘We do not have the idea, the idea has us’ [86] (p.238). The psychology of anthropocentrism has been said to be isolating, paranoid, fearful and aggressive [13]. Anthropocentrism is solipsistic (extremely egotistical), believing that the world *revolves about humanity* [13]. This arrogance and egotism arguably isolates humanity from the wonder of the living world—from which we evolved [13]. Plants and animals are not just ‘resources’ for us, they are our relatives, far and near, on the amazing ‘odyssey of evolution’ we have all been part of [2]. The closing off of humanity from the rest of life, and the debasement of the living world to become just ‘resources’, has placed humanity in what has been argued is a paranoid situation [13]. Anthropocentrism encourages us to think we are the truly privileged ‘top dog’, the ‘Masters of Nature’ [13]. Psychological studies show that those who are more ecocentric are more likely to act on their pro-environment attitudes and engage in conserving behaviors [87]. Anthropocentrists showed more apathy toward the environment and less conserving behaviour.

Anthropocentrism arguably tends to distort the wonder of the living world into an object of fear, even at times an object of hatred [13,88]. It is a truism that humans tend to destroy what they fear. Curry [39] notes that anthropocentric modernism disenchant reality and inanimates Nature. Fear separates a developing child from the full essential benefits of Nature. Fear of traffic, crime, stranger-danger, and of Nature itself [89].

Humanity has a serious problem—we deny a reality we do not like, as for example catastrophic climate change [90,91]. We deny some things as they force us to ‘confront change’, or are just too painful, or make us afraid. Sometimes we cannot see a solution, so problems appear unsolvable. Thus, many of us deny the root cause of the problem [9]. Psycho-analysis sees denial as an: ‘unconscious defence mechanism for coping with guilt, anxiety or other disturbing emotions aroused by reality’ [92] (p. 5). Sociologist Zerubavel [93] explains that the most public form of denial is ‘silence’, where some things are just not spoken of. In this regard, we note the general academic silence about the need for justice to apply to nonhuman Nature [94–96].

Accordingly, denial is a strong part of anthropocentric hubris, and has in effect become a pathology in modern industrial society. Ignoring reality is not aiding humanity, as hiding our heads in the sand is not a survival strategy [13]. Denial of environmental problems (at the society level) leads to worsening problems, conflict, starvation and disease, and historically to the collapse of civilisations [97]. Denial can turn off human intelligence, imagination, creativity and ethics [13]. Yet, many people (even some in academia) still deny both the environmental crisis and the need to change modern industrial society’s anthropocentric worldview. Indeed, Vetlesen [6] concludes that anthropocentrism has led to ‘the denial of nature’ itself, which is evident in the work of anthropocentric scholars [98,99].

### 8. The Trouble with ‘Ownership’

Anthropocentrism portrays humanity philosophically as ‘owners’ of Nature, e.g., [10,27,100]. Crist [100] argues against the ‘blueprint’ of planetary ownership, and believes that this blueprint exists by virtue of broad human consent (at least in modern industrial society). Crist [100] (p. 205) argues that:



We are thus called to undo the blueprint both in our minds and in the world. We must unmask its guise as normal and understand Earth's possession for what it is—the exercise of power, violence, and injustice on a cosmic scale.

Several scholars, e.g., [10,15,27] argue that ownership of land is largely a Western idea, *not* an Indigenous one historically. For example, Tecumseh (the great US Shawnee leader) in 1810 expressed his disgust at the idea of ownership of land [101] (p. 311):

Sell a country! Why not sell the air, the clouds and the great sea, as well as the earth? Did not the Great Spirit make them all for the use of his children?

Graham and Maloney [102] explain that 'ownership' is not an Australian Aboriginal concept. There is a huge difference philosophically and ethically in seeing oneself as an 'owner' as opposed to a custodian or steward. Muradian and Gomez-Baggethun [27] (p. 3) note that in anthropocentrism:

... humans are assumed to hold entitlements to allocate property rights over the natural environment and the resources (or services) derived from it. Nature ... is assumed then to be an asset that can be owned, traded and destroyed.

They further note [27] (p. 6) that: 'forest people from the Americas do not see humans as superior or special beings, neither they are assumed to be entitled to ownership'. They also note (p. 7) that: 'It is likely that in the future private ownership of valuable ecosystems will be considered as immoral'. One ecocentric response regarding ownership is that the *land owns itself*, that no human 'owns' the land in a philosophical sense [10].

### 9. The Trouble Regarding the Impracticality of Anthropocentrism

Is anthropocentrism practical—is it truly a 'pragmatic' approach to living sustainably? Several academics argue that society does *not* have to change its worldview to become sustainable, e.g., [24,103–106]. They thus implicitly accept the anthropocentrism that has helped to create the environmental crisis [56]. Taylor et al. [15] note that philosophers who consider themselves 'pragmatists' insist that, when people are fully informed of the environmental facts, anthropocentric values will be more than adequate to inspire effective personal and policy responses to environmental predicaments. They conclude, however, that environmental history lends little support for such optimism. Vetlesen [11] observes that despite years of awareness about the climate crisis, air travel for luxury vacations continues to increase.

