



HELSINGIN YLIOPISTO  
HELSINGFORS UNIVERSITET  
UNIVERSITY OF HELSINKI

# **Sustainability and Moral Standing: From Anthropocentric Speciesism to Sentiocentrism**

Katja Tiisala  
University of Helsinki  
Faculty of Biological and Environmental Sciences  
Master's Programme in Environmental Change  
and Global Sustainability  
Master's thesis  
May 2022

## Abstract

**Faculty:** Faculty of Biological and Environmental Sciences

**Degree programme:** Master's Programme in Environmental Change and Global Sustainability

**Study track:** Global Sustainability

**Author:** Katja Tiisala

**Title:** Sustainability and Moral Standing: From Anthropocentric Speciesism to Sentiocentrism

**Level:** Master's thesis

**Month and year:** May 2022

**Number of pages:** 70

**Keywords:** animal ethics, anthropocentrism, environmental ethics, moral standing, non-anthropocentrism, speciesism, sustainability, sustainability science

**Supervisor or supervisors:** Sanna Karhu, Michiru Nagatsu

**Where deposited:** The Helsinki University Library

**Additional information:** -

### Abstract:

Sustainability is a normative concept embedding ethical commitments. A central ethical issue in the sustainability debate and sustainability science regards moral standing. Moral standing is a philosophical concept that means that a being matters morally for their own sake and that there are direct duties owed to the being. It is widely accepted in contemporary ethics that, in addition to humans, at least some sentient nonhuman animals have moral standing. However, the dominant academic and political discourse of sustainability has hitherto focused only on the moral claims of humans without a critical examination of this anthropocentrism. In anthropocentrism, a view of moral standing, only humans have moral standing or they have a much higher moral standing than any nonhumans. Animal and environmental ethicists have questioned anthropocentrism through philosophical arguments. Nevertheless, the academic discourse of sustainability has been disconnected from the philosophical research on moral standing. There is, thus, a research gap in examining moral standing within sustainability science by drawing also on ethical research.

This master's thesis integrates the two distinct fields of knowledge, that is, sustainability science and ethical research on moral standing. The aim is to answer the following research questions: (1) What kind of anthropocentric and non-anthropocentric conceptions of sustainability are there in sustainability literature? (2) What kind of conceptions of sustainability ensue from the main philosophical views of moral standing? (3) How plausible are the different anthropocentric and non-anthropocentric conceptions of sustainability? The thesis applies the philosophical method for investigating the plausibility of alternative views. With animal ethical arguments, I defend the plausibility of a sentiocentric and unitarian conception of sustainability that considers the interests of all sentient beings equally. Also, I present a typology of the main anthropocentric and non-anthropocentric conceptions of sustainability based on philosophical literature on moral standing. My typology characterises the key features of what I call the strong variety of anthropocentric sustainability, the weak variety of anthropocentric sustainability, sentiocentric sustainability, biocentric sustainability and ecocentric sustainability. In addition, this research employs interdisciplinary literature related to the topic and reviews the anthropocentric and non-anthropocentric conceptions of sustainability in sustainability literature.

Based on my analysis, I contend that the dominant conceptions of sustainability maintain anthropocentric speciesism, that is, discrimination according to species classification within an anthropocentric worldview. This bias is present, for example, in the conceptions of sustainability of the Brundtland Report, the United Nations' Agenda 2030, the planetary boundaries framework as well as IPCC reports examined in this thesis. Some non-anthropocentric conceptions of sustainability are starting to emerge in academic discourses: interspecies sustainability, posthuman sustainability, ecocentric sustainability, multispecies sustainability, what I call multicriterial sustainability and defences of the animal ethical dimensions of sustainability. Hitherto, the discourse of sustainability has, still, rarely questioned anthropocentric speciesism.

I argue that the anthropocentric conceptions of sustainability lack plausibility for five reasons. Firstly, it is morally wrong to engage in speciesist discrimination. It is wrong to disregard sentient nonhuman animals' interests and equal duties owed to these creatures in the context of sustainability. Secondly, anthropocentric speciesism is connected to discrimination against certain animalised and marginalised humans, such as indigenous peoples. Thirdly, normative claims require ethical justification, which makes it unacceptable to assume anthropocentrism without critical examination. Sustainability science should consider ethical research on moral standing and aim at overcoming the speciesist bias through critical reflection. Fourthly, from a psychological perspective, it is valuable to oppose oppressive systems that, according to research by Melanie Joy, distance humans from reality and their authentic experience. Fifthly, the sentiocentric equality of all sentient beings protects environment and wellbeing by opposing the animal industry. Also the biocentric and ecocentric conceptions of sustainability lack plausibility, despite their non-anthropocentrism, as only sentient beings have interests.

I conclude that there is a duty to embrace the sentiocentric and unitarian conception of sustainability that commits to the equality of all sentient beings, which eliminates discrimination. This conclusion entails a duty to transform the paradigm of sustainability science and the discourse of sustainability. In future research, it is essential to further develop this sentiocentric conception of sustainability, examine its possible challenges and how societies and the academic world could implement it.

## Tiivistelmä

**Tiedekunta:** Bio- ja ympäristötieteellinen tiedekunta

**Koulutusohjelma:** Ympäristömuutoksen ja globaalien kestävyyden maisteriohjelma

**Opintosuunta:** Globaali kestävyys

**Tekijä:** Katja Tiisala

**Työn nimi:** Sustainability and Moral Standing: From Anthropocentric Speciesism to Sentiocentrism (Kestävyys ja moraalinen merkityksellisyys: ihmiskeskeisestä lajiennakkoluulosta tuntoiskeskeisyyteen)

**Työn laji:** Maisterintutkielma

**Kuukausi ja vuosi:** Toukokuu 2022

**Sivumäärä:** 70

**Avainsanat:** eläinten oikeudet, ihmiskeskeisyys, kestävä kehitys, kestävyystiede, moraalinen merkityksellisyys, spesismi, ympäristöetiikka, ympäristövastuullisuus

**Ohjaaja tai ohjaajat:** Sanna Karhu, Michiru Nagatsu

**Säilytyspaikka:** Helsingin yliopiston kirjasto

**Muita tietoja:** -

### Tiivistelmä:

Kestävyys on normatiivinen ja eettisiä sitoumuksia sisältävä käsite. Eräs keskeinen kestävyysdiskurssin ja kestävyystieteen eettinen kysymys koskee moraalista merkityksellisyyttä (engl. moral standing). Moraalinen merkityksellisyys on filosofinen käsite, joka tarkoittaa, että oliolla on moraalisesti väliä itsensä vuoksi ja että oliota kohtaan on suoria velvollisuuksia. Nykyetiikassa on laajasti hyväksytty, että ihmisten lisäksi ainakin jotkut muunlaiset tuntoiset eläimet ovat moraalisesti merkityksellisiä. Hallitseva kestävyysdiskurssi on tähän mennessä kuitenkin keskittynyt vain ihmisten moraalisiin vaateisiin ilman tämän ihmiskeskeisyyden (engl. anthropocentrism) kriittistä tarkastelua. Ihmiskeskeisyydessä, joka on yksi näkemys moraalista merkityksellisyydestä, vain ihmiset ovat moraalisesti merkityksellisiä tai heillä on paljon suurempi moraalinen merkityksellisyys kuin millään ei-ihmillisillä olioilla. Eläin- ja ympäristöetikot ovat kyseenalaistaneet ihmiskeskeisyyden filosofisilla perusteluillaan. Akateeminen kestävyysdiskurssi on kuitenkin pysynyt erillään filosofisesta moraalisen merkityksellisyyden tutkimuksesta. Kestävyystieteessä vallitseekin tutkimusaukko, joka koskee moraalisen merkityksellisyyden tarkastelua etiikan tutkimuksesta ammentaen.

Tämä maisterintutkielma yhdistää kaksi erillistä tiedollista aluetta, nimittäin kestävyystieteen ja moraalisen merkityksellisyyden eettisen tutkimuksen. Tavoitteena on vastata seuraaviin tutkimuskysymyksiin: (1) Millaisia ihmiskeskeisiä ja ei-ihmiskeskeisiä kestävyysnäkömymiä on kestävyyskirjallisuudessa? (2) Millaisia kestävyysnäkömymiä seuraa keskeisimmistä filosofisista moraalisen merkityksellisyyden näkökannoista? (3) Kuinka vakuuttavia ovat erilaiset ihmiskeskeiset ja ei-ihmiskeskeiset kestävyysnäkömymykset? Tutkielma soveltaa filosofista menetelmää tutkiakseen eri näkemysten vakuuttavuutta. Puolustan eläineettisiin perusteluihin tukeutuen tuntoiskeskeistä (engl. sentiocentric) ja unitaristista (engl. unitarian) kestävyysnäkemystä, joka huomioi kaikkien tuntoisten olentojen intressit tasa-arvoisesti. Samoin esitän typologian merkittävimmistä ihmiskeskeisistä ja ei-ihmiskeskeisistä kestävyysnäkömymyksistä perustuen filosofiseen kirjallisuuteen moraalista merkityksellisyydestä. Luonnehdin typologiassani ydinpiirteet niistä, mitä kutsun vahvasti ihmiskeskeiseksi kestävyudeksi (engl. the strong variety of anthropocentric sustainability), heikosti ihmiskeskeiseksi kestävyudeksi (engl. the weak variety of anthropocentric sustainability), tuntoiskeskeiseksi kestävyudeksi (engl. sentiocentric sustainability), eliökeskeiseksi kestävyudeksi (engl. biocentric sustainability) ja ekosysteemikeskeiseksi kestävyudeksi (engl. ecocentric sustainability). Lisäksi tutkielma hyödyntää aiheeseen liittyvää tieteidenvälistä kirjallisuutta ja analysoi moraalista merkityksellisyyttä kestävyyskirjallisuudesta löytyvissä kestävyysnäkömymyksissä.

Analyysini perusteella esitän, että hallitsevat kestävyysnäkömymykset ylläpitävät ihmiskeskeistä spesismiä (engl. speciesism) eli lajiennakkoluuloa, siis lajiuokittelua pohjautuvaa syrjintää ihmiskeskeisessä maailmankuvassa. Tämä ennakkoluulo on läsnä esimerkiksi Brundtlandin raportin, Yhdistyneiden kansakuntien Agenda 2030:n, planeettarajakehyksen ja IPCC:n raporttien kestävyysnäkömymyksissä, joita tutkielmani tarkastelee. Eräitä ei-ihmiskeskeisiä kestävyysnäkömymiä on alkanut ilmaantua akateemisissa keskusteluissa: lajienvälinen kestävyys (engl. interspecies sustainability), jälkijäsenistinen kestävyys (engl. posthuman sustainability), ekosysteemikeskeinen kestävyys, monilajinen kestävyys (engl. multispecies sustainability), mitä kutsun monikriteeriseksi kestävyudeksi (engl. multicriterial sustainability) ja puolustukset eläineettisille kestävyysulottuvuuksille. Tähän mennessä kestävyysdiskurssi on kuitenkin harvoin kyseenalaistanut ihmiskeskeisen lajiennakkoluulon.

Perustelen, etteivät ihmiskeskeiset kestävyysnäkömymykset ole vakuuttavia viidestä syystä. Ensinnäkin on moraalisesti väärin osallistua lajiennakkoluuloiseen syrjintään. On väärin sivuuttaa muunlaisten tuntoisten eläinten intressit ja näihin olentoihin kohdistuvat tasa-arvoiset velvollisuudet kestävyys kontekstissa. Toisekseen ihmiskeskeinen lajiennakkoluulo kytketty eräiden eläimellistettyjen ja marginalisoitujen ihmisten, kuten alkuperäiskansojen, syrjintään. Kolmanneksi normatiiviset väitteet vaativat eettistä oikeutusta, minkä vuoksi ei ole hyväksyttävää olettaa ihmiskeskeisyyttä ilman kriittistä tutkimusta. Kestävyystieteen pitäisi huomioida eettinen tutkimus moraalista merkityksellisyydestä ja pyrkiä voittamaan lajiennakkoluulo kriittisellä pohdinnalla. Neljänneksi on psykologisesta näkökulmasta arvokasta vastustaa sortavia järjestelmiä, jotka Melanie Joy'n tutkimuksen mukaan etäännyttävät ihmiset todellisuudesta ja omasta autenttisesta kokemuksestaan. Viidenneksi tuntoiskeskeinen tuntoisten olentojen tasa-arvo suojelee ympäristöä sekä hyvinvointia vastustaessaan eläinteollisuutta. Eliö- ja ekosysteemikeskeiset kestävyysnäkömymykset eivät myöskään ole vakuuttavia, ei-ihmiskeskeisyydestään huolimatta, koska vain tuntoisilla olennoilla on intressejä.

Johtopäätöksenä totean, että on velvollisuus hyväksyä sellainen tuntoiskeskeinen ja unitaristinen kestävyysnäkömymys, joka sitoutuu kaikkien tuntoisten olentojen tasa-arvoon, mikä hävittää syrjinnän. Tästä johtopäätöksestä seuraa velvollisuus mullistaa kestävyystieteen ja kestävyysdiskurssin paradigma. Tulevassa tutkimuksessa on olennaista kehittää tätä tuntoiskeskeistä kestävyysnäkömymystä eteenpäin, tutkia sen mahdollisia haasteita sekä kuinka yhteiskunnat ja akateeminen maailma voisivat soveltaa sitä käytännössä.

## Contents

1 Introduction.....	5
2 Theoretical Background.....	10
2.1 Moral Standing.....	10
2.2 The Concept versus Conceptions of Sustainability.....	12
2.2.1 The Concept of Sustainability.....	12
2.2.2 The Conceptions of Sustainability.....	15
3 Methods and Materials.....	17
4 Moral Standing in the First-Order Moral Discourse of Sustainability.....	21
4.1 The Anthropocentric Conceptions of Sustainability.....	22
4.2 The Non-Anthropocentric Conceptions of Sustainability.....	33
4.3 Chapter's Conclusions.....	40
5 Moral Standing in the Second-Order Moral Discourse of Sustainability.....	40
5.1 The Strong Variety of Anthropocentric Sustainability.....	41
5.2 The Weak Variety of Anthropocentric Sustainability.....	46
5.3 Biocentric Sustainability.....	51
5.4 Ecocentric Sustainability.....	52
5.5 Sentiocentric Sustainability.....	53
5.6 Chapter's Conclusions.....	58
6 Conclusions.....	59
7 References.....	62

## 1 Introduction

“Ethics must – – be an integral part of sustainability research that allows for internal self-reflection on the normative assumptions of science – –.” (Becker, 2012, p. 113)

”To conceive of our relation to animals [sic]<sup>1</sup> in moral terms, however, is [to] think of the other animals, like ourselves, as having a right to be where they are—that is, as among those who are in rightful possession of the Earth.” (Korsgaard, 2018b, p. 44)

Humans are only a minority of conscious beings who have interests involving sustainability. Humans share this planet with trillions of other conscious individuals, namely with sentient nonhumans (i.e., sentient nonhuman animals). Sentient beings have interests and they can suffer or enjoy (Singer, 1974). There is a wide agreement among scientists that at least all vertebrates and some invertebrates are sentient (e.g., Proctor, 2012). Animal rightist Joan Dunayer suggests assuming that all animals with any type of nervous system are sentient, which covers all vertebrates and almost all invertebrate animals (Dunayer, 2013; see also Horvath et al., 2013; Perry et al., 2017).