The problem is that humanity has *obligate dependence* on Nature to survive. For all our vaunted intelligence, the food we eat, the water we drink, the air we breathe—all come to us *from Nature*, which also cycles the nutrients in our crops and provides all the other myriad gifts that society needs [107,108]. We need to live in the real ecological world that supports humanity. That means respecting ecological limits, many of which we have already exceeded [107,109–112].

The well-being of Nature preserves us, hence we do not behave reasonably if we harm Nature or decrease biodiversity [25]. Yet, we are doing both at an accelerating rate [112,113], and this is neither reasonable, nor in humanity's long-term interests [108]. An approach that accelerates the environmental crisis is clearly not 'practical' in the long-term. Given that anthropocentrism encourages us to live *unsustainably* by ignoring ecological limits, thus degrading the ecosystems that support us, it is actually an impractical and unworkable ideology—a *dead end* [13]. If we are interested in the long-term well-being of humanity, then we must also be interested in the long-term well-being of Nature. Respect for Nature is thus an essential approach (as Indigenous societies overwhelmingly understood), yet anthropocentrism denies and rejects this. Anthropocentrism does not respect Nature, in fact it denigrates it. This is not a good or practical way to live on Earth.

## 10. Examples of Anthropocentrism in Academia within Conservation

### 10.1. Example 1 'New Conservation'

The last century has seen massive loss of habitat, populations and species, e.g., [110,112,114]. This has been called the 'Great Acceleration' [115]. Indeed, so significant have human impacts become that some have argued that our current epoch is 'the Anthropocene' [116,117]. It has been pointed out that the Anthropocene is intertwined with the practice of industrialization and the ideology of economic growth, which ignore the needs of other living beings on this planet [50,118,119].

Paradoxically, some claim that the intrinsic value approach to conservation has failed as noted by [120] so we need *more* utilitarianism, while others claim that the anthropocentric utilitarian approach to conservation has failed [15,27,96], so we need an ecocentric approach. Within the utilitarian camp is the argument for a 'new' conservation approach [121–123]. They continue an approach to: 'human-nature relations dominated by a dualistic, anthropocentric and utilitarian worldview' [27] (p. 4). Washington et al. [36] (p. 38) note the new conservation approach pursues:

... economic development, poverty alleviation, and corporate partnerships as surrogates or substitutes for endangered species listings, protected areas, and other mainstream conservation tools [124] (p. 895).

Miller et al. [125] have compellingly argued that this 'new' conservation platform is based on 'human exceptionalism' that distorts ecological science in order to advance an anthropocentric and neoliberal ideology that privileges capitalist development over broader concerns for ecosystem and societal health. Kopnina et al. (126) argue that both the 'new conservation' approach (coming from the political Right) and the 'critical social scientist' approach to conservation (coming from the political Left) are equally rooted in strong anthropocentrism (despite coming from opposite ends of the political spectrum).

The 'future of conservation' arguably currently hangs in the balance [126]. In the past it was clear that conservation was primarily to protect the *nonhuman* world. However, the new conservation group of academics argue that conservation should primarily be 'for people' [126]. We consider this increasing anthropocentrism in the conservation community to be highly troubling.

### 10.2. Example 2: Ecosystem Services

In regard to ecosystem services (hereafter called ES), Costanza et al. [127] (p.153) argue:

Probably the most important contribution of the widespread recognition of ecosystem services is that it reframes the relationship between humans and the rest of Nature.

However, we question this. 'Ecocentrism' as a worldview certainly *does* reframe the relationship [36,39,40], but do ES? Costanza et al. [128] argue that ES are not anthropocentric, but many scholars disagree, as discussed below. One should consider how ES relate to conservation and ecojustice [129]. ES (as defined) are indeed anthropocentric in that they are all about the services provided 'to humanity' by Nature [129]. The term could have been defined differently, being the *services ecosystems provide all their species* (not just humans). Clearly, all species require the services their ecosystems provide. 'The Economics of Ecosystems and Biodiversity' [109] argued that the basic assumption is that society can assign values to ES and biodiversity, but only to the extent that these fulfil needs of conferring *satisfaction to humans*, either directly or indirectly [130]. Pascual et al. [131] suggest that ES be replaced by the term 'Nature's Contributions to People' (NCP). However, this is still anthropocentric and utilitarian, as it remains contributions 'to people' [27,129]. As such, NCP downplays the point that all species require contributions from their ecosystems. Perhaps it is time to ethically consider an alternative term — 'People's Contributions to Nature' [73,129]?

It has also been argued that conservation strategies based on ES might not safeguard biodiversity, but only divert attention and interest from more fundamental problems [132]. Kopnina [133] warns that the prevailing assumption of human entitlement to the benefits of Nature will facilitate the conversion of the last remaining wilderness into ‘resources’. Batavia and Nelson [134] argue the idea of nonhuman *intrinsic value* will likely become extinct if the ES approach continues to subsume conservation practice and policy. This is especially worrying, as the intrinsic value of Nature is a fundamental part of ecocentrism, and arguably the ethical basis for past conservation strategies [96]. ES are also being used to justify anthropocentric conservation strategies such as ‘new conservation’ [134]. It has been argued that the idea of ‘Planetary boundaries’ [135] are also tightly focused on ES, so at best its concern for Nature is indirect [73]. Washington [129] (p. 85) concludes that ES:

... may well be one more ‘Trojan Horse’ of anthropocentrism within the conservation community ... ES on balance may thus be negative, as they assist in denying the need for ecological ethics, and assist in burying the key ethical premise that Nature should—first and foremost—be conserved for its intrinsic value.