Values and other ethical assumptions influence decisively how we<sup>2</sup> understand and pursue sustainability. A central ethical question in sustainability policy and politics regards duties to sentient nonhumans. The concept of sustainability has become prominent after the Brundtland Commission’s report “Our Common Future” (WCED, 1987). The report defines sustainable development as fulfilling the needs of both current and future generations (ibid., p. 43). Anthropocentrism underlies this canonical definition of sustainable development (Palmer, 2003, p. 18). ‘Needs’ refers merely to human needs, and focus lies solely on human generations. Anthropocentrism is an ethical view where only or primarily humans matter morally for their own sake. Anthropocentrism postulates intrinsic value only for humans (the strong variety) or gives much more weight for their interests than for the interests of any other beings (the weak variety) (e.g.,

---

<sup>1</sup> I use ‘sic’ after problematic (e.g., speciesist) concepts that follow exactly the conceptual choice of the cited text (see Dunayer, 1990). The concept of the animal separates human animals from the other animals in a demeaning way (see p. 28). The concept of the animal has served the subjugation of various individuals, both nonhuman and human (see pp. 43-44). I also oppose objectifying and euphemistic language used of sentient nonhumans. See my footnote 31.

<sup>2</sup> One important question is of whom this group of ‘we’ consists. When discussing our duties, I refer to the group of all moral agents: only moral agents can have duties. When discussing individuals who matter morally, in this thesis, the group of ‘we’ includes all sentient beings as the equal recipients of the duties of justice. (See also Korsgaard, 2018a, p. 3.) When I discuss how ‘we’ should understand an idea expressed in human language, the ‘we’ consists of everyone thinking in human language. However, when I discuss ‘we’ as agents who influence the world around us, all intentional nonhuman and human animals are part of this group. Humans represent only an animal species of which members have sentience and intentional agency.

Brennan & Lo, 2020).<sup>3</sup> Extending duties to all sentient beings in sustainability policy and politics would entail that the number of individuals considered as part of contemporary and future generations increases by trillions. In this thesis, I argue for this type of a new non-anthropocentric understanding of sustainability, according to which all sentient beings, nonhuman and human, are morally equal.

Most humans accept that some moral requirements pertain to the treatment of sentient nonhumans. As environmental ethicist Clare Palmer (2019, p. 2) comments: “Yet among animal ethicists at least, as well as much more widely, there’s widespread agreement that individual sentient animals [sic] are morally significant.” Environmental ethicist Katie McShane compares this consensus among ethicists to the fact that anthropogenic climate change exists: “These days, then, the view that at least some animals [sic] have morally important interests is the subject of broad agreement among ethicists, not unlike the consensus among climate scientists that human activities are changing the Earth’s climate.” (McShane, 2016, p. 192) This unanimity exists for good reasons: sentient nonhumans can be harmed or benefited. The human adults capable of moral responsibility, that is moral agents<sup>4</sup>, should consequently examine what is owed to sentient nonhumans in sustainability issues.

Nevertheless, concern for sentient nonhumans has been scarce in the discourse<sup>5</sup> of sustainability: for example, in the sociology of climate change (Twine, 2020). Anthropocentric normative assumptions have dominated the discourse of sustainability (Arcari, 2017; Bergmann, 2019) and, for instance, climate policy (McShane, 2016). Still, also sentient nonhumans experience the harsh impacts of climate change (McShane, 2018; Noll, 2018; Pepper, 2019) and other environmental havoc. Moreover, human-animal relations have influenced the emergence of unsustainability, for instance, through the detrimental environmental effects of animal-based diets, and justice for sentient nonhumans should by itself form a part of understanding sustainability (Probyn-Rapsey et al., 2016).

Sustainability is a normative concept (e.g., Robinson, 2004, p. 380). Normativity concerns how things should be: what is right, good, wrong or bad. Normative claims cannot logically derive from empirical claims; there is no ought from is (Hume, 2009/1740,

---

<sup>3</sup> In environmental ethics, intrinsic value basically means that a being matters morally regardless of useful consequences. Instrumental value denotes the value of using something or someone as a means. (Brennan & Lo, 2020.)

<sup>4</sup> Moral agents are beings who can reflect on the rightness of actions impartially and choose actions based on moral reasons. Thus, they are responsible for their actions. (E.g., Regan, 2004a/1983, pp. 151-152.) Most human adults, but not all, are moral agents.

<sup>5</sup> In social theory, ‘discourse’ refers to linguistic practices that regard the subjects that a researcher examines (Lemert, 2005).

p. 715). Sustainability refers as a norm to something positive and worth of perseverant efforts, something we *should* pursue (Becker, 2012, p. 11). On the other hand, sustainability and sustainable development are contested concepts in the sense that there are dissimilar and contradictory interpretations, that is conceptions, of them (see e.g., Connelly, 2007). For example, different disciplines interpret sustainability in their own way: neo-classical economists seek sustaining the aggregate of monetarised human welfare while ecologists seek sustaining certain biophysical aspects of the environment (Norton, 2016).

The concept of sustainability refers to continuance, it has normative orientation and it regards relationships (Becker, 2012, pp. 9-13). Philosopher Christian Becker (2012) argues that there are ethical and factual questions in three sustainability relations of the human being: relations between contemporaries, relations to future generations and relations between humans and nature (ibid., p. 13). Empirical science explains from the causal perspective these relations and prospects for sustaining what is valuable in them. However, ethics is indispensable for answering normative questions such as what kind of sustainability relations we *should* have. Sustainability is, therefore, a concept that integrates the empirical and normative aspects of these relations, as Becker's analysis (2012, see e.g., p. 110) suggests.

Researchers also recognise the normativity of sustainability science, a new field of research that aims at solving sustainability problems (see e.g., Nagatsu et al., 2020; Ziegler & Ott, 2011). Sustainability science emerged in the early 2000s (e.g., Kates et al., 2001) and is characterised by systemic thinking, normativity, interdisciplinarity and the inclusion of extra-academic agents in knowledge production that aims at contributing to policies to solve the urgent sustainability problems (see e.g., Nagatsu et al., 2020; Soini, 2017; Ziegler & Ott, 2011). Dealing with the normativity of sustainability science requires further work. For instance, Michiru Nagatsu et al. (2020) emphasise that creating new context-specific ethical frameworks might be essential and that the presence of non-epistemic values<sup>6</sup> should become explicit and justified. Becker (2012, part 4) argues for integrating ethics into sustainability research. As Becker (2012, p. 11) remarks: "The normative meaning of sustainability cannot be deduced directly from its meaning of continuance, and it cannot be dealt with within a traditional scientific approach." The need to reflect and critically deliberate on the normative assumptions pertaining to sustainability is underscored, for instance, by Florin Popa, Mathieu Guillermin

---

<sup>6</sup> The philosophers of science distinguish epistemic values and non-epistemic values (i.e., political and ethical values, also called non-cognitive or contextual values). The philosophers of science have analysed and disputed the latter's role in science (see e.g., Reiss & Sprenger, 2020).

and Tom Dedeurwaerdere (2012), as sustainability research deals with value-laden problems (*ibid.*).

Normativity or evaluative aspects are present in the target, transformation and systems knowledge of sustainability research. Target knowledge means knowledge of what are the objectives of the transformative change aspired for, that is, what practices or states of systems would be improvements. Transformation knowledge refers to the means of realising these objectives, while systems knowledge regards the empirical knowledge of the systems. (Hirsch Hadorn et al., 2006.)<sup>7</sup> Objectives (target knowledge) and means (transformation knowledge) obviously require ethical evaluation of what is valuable, acceptable and obligatory. However, I contend that also systems knowledge clearly embeds normativity through value choices in forming research problems, in conducting research process and in using value-laden language. As an example, I argue that language maintaining the human-animal dichotomy is widely present in sustainability literature and that this dichotomy reflects a normative bias.

In my view, ethical values and norms present in sustainability science require justification through ethical arguments and, hence, philosophical research (see also Becker, 2012, part 4).<sup>8</sup> Normative assumptions influence the perceptions of sustainability problems, of their appropriate solutions and of the dimensions of sustainability. Ethics is relevant for transformative and problem-oriented sustainability research, because ethics enlightens how things should be and what would be the right action and policy. Moreover, when the normative frame changes, so does the representation of the sustainability crisis, including the language used. A central normative aspect of the discourse of sustainability regards to which beings there should be direct moral concern.

In this thesis, I focus on the views of moral standing in the discourse and conceptions of sustainability. Moral standing means that an entity matters for its own sake in moral issues and, hence, that there are direct duties and direct moral concern owed to the entity (see sec. 2.1). My claim is that the dominant views of moral standing in the discourse and conceptions of sustainability are biased. We should replace them by views relying on plausible ethical arguments. There has been a gap between research in ethics, especially animal ethics, and the dominant discourse and conceptions of sustainability. This thesis responds to this research gap by integrating sustainability science

---

<sup>7</sup> According to Hirsch Hadorn et al. (2006, p. 125), ProClim (1997, pp. 15–20, as cited in Hirsch Hadorn et al., 2006) coined these concepts.

<sup>8</sup> As Becker (2012, p. 127) remarks: “— the definition and analysis of the ethical dimension of sustainability is a subject of ethics, and with this, belongs to the realm of philosophy.” Becker (*ibid.*) proposes that sustainability research needs also drawing on, for instance, the philosophy of science, epistemology and phenomenology.



with animal ethical research on moral standing. This aim contributes to understanding moral standing in the context of sustainability and developing a conception of sustainability that is ethically justified. Thus, I aspire to fill the research gap in sustainability science regarding its assumptions of moral standing and moral consideration owed to nonhumans, especially to sentient nonhumans.

My research questions pertain, on one hand, to how the conceptions of sustainability embed explicitly accepted or implicitly assumed views of moral standing. On the other hand, I inquire the plausibility of the various conceptions of sustainability. The research questions are: **(1) What kind of anthropocentric and non-anthropocentric conceptions of sustainability are there in sustainability literature? (2) What kind of conceptions of sustainability ensue from the main philosophical views of moral standing? (3) How plausible are the different anthropocentric and non-anthropocentric conceptions of sustainability?**

The next chapter explains the theoretical background of this thesis, that is, the concept of moral standing and the difference between the concept and conceptions of sustainability. Chapter 3 discusses the materials and the methods of the analysis, that is, the philosophical method and literature review. Chapter 4 reviews the anthropocentric and non-anthropocentric positions of moral standing in the discourse of sustainability. My main empirical examples of the anthropocentric conceptions of sustainability are IPCC reports, the Brundtland Report, the United Nations' Agenda 2030 and the planetary boundaries framework. There exist some non-anthropocentric conceptions in sustainability literature, including interspecies sustainability, posthuman sustainability, multi-species sustainability, ecocentric sustainability and what I call multicriterial sustainability. Some (Rawles, 2006, 2010; Vinnari & Vinnari, 2014) suggest incorporating animal ethics into the discourse of sustainability as a distinct dimension of sustainability.

Based on philosophical literature, I present in chapter 5 a typology of the main anthropocentric and non-anthropocentric conceptions of sustainability. The typology includes the strong variety of anthropocentric sustainability, the weak variety of anthropocentric sustainability, sentiocentric sustainability, biocentric sustainability and ecocentric sustainability. Based on animal ethical arguments, I argue for the sentiocentric conception of sustainability in a unitarian form, that is only a possible variety of the sentiocentric conception of sustainability. According to this view, sustainability problems matter as they harm sentient beings who are all morally equal. I defend the plausibility of the sentiocentric conception against the anthropocentric bias of the dominant discourse of sustainability. The conclusions state the need to transform both societies and the current paradigm of sustainability science.

## 2 Theoretical Background

### 2.1 Moral Standing

Within academic ethics, research pertaining to sentient nonhumans has grown rapidly since the 1970s. Particularly the work by Peter Singer (esp. 2009/1975) and Tom Regan (esp. 2004/1983) stirred up the philosophical debate on duties to nonhuman animals. Many approaches in Western ethics have traditionally been anthropocentric (e.g., Brennan & Lo, 2020), although there have been forgotten proponents of moral vegetarianism (often women) throughout centuries (Adams, 1990). Expanding moral equality to all sentient beings forms a new liberation movement following social movements against sexism, racism and minority discrimination (Singer, 1974). The discrimination that this new movement resists is speciesism, discrimination based on an individual's species classification (Ryder, 2015, Chapter 2; Singer, 1974). I refer by 'anthropocentric speciesism' to views in which only humans are morally important or in which humans are superior to other sentient beings, which discriminates against sentient nonhumans. Non-anthropocentric speciesism occurs when moral agents favour some sentient nonhumans (e.g., dogs) at the expense of other sentient nonhumans (e.g., cows) (Faria, 2016, p. 46). In this thesis, I refer to anthropocentric speciesism also more shortly as speciesism.

Whether there are ethical duties to sentient nonhumans depends on the correct theory of moral standing. Moral standing, also called moral considerability, moral status and direct moral concern, means that a being counts morally for their own sake, which obligates moral agents to take a being's interests into account irrespective of how this benefits the moral agents themselves or some other beings. Moral standing can be equal or unequal. (On the concept of moral standing, see e.g., Jaworska & Tannenbaum, 2018; Warren, 2003.) If a being has moral standing, there are direct duties towards them for their own sake. By contrast, indirect duties regarding, say, the governance of petrol or a lake are in the end owed to some other beings – not *to* petrol or *to* the lake (see Regan, 1986, on indirect vs. direct duties).

The criterion for moral standing settles to which beings there are direct duties. Suggested criteria include, inter alia, moral agency, sentience and being a living organism (e.g., Warren, 2003). This master's thesis defends the sentiocentric<sup>9</sup> (MacClellan, 2012) and unitarian (Kagan, 2019, p. 2) approach to moral standing in the context of sustainability. In unitarianism, there is only one level of moral standing and beings with

---

<sup>9</sup> Sentiocentrism is a novel concept for sentience-centered ethics and used by Joel MacClellan (2012) and Ned Hettinger (2013). The animal ethical view has also been called sentientism (e.g., Rodman, 1977), zoocentrism (e.g., Callicott, 1998) and experientialism (Gruen, 2016).

moral standing are equal (*ibid.*, see Kagan, 2019 also for a criticism of utilitarianism and for a defence of a hierarchical approach). By sentiocentric utilitarianism, I mean the view that extends equal direct duties and concomitant moral standing to all and only sentient beings (see Tiisala, 2020b defending utilitarianism and the sentience criterion for rights). Biocentrism extends moral standing to living organisms (e.g., P. W. Taylor, 1981; Palmer, 2016) and ecocentrism to collective entities in nature, such as ecosystems and species (e.g., Johnson, 1991). I argue that sentience is the only relevant property for having moral standing. This is because all sentient beings and no other beings have their own welfare and affective viewpoint – they are vulnerable to harm literally, not only metaphorically like plants and rivers that lack feelings (Tiisala, 2020b, esp. sec. 6.5.2, p. 87; see also Singer, 1993/1979, pp. 279, 283; Thompson, 1990). Although there is an extensive agreement among ethicists that at least some nonhumans, especially certain nonhuman animals, matter morally, there is a disagreement on how and how much their interests matter (McShane, 2016).