### 10.3. Example 3: IPBES Values Assessment

The International Panel on Biodiversity and Ecosystem Services (IPBES) was established in 2012, and seeks to focus attention on protecting biodiversity and the ES on which people depend. However, it has been argued that the work of those involved in the IPBES has been deeply rooted in anthropocentric assumptions [15] and the idea of direct obligations to Nature has barely rated lip service [73]. For example, the recent Summary for Policymakers [114] mentions the ‘intrinsic value’ of Nature only once (in Figure SPM A1. in Appendix 1 of the IPBES document). While Diaz et al. [136] make clear that the IPBES includes instrumental, relational and intrinsic values working together, other key authors involved with the IPBES have been negative to ecocentrism and intrinsic value. For example, Chan et al. [82] suggest that intrinsic value can be interpreted as ‘feeling sterile or dismissively quaint’ and that both intrinsic and instrumental value: ‘may inadvertently promote worldviews at odds with fair and desirable futures’. However, we (as humans) do not argue that a newborn infant must develop relational values, we accept that it *immediately* has intrinsic value [70]. Why then should we not accept that our nonhuman relatives also have intrinsic value?

Some of the key scholars involved in the IPBES project [83] state: ‘we, as scientists, need to be more reflexive about our own latent values and normative positions about nature’. *We agree entirely*. However, they seem not to apply this statement to themselves (or acknowledge their own inherent anthropocentrism), as justice and equity in their article (and also in [114,136]) seem to *only* apply to humans. Similarly, IPBES [114] speaks of relational values as being part of a ‘good life’, but the good life is just for humanity, not nonhuman Nature [73]. Piccolo et al. [73] argue that relational values as used by the IPBES are anthropocentric and profoundly inadequate for biodiversity conservation. Pascual et al. [83] also argue that the two key questions about biodiversity are ‘What does humanity need/want from the rest of the living world?’ and ‘How do we get there?’. They include no questions about what *Nature needs* from humanity [80], or the impact of anthropocentrism on conservation. Similarly, Pascual et al. [83] call for a more *pluralistic* approach that considers many voices, however such pluralism never includes the voice of the vast majority of life on Earth (nonhuman Nature). Nor is Nature seen as a ‘legitimate stakeholder’.

We believe that fairness, justice and pluralism cannot continue to be limited purely to humanity, but must explicitly be foregrounded to extend to nonhuman nature [94,95]. Pascual et al. [83] seem to ask (the wording is unclear) that the conservation community should be silent about claims: ‘on behalf of either all life on Earth or for of all humankind’. We however take a contrary view, and argue that the conservation movement needs to

speak out *ever more strongly* for ecocentric conservation [15,73,126] and the need to integrate social and ecological justice [96].

## 11. Conclusions

Anthropocentrism in modern industrial society represents a form of ‘hubris’, and expresses an arrogance verging on contempt for the nonhuman world by defining Nature as just resources for human use, without its own moral standing. We claim the most troubling aspects of anthropocentrism are its worldview and ethics, its psychology of fear and denial, its mantra of human ‘ownership’, and its attitude to values. As it fails to argue for respect for Nature, and a duty of care to the Earth, it is manifestly *not* a pragmatic (or ethical) way to live sustainably. Anthropocentric modernism and utilitarianism (as well as postmodernism) have dominated the economics and politics of Western society, and later all modern industrial societies. We find it troubling that, in some circles, the influence of anthropocentrism seems to still be expanding. A most important first step in reversing this tide would be for the academic/scientific community to more deeply reflect upon and engage with the arguments against anthropocentrism we put forward here. It is encouraging that this may be starting to happen. We also believe academics need to state clearly what worldview and ethics they uphold (as we all in fact do operate from these underpinnings).

The examples discussed here are but a few of the many possible examples of how anthropocentrism continues to be modern industrial society’s dominant ideology, even in venues where ecological sustainability or conservation of Nature is a stated goal. In fact, we believe that anthropocentrism is fuelling the environmental crisis and accelerating mass extinction. As society is fully dependent on Nature to survive, anthropocentrism represents a serious barrier to modern industrial society (and hence the world) reaching an ecologically sustainable future.

An increasing number of scholars today contend that a truly ecologically sustainable future is highly unlikely *without* an ecocentric value shift that recognizes (and celebrates) the intrinsic value of Nature. So serious are the problems of anthropocentrism that we conclude there is great urgency for academics to abandon and repudiate it, and to *speak out in support of ecocentrism* at all levels. We suggest one positive step is to sign the ‘Statement of Commitment to Ecocentrism’ (<https://www.ecologicalcitizen.net/statement-of-ecocentrism.php>).

**Author Contributions:** Conceptualization, H.W.; writing—original draft preparation, H.W.; input on and editing of draft and additional referencing, J.P., E.G.-B., H.K., H.A. All authors have read and agreed to the published version of the manuscript.

**Funding:** This research received no external funding.

**Acknowledgments:** We would like to thank Eileen Crist, Bron Taylor and Patrick Curry for helpful comments on the manuscript.

**Conflicts of Interest:** The authors declare no conflicts of interest.

## References

1. Thoreau, H.D. *Walden; or Life in the Woods*; Dover Publications: New York, NY, USA, 1854.
2. Leopold, A. *A Sand County Almanac*; Ballantine Books: New York, NY, USA, 1949.
3. Carson, R. *The Sense of Wonder*; Harper-Row: New York, NY, USA, 1965.
4. Berry, T. *The Dream of the Earth*; Sierra Club Books: San Francisco, CA, USA, 1988.
5. Ehrlich, P.; Ehrlich, A. *Healing the Planet: Strategies for Resolving the Environmental Crisis*; Addison-Wesley Publishing Company: New York, NY, USA, 1991.
6. Piccone, P.M.; Dagnino, G.B.; Minà, A. The origin of failure: A multidisciplinary appraisal of the hubris hypothesis and proposed research agenda. *Acad. Mangt. Persp.* **2014**, *28*, 447–468, doi:10.5465/amp.2012.0177.
7. Freese, J.H. (Trans.) *Aristotle, the Art of Rhetoric, with Greek Text*; Loeb Classical Library/Harvard University Press: Cambridge, UK, 1924; See 1378b. Available online: <https://www.perseus.tufts.edu/hopper/text?doc=Perseus%3Atext%3A1999.01.0060%3Abekker+page%3D1378b> (accessed on 23 August 2021).

8. Whitbourne, S. What Makes the Arrogant Person So Arrogant? *Psychology Today*, 2 May 2017. Available online: <https://www.psychologytoday.com/au/blog/fulfillment-any-age/201705/what-makes-the-arrogant-person-so-arrogant> (accessed on 20 August 2021).
9. Washington, H.; Cook, J. *Climate Change Denial: Heads in the Sand*; Earthscan: London, UK, 2011.
10. Washington, H. *What Can I Do to Help Heal the Environmental Crisis?*; Routledge: London, UK, 2020.
11. Vetlesen, A. *The Denial of Nature: Environmental Philosophy in the Era of Global Capitalism*; Routledge: London, UK, 2015.
12. Kopnina, H.; Washington, H.; Taylor, B.; Piccolo, J. Anthropocentrism: More than Just a Misunderstood Problem. *J. Agric. Environ. Ethics* **2018**, *31*, 109–127.
13. Washington, H. *A Sense of Wonder Towards Nature: Healing the World through Belonging*; Routledge: London, UK, 2019.
14. Chapron, G.; Epstein, Y.; López-Bao, J.V. A rights revolution for nature: Introduction of legal rights for nature could protect natural systems from destruction. *Science* **2019**, *363*, 1392–1393.
15. Taylor, B.; Chapron, G.; Kopnina, H.; Orlikowska, E.; Gray, J.; Piccolo, J. The need for ecocentrism in biodiversity conservation. *Con. Biol.* **2020**, *34*, 1089–1096.
16. Vetlesen, A. Ethics and Value in Naess' Ecophilosophy: A Realist Perspective. *Worldviews* **2017**, *21*, 251–261.
17. Piccolo, J. Celebrating Aldo Leopold's land ethic at 70. *Con. Biol.* **2020**, *34*, 1586–1588.
18. Fortuna, P.; Wróblewski, Z.; Gorbaniuk, O. The structure and correlates of anthropocentrism as a psychological construct. *Curr. Psych.* 11 May 2018. <https://doi.org/10.1007/s12144-021-01835-z>.
19. The Ecological Citizen What Is Anthropocentrism? (A Definition). The Ecological Citizen Website, Undated. Available online: <https://www.ecologicalcitizen.net/what-is.php?t=anthropocentrism-definition> (accessed on 15 September 2021).
20. Callicott, J.B. *Thinking Like a Planet: The Land Ethic and the Earth Ethic*; Oxford University Press: Oxford, UK, 2013.
21. Himes, A.; Muraca, B. Relational values: The key to pluralistic valuation of ecosystem services. *Curr. Opin. Environ. Sustain.* **2018**, *35*, 1–7.
22. Eckersley, R. *Environmentalism and Political Theory: Toward an Ecocentric Approach*; UCL Press: London, UK, 1992.
23. Fox, W. *Toward a Transpersonal Ecology: Developing New Foundations for Environmentalism*, 1st and 2nd ed.; Shambhala: Boston, MA, USA, 1995.