In my view, sentient animals are by definition affective individuals (Tiisala, 2020b, p. 86, sec. 6.1). They have better or worse feelings (MacClellan, 2012, p. 118). Each sentient being has their own phenomenal consciousness as an individual, subjective viewpoint. So, “– – there is something that it is like to *be*” them (Nagel, 1974, p. 436). On the other hand, many sentient nonhumans are agents who actively shape the reality around them according to their preferences and beliefs (e.g., Regan, 2004/1983, pp. 70-71, 85). Non-sentient entities do not have affective consciousness; their treatment can matter only for the sake of sentient beings (see Singer, 1993/1979, pp. 283-284; Tiisala, 2020b, sec. 6.5.2). The equality of all sentient beings ensues from the irrelevance of collective classifications (e.g., species), abilities (e.g., rationality) and relationships (e.g., social relations) for the level of someone’s moral standing (Tiisala, 2020b, Chapter 5). While I defend the sentiocentric and utilitarian view of moral standing, this thesis analyses also the other views of moral standing in the context of sustainability. I am particularly interested in how the views of moral standing result in specific conceptions of sustainability.

Animal ethics is a central theoretical background of this thesis that integrates ethical research and sustainability literature. I claim that integrating animal ethics and sustainability research is essential to overcome the speciesist bias in sustainability science. Within animal ethics, my interest locates in deontological animal rights theory that extends equal moral rights<sup>10</sup> and respect to all sentient beings (Dunayer, 2004;

---

<sup>10</sup> Negative moral rights protect from harm and unacceptable interference; they trump (i.e., override) the utility of others for the sake of justice and respect (Regan, 2003, pp. 25–29). Rights are valid moral claims and equal (*ibid.*, pp. 27-28). Valid moral principles justify them (*ibid.*, p. 28).

Francione, 2000; Tiisala, 2020b; see also Korsgaard, 2012, 2018a; Regan, 2004/1983). In the discussion of moral standing, this thesis also draws on environmental ethics that has questioned anthropocentrism (see e.g., Brennan and Lo, 2020).

Moral standing matters, as it influences decisively what sustainability policies are morally acceptable. Environmental philosopher Bryan Norton has presented a convergence hypothesis according to which anthropocentric and non-anthropocentric views would not differ essentially on the practical level when humans' long-term interests are decently considered (Norton, 1991, pp. 240–241). However, I argue that the convergence hypothesis is false, because which beings have moral standing influences moral limits to moral agents' actions.<sup>11</sup> Nonhumans and humans sometimes have divergent interests. Thus, anthropocentrism and non-anthropocentrism do not always converge in policy recommendations. For example, if free-living sentient nonhumans have rights to their habitats (e.g., Hadley, 2005, 2015), these rights limit humans' entitlements to change the habitats.<sup>12</sup> In any case, it matters ethically what attitudes moral agents have towards nonhumans; non-anthropocentric ethics diverges from anthropocentrism on the norms for feelings (McShane, 2007).

## **2.2 The Concept versus Conceptions of Sustainability**

### **2.2.1 The Concept of Sustainability**

The concept of sustainability has its roots in the Latin word 'sustinere' that means 'to bear', 'to endure' or 'to hold up' (Cielemęcka & Daigle, 2019, p. 70). Klara Stumpf et al. (2015) connect the following aspects to the general concept of sustainability: sustainability pertains to continuance, the concept is normative, relations to nature, contemporaries and future generations are at stake, power asymmetries characterise these relations, the temporal and geographical scale is broad, focus lies on system-level processes and on limits to human actions while epistemic uncertainty challenges decisions (Table 1). We can understand 'sustainability' as a thick normative concept<sup>13</sup>, which means it is not purely descriptive but also normative (e.g., Stumpf et al., 2015, p. 7441).

---

<sup>11</sup> Norton himself notes that on the level of individual beings "– – the convergence hypothesis is obviously false". He suggests applying it on larger scales. (Norton, 1991, p. 241.) However, focusing on larger scales than the scale of individuals assumes that the scale of individuals is not morally decisive, which appears to apply a holist view of moral standing (see my discussion on ecocentrism, sec. 5.4). One's view of moral standing, thus, has implications for accepting the convergence hypothesis and for practical policy.

<sup>12</sup> A clear example against convergence is climate change adaptation: for instance, human refugees may need to compete for land with nonhumans (McShane, 2016, p. 197).

<sup>13</sup> On thick ethical concepts, see for instance Bernard Williams (2011/1985, pp. 143–144, 155–156) and Pekka Väyrynen (2021).

Table 1. The core characteristics of the general concept of sustainability. I have constructed the table based on the discussion of Stumpf et al. (2015)

<i>A characteristic of 'sustainability'</i>	<i>Description</i>
Continuance	<ul style="list-style-type: none"> <li>• making something to continue, sustain</li> </ul>
Normative orientation	<ul style="list-style-type: none"> <li>• considering sustainability as a positive value and a norm</li> <li>• ethical justifications define what we should sustain and why</li> </ul>
Limits	<ul style="list-style-type: none"> <li>• the Earth system has limits and there are technological and institutional limitations</li> </ul>
Threefold relationality	<ul style="list-style-type: none"> <li>• three sustainability relations to be integrated: humans' relations within a generation, between generations and to non-human nature</li> </ul>
Encompassing scope	<ul style="list-style-type: none"> <li>• global scope and intergenerational time horizon</li> </ul>
Systemic mediation	<ul style="list-style-type: none"> <li>• societal systems mediate relations that are relevant for sustainability</li> </ul>
Uncertainty	<ul style="list-style-type: none"> <li>• the uncertain impacts of human intervention in nature</li> <li>• uncertainty on what future people value and desire</li> <li>• uncertainty on how societies will develop</li> </ul>
Relational asymmetries	<ul style="list-style-type: none"> <li>• future humans, nonhuman nature and certain contemporary humans are vulnerable to the power of some contemporary humans</li> </ul>

It is possible to distinguish the concept of sustainability from the concept of sustainable development. Discussion on 'sustainability' occurred already in the 1970s but became more common in the 1980s and 1990s (Luke, 2005, p. 231). The concept of sustainable development became well-known after the 1987 publication of the "Brundtland Report" (WCED, 1987) that reconciles concern regarding environment and global development (Langhelle, 2017). 'Development' in sustainable development has been interpreted by some as economic growth, according to John Robinson (2004, p. 373). We can criticise the notion of sustainable development for its acceptance of consumerism and corporate capitalism, connections to commodification and maintenance of neoliberal politics (see Luke, 2005).

We may distinguish the concepts of sustainability and sustainable development also by how they conceive the connection between human and nonhuman nature. As the concepts relate to nonhuman nature dissimilarly, there is a difference in the deepness of the pursued societal change. According to Robinson (2004), the discourse of sustainable development has favoured incremental reforms and technological fixes instead of a change in values. The underlying normative view has been conservationism where nonhuman nature is understood as resources for human use. In contrast, the discourse of sustainability connects to preservationism. (Robinson, 2004.) This debate between preservationism and conservationism regards the ethical values of nonhuman nature

(e.g., species), that is, whether the nature has only value as a resource for humans (conservationism) or whether moral agents should protect it for its intrinsic values (preservationism) (see e.g., Gunn, 1984, pp. 302–305).

According to Bill Hopwood, Mary Mellor and Geoff O'Brien (2005), a common aspect in all conceptions of sustainable development is the integration of environmental and socio-economic concerns into the same debate.<sup>14</sup> Sustainable development is an important concept, thus, for integrating the thinking and governing of environmental and other societal issues (Hopwood et al., 2005; Langhelle, 2017). As Hopwood et al. (2005) analyse, this departs from the tradition of separating environmental concerns from the socio-economic ones and perceiving nature as the object of humans' conquest, which has been commonplace especially in the Global North during the last centuries. (Ibid.) Therefore, I perceive that integrating environmental and social realms is a shared ontological assumption in the discourse of sustainability and an innovation in comparison to the Western tradition. In addition, sustainability integrates various scales, including the temporal and spatial aspects of analysis (e.g., Robinson, 2004, p. 378). Some criticise the integrative idea of sustainable development, since growth and development are arguably "opposing imperatives" and contradictory in comparison to ecological sustainability (Robinson, 2004, pp. 369-370).

In lines of the integrative and comprehensive focus, researchers recognise that sustainability embeds and crosscuts various dimensions and societal sectors. Social, environmental and economic dimensions of sustainability are parts of the discourse of sustainability (see e.g., Chiu, 2004, p. 65; Langhelle, 2017). The political dimension of sustainability governs the other dimensions and relations between them (O'Connor, 2006). The cultural dimension differs from the social dimension by covering the maintenance of culture instead of the wellbeing of social individuals belonging to the realm of the social dimension (Chiu, 2004, pp. 68–69; cf. Dessein et al., 2015; Soini & Birkeland, 2014).<sup>15</sup> Some recognise explicitly the ethical or justice dimension of sustainability (e.g., Stumpf et al., 2015; Vucetich & Nelson, 2010) and the animal ethical dimension of sustainability (Rawles, 2006; Vinnari & Vinnari, 2014).

---

<sup>14</sup> Also Robinson (2004, p. 378) writes that "[if] sustainability is to mean anything, it must act as an integrating concept".

<sup>15</sup> The cultural dimension is not yet institutionalised in the policy and discourses of sustainability like the other dimensions are (Soini & Birkeland, 2014). The "three-pillar model" that acknowledges social, ecological and economic sustainability as equal dimensions has the primary role in the international discourse of sustainability (Griessler & Littig, 2005, p. 3).

### 2.2.2 The Conceptions of Sustainability

"There is no such thing as a single unified philosophy of sustainable development – –. In most cases people bring to the debates on sustainable development already existing political and philosophical outlooks." (Hopwood et al., 2005, p. 47)

We can distinguish the general concept of sustainability from specific conceptions of sustainability. A specific conception of sustainability embeds the above-mentioned (Table 1) aspects of sustainability in its own way through particular ethical, ontological and epistemological assumptions. (Stumpf et al., 2015.) According to Stumpf et al., ontological assumptions involve what humans, nature and their relationship are like; epistemological assumptions regard uncertainty and knowledge; ethical assumptions the questions of norms, values and moral standing (Table 2). The conceptions of sustainability are politically contested interpretations while all of them include, according to Stumpf et al., the aforementioned core features of the general concept of sustainability. (Stumpf et al., 2015.)

Table 2. Assumptions relevant to the sustainability debate. Based on Stumpf et al. (2015) and the reference mentioned in the Table.

<i>Type of assumptions</i>	<i>Examples of possible assumptions, views and questions</i>
Ontological assumptions	<ul style="list-style-type: none"> <li>• humans are / are not part of nature</li> <li>• humans are dependent / independent of nature</li> <li>• homo economicus describes / does not describe humans' characteristics</li> </ul>
Epistemological assumptions	<ul style="list-style-type: none"> <li>• critical realism</li> <li>• strong/weak social constructivism</li> <li>• pragmatism, experience-based learning (Norton, 2005)</li> </ul>
Ethical assumptions	<ul style="list-style-type: none"> <li>• what has value?</li> <li>• what should be done?</li> <li>• what entities have moral standing?</li> </ul>

This thesis focuses on moral standing that entails different conceptions of sustainability. As conceptions of sustainability, chapters 4 and 5 analyse specific interpretations of sustainability that include a view of moral standing. What I analyse in chapters 4 and 5 as conceptions of sustainability do not have to explicitly cover all of the core aspects of sustainability discerned by Stumpf et al. (2015) (Table 1). For present purposes, it is sufficient that there is an interpretation of sustainability based on an implicit or explicit view of moral standing. I am only interested in the role of moral standing in the conceptions of sustainability that may be underdeveloped in other respects. However, I overview, in this section, previous discussion on the conceptions of sustainability.

Hopwood et al. (2005) classify the different conceptions of sustainable development into three main approaches: status quo, reform and transformation. The approaches

differ in how much they emphasise structural change and in the deepness of concern for social wellbeing, inequality and environment. Although all agree that some changes are necessary to solve sustainability problems, the views of sustainable development are miscellaneous and reflect the political and philosophical stances of discussants. In the writing time of the article, the authors interpreted that the managerial approach dominates the sustainable development debate. (Ibid.) The narratives of transformation have developed in novel forms recently (Moriggi et al., 2020). For example, the discussion of urban transformations has increased in the 2010s (Koch et al., 2018).

Political theorist Andrew Dobson (1996) presents a typology of the conceptions of sustainability based on a literature review and four questions that any conception of sustainability should address: (1) What should be sustained? (2) Why? (3) To which objects should there be primary and secondary concern? (4) Under what principles are natural and human-made capital substitutable, or are they non-substitutable? The four questions form Dobson's analytic framework for various conceptions of sustainability. Each conception answers the questions in their own way. For example, sustainable development is, according to Dobson, an anthropocentric conception of environmental sustainability. (Ibid.) However, all conceptions of sustainability do not necessarily accept anthropocentrism and aim at sustaining what matters exclusively for human wellbeing (Dobson, 1998, p. 45). The issue of substitutability between natural and human-made capital divides the proponents of strong and weak sustainability, which I discuss in chapter 5 (sec. 5.2, pp. 49-50, and sec. 5.5, pp. 55-56).

Also other questions are posed in literature. Timothy Luke (1995, pp. 21–22) raises these questions: (1) How long should something be sustained? (2) At what level or scale of human activities should something be sustained? (3) For whom is something sustained? (4) What are the conditions under which something should be sustained? (5) What should be sustained? Environmental ethicist Dale Jamieson (1998) also asks how important sustainability is in comparison to other objectives. By drawing on ethical literature and the previous attempts to define core questions for any conception of sustainability, I suggest condensing the core ethical questions to the questions in Table 3. This thesis analyses the conceptions of sustainability solely in what comes to their views of moral standing.



Table 3. Ethical questions pertaining to any conception of sustainability. The types of questions are congruent with the ethical questions in Table 2 drawing on Stumpf et al. (2015).