24. Norton, B. Environmental Ethics and Weak Anthropocentrism. *Environ. Ethics* **1984**, *6*, 131–148.
25. Vilks, L. *The Intrinsic Value of Nature*; Rodolpi: Amsterdam, The Netherlands, 1997.
26. Crist, E. *Abundant Earth: Toward an Ecological Civilization*; University of Chicago Press: Chicago, IL, USA, 2019.
27. Muradian, R.; Gomez-Baggethun, E. Beyond ecosystem services and nature's contributions: Is it time to leave utilitarian environmentalism behind?. *Ecol. Econ.* **2021**, *185*, 107038.
28. Ehrenfeld, D. *The Arrogance of Humanism*; Oxford University Press: New York, NY, USA, 1978.
29. Plumwood, V. Towards a Progressive Naturalism. *Cap. Nat. Soc.* **2001**, *12*, 3–32.
30. Jensen, D. *The Myth of Human Supremacy*; Seven Stories Press: New York, NY, USA, 2016.
31. Smith, W. *The War on Humans*; Discovery Institute Press: Seattle, WA, USA, 2014.
32. Routley, R.; Routley, V. Against the inevitability of human chauvinism. In *Ethics and Problems of the 21st Century*; Goodpaster, K., Sayre, K., Eds.; University of Notre Dame Press: Paris, France, 1979; pp. 36–59.
33. Singer, P. *Animal Liberation*; Avon Books: New York, NY, USA, 1975.
34. Dunlap, R.E.; Catton, W.R., Jr. Environmental Sociology. *Ann. Rev. Sociol.* **1979**, *5*, 243–273.
35. Orton, D. My Last Blogpost. David Orton; *Deep Green Web*, 2011. Available online: <https://deepgreenweb.blogspot.com/search?q=my+last+blog+post/> (accessed on 30<sup>th</sup> September 2021).
36. Washington, H.; Taylor, B.; Kopnina, H.; Cryer, P.; Piccolo, J. Why ecocentrism is the key pathway to sustainability. *Ecol. Citiz.* **2017**, *1*, 35–41.
37. The Ecological Citizen. What Is Ecocentrism (a Definition). *The Ecological Citizen Website*, undated. Available online: <https://www.ecologicalcitizen.net/what-is.php?t=ecocentrism-definition> (accessed on 20<sup>th</sup> September 2021).
38. Naess, A. The shallow and the deep, long-range ecology movement: A summary. *Inquiry* **1973**, *16*, 95–100.
39. Curry, P. *Ecological Ethics: An Introduction*, 2nd ed.; Polity Press: Cambridge, UK, 2011.
40. Rolston III, H. *A New Environmental Ethics: The Next Millennium for Life on Earth*; Routledge: New York, NY, USA, 2012.
41. Van Horn, G.; Kimmerer, R.; Hausdoerffer, J. (Eds.) *Kinship: Belonging in a World of Relations*; Center for Humans and Nature Press: Libertyville, IL, USA, 2021; Volume 5.
42. Rodman, J. Paradigm Change in Political Science: An Ecological Perspective. *Amer. Behav. Sci.* **1980**, *24*, 49–78.
43. Oelschlaeger, M. *The Idea of Wilderness: From Prehistory to the Age of Ecology*; Yale University Press: London, UK, 1991.
44. White, L., Jr. Historical roots of our ecological crisis. *Science* **1967**, *155*, 1203–1207.
45. Taylor, B. *Dark Green Religion: Nature Spirituality and the Planetary Future*; University of California Press: Berkeley, CA, USA, 2010.
46. Evernden, N. *The Social Creation of Nature*; John Hopkins University Press: Baltimore, MD, USA, 1992.
47. Abram, D. The mechanical and the organic: On the impact of metaphor in science. *Wild Earth* **1992**, *2*, 70–75.
48. Fisher, A. *Radical Ecopsychology: Psychology in the Service of Life*; State University of New York Press: Albany, NY, USA, 2013.
49. Daly, H. *Steady State Economics*, 2nd ed.; Island Press: Washington D.C., USA, 1991.
50. Daly, H.; Cobb, J. *For the Common Good: Redirecting the Economy Toward Community, the Environment, and a Sustainable Future*; Beacon Press: Boston, MA, USA, 1994.
51. Washington, H.; Maloney, M. The need for ecological ethics in a new ecological economics. *Ecol. Econ.* **2020**, *169*, 106478.

52. Spash, C.; Hache, F. The Dasgupta Review deconstructed: An exposé of biodiversity economics. *Globalizations* **2021**, 26 May doi:10.1080/14747731.2021.1929007.
53. Gare, A. *Postmodernism and the Environmental Crisis*; Routledge: London, UK, 1995.
54. Butler, C. *Postmodernism: A very Short Introduction*; Oxford University Press: Oxford, UK, 2002.
55. Rolston III, H. Natural and unnatural: Wild and cultural. *West. N. Am. Nat.* **2001**, *61*, 267–276.
56. Washington, H. *Demystifying Sustainability: Towards Real Solutions*; Routledge: London, UK, 2015.
57. Smith, M.J. *Ecologism: Towards Ecological Citizenship*; Open University Press: Buckingham, UK, 1998.
58. Jowett, B. (Trans.) *Aristotle Politics*; Batoche Books: Kitchener ON, Canada, 1999. Available online: <https://socialsciences.mcmaster.ca/econ/ugcm/3ll3/aristotle/Politics.pdf> (accessed on 30 September 2021).
59. Godfrey-Smith, W. The value of wilderness. *Environ. Ethics* **1979**, *1*, 309–319.
60. Washington, H. *The Wilderness Knot*. Ph.D. Thesis, Western Sydney University, Sydney, Australia, 2006. Available online: <https://researchdirect.westernsydney.edu.au/islandora/object/uws:44> (accessed on 30 September 2021).
61. Smith, A. *The Wealth of Nations: An Inquiry into the Nature and Causes of the Wealth of Nations*; W. Strahan and T. Cadell: London, UK, 1776.
62. Daly, H. *A Steady-State Economy: A Failed Growth Economy and a Steady—State Economy Are Not the Same Thing; They Are the very Different Alternatives We Face*; ‘Thinkpiece’ for the Sustainable Development Commission: UK, 24 April 2008. Available online: [http://steadystaterevolution.org/files/pdf/Daly\\_UK\\_Paper.pdf](http://steadystaterevolution.org/files/pdf/Daly_UK_Paper.pdf) (accessed on).
63. Moore, J. *Anthropocene or Capitalocene: Nature, History, and the Crisis of Capitalism*; PM Press: Los Angeles, CA, USA, 2016.
64. Roos, J. *Living through the Catastrophe*; Roar 7; 2017. Available online: <https://roarmag.org/magazine/living-through-the-catastrophe/> (accessed on).
65. Braidotti, R. Animals, anomalies, and inorganic others. *PMLA/Publ. Mod. Lang. Assoc. Am.* **2009**, *124*, 526–532.
66. Altvater, E. The Capitalocene, or, Geoengineering against Capitalism’s Planetary Boundaries. In *Anthropocene or Capitalocene? Nature, History, and the Crisis of Capitalism*; Moore, J., Ed.; PM Press: Oakland, CA, USA, 2016; pp. 138–152.
67. Springer, S.; Birch, K.; MacLeavy, J. *The Handbook of Neoliberalism*, 1st ed.; Routledge: London, UK, 2016.
68. Shepard, P. *Nature and Madness*; University of Georgia Press: London, UK, 1982.
69. Steiner, G. *Anthropocentrism and its Discontents: The Moral Status of Animals in the History of Western Philosophy*; University of Pittsburgh Press: Pittsburgh, PA, USA, 2010.
70. Piccolo, J. Intrinsic values in nature: Objective good or simply half of an unhelpful dichotomy? *J. Nat. Cons.* **2017**, *37*, 8–11.
71. Wolloch, N. *Subjugated Animals: Animals and Anthropocentrism in Early Modern European Culture*; Prometheus Books: New York, NY, USA, 2017.
72. Crist, E. Reimagining the Human. *Science* **2018**, *362*, 1242–1244.
73. Piccolo, J., Taylor, B., Washington, H., Kopnina, H., Gray, J., Alberro, H., Orlikowska, E. and Stalhamar, S. Nature’s contributions to people” and peoples’ moral obligations to nature? *Biol. Con.* **2021**, in publication.
74. Crist, E. Abundant Earth and the population question. In *Life on the Brink: Environmentalists Confront Overpopulation*; Cafaro, P., Crist, E., Eds.; University of Georgia Press: Athens, GA, USA, 2012; pp. 141–151.
75. Angus, I. Anthropocentrism versus ecocentrism: Notes on a false dichotomy. *Int. Social.* **2021**, *117*. Available online: <http://isj.org.uk/anthropocentrism-versus-ecocentrism/> (accessed on 30 September 2021).
76. Hay, P. *Main Currents in Western Environmental Thought*; UNSW Press: Sydney, Australia, 2002.
77. Lowenthal, D. Is wilderness “paradise enow”? Images of nature in America. *Columb. Univ. Forum* **1964**, *7*, 34–40.
78. Taylor, P. *Respect for Nature: A Theory of Environmental Ethics*; Princeton University Press: Princeton, NJ, USA, 1986.
79. Orange, D. *Climate Crisis, Psychoanalysis, and Radical Ethics*; Routledge: New York, NY, USA, 2017.
80. Washington, H. *Ecociprocity: Giving Back to Nature*; 2021. Available online: <https://www.lulu.com/en/gb/shop/haydn-washington/ecociprocity-giving-back-to-nature/paperback/product-8d9p74.html?page=1&pageSize=4> (accessed on 30 September 2021).
81. Díaz, S.; Demissew, S.; Carabias, J.; Joly, C.; Lonsdale, M.; Ash, N.; Larigauderie, A.; Adhikari, J.R.; Arico, S.; Baldi, A.; et al. The IPBES Conceptual Framework: Connecting nature and People. *Curr. Opin. Environ. Sustain.* **2015**, *14*, 1–16.
82. Chan, K.M.; Balvanera, P.; Benessaiah, K.; Chapman, M.; Díaz, S.; Gómez-Baggethun, E.; Gould, R.; Hannahs, N.; Jax, K.; Klain, S.; et al. Opinion: Why protect nature? Rethinking values and the environment. *Proc. Nat. Acad. Sci.-Biol.* **2016**, *113*, 1462–1465.
83. Pascual, U.; Adams, W.; Diaz, S.; Lele, S.; Mace, G.M.; Turnhout, E. Biodiversity and the challenge of pluralism. *Nat. Sustain.* **2021**, *4*, 567–572.
84. Rolston III, H. Naturalizing Callicott. In *Land, Value, Community: Callicott and Environmental Philosophy*; Ouderkirk, W., Hill, J., Eds.; State University of New York Press: Albany, NY, USA, 2002; pp. 107–122.
85. Nash, R. *The Rights of Nature: A History of Environmental Ethics*; The University of Wisconsin Press: Madison, WI, USA, 1989.
86. Wenz, P. *Environmental Ethics Today*; Oxford University Press: Oxford, UK, 2001.
87. Thompson, G.S.; Barton, M. Ecocentric and anthropocentric attitudes toward the environment. *J. Environ. Psychol.* **1994**, *14*, 149–157.
88. Merton, T. *Letter to Rachel Carson*; Thomas Merton Studies Center: Louisville, KY, USA, 12 January 1963.
89. Louv, R. *Last Child in the Woods: Saving Our Children from Nature—Deficit Disorder*; Atlantic Books: London, UK, 2005.
90. Oreskes, N. and Conway, M. *Merchants of Doubt: How a Handful of Scientists Obscured the Truth on Issues from Tobacco Smoke to Global Warming*; Bloomsbury Press: New York, USA, 2010.