<i>Type of questions</i>	<i>Sustainability question(s)</i>	<i>Underlying ethical questions</i>
Questions of value	<ul style="list-style-type: none"> <li>• What should we sustain?</li> <li>• How important are sustainability objectives in relation to (a) each other and (b) to other objectives?</li> <li>• How should we solve value trade-offs when we pursue sustainability?</li> </ul>	<ul style="list-style-type: none"> <li>• What is good, what is bad and why? What makes something good or bad?</li> <li>• How good or bad is something? What types of values are there, and what is their order of priority?</li> <li>• Are values commensurable? Can we compensate for their losses?</li> </ul>
Questions of right action and justice	<ul style="list-style-type: none"> <li>• What normative principles should guide sustainability actions?</li> <li>• How should we solve possible conflicts of normative principles when we pursue sustainability?</li> <li>• How should we take into consideration past wrongs (e.g., colonialism) in sustainability issues?</li> <li>• Which parties (e.g., individuals or collectives) are responsible for solving sustainability problems?</li> </ul>	<ul style="list-style-type: none"> <li>• What is right and what is wrong in (a) intragenerational justice, (b) intergenerational justice and (c) human-nonhuman relations? What conception of justice should we accept? What do corrective, procedural and distributive justice and justice as recognition demand of us?</li> <li>• How should we integrate the dimensions of justice? What is the order of priority between various normative principles?</li> <li>• Who are responsible for structural problems and how?</li> </ul>
Questions of moral standing	<ul style="list-style-type: none"> <li>• For the sake of whom or what should we sustain something?</li> <li>• Is there a hierarchy between various entities in sustainability issues?</li> </ul>	<ul style="list-style-type: none"> <li>• Who or what has moral standing?</li> <li>• Are entities with moral standing equal or not?</li> </ul>

### 3 Methods and Materials

In the introduction, I have set three research questions for this inquiry: (1) What kind of anthropocentric and non-anthropocentric conceptions of sustainability are there in sustainability literature? (2) What kind of conceptions of sustainability ensue from the main philosophical views of moral standing? (3) How plausible are the different anthropocentric and non-anthropocentric conceptions of sustainability? I answer the research questions by combining critical, analytical and interdisciplinary literature review with philosophical analysis. In chapter 4, I analyse both academic research and policy documents for examining the characteristics and presence of anthropocentric and non-anthropocentric conceptions of sustainability in sustainability literature (RQ 1). In chapter

5, I examine what kind of conceptions of sustainability ensue from the main philosophical positions of moral standing (RQ 2), which employs philosophical literature and tools. In analysing the plausibility of alternative views (RQ 3, chapter 5), I employ the standard method of normative ethics. Additionally, I utilise interdisciplinary literature regarding the relevant empirical aspects, for instance, implications for psychology, environmental protection and social welfare.

The method of normative ethics is argumentation and reasoning like generally in philosophy. As Russ Shafer-Landau (2015, pp. 11–12) explains, arguments should follow logical rules, in which case they are logically valid. When they also have true premises, arguments are sound. (Ibid.) Philosophy also uses conceptual analysis to clarify the meaning and definition of concepts and critically assesses premises behind various views. Argumentation aims at consistent thinking and erasing logical contradictions. In practice, argumentation often proceeds dialectically by giving justifications and examining counterarguments for them.

Normative ethics seeks to justify its claims through rigorous thinking; ethics is not an issue of opinions, statistics, authority, preferences, unjustified thoughts or feeling of what appears morally right (e.g., Regan, 2004/1983, pp. 122-126). We can distinguish the first-order moral discourse and the second-order moral discourse of which the latter is the realm of philosophical ethics (e.g., Pietarinen, 2015). The first-order moral discourse refers to what is said, practiced and believed ethically in a social context. The second-order moral discourse examines this existing morality critically through the philosophical method and includes questions of normative ethics: What is right, what is wrong? What is good, what is bad? How should one live? Normative ethics guides through reasoning how things *should be* and what *should be done*, which may entail changes in the culturally assumed moral views. The chapter 5 engages in the second-order moral discourse while the chapter 4 represents my findings of a first-order moral discourse, that is, the conceptions of sustainability in sustainability literature.

Reflective equilibrium is an especially influential method of seeking coherence in normative ethics. Reflective equilibrium, as an end-state, ensues when a thinker assesses *both* their intuitions or judgments of right and wrong *and* their moral principles in an iterative process to form a consistent moral view (Rawls, 1971, pp. 20, 47–51). For example, one can start from an intuition that killing a sentient human is morally wrong in normal circumstances and then reflect on what moral principles are congruent with this intuition. When one, hence, adheres to the moral principle that killing a sentient human

is *prima facie*<sup>16</sup> wrong, one may have to think whether this applies equally to killing sentient nonhumans, despite one's original intuitions, as also the nonhumans lose all potential future good when they die. Intuitions we hold after critical reflection are considered beliefs of right and wrong in the cases of concrete moral choices (Regan, 2004/1983, pp. 133-134). Reflective equilibrium can mean both the reflective process seeking coherence ("the method of reflective equilibrium") and its outcome state (Norman, 2020). In any case, the essential thing for present purposes is that there is a need to seek consistency between intuitions and moral principles through justifying one's moral view.

Value disagreements may entice to claim that there would not be objectively right and wrong ethical actions, for instance, in the knots of unsustainability. For example, Horst Rittel and Melvin Webber argue in their classic introduction of the concept 'wicked problem' that we cannot solve conclusively problems in planning that involves social policy, as the definitions of the problems and their solutions depend on one's value-laden worldview (Rittel & Webber, 1973). However, omitting the analysis of ethical right and wrong embeds the danger of moral relativism.<sup>17</sup> Moral relativism is a metaethical<sup>18</sup> view where rightness and wrongness exist only in relation to what moral judgments individuals or cultures happen to have: that is, subjectivism and cultural relativism, respectively (Shafer-Landau, 2015, Chapter 19). Thus, moral relativism rejects the existence of objective moral truths (ibid., pp. 292-293). For instance, slavery is morally acceptable according to moral relativism when it happens to be accepted, despite its exploitative nature, which is counterintuitive. Moral relativism is logically contradictory by

---

<sup>16</sup> It is permissible to override *prima facie* duties in exceptional cases if valid moral principles justify it. However, these duties are always relevant for moral action and the burden of justifying exceptions lies on those seeking to make the exceptions. (Regan, 2004/1983, pp. 187, 287.)

<sup>17</sup> The connection of Rittel's and Webber's (1973) view to moral relativism is not completely clear. One can argue that they only make an empirical claim that we cannot in practice solve value disagreements for making planning decisions or that there is no one definitive, right solution but plural acceptable options for normative choices. I thank my supervisor Michiru Nagatsu for pointing this out. However, I see in their view certain connections to moral relativism. They, namely, do not pursue philosophical ethics as a means to solve value disagreements and to define what solutions to normative problems are objectively right. They write, for instance, that "[o]ur point, rather, is that diverse values are held by different groups of individuals – that what satisfies one may be abhorrent to another, that what comprises problem-solution for one is problem-generation for another. Under such circumstances, and in the absence of an overriding social theory or an overriding social ethic, there is no gainsaying which group is right and which should have its ends served". (Rittel and Webber, 1973, p. 169) They do not consider the possibility of finding objectively right ethical actions based on reasoning together. Their view is relativist if they hold that there are no objective ethical truths but, instead, that ethical truths relate to normative beliefs of individuals or groups. Thinking that everyone's normative views are equally good is a feature of relativism (Shafer-Landau, 2015, p. 296; see my footnote 20 below). Value disagreements on social policy can be substantive but also procedural regarding how decisions should be made. Both require a solution through ethical reasoning.

<sup>18</sup> Metaethics is the field of ethics that examines psychological, semantic, epistemological and metaphysical aspects of morality (Sayre-McCord, 2014).

allowing reversal moral judgments to be correct (Shafer-Landau, 2015, pp. 298-303).<sup>19</sup> For instance, subjectivism implies that slavery is both right and wrong if someone approves and another rejects its moral soundness.

Furthermore, moral relativism threatens the realm of giving and requiring justifications for ethical views and makes it excessively easy to be morally correct. Moral relativism makes all moral views equally good and their proponents, societies in the case of cultural relativism and individuals in the case of subjectivism, morally infallible (Shafer-Landau, 2015, pp. 294-296).<sup>20</sup> It disengages from critical ethical thinking on existing normative conceptions and opposes the idea that ethical judgments can transcend one's social context (Jamieson, 2008, p. 39). Moral relativism leads to an inability to solve disagreements between competing moral systems (ibid., p. 41) and “— — turns us away from the reasons that ground and justify moral judgments”; it threatens the idea of moral progress (ibid., p. 42). Also, moral relativism erroneously draws normative conclusions from the existing empirical diversity of moral views, which exemplifies the mistake of inferring ought from is (ibid., p. 44).

Using the philosophical method helps to solve normative disagreements, as the idea is to find the best justified view. This assumes that ethical views can be better or worse justified and true or false objectively. Ethical objectivism means that moral claims can be true or false objectively (Shafer-Landau, 2015, p. 292), that is, regardless of what someone happens to believe, which entails that it is possible to be mistaken in moral matters. Hence, it is indispensable to examine critically through reason<sup>21</sup> what is right and wrong to avoid moral flaws. We should justify moral views instead of assuming them. This applies to the normative aspects of the conceptions of sustainability.

In this thesis, I assume ethical objectivism and argue that we should make normative assumptions explicit and justified in sustainability science, policy and politics. Limited focus on ethics among sustainability scholars has hampered discussion on what I perceive as fundamental for the whole sustainability debate. Sustainability problems and solutions are normative *in the sense that there are right and wrong actions pertaining to them*. For example, it is essential to know who or what beings we might wrong in sustainability policy and politics, that is, who or what beings have moral standing.

---

<sup>19</sup> Relativists can answer this criticism by claiming that contradictory moral claims only regard personal or cultural commitments instead of moral questions, which leaves no space for genuine moral disagreements and is unconvincing (Shafer-Landau, 2015, pp. 298-303).

<sup>20</sup> In subjectivism, all moral views of individuals are equally good. In cultural relativism, all moral views of different societies are equally good but the views of individuals are not equal. (Shafer-Landau, 2015, p. 296.)

<sup>21</sup> This claim does not mean that emotions would be irrelevant. There are connections between emotions and reasons (Midgley, 1981, p. 5; see also Aaltola, 2006, pp. 259–263).

Next, I examine what views of moral standing are present in the emerging and influential conceptions of sustainability. The focus lies, in chapter 4, on the first-order moral discourse. I draw conclusions of sustainability thinking inductively<sup>22</sup>, as generalisations based on a sample of prominent examples. My principal materials of the anthropocentric conceptions of sustainability are the United Nations' Agenda 2030, IPCC reports, the Brundtland Report and the planetary boundaries framework that are noticeable in the discourse of sustainability. In addition, I discuss other evident anthropocentric examples, like the ecosystem services framework. As non-anthropocentric materials, I analyse interspecies sustainability, posthuman sustainability, the animal ethical dimensions of sustainability and multispecies sustainability that are fresh contributions in the academic discourse. I also address ecocentric sustainability and what I call multicriterial sustainability. I have chosen these examples based on their significant position in the sustainability debate (e.g., the Agenda 2030, the Brundtland Report, the planetary boundaries framework and the IPCC reports) or on their relevance for the question of moral standing in the context of sustainability (e.g., interspecies sustainability).

#### **4 Moral Standing in the First-Order Moral Discourse of Sustainability**

This chapter analyses the first-order moral discourse of sustainability from the viewpoint of moral standing. Focus lies on academic research and policy documents. All conceptions of sustainability make implicit or explicit assumptions of moral standing. I classify the prominent and emerging conceptions of sustainability to anthropocentric and non-anthropocentric ones. This classification relies on expressed direct moral concern. My discussion uses as materials two United Nations' policy documents, IPCC reports and the academic discourses of sustainability. The chapter aims at overviewing what views of moral standing are present in the dominant and emerging conceptions of sustainability. I have chosen the materials based on its prominence in the current discourse of sustainability (the UN documents, IPCC reports<sup>23</sup> and the planetary boundaries framework) or its relevance for the question of moral standing in the conceptions of sustainability (academic research on non-anthropocentric sustainability). My analysis employs also previous research in interpreting the materials. I analyse, firstly, the anthropocentric and, secondly, the non-anthropocentric conceptions of sustainability.

---

<sup>22</sup> Inductive inference relies on evidence instead of logically valid inference. By contrast, in valid deductive inference, the conclusion is necessarily true if the premises are true. (See e.g., Hawthorne, 2021.)

<sup>23</sup> For the limited scope of this research, I use only the sections "Summary for Policymakers" from the IPCC reports. Focusing on the summaries is justified also due to their intended relevance for policymaking. I examine parts of the Fifth Assessment Report (IPCC, 2014a, 2014b) and two more recent Special Reports: "Climate Change and Land" (IPCC, 2019) and "Global Warming of 1,5 °C" (IPCC, 2018).

## 4.1 The Anthropocentric Conceptions of Sustainability

”It is well-established that mainstream conceptions of sustainability and their manifestations in theory and practice are anthropocentric in focus. Anthropocentric sustainability orientations not only marginalise and ignore the interests of nature and animal [sic] lives, they treat nature and animals [sic] as resources for human use and determine their value by the benefit they provide for humans.” (Bergmann, 2019, p. 1)

”Speciesism’s hallmark is denial of nonhuman individuality.” (Dunayer, 2004, p. 12)

The dominant conceptions of sustainability are plainly anthropocentric (Bergmann, 2019; Boscardin & Bossert, 2015). In this section, I present and analyse evident examples of anthropocentrism in the discourse of sustainability. The chief examples are the planetary boundaries framework, the United Nations’ Agenda 2030, IPCC reports and the Brundtland Report. In addition, I draw on academic literature that analyses anthropocentrism and speciesism for revealing their problems.

**The Brundtland Report.** Anthropocentrism characterises the Brundtland Report (Robinson, 2004, pp. 372-373). According to Bergmann (2019), the Brundtland Report perceives nonhuman animals as resources for human use. Any nonhuman animal represents in the report either “wildlife”, “pests” or “livestock” that have value through enabling humans’ economic activities (ibid.). Thus, sentient nonhumans are not, according to the Brundtland Report, equal right-holders in comparison to humans and individuals with needs. Anthropocentrism underlies the report’s canonical definition of sustainable development (Palmer, 2003, p. 18).<sup>24</sup> ‘Needs’ refers merely to humans’ needs. Thus, I argue that the Brundtland Report does not take decently into consideration the interests of sentient nonhumans, including their environmental interests regarding, for example, a safe and adequate habitat.

The Brundtland Report contains a chapter of ecosystems and species (WCED, 1987, Chapter 6). As Elien Verniers (2021) observes, the chapter does not consider the welfare of nonhuman animal individuals but only the protection of species understood as natural resources that advance human interests. This attitude is conspicuous in the text claiming that “[c]onservation of living natural resources – plants, animals [sic], and micro-organisms, and the non-living elements of the environment on which they depend – is crucial for development” (WCED, 1987, p. 147). The report also claims that “[t]his – the scope for species to make a fast-growing contribution to human welfare in myriad forms – is a major justification for expanded efforts to safeguard Earth’s millions of

---

<sup>24</sup> The definition is: “Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.” (WCED, 1987, p. 43)

species” (Ibid.).<sup>25</sup> Despite the overall anthropocentric attitude, the report mentions “our moral obligation to other living beings” (ibid., p. 57). This statement leaves some ambiguity to the message.

**The planetary boundaries framework.** A popular representation of environmental sustainability problems is the planetary boundaries framework (Rockström et al., 2009; Steffen et al., 2015). The framework seeks to quantify boundaries<sup>26</sup> for nine planetary-scale processes: climate change, novel entities, biogeochemical flows (phosphorus and nitrogen cycles), stratospheric ozone depletion, ocean acidification, biosphere integrity, freshwater use, land system change and atmospheric aerosol loading. The precautionary principle<sup>27</sup> is a normative underpinning of the planetary boundaries framework. (Ibid.) The aim is to identify “a safe operating space for humanity” (Rockström et al., 2008, p. 2).

It is my contention that the planetary boundaries framework is clearly anthropocentric, because it aims to protect the safe operating space of *humans* on the planet. There is no clear moral concern for nonhumans for their own sake in the articles. By contrast, concern for humans and their societal future is an explicit commitment.<sup>28</sup> It is also problematic how the framework presents environmental issues as problems of the unified “humanity”. This outlook does not take into consideration dissimilar roles and contributions of humans to the problems and solutions. Namely, certain cultural practices cause environmental problems; there is no humanity as a uniform agent in environmental issues (e.g., Cuomo, 2017; see also Steffen et al., 2015, p. 7). In their discussion of the boundary for climate change, Johan Rockström et al. (2009, pp. 7, 9)

---

<sup>25</sup> The chapter, on the other hand, mentions diverse justifications for protecting species: economic, scientific, aesthetic, cultural and ethical (WCED, 1987, p. 155). All of these considerations can, however, be part of the anthropocentric perspective.

<sup>26</sup> According to Rockström et al. (2009, p. 3), “[b]oundaries – – are human-determined values of the control variable set at a “safe” distance from a dangerous level (for processes without known thresholds at the continental to global scales) or from its global threshold.”

<sup>27</sup> The precautionary principle states that a risk of harm justifies actions that aim at avoiding the harm despite epistemic uncertainty. A definition, the Wingspread Statement on the Precautionary Principle, condenses the idea in this way: “When an activity raises threats of harm to human health or the environment, precautionary measures should be taken even if some cause and effect relationships are not fully established scientifically.” (Raffensperger & Tickner, 1999, p. 8)

<sup>28</sup> Rockström et al. (2009, p. 23, Footnote ii) write, for instance: “– – our focus is on the ability of desirable (from a human perspective) states of the Earth System to persist in the face of anthropogenic disturbance.” The authors mention “human well-being and development” (e.g., p. 6) but not nonhuman well-being in their analysis. The framework does not recognise sentient nonhumans as feeling and conscious individuals with interests at stake. However, there is a remark of ecosystem health (ibid., p. 18) and discussion, for example, of how chemical pollution effects also other organisms than humans. This, however, does not clearly indicate direct moral concern towards the nonhumans. The authors present the aims of the framework utterly anthropocentrically (see e.g., Steffen et al., 2015, p. 2). Also Helen Kopnina (2016, p. 115) recognises anthropocentrism in the planetary boundaries framework, however, without further analysing this anthropocentrism.

remark that the climate-related target relies not only on science but also on values and political assessment of what is realistic. Thus, in the context of prevailing anthropocentrism, I argue that the framework may maintain anthropocentrism either for a commitment to it or for considering it as politically realistic and feasible in the time frame of making the urgent decisions of sustainability policy. Still, political feasibility does not by itself, without ethical argumentation, justify wronging any individual.

**The 2030 Agenda for Sustainable Development.** The United Nations' Agenda 2030 (UN, 2015) sets the most recent global action plan for pursuing sustainability on the grounds of equal human dignity and rights. The Agenda 2030 is applicable in all nations, both in Global North and Global South. It is an influential policy program that interprets sustainability problems and their solutions. The agenda combines environmental, social and economic aspects of sustainability (ibid., p. 1). Different objectives are interconnected and inseparable in the agenda (ibid., pp. 5, 6). The agenda promotes justice and societal inclusion (ibid., p. 25).

The Agenda 2030 (UN, 2015) sets 17 Sustainable Development Goals (SDGs) with 169 specific targets. These global objectives aim at guaranteeing decent living conditions for all humans, especially for the most vulnerable and the poor, at ending discrimination and at empowering women and girls. The agenda pursues equal access to food, education, health services, sanitation and energy, among other things.<sup>29</sup> Some SDGs are principally environmental: SDG 13 regarding climate action, SDG 14 protecting marine ecosystems and SDG 15 protecting terrestrial ecosystems. On the other hand, many SDGs integrate environmental concern, such as mitigating climate change, to social objectives. For instance, SDG 7 pursues access to clean energy. Overall, the Agenda 2030 presents human poverty as the most significant challenge and anticipates no sustainable development without removing it (ibid., pp. 1, 3).

The agenda does not recognise speciesism as a form of discrimination. Nonhuman nature is reduced to natural resources for humans in the agenda. The emphasis of the agenda lies in the social sphere that the text interprets utterly anthropocentrically: as not including sentient nonhuman individuals. The agenda does not extend its welfare-related objectives (e.g., access to food, water and health care) to any nonhumans. There is an explicit commitment only to the improvement of human lives: "We are

---

<sup>29</sup> The SDGs are: (1) No Poverty, (2) Zero Hunger, (3) Good Health and Well-Being, (4) Quality Education, (5) Gender Equality, (6) Clean Water and Sanitation, (7) Affordable and Clean Energy, (8) Decent Work and Economic Growth, (9) Industry, Innovation, and Infrastructure, (10) Reduced Inequalities, (11) Sustainable Cities and Communities, (12) Responsible Consumption and Production, (13) Climate Action, (14) Life Below Water, (15) Life on Land, (16) Peace, Justice and Strong Institutions and (17) Partnerships (UN, n.d., see 2015, p. 14).



determined to ensure that all human beings can enjoy prosperous and fulfilling lives – – ” (UN, 2015, p. 2). At the same time, the agenda does not mention duties to sentient nonhuman individuals at all. The language used of nonhuman nature is objectifying<sup>30</sup>. For example, fish individuals become invisible in the writing of “fish stocks” (ibid., p. 24) that should be protected to “produce maximum sustainable yield” (ibid.), that is, killing as many fish individuals as possible annually and eating the corpses<sup>31</sup>. The agenda describes nonhuman nature as resources, for example as genetic resources for human use (ibid., pp. 15-16, 25). The aim of protecting the planet is clearly human interest:

“We are determined to protect the planet from degradation, including through sustainable consumption and production, sustainably managing its natural resources and taking urgent action on climate change, so that it can support the needs of the present and future generations.” (ibid., p. 2)

Overall, anthropocentrism is maintained in the agenda (Fox & Alldred, 2020). Justice and equality extend only to humans in the agenda text. “Animals” (meaning nonhuman animals) are mentioned only once in the context of protecting genetic diversity (UN, 2015, p. 15).<sup>32</sup> Although the agenda aims at a world “– – in which humanity lives in harmony with nature and in which wildlife and other living species are protected” (UN, 2015, p. 4, see also p. 25 on protecting species, habitats and biodiversity), this does not necessarily express concern for nonhumans *for their own sake* and, overall, nonhumans are present only marginally in the text of the agenda. “Animal welfare” (i.e., non-human animal welfare) is neglected in the SDGs and the agenda (Verniers, 2021, p.

---

<sup>30</sup> To objectify means treating an individual as a thing: an object that can be used and that lacks an inner perspective and agency. Philosopher Martha Nussbaum (1995, p. 257) identifies these aspects of objectification: instrumentality (treating someone instrumentally), denial of autonomy, inertness (treating someone as if they lacked agency), fungibility (treating someone as interchangeable), violability (treating someone without respect for their boundaries), ownership (treating someone as owned) and denial of subjectivity (disregarding someone’s experiences). Nussbaum addresses objectification and especially sexual objectification of humans; however, I see these aspects of objectification illuminating also the objectification of sentient nonhumans. Evangelia Papadaki (2021), while concentrating on sexual objectification, mentions that Rae Langton (2009, pp. 228–229) notices these as additional aspects of objectifying treatment: reducing someone to their body, reducing someone to their appearance and silencing.

<sup>31</sup> As Dunayer (2001) argues lucidly, the language usually used to describe the animal industry and related practices is not morally appropriate. Euphemistic concepts like “animal agriculture” mask the violence and injustices (ibid., pp. 125-126). The same applies to the concept of “meat” of which purpose is to hide that someone has been killed and fragmented into a commodified piece of “food” (Adams, 1990). I follow throughout the thesis expressions that unmask the relevant ethical choices and respect also sentient nonhuman individuals. Dunayer (2001, p. 193) proposes, for instance, the concepts of ‘flesh industry’ and ‘food-industry enslavement and slaughter’ to name the practice of keeping nonhuman individuals in captivity, slaughtering them and eating the remains. I also refuse employing aggregative plurals such as “cattle” or “fish” that deindividualize the sentient nonhumans (see Dunayer, 2001, p. 183, 2004, p. xii).

<sup>32</sup> However, the target 15.7 mentions “fauna” through opposing “poaching and trafficking of protected species of flora and fauna” (UN, 2015, p. 25). The agenda perceives also “wildlife” as something to be protected (ibid., pp. 4, 9). According to Narayanan (2016, p. 174), animal welfare was mentioned in a plea by the World Society for the Protection of Animals that was incorporated in the UN’s draft of the SDGs.

352). In contrast, UN's 2019 Global Sustainability Report recognises that "animal welfare" is missing from SDGs and remarks that the welfare of "domesticated animals" and free-living ones ("wildlife") should be taken care of (Independent Group of Scientists appointed by the Secretary-General, 2019, p. 117).<sup>33</sup> Moreover, advancing SDGs is compatible with "animal welfare" improvements and there are links between "animal welfare" and SDGs, despite silence on "animal welfare" in SDGs (Keeling et al., 2019). Ingrid J. Visseren-Hamakers (2020) argues for an additional 18<sup>th</sup> SDG committed to protecting the rights, health and welfare of "animals" (i.e., nonhuman animals).

**IPCC reports.** The Intergovernmental Panel on Climate Change (IPCC) is the authoritative agent in synthesising research on climate change. The IPCC publishes reports that collect timely knowledge on climate change while the organisation does not aim at giving prescriptive policy proposals. Reports are supposed to be politically relevant but neutral. (IPCC, n.d..) However, I observe that they maintain the speciesist prejudice in how they represent the causes and impacts of climate change. A common theme in the reports (e.g., IPCC, 2014a, 2014b, 2018, 2019) is silence on how climate change influences sentient nonhuman individuals and on how their unjust treatment exacerbates climate change. This silence makes the content speciesist.

The IPCC (2018, p. 24) recognises that climate change impacts human systems, ecosystems and species but does not mention sentient nonhuman animal individuals as exposed to the effects. For discussing sustainability, the IPCC (2018, pp. 18-21) uses SDGs, which brings anthropocentrism along. According to McShane (2016, pp. 193-194), the IPCC reports, in some rare occasions, note the possibility of a non-anthropocentric perspective. However, the IPCC does not mention the ethical consideration of nonhuman animals but only of biodiversity, nature, ecosystems or species: "The forms of non-anthropocentrism that are least controversial, for example, that some animals [sic] have a welfare that ought to matter to us morally, are not mentioned at all." (Ibid., p. 193) Thus, if the IPCC considers non-anthropocentric views at all, it considers the views that ethical researchers support the least. (Ibid.)<sup>34</sup>

As McShane (2018) observes, the impacts of climate change on nonhuman animal welfare are not satisfactorily considered by the IPCC. The impact analysis covers human welfare, biodiversity and ecosystem services in the Fifth Assessment Report

---

<sup>33</sup> Nonetheless, the authors mention links between human and nonhuman animal well-being as a justification for protecting the nonhumans (Independent Group of Scientists appointed by the Secretary-General, 2019, p. 117).

<sup>34</sup> Also conservation science has traditionally not been interested in the welfare of individual nonhuman animals. In contrast, a new conservation approach, compassionate conservation, aspires to protect nonhuman animal individuals. (Ramp & Bekoff, 2015; see also Wallach et al., 2020.)

(ibid.). Caring, for instance, for biodiversity does not mean considering the interests of sentient nonhuman individuals (McShane, 2016, p. 196, 2018, pp. 53-54). Also later reports occasionally mention biodiversity as an issue (e.g., IPCC, 2018, p. 8, 2019, pp. 35-36), just like negative impacts on ecosystems (e.g., IPCC, 2019, p. 36). The emphasis lies, still, on risks to humans. While the IPCC considers impacts on ecosystems, it is sometimes specified that ecosystems provide “functions and services to humans” (e.g., IPCC, 2018, p. 8). The IPCC uses the anthropocentric language of ecosystem services (see e.g., IPCC, 2014b, pp. 24, 28). When the IPCC mentions health, it is occasionally clarified that it is “human health” in discussion (e.g., IPCC, 2014a, pp. 16, 22, 2014b, p. 19, 2018, p. 9). I argue that it is speciesist to consider only human health and not health impacts on sentient nonhuman individuals.

The IPCC (2014a, p. 5) mentions the role of ethics and “non-human values”. The reports recognise effects on species loss and extinctions (IPCC, 2014b, pp. 14-15, 2018, p. 8). However, the IPCC presents the impacts on nonhuman animals, for instance, through the animals’ ecosystemic function and their diversity instead of as an issue of the quality of individuals’ lives, which differs remarkably from the way human welfare is considered (McShane, 2018, p. 48). The IPCC addresses human welfare abundantly (ibid., p. 50). I argue that this disparity between the discussion of nonhuman animal welfare and the discussion of human animal welfare is speciesist.

The IPCC does not mention nonhuman animals as individuals in the presentation of climate-related risks (IPCC, 2019, pp. 16-18, see also 2018, p. 8), except as an issue of “livestock productivity” (IPCC, 2019, p. 18).<sup>35</sup> However, the sentient nonhuman creatures are vulnerable to the risks of climate change (Palmer, 2019; Pepper, 2019; see also McShane, 2018). Overall, the IPCC reports understand only humans as ‘people’ whose interests matter (e.g., IPCC, 2014b, 2019).

I argue that the reports use objectifying and disrespectful language of sentient nonhuman animals by representing them as resources for human consumption and use. For example, the IPCC 2019 special report “Climate Change and Land” defines sustainable land management as “the stewardship and use of land resources, including soils, water, animals [sic] and plants, to meet changing human needs, while simultaneously ensuring the long-term productive potential of these resources and the maintenance of

---

<sup>35</sup> In the 2018 special report “Global Warming of 1,5 °C”, the IPCC (IPCC, 2018, p. 9) notices in a sentence that climate change affects “livestock” adversely. However, the context leaves it uncertain whether this effect is regarded as important for the sake of the welfare effects on individual nonhuman animals or for the sake of humans exploiting the individuals called “livestock”. The IPCC’s paragraph discusses also reductions in crop yields, which supports the latter interpretation.

their environmental functions” (IPCC, 2019, p. 6). The IPCC calls some nonhumans “pests” (e.g., IPCC, 2014b, p. 21, 2019, pp. 10, 17, 20, 23, 35), which represents them only through the viewpoint of humans’ advantage and disadvantage.