91. Washington, H. Denial—The key barrier to solving climate change. In *Encyclopedia of the Anthropocene*; DellaSala, D., Goldstein, M., Eds.; Elsevier: London, UK, 2017.
92. Cohen, S. *States of Denial: Knowing about Atrocities and Suffering*; Polity Press: New York, USA, 2001.
93. Zerubavel, E. *The Elephant in the Room: Silence and Denial in Everyday Life*; Oxford University Press: London, UK, 2006.
94. Washington, H.; Chapron, G.; Kopnina, H.; Curry, P.; Gray, J.; Piccolo, J. Foregrounding ecojustice in conservation. *Biol. Con.* **2018**, *228*, 367–374.
95. Treves, A.; Santiago-Ávila, F.; Lynn, W. Just preservation. *Biol. Con.* **2019**, *229*, 134–141.
96. Kopnina, H.; Washington, H. (Eds.) *Conservation: Integrating Social and Ecological Justice*; Springer Nature: Cham, Switzerland, 2020.
97. Diamond, J. *Collapse: Why Societies Choose to Fail or Succeed*; Viking Press: New York, NY, USA, 2005.
98. Descola, P. Constructing natures: Symbolic ecology and social practice. In *Nature and Society: Anthropological Perspectives*; Descola, P., Palsson, G., Eds.; Routledge: New York, NY, USA, 1996.
99. Gunderson, L.; Holling, C. *Panarchy: Understanding Transformations in Human and Natural Systems*; Island Press: Washington, D.C., USA, 2002.
100. Crist, E. Let Earth Rebound! Conservation's New Imperative. In *Conservation: Integrating Social and Ecological Justice*; Kopnina, H., Washington, H., Eds.; Springer: New York, NY, USA, 2020; pp. 201–218.
101. Josephy, A.M., Jr. *500 Nations: An Illustrated History of North American Indians*; Hutchinson/Pimlico: New York, NY, USA, 1995.
102. Graham, M.; Maloney, M. Caring for Country and Rights of Nature in Australia—A Conversation between Earth Jurisprudence and Aboriginal Law and Ethics. In *Sustainability and the Rights of Nature in Practice*; La Follette, C., Maser, C., Eds.; CRC Press: Boca Raton, FL, USA, 2019.
103. Norton, B.G. *Sustainability: A Philosophy of Adaptive Ecosystem Management*; University of Chicago Press: Chicago, IL, USA, 2005.
104. Light, A.; Katz, E. (Eds.) *Environmental Pragmatism*; Routledge: New York, NY, USA, 1997.
105. Minter, B.A.; Manning, R.E. Pragmatism in environmental ethics: Democracy, pluralism, and the management of nature. *Environ. Ethics* **1999**, *21*, 191–207.
106. Hatfield-Dodds, S.; Schandl, H.; Adams, P.D.; Baynes, T.M.; Brinsmead, T.S.; Bryan, B.A.; Chiew, F.H.S.; Graham, P.W.; Mike Grundy, M.; Harwood, T.; et al. Australia is “free to choose” economic growth and falling environmental pressures. *Nature* **2015**, *525*, 49–53.
107. MEA. Living Beyond Our Means: Natural Assets and Human Wellbeing, Statement from the Board, Millennium Ecosystem Assessment, United Nations Environment Programme (UNEP), 2005. Available online: <https://www.millenniumassessment.org/documents/document.429.aspx.pdf> (accessed on 30 September 2021).
108. Washington, H. *Human Dependence on Nature: How to Help Solve the Environmental Crisis*; Earthscan: London, UK, 2013.
109. Kumar, P. *The Economics of Ecosystems and Biodiversity: Ecological and Economic Foundations*; Earthscan: London, UK, 2010.
110. Wijkman, A.; Rockstrom, J. *Bankrupting Nature: Denying Our Planetary Boundaries*; Routledge: London, UK, 2012.
111. Steffen, W.; Richardson, K.; Rockström, J.; Cornell, S.E.; Fetzer, I.; Bennett, E.M. Planetary boundaries: Guiding human development on a changing planet. *Science* **2015**, *347*, doi:10.1126/science.1259855.
112. Ceballos, G.; Ehrlich, P.R.; Dirzo, R. Biological annihilation via the ongoing sixth mass extinction signaled by vertebrate population losses and declines. *Proc. Nat. Acad. Sci. USA* **2017**, *114*, E6089–E6096.
113. Ripple, W.; Wolf, C.; Newsome, T.; Galetti, M.; Alamgir, M.; Crist, E.; Mahmoud, M.I.; Laurance, W.F. World Scientists' Warning to Humanity: A Second Notice. *BioScience* **2017**, *67*, 1026–1028, Available online: <https://doi.org/10.1093/biosci/bix125> (accessed on 30 September 2021).
114. IPBES. *Global Assessment Report: Summary for Policymakers*; IPBES Secretariat: Bonn, Germany, 2019.
115. Steffen, W.; Broadgate, W.; Deutsch, L.; Gaffney, O.; Ludwig, C. The trajectory of the Anthropocene: The Great Acceleration. *Anthr. Rev.* **2015**, *2*, 81–98. Available online: <https://doi.org/10.1177%2F2053019614564785> (accessed on 30<sup>th</sup> September 2021).
116. Crutzen, P.; Stoermer, E. The “Anthropocene.” *Glob. Chang. Newsl.* **2000**, *41*, 17–18.
117. Ellis, E. *Anthropocene: A Very Short Introduction*; Oxford University Press: Oxford, UK, 2018.
118. Dietz, R.; O'Neill, D. *Enough Is Enough: Building a Sustainable Economy Is a World of Finite Resources*; Berrett-Koehler Publishers: San Francisco, CA, USA, 2013.
119. Chapron, G.; Levrel, H.; Meinard, Y.; Courchamp, F. A Final Warning to Planet Earth. *Trends Ecol. Evol.* **2018**, *33*, 651–652, doi:10.1016/j.tree.2017.12.010. [TK1]
120. Dempsey, J. *Enterprising Nature: Economics, Markets, and Finance in Global Biodiversity Politics*; John Wiley & Sons: London, UK, 2016.
121. Marris, E. *Rambunctious Garden: Saving Nature in a Post—Wild World*; Bloomsbury Publishing: New York, NY, USA, 2011.
122. Kareiva, P.; Marvier, M. What is conservation science? *BioScience* **2012**, *62*, 962–969.
123. Kareiva, P.M.; Marvier, M.; Silliman, B. *Effective Conservation Science: Data Not Dogma*; Oxford University Press: Oxford, UK, 2018.
124. Soulé, M.E. The new conservation. *Con. Biol.* **2013**, *27*, 895–897.
125. Miller, B.; Soulé, M.; Terborgh, J. “New conservation” or surrender to development? *Anim. Cons.* **2014**, *17*, 509–515.
126. Kopnina, H.; Washington, H.; Taylor, B.; Gray, J. The “future of conservation” debate: Defending ecocentrism and the Nature Needs Half movement. *Biol. Cons.* **2018**, *217*, 14–18.
127. Costanza, R.; de Groot, R.; Sutton, P.; Van der Ploeg, S.; Anderson, S.J.; Kubiszewski, I.; Farber, S.; Turner, R.K. Changes in the global value of ecosystem services. *Glob. Environ. Chang.* **2014**, *26*, 152–158.