Furthermore, the IPCC uses the euphemistic language of “meat” of the consuming of killed (murdered) nonhuman animals (IPCC, 2019, p. 7). Representing nonhuman corpses as “meat” hides the ethical issue of killing a nonhuman individual (Adams, 1990). The IPCC (e.g., 2014a, p. 24, 2014b, p. 27, 2018, pp. 14, 21, 2019, pp. 9, 13, 23) also understands nonhuman individuals as “livestock”. Describing someone (i.e., a nonhuman individual) as “livestock” is demeaning and commodifying (Dunayer, 2004, p. xiii). It is likewise disrespectful to depict fish individuals as resources for humans, like the IPCC (e.g., 2018, pp. 8-9, 2019, p. 13) does by not questioning their exploitation in so called “fisheries” and “aquaculture” (the same applies to the Agenda 2030, see UN, 2015, p. 24). Dunayer (2001, p. 193) suggests, for instance, ‘fish enslavement and slaughter’ as an accurate and non-euphemistic term for “aquaculture”. Expressions like “human systems and ecosystems” (e.g., IPCC, 2019, p. 17) and “human and natural systems” (e.g., *ibid.*, p. 29, IPCC, 2014b, pp. 3, 11, 2018, pp. 10, 24) indicate assuming an ontology where humans are distinct from ecosystems and nature.<sup>36</sup>

In the IPCC’s report on the impacts of climate change (IPCC, 2014b), it is mentioned on a few pages, for instance, that there are impacts on “animals” (*ibid.*, pp. 17, 32 addresses “tundra animals”), their health (*ibid.*, p. 24) and ecological range (*ibid.*, pp. 30, 31). As Dunayer (2004, p. xi) remarks on the concept of the animal, “[u]sage that excludes humans from animalkind maintains a moral divide between humans and other animals”. Including all the diversity of nonhuman animals under the word “animal” separate from and inferior to humans is inherently violent, as philosopher Jacques Derrida (2008, p. 48) argues: “– – there is an immense multiplicity of other living things [sic]<sup>37</sup> that cannot in any way be homogenized, except by means of violence and willful ignorance, within the category of what is called the animal or animality in general.”<sup>38</sup>

Overall, the IPCC reports recognise the impacts of climate change on nonhuman species but not on sentient nonhuman individuals (see e.g., IPCC, 2014b, pp. 4, 12). The

---

<sup>36</sup> Also the distinction between natural and anthropogenic causes of climate change (IPCC, 2014b, p. 5) maintains the idea that humans are external to nature when it is implicitly thought that anthropogenic causes are not natural. The Brundtland Report likewise uses objectifying language maintaining human supremacy: for instance, the concept of “livestock” (WCED, 1987, e.g., p. 154) that is also present in the Agenda 2030 (UN, 2015, p. 16).

<sup>37</sup> Calling anyone, any sentient and conscious individual a thing, even a “living thing”, is denigrating and supports their violent oppression (see Dunayer, 2001, pp. 155-156).

<sup>38</sup> The IPCC (2014b, pp. 30-32) mentions, however, the observed impacts of climate change on more specific groups of nonhuman animals, for instance on “seabirds”, “fishes” and “butterflies”.

language constructs human superiority by separating humans from other animals hardly mentioned except as resources or the representatives of species. Thus, I contend that the language and content of the reports are clearly speciesist. The IPCC maintains the human-animal dichotomy by not questioning the superiority of humans over all other animals. Moreover, the reports accept human exploitation of the nonhumans, for example, through “fisheries” (e.g., IPCC, 2014b, pp. 17, 18, 32). There is concern for reduced opportunities for “hunting or fishing” (see *ibid.*). Of nonhuman nature, concern lies on protecting biodiversity, ecosystems and species, not sentient animal individuals (see e.g., IPCC, 2014b, p. 12). The IPCC mentions impacts on “species’ habitats” (e.g., IPCC, 2014b, p. 24), not on nonhuman individuals’ habitats.

Furthermore, it is my contention that speciesism is also present in how the reports leave unclear the contribution of nonhuman animal right violations to climate change. According to the IPCC (2014a, p. 9), the key economic sectors in 2010 releasing directly GHGs were electricity and heat production (25 %), the AFOLU sector<sup>39</sup> (24 %), industry (21 %), transport (14 %), other energy (9,6 %) and buildings (6,4 %). It is difficult to find from IPCC reports numbers for the contribution of the animal industry and habitat destruction to climate change. The commercial animal industry and habitat destruction violate animal rights (Regan, 2004/1983, sec. 9.1, p. 360). IPCC reports do not explain how animal right violations contribute causally to climate change.<sup>40</sup> For instance, the 2014 summary report on mitigation (IPCC, 2014a, see pp. 24-25) does not disaggregate AFOLU sector emissions so that the significant role of the animal industry would become clear, although the report mentions dietary change as an impactful way to reduce emissions (see also IPCC, 2018, p. 16). Although the IPCC presents numbers in reports as if they were politically neutral, I argue that how the IPCC depicts the causes of climate change renders invisible the relevance of speciesism for the emergence of climate change. Without speciesism, there could not be the animal industry and widespread destroying of sentient nonhumans’ habitats. The flesh industry<sup>41</sup> (“animal agriculture”) is a major contributor to climate change (see e.g., Gerber et al., 2013; cf. Goodland & Anhang, 2009; cf. Herrero et al., 2011; Poore & Nemecek, 2018; Twine,

---

<sup>39</sup> AFOLU means “Agriculture, Forestry and Other Land Use”. The sector incorporates also emissions that originate from forest or peatland fires and the decay of peat. (IPCC, 2014a, p. 9.) In general, AFOLU net emissions cover the removals of CO<sub>2</sub> and emissions originating from the AFOLU sector, like forestry land (*ibid.*, p. 17, Footnote 21).

<sup>40</sup> Paula Arcari (2017) argues that likewise reports on sustainable food present unclearly the contribution of the animal industry to environmental problems. Arcari (*ibid.*, pp. 75-77) interprets that by this obfuscation and lack of critical discussion of “meat” its consumption stays as a “non-issue”. She also remarks that “– – the IPCC’s 2007 and 2014 Synthesis Reports make no reference to meat [sic]” (*ibid.*, p. 75).

<sup>41</sup> See footnote 31.

2021). Habitat loss (e.g., deforestation) contributes to climate change by reducing carbon sinks.

**Other discourses of sustainability.** The conceptions of development have mostly omitted concern for sentient nonhumans, and the discourse of sustainable development has possibly even worsened nonhuman animal commodification, according to Yamini Narayanan (2016). Narayanan, moreover, argues that sustainable development orienting towards economic growth maintains violence towards nonhumans.<sup>42</sup> In general, sustainable development that pursues economic growth is anthropocentric and considers nature as a finite economic good (Narayanan, 2016, p. 175). However, through reproductive intervention (breeding new generations), utilized sentient nonhumans represent infinite resources (ibid.).

The Agenda 2030, the IPCC reports and the planetary boundaries framework are representative examples of contemporary sustainability thinking and anthropocentric speciesism within it. The anthropocentric, speciesist legacy of the Brundtland Report is powerfully present also in other topical discourses of sustainability. For example, economist Kate Raworth's (2012, 2017, p. 42) doughnut economics model combines social objectives as human rights to the ecological objectives of the planetary boundaries framework. By neglecting equal moral concern for sentient nonhumans, also doughnut economics remains in the anthropocentric and speciesist worldview.

Dominant discourses on sustainable food systems are anthropocentric. The discourses represent nonhuman animals as resources for humans: the nonhumans are either aggregated (to "livestock" and "units of production") or materialised (to "protein" or "meat"), which neglects their sentient individuality (Arcari, 2017). The use of nonhuman animals as "food" is perceived as normal, natural and necessary (ibid., p. 77). Thus, these discourses exemplify carnism that is an invisible and violent ideology of consuming nonhuman animals and an opposite of veganism (Joy, 2011). Furthermore, the discourse of "sustainable intensification" of the flesh industry maintains anthropocentric speciesism. "Sustainable intensification" means increasing production while not causing negative environmental impacts and amplifying land use (The Royal Society, 2009, p. ix). The anticipated growth of the flesh industry threatens to increase the number of nonhuman animals suffering and to continue their massive commodification to human purposes. The discussion of this "Livestock Revolution" aiming at "sustainable intensification" is a prominent discourse regarding food futures (see Boscardin, 2017).<sup>43</sup> Global

---

<sup>42</sup> Narayanan (2016) analyses also the role of religion and capitalism in nonhuman objectification.

<sup>43</sup> According to Livia Boscardin (2018), FAO (the Food and Agriculture Organization of the United Nations) expects that consuming animal-derived "foods" will increase by two-fold until

food production systems objectify nonhuman animals used (Narayanan, 2016). The systems also impose suffering on the sentient nonhumans; still, FAO (the Food and Agriculture Organization of the United Nations) is only interested in the welfare and health of humans, according to Narayanan (2016, p. 174). Nonhuman animals appear as “livestock”, that is, as renewable resources, raw material and natural capital (Boscardin & Bossert, 2015).

Also, for instance, industry representatives’ perspectives regarding the sustainability of the thoroughbred racing industry are clearly anthropocentric by not considering “animal welfare” as an essential dimension of sustainability (Bergmann, 2019). Moreover, a shift from environmental education to education for sustainable development has materialised as increased anthropocentrism of the education (Kopnina, 2012). Additionally, the discourse of ecosystem services assumes anthropocentrism. Namely, ecosystem services are defined as “– – the benefits people obtain from ecosystems” (MEA (Millennium Ecosystem Assessment), 2005, p. v). ‘People’ refers in the definition only to humans. I argue that this assumes anthropocentric speciesism, because focus lies only on humans’ benefits. The benefits that sentient nonhumans obtain are not regarded as important. Moreover, sentient nonhumans are understood as resources for human use, for example as sources of food, genetic resources, fiber and ornamental resources (ibid., p. 40).

In the discourse of sustainability, also sustained yield is an anthropocentric concept underpinned by the idea of resource conservation, that is resourcism. In resourcism, non-human nature consists of various forms of resources for human use: non-renewable and finite resources (e.g., fossil fuels), non-renewable but recyclable resources (e.g., metals) and renewable resources (e.g., plants and nonhuman animals). (Callicott & Mumford, 1997.) The concept of sustained yield means using renewable resources so that the “harvest” can continue from a year to another in the long-term.<sup>44</sup> Animal right theorist Regan (2004/1983, pp. 355-358) pinpoints to ethical problems in the concept of sustainable yield and in the policy objective of maximising the “harvest”. Namely, maximising the sustained (or sustainable) yield of hunted nonhuman animals means

---

2050, which is called the “Livestock Revolution”. Boscardin interprets this discourse as a green-washed and profit-driven project that maintains capitalism. (Ibid.) The dominant role of eating nonhuman animals (“meat”, in fact corpses) is also racist in global food politics. As critical theorist and ecofeminist Carol J. Adams (1990, p. 30) explains, it is assumed that all should eat what white men favour on their plates.

<sup>44</sup> According to FAO’s (n.d.) definition, maximum sustainable yield (i.e., sustained yield) means how much a “stock” can maximally be used in certain environmental conditions and continually without disturbing the “stock’s” reproduction.

killing as many as possible in a year on regular basis. Killing violates their moral rights, as Regan claims (*ibid.*).

**Problems in anthropocentrism.** I argue that the anthropocentric conceptions of sustainability objectify nonhuman animals. Objectification serves as a way of psychologically distancing oneself from the reality of nonhuman individuality: “By viewing animals as objects, we can treat their bodies accordingly, without the moral discomfort we might otherwise feel.” (Joy, 2011, p. 118) According to Eileen Crist (2013), this habit of not perceiving nonhuman animals as beings with a mind is a central cause of extinctions and the destroying of the biosphere.<sup>45</sup> From the viewpoint of animal rights, this objectification wrongs sentient nonhumans (see e.g., Dunayer, 2001, 2004).

By recognising sentient nonhumans only as members of species, I argue that the anthropocentric conceptions of sustainability also deindividualize them. Deindividualization means treating and perceiving someone only based on their group membership, that is, as an abstraction, as if there were no differences among group members (Joy, 2011, p. 119). Perceiving nonhuman individuals as mere representatives of their species is deindividualizing, I argue, for example in the IPCC reports and the Brundtland Report. For instance, the IPCC (2018, p. 8) mentions the concern of species loss while being silent on how climate change causes suffering and deaths of sentient nonhuman individuals.

Also dichotomization is present in dominant relations to nonhuman animals. Dichotomization means classifying beings into value-laden and rigid categories, often with a help of false beliefs (Joy, 2011, p. 122). This occurs, for example, when nonhuman animals are classified to edible and inedible (*ibid.*). However, also the human-animal distinction is a dichotomy, and this dichotomy is especially relevant for analysing moral standing and sustainability. I argue that the dominant anthropocentric conceptions of sustainability maintain the human-animal dichotomy as if humans and other animals were in a hierarchical relation to each other.<sup>46</sup> It has, however, proven difficult (or impossible) to find a morally relevant difference that could justify the human-animal dichotomy, which I discuss further in chapter 5. Moreover, we should take into consideration the interests of nonhuman animals in decisions influencing their interests, which applies to climate policy (McShane, 2016, p. 201), and generally to the discourse of sustainability, I

---

<sup>45</sup> She states: “I argue that the long-standing denial or disparagement of animal minds is *causally* implicated in the devastation of the biosphere. Through the portrayal of animals as inferior beings, and eventually as mechanical entities, the objectification of the natural world and its transformation into a domain of resources was vastly facilitated.” (Crist, 2013, pp. 45-46)

<sup>46</sup> This claim means that these conceptions maintain human exceptionalism (see p. 50 below).



argue. It is non-controversial in ethics that one should avoid harming others (McShane, 2018, p. 44).

Eija Vinnari and Markus Vinnari (2021) argue that nonhuman animals are invisible in the discourse of sustainability due to ontological assumptions. Namely, nonhuman animals are not distinguished from other nonhumans, for instance rocks, plants and the atmosphere, when environment or nature is discussed. In this ontology, so called “domesticated animals” locate in between society and environment, whereas “wild animals” (or free-living nonhuman animals) are given attention only as an issue of species decline. However, also these authors note how this ontology makes nonhuman animals invisible through excluding their individuality and subjectivity. (Ibid.) These complaints about invisibility and problematic ontology are accurate, albeit I argue that the fundamental issue pertains to recognising the nonhumans as feeling and conscious individuals. Thus, the processes of objectification, deindividualization and dichotomization lie in the core of neglecting direct moral concern for sentient nonhuman individuals.

Overall, there is an abundance of examples of anthropocentrism in the discourse of sustainability. The anthropocentric discourses of sustainability assume an anthropocentric conception of sustainability, according to which sustainability matters only or mostly for the sake of humans. When there is no recognition of nonhumans’ interests, the examined discourses represent the strong variety of anthropocentrism. If there is some direct moral concern for any nonhumans, anthropocentrism is weak. Anthropocentrism entails speciesism that is present also in the language of the discourses of sustainability. Speciesist language is problematic both morally and ontologically by misrepresenting nonhumans as morally inferior beings and as lacking an individual mind. However, as Dunayer states, “[e]ach sentient being is physically and mentally unique – –”, whereas “– – the language of speciesist exploitation renders nonhuman animals mindless and lifeless” (Dunayer, 2001, p. 6). Next, I examine the non-anthropocentric conceptions of sustainability.

## **4.2 The Non-Anthropocentric Conceptions of Sustainability**

In recent years, the views of sustainability that consider sentient nonhumans have started to emerge (see esp. Bergmann, 2019; Boscardin & Bossert, 2015; Rawles, 2006, 2010; Vinnari & Vinnari, 2014; 2020; Visseren-Hamakers, 2020; Wadham, 2020). There are, hence, some approaches to sustainability theorising that recognise duties to sentient nonhumans. Many state the importance of protecting nonhuman

animals.<sup>47</sup> There are also views that are not sentiocentric but in some other way non-anthropocentric. From a non-anthropocentric viewpoint, nonhumans represent the victims of the sustainability crisis (Kopnina, 2016).

In this section, I outline the central approaches of non-anthropocentric academic literature on sustainability. In addition to these examples, it is important to notice that the indigenous conceptions of sustainability pay attention to nonhumans, in which they depart, for example, from the conception of sustainability behind the Agenda 2030 and its SDGs (Virtanen et al., 2020).

**Interspecies sustainability.** Interspecies sustainability means considering the interests of nonhuman animals as a central part of the sustainability agenda (Bergmann, 2019) and duties to nonhuman animals as an issue of social justice (Probyn-Rapsey et al., 2016).<sup>48</sup> As Fiona Probyn-Rapsey et al. (2016, p. 136) remark, the idea is to include interspecies ethics in a thorough way into the understanding of sustainability:

”Unlike traditional sustainability discourses, which frame animals [sic] as renewable resources to be protected only insofar as they sustain intergenerational human survival, interspecies sustainability recognizes that animals [sic], too, have a right to the social, material and ecological bases for flourishing lives, sustained over time.” (Ibid.)

Gwendolyn Earnshaw (1999) argues that interspecies equity<sup>49</sup> is an important aspect of sustainability. Earnshaw calls the anthropocentric conceptions of sustainability ‘exploitation-based sustainability’. In contrast, Earnshaw defends an equity-based conception of sustainability that also changes the language used of nonhuman animals:

”Words such as ‘natural resources,’ ‘it,’ and ‘stocks’ deny the fact that animals [sic] are living, feeling beings. Dialogue on, and documents addressing, equity-based

---

<sup>47</sup> For example, Jamieson (2002, p. 333, as cited in Vinnari and Vinnari 2014, p. 373) argues that nonhuman animals need more attention in the discourse of sustainability. Narayanan (2016) defends concern for sentient nonhumans in the discourses of sustainable development as ‘sociozoologic justice’. Visseren-Hamakers (2020) suggests broadening the definition of sustainable development to incorporate the protection of nonhuman animals. Also citizens pay attention to nonhuman animal welfare in food systems (Boogaard et al., 2011).

<sup>48</sup> Bergmann (2019, p. 3) understands the concept in this way: “The time is long overdue to advance interspecies sustainability, a conception of sustainability that by definition and declared focus includes the concerns and interests of animals [sic], their protection and their flourishing.”

<sup>49</sup> Graham Haughton (1999) distinguishes interspecies equity as one of the five principles for equity in the context of sustainable development. The other principles include geographical, procedural, intragenerational and intergenerational equity. However, Haughton (1999, pp. 236-237) understands interspecies equity as the equal right of nonhuman *species* and humans to survive and connects the principle to the protection of biodiversity and ecosystem integrity. Thus, his view does not clearly extend duties to sentient nonhuman *individuals*. His interspecies equity represents rather ecocentric values and his overall position comes closest to what I below (p. 38) call multicriterial sustainability.

sustainability must change the language traditionally used to refer to animals [sic].” (ibid., pp. 144-145).

According to Bergmann (2019), there is an urgent need to consider animal protection in the discourse of sustainability that is hitherto merely at an onset of starting to consider the topic. Table 4 presents her comparison, regarding views on nonhumans, between anthropocentric sustainability and her view of interspecies sustainability. She (ibid., p. 9) perceives human-nonhuman power relations and the use of nonhuman animals as relevant topics in interspecies sustainability that the nonhumans and humans co-create. The human-nonhuman hierarchy should cease to exist (ibid.). Interspecies sustainability entails, thus, a deep transformation in society (ibid., pp. 23-24) and abandoning exploitative animal industries (ibid., p. 25). Also Livia Boscardin and Leonie Bossert (2015) defend an approach to sustainability where there is no hierarchy between non-human and human sentient beings.

Table 4. The views of interspecies relations in interspecies and anthropocentric sustainability. Source: Bergmann (2019, p. 10)

<i>Interspecies sustainability</i>	<i>Anthropocentric sustainability</i>
“Interspecies equity based.”	“Hierarchical.”
“Relations and partnership based, reciprocal.”	“Domination by humans.”
“Respecting otherness.”	“Using otherness to justify devaluing the other.”
“Interdependence.”	“Separation.”
“Respecting boundaries of privacy and ‘letting them live their lives’.”	“Ongoing intrusion and invasion.”
“Nonhumans and humans as embedded in networks of socio-ecological relationships that matter to them.”	“Alienation and separation or negation of animal to animal, and animal [sic] to human relationships.”
“Species inclusive ongoing dialogue and co-evolutionary.”	“Prescribed by hegemonic forces and technological means.”
“Ongoing re-defining, with animals [sic] sharing the re-defining equally.”	“Human control with strict boundaries.”
“Mutually and culturally defined.”	“Technocratically and economically defined.”

**Animal ethical dimensions of sustainability.** A few scholars suggest incorporating animal ethics to the sustainability debate as a dimension of sustainability. Philosopher Kate Rawles (2006, 2010) adjusts the three-dimensional (social, economic and environmental) view of sustainability by adding an “animal welfare” dimension that creates the sustainability diamond (Figure 1). According to Vinnari and Vinnari, one problem with her sustainability diamond is that it presents animal ethics only according to its welfarist interpretation even though animal rights is another prominent view (Vinnari & Vinnari, 2014, p. 374). Animal welfarism means giving consideration to the welfare of sentient nonhumans without questioning their institutionalised usage. Abolitionist animal rights demands stopping the institutionalised usage of nonhuman right-holders altogether (e.g., Francione, 2000; Regan, 1997). (See also e.g., Francione, 2008, introd.)

Vinnari and Vinnari (2014) suggest including animal ethics in sustainable food consumption as its own dimension of sustainability that covers animal welfare and animal rights (Figure 2).<sup>50</sup>

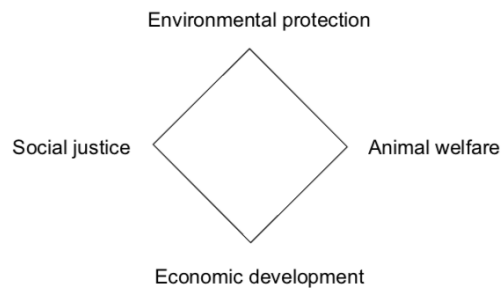


Figure 1. Nonhuman animal welfare as a dimension of sustainability in Rawles's sustainability diamond. Redrawn based on Rawles (2006, p. 215).

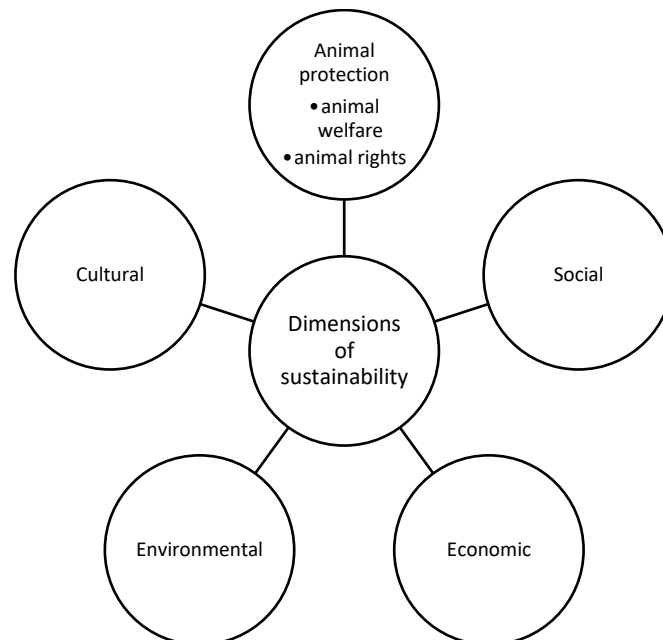


Figure 2. Nonhuman animal protection as a dimension of sustainability. Adapted from Vinnari and Vinnari (2014, p. 375) who address sustainable food consumption.

**Posthuman sustainability.** Humanism is the mainstream Western tradition that grounds human rights and puts special value and focus on human life. According to Pramod K. Nayar (2014, pp. 15–16), the concept of the human has referred to self-conscious and rational human agents who direct their life autonomously based on their

<sup>50</sup> It is unclear why Vinnari and Vinnari (2014) propose that the animal ethical dimension includes both animal welfare and animal rights. Namely, animal welfarism and abolitionist animal rights are competing views. We cannot accept and apply both simultaneously. I support the abolitionist animal rights view that I think should be integrated into all dimensions of sustainability, including the sphere of social justice. It should not remain as a separate dimension of sustainability. After all, the point is to undermine the human-animal dichotomy. Sentient nonhumans' interests and rights are relevant in all dimensions of sustainability just like humans' interests and rights are.

own plans. This human subject is typically seen as universal, singular, male and different from all other beings. Nayar understands humanism as an examination of the human subject positioned in a central spot in the world. The normative ideas of human rights and human dignity rely on this tradition of humanism. (Ibid.) Posthumanism is an approach that emphasises connections between humans and nonhumans while it questions the traditional Western notion of humans as superior to nonhumans. As Nayar summarises, posthumanism (or what he calls critical posthumanism) sees humans as developing with multispecies nonhuman entities and technology (Nayar, 2014, pp. 19-20).<sup>51</sup> Posthumanism questions “the hierarchic ordering”, demands responsibility to nonhumans and acknowledges the role of embodiment in the environment (ibid.). Moreover, the proponents of posthumanism hold in lines of critical humanists that the idea of the “normal human” is a construction that others and excludes many humans, for instance based on gender or ethnicity, in addition to nonhumans (Nayar, 2014, pp. 46-47; see also my pp. 43-44 below).

Posthuman sustainability, as introduced by Olga Cielemecka and Christine Daigle (2019), includes plants, ecosystems and nonhuman animals into future generations that we should protect. Thus, posthuman sustainability decenters humans and locates them within ecosystems and among other living creatures. Nonhumans are not perceived as resources in this approach that underscores interconnections between living beings that should all be able to thrive. Posthumanism by Cielemecka and Daigle also perceives agency in nonhuman beings, albeit this agency does not have to be intentional. All living beings are interconnected materially and located in their specific entanglements; the authors draw on feminist new materialism. Their anthropo-de-centric thinking also questions the linearity of time: they claim that actions can make the past, the present and the future take new forms, the influence of actions can materialise connections to many temporal directions. Moreover, also the time scales of other beings matter; future is not only about humans’ future. Posthuman sustainability presents, thus, the question of surviving together with nonhuman beings and through the mutual support of a multitude of beings. (Ibid.)

In their analysis drawing on the literature of feminist new materialism and posthumanism, Nick Fox and Pam Alldred (2020) name three especially noteworthy features in

---

<sup>51</sup> Nayar (2014, pp. 16-18) follows posthumanist Cary Wolfe (2010a, p. xv) in separating transhumanism from (critical) posthumanism. Transhumanism intensifies the project of humanism by aiming at perfecting the human subject through technology. Nayar (2014, pp. 46-47) explains that posthumanism has some similarities and differences with critical humanism (e.g., feminism, critical race studies and poststructuralist anti-humanism). Both criticise the exclusion of certain humans through the idea of a “normal” human. However, only posthumanism expresses also concern for the othering and excluding of nonhumans. (Ibid.)

the developing posthuman sustainability thinking. Firstly, emphasis should not lie on the essences of beings but on relations, that is, on what a being does in relation to other entities. Secondly, we should recognise that human capacities vary from a human to another. Diversity and inequalities among humans must be put into the front-line. Thirdly, there is a need to acknowledge nonhuman agency and its role in the assemblages of material beings and to refrain from adhering to the normative project of humanism. Human agency should not be in a privileged position. Overall, posthuman sustainability pays attention to both humans and nonhumans. This type of analysis rejects the culture/nature dualism by setting humans in a constant relation to nonhumans in a single ontological realm.<sup>52</sup> Fox and Alldred conclude that the UN's sustainability policy requires urgently a transition away from its anthropocentrism and towards accepting the posthuman ontology. (Ibid.)

**Ecocentric sustainability.** Verniers (2021) suggests developing the anthropocentric discourse of sustainable development towards an ecocentric direction. This change would entail, according to Verniers, considering nonhuman interests in addition to human interests.<sup>53</sup> The Brundtland Report's definition of sustainable development would state in the ecocentric version that sustainable development "meets the needs of the present without compromising the ability of future – *both human and non-human* – generations to meet their own needs". (Ibid., p. 353) Also, for instance, Haydn Washington et al. (2017) defend the ecocentric approach to sustainability. Like they discuss, ecocentrism sees the whole (abiotic and biotic) nature and ecosystems as intrinsically valuable. (See also Dobson, 1996, pp. 416-417.)

**Multicriterial sustainability.** J. Baird Callicott and Karen Mumford (1997) distinguish the concept of ecological sustainability from sustainable development and sustained yield. Ecological sustainability can refer, according to them, to protecting the ecosystems that humans use economically and where humans inhabit. The underlying aspiration is to protect ecosystem health, understood as "– –normal ecological processes and functions, irrespective of which species perform them" (ibid., p. 39), in the context of also maintaining "– –culturally selected human economic activities" (ibid., p. 34). According to the authors, ecological processes and ecosystems are valuable by themselves intrinsically and instrumentally in the sense that they embed both anthropocentric and ecocentric values (ibid., p. 36). Because these authors accept both

---

<sup>52</sup> The authors declare: "We have set out here a case for a post-anthropocentric ontology of environment – – that draws human and non-human relations into a single realm rather than setting them in opposition." (Fox & Alldred, 2020, p. 126)

<sup>53</sup> Verniers (2021) apparently means individual nonhuman animals' interests and seems, hence, to misunderstand the classic idea of ecocentrism. Ecocentrism is a holistic view where ecosystems and species have moral standing (see my sec. 5.4).

anthropocentric and ecocentric values in their conception of ecological sustainability, I suggest that we could call their approach, and similar approaches with multiple criteria of moral standing, multicriterial sustainability.<sup>54</sup>

**Multispecies sustainability.** Christoph D. D. Rupprecht et al. (2020) defend multispecies sustainability that aims at meeting the “needs of all species”<sup>55</sup> and that emphasises the interdependency of these needs. Their view ensues from a duty to sustain both human and more-than-human wellbeing (ibid., p. 5). However, the authors ground their view especially on the interdependency of meeting nonhuman and human needs, instead of on an analysis of moral standing (ibid.).<sup>56</sup> Previously, Olivia Davies and Kathleen Riach (2019) have discussed ‘multispecies sustainability’. In addition, environmental scholars have started to examine environmental and climate justice through a multispecies framework, although they do not use the concept of multispecies sustainability. For example, Danielle Celermajer et al. (2020) examine and adopt a multispecies approach to justice, and they understand this approach to regard what type of relationships humans should have with more-than-human beings. According to them, “– human and nonhuman animals, species, microbiomes, ecosystems, oceans, and rivers – and the relations among and across them – are all subjects of justice” (ibid., p. 9). Some have supported the multispecies justice approach in analysing climate justice (Tschakert, 2020; Tschakert et al., 2021).

---

<sup>54</sup> For instance, Callicott’s (e.g., 2015) later-phase ecocentric environmental ethic incorporates concern for individuals and ecosystems. Therefore, the difference between ecocentric and multicriterial sustainability is not completely clear. Difference can lie in the emphasis of ecocentric values, that is, in the comparative strength of the direct moral concern owed to nonhumans. Another difference is that a view of multicriterial sustainability can combine any criteria of moral standing: it does not have to be specifically of ecocentric and anthropocentric values.

<sup>55</sup> The authors probably mean the needs of individual organisms in all species, not needs of species that are collective entities.

<sup>56</sup> There is ambiguity in whether they extend moral standing to nonhuman organisms: “However, given the variety of moral statuses assigned to more-than-humans across human individuals and groups, disagreement on their precise nature might threaten commitment to strive for multispecies sustainability. – – We thus believe making the strongest case possible for multispecies sustainability benefits from an argument that does not rely solely on valuing more-than-human wellbeing as a normative premise. – – To achieve sustained human flourishing as a normative goal will thus require abandoning a reductionist approach in favour of a multispecies approach to sustainability, regardless of the moral status assigned to more-than-humans based on individual or group beliefs. – – Here we thus propose multispecies sustainability not as an argument for changing values and beliefs held to include more-than-humans (although such an argument certainly merits consideration), but as a broadening of the ethical concept of sustainability required to account for the fundamental interdependence of species’ wellbeing, and ultimately achieve sustainability goals.” (Rupprecht et al., 2020, p. 5) The authors also perceive agency in the nonhumans they describe as stakeholders.

### **4.3 Chapter's Conclusions**

In this chapter, I have examined the conceptions of sustainability in the dominant and emerging discourses of sustainability by focusing specifically on the views of moral standing. I have demonstrated that the dominant discourses and conceptions of sustainability (e.g., the UN documents, the IPCC reports and the planetary boundaries framework) are anthropocentric and speciesist. The anthropocentric mainstream objectifies and deindividualizes sentient nonhuman individuals and maintains the human-animal dichotomy. Nevertheless, discussion on, for example, posthuman and interspecies sustainability has emerged recently. Some have distinguished animal ethical concerns as a dimension of sustainability. There are proponents of multispecies sustainability and of an ecocentric approach to sustainability. I have suggested that we could call 'multicriterial sustainability' the views that combine different criteria for moral standing.

This chapter has examined the views of moral standing in the conceptions of sustainability that are present in sustainability literature. In contrast, the next chapter presents a typology of the possible main conceptions of sustainability by drawing on philosophical literature on moral standing. This chapter has remained in the realm of the first-order moral discourse. The next chapter moves to the second-order moral discourse of sustainability and assesses through philosophical analysis the plausibility of different views.

## **5 Moral Standing in the Second-Order Moral Discourse of Sustainability**

In this chapter, I present a typology of the anthropocentric and non-anthropocentric conceptions of sustainability based on the focal philosophical views of moral standing. I introduce and describe the strong variety of anthropocentric sustainability, the weak variety of anthropocentric sustainability, sentiocentric sustainability, biocentric sustainability and ecocentric sustainability. Based on philosophical research on moral standing, I argue that the sentiocentric conceptions of sustainability are the most plausible ones. I defend a sentiocentric conception of sustainability where all sentient beings are equal.

The approach of this chapter differs from the previous chapter by addressing philosophical arguments and implications regarding the anthropocentric and non-anthropocentric conceptions of sustainability. The previous chapter has examined critically a first-order moral discourse, that is, what is said in the discourse of sustainability. Next, my analysis moves to the level of normative philosophical arguments, that is, the second-order moral discourse, to address the plausibility of various views (see chapter 3 on the method). Chapter 4 has answered the first research question ("What kind of anthropocentric and non-anthropocentric conceptions of sustainability are there in



sustainability literature?”) based on sustainability literature and has diagnosed some problems in the anthropocentric conceptions (i.e., speciesism, objectification, the human-animal dichotomy, deindividualization). This chapter answers to the second and the third research question by using the philosophical method and literature. The research questions are: “What kind of conceptions of sustainability ensue from the main philosophical views of moral standing?” (RQ 2) and “How plausible are the different anthropocentric and non-anthropocentric conceptions of sustainability?” (RQ 3). In addition to philosophy, I continue drawing on interdisciplinary literature.

### 5.1 The Strong Variety of Anthropocentric Sustainability

We can distinguish the strong and weak sense of anthropocentrism (Brennan & Lo, 2020). In what I call the strong variety of anthropocentric sustainability (or strong anthropocentric sustainability), only humans have moral standing. The normative ground of this view is strong anthropocentrism, according to which there are no direct duties to nonhumans. This view entails that nothing could wrong any nonhuman being. For instance, violence could in no circumstances be wrong towards sentient nonhuman animals, such as whales, hens, bees and dogs, for the sake of the beings themselves. Sustainability problems would be negative states of affairs solely due to their influence on human interests. Also, the various dimensions of sustainability, such as environmental, economic, social and cultural sustainability, would only cover human interests (Figure 3).

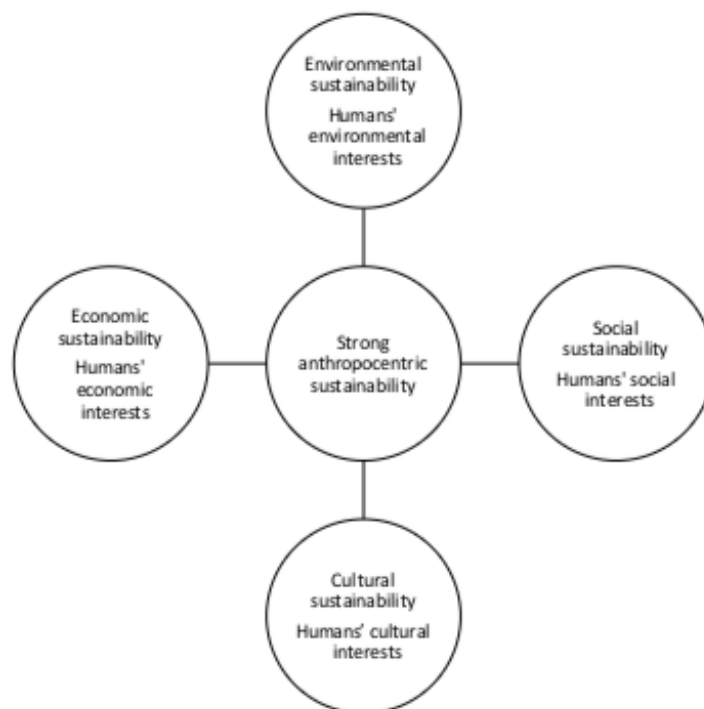


Figure 3. The dimensions of sustainability in the strong variety of anthropocentric sustainability.

Intragenerational and intergenerational justice, for example, would merely regard human interests, and the nonhuman world would have value solely according to human interests. Nonhuman entities would matter as mere resources, aesthetic objects and meaningful sites<sup>57</sup> for human activities. Instrumental values in nonhuman nature do not, hence, reduce to its use and potential use as a resource; also its existence (existence value) and power to transform human preferences (transformative value) can be valuable (Brennan, 1992; Norton, 2014/1987).<sup>58</sup>

For example, the UN's Agenda 2030 (UN, 2015) has features of strong anthropocentrism, as it interprets sustainability and the dimensions of sustainability conspicuously according to human interests. Although, for instance, biodiversity conservation is mentioned in the agenda, the underlying justification for protecting the planet is human benefit (ibid., p. 2). The focus is clearly on humans' issues. On the other hand, the agenda occurs in the larger societal context of weak anthropocentrism, as most contemporary societies have, for instance, animal welfare legislation. Thus, the implementation of the agenda may represent weak anthropocentrism in the sense that practical policy must follow animal welfare legislation, although the policy document itself represents rather the strong variety of anthropocentrism. For example, the means of combating malnutrition cannot violate the animal welfare laws. On the other hand, there are some remarks that could allow interpreting the agenda as weakly anthropocentric. The agenda, for example, envisages that “– – development and the application of technology – – respect biodiversity”, and that “– – humanity lives in harmony with nature and – – wildlife and other living species are protected.” (UN, 2015, p. 4)<sup>59</sup> Nonetheless, it is unclear whether this protecting of nonhumans is a direct or an indirect duty. In the previous case, the agenda would represent the weak variety of anthropocentric sustainability. Nonetheless, direct duties to sentient nonhumans or to other nonhuman entities are not clearly present in the agenda, which implies that we can interpret the text as anthropocentric in the strong sense. The text maintains a sharp normative separation of humans and nonhumans. Nonhumans are resources to be protected for human generations, according to the agenda (ibid., see e.g., p. 2).

We can criticise anthropocentrism for its disregard of nonhumans' and some humans' interests. Anthropocentrism arguably subjugates both nonhumans and humans (e.g.,

---

<sup>57</sup> Nonhuman nature can have value as a particular or unique unit or site, that is, it can have *de re* value (Ott et al., 2016, p. 840).

<sup>58</sup> Norton (2014/1987, p. 12) calls anthropocentric views where nonhuman nature has transformative values 'weak anthropocentrism'. I write here of anthropocentrism in the strong and weak sense differently, based on Brennan and Lo (2020).

<sup>59</sup> The agenda also mentions stopping biodiversity loss and protecting species (UN, 2015, p. 25, regarding the SDG 15). See also UN (2015, pp. 5, 9, 15, 24).

Ruuska et al., 2020). Toni Ruuska et al. (2020) call anthropocentric politics anthropolitics. They argue that mainstream politics and, for instance, the Green New Deal represent anthropolitics that dominate both humans and nonhumans. (Ibid.) As I explained above (pp. 36-37), the humanist tradition conceives humans as unique, separate from and superior to nonhumans, which posthumanist thinkers have questioned (Nayar, 2014, pp. 15-16, 19-22). In humanism, the very idea of the human has favoured the interests of *certain humans*. The “humans” have in practice been white, able-bodied, heterosexual and middle-class Western men.<sup>60</sup> The exclusion of women, racialised people, gender and sexual minorities, persons with disability and nonhuman animals has been a part of humanist politics. As Nayar (2014, pp. 19-20) puts it:

“Posthumanism – – has a definite politics in that it interrogates the hierarchic ordering – and subsequently exploitation and even eradication – of life forms. – – Critical posthumanism draws the connections between traditional humanism’s exclusionary strategy and women, races or ethnic groups, but also animals [sic], being kept out as slaves, monsters or mere providers of meat [sic], entertainment or labour. It is in the exclusionary definition of the human that we can find the origins of sexism, racism and other exclusionary practices.”

The concept and idea of the animal have functioned as the least valuable position in a hierarchical worldview (Cavaliere, 2009, pp. 3–4). For example, indigenous peoples have been oppressed through animalisation<sup>61</sup> (Eichler & Baumeister, 2020). The human-animal dualism is the product of settler colonial cultures; the indigenous relation to nonhuman animals has been a kinship relation (ibid., p. 311). Billy-Ray Belcourt (2015) argues that anthropocentrism is connected to settler colonialism also through the

---

<sup>60</sup> Feminist philosophers have argued that the Kantian subject and homo economicus, that are influential conceptions of the self, actually represent “a white, healthy, youthfully middle-aged, middle- or upper-class, heterosexual, cisgender male citizen.” (Anderson et al., 2021, sec. 1, para. 1-2) Discriminated humans have been understood in relation to this idea of the human. As Lauren Corman (2020, p. 166) remarks: “The casting out of Other human groups is done through an articulation of their distance from the idealized liberal human Subject, a white, cis, heterosexual, able-bodied man.” On persons with disability, see for instance Nayar (2014, Chapter 5) and Sunaura Taylor (2017).

<sup>61</sup> Eichler and Baumeister (2020) mean by the animalisation of indigenous peoples how settler colonialists have represented the indigenous peoples as beings resembling nonhuman animals and, hence, as inferiors to be subjugated. The authors write: “Accordingly, if Native Americans were seen to be more animal, and so less properly human, this empowered settlers to treat Native persons as they would other nonhuman animals, both domestic and wild, which is to say, as beings lacking intelligence and moral standing.” (Ibid., p. 301) Cary Wolfe (2010b, p. 16) points out that this oppressive logic can function against anyone: “– – as long as the automatic exclusion of animals from ethical standing remains intact simply because of their species, such a dehumanization via animalization will be readily available for deployment against *whatever* body that happens to fall outside the ethnocentric ‘we.’” According to Claire Jean Kim (2015, p. 24), Western culture has animalized racialized groups. According to what she calls “the conventional wisdom”, “– – powerful groups have used animalization to “dehumanize” less powerful groups, demoting them from category A (humans) into category B (animals) and thus stripping them of the entitlements, rights, and protections distinctively owed to humans”. (Ibid.) However, Kim argues that racialized groups never actually had the societal status of being fully human.

occupation of indigenous land for “animal agriculture” (or the flesh industry). Furthermore, it is the speciesist logic that enables representing indigenous bodies as animal-like and seeing the comparison to nonhuman animals as insulting.<sup>62</sup> (Ibid.)

I propose that calling sentient nonhumans “animals” is also a case of animalisation. The concept of the animal is negatively value-laden and, therefore, attaching it to the sentient nonhumans is problematic. The conceptions of sustainability that maintain the human-animal dichotomy represent an oppressive and hierarchical worldview in which the concept of the animal functions as a means to oppress anyone excluded from the category of the human, including sentient nonhumans. As Claire Jean Kim (2015, p. 287) notes of the connections between race and species: “– – the human has always been a thoroughly exclusionary concept in race and species terms – that it has only ever made sense as a way of marking who does *not* belong in the inner circle.”

Indigenous peoples are an example of dominated groups whose interests receive minor consideration in sustainability politics and policy. For example, Virtanen, Siragusa and Guttorm (2020) argue that SDGs (Sustainable Development Goals) of the Agenda 2030 do not take into consideration the cultural and communal differences of the indigenous ways of life. According to them, SDGs cannot represent universal policy objectives or a universal conception of sustainability, as the indigenous interpretations of sustainability differ from the SDGs. Considering relations to other-than-human beings is a common aspect of indigenous perspectives related to sustainability. (Ibid.)

Thus, indigenous cultures approach sustainability issues differently, with less or no anthropocentrism, in comparison to the Western mainstream paradigm. Consequently, the anthropocentric, dominant conceptions of sustainability marginalise indigenous worldviews and undermine their cultural heritage. I argue that this is cultural imperialism. Critical social theorist and feminist philosopher Iris Marion Young (1990, p. 59) explains that cultural imperialism entails “the universalization of a dominant group’s experience and culture, and its establishment as the norm.” This is precisely what universal SDGs do in relation to the indigenous peoples’ conceptions of sustainability. According to Young (ibid., pp. 58-60), cultural imperialism also renders the inferior cultural groups “Others”, stereotypes them and leaves their perspective invisible. Moreover, I suggest that cultural imperialism may reify in the domination of nonhuman cultures in the

---

<sup>62</sup> Perceiving a comparison to sentient nonhumans as an insult is problematic due to its demeaning view of the “animals”. Like Corman (2020, p. 167) notes: “– – racist and colonial discourses reliant on animalization are also speciesist and harm nonhuman animals, as predicated as they are on degraded constructions of animals – –.”

discourse of sustainability. At least certain sentient nonhumans have their own cultures (e.g., Rendell & Whitehead, 2001), which the discourse of sustainability disregards.

In any case, the conceptions of sustainability that represent strong anthropocentrism are ethically unacceptable, because sentient nonhumans have interests that we should consider, as, for instance, Singer (2009/1975) has famously argued. Sentient beings have their own experiential welfare. They can be benefited and harmed. In this sense, they are morally relevantly similar to humans, and their interests require consideration in sustainability issues