128. Costanza, R.; de Groot, R.; Braat, L.; Kubiszewski, I.; Fioramonti, L.; Sutton, P.; Farber, S.; Grasso, M. Twenty years of ecosystem services: How far have we come and how far do we still need to go? *Ecosyst. Serv.* **2017**, *28*, 1–16.
129. Washington, H. Ecosystem Services—A key step forward or anthropocentrism’s ‘Trojan Horse’ in conservation. In *Conservation: Integrating Social and Ecological Justice*; Kopnina, H., Washington, H., Eds.; Springer: New York, NY, USA, 2020; pp. 73–90.
130. Pascual, U.; Muradian, R.; Brander, L.; Gómez-Baggethun, E.; Martín-López, B.; Verma, M. The economics of valuing ecosystem services and biodiversity. In *The Economics of Ecosystems and Biodiversity: Ecological and Economic Foundations*; Kumar, P., Ed.; Earthscan: London, UK, 2010.
131. Pascual, U.; Balvanera, P.; Díaz, S.; Pataki, G.; Roth, E.; Stenseke, M.; Watson, R.T.; Dessane, E.B.; Islar, M.; Kelemen, E.; et al. Valuing nature’s contributions to people: The IPBES approach. *Curr. Opin. Environ. Sustain.* **2017**, *26–27*, 7–16.
132. Vira, B.; Adams, W.M. Ecosystem services and conservation strategy: Beware the silver bullet. *Cons. Lett.* **2009**, *2*, 158–162.
133. Kopnina, H. Commodification of natural resources and forest ecosystem services: Examining implications for forest protection. *Environ. Cons.* **2017**, *44*, 24–33.
134. Batavia, C.; Nelson, M.P. For goodness sake! What is intrinsic value and why should we care? *Biol. Cons.* **2017**, *209*, 366–376.
135. Rockstrom, J.; Steffen, W.; Noone, K.; Persson, Å.; Chapin III, F.S.; Lambin, E.; Lenton, T.M.; Scheffer, M.; Folke, C.; Schellnhuber, H.J.; et al. Planetary boundaries: Exploring the safe operating space for humanity. *Ecosyst. Soc.* **2009**, *14*, 33. Available online: <http://www.ecologyandsociety.org/vol14/iss2/art32/> (accessed on 30 September 2021).
136. Díaz, S.; Pascual, U.; Stenseke, M.; Martín-López, B.; Watson, R.T.; Molnár, Z.; Rosemary, H.; Kai, M.A.C.; Ivar, A.B.; Kate, A.B.; et al. Assessing nature’s contributions to people. *Science* **2018**, *359*, 270–272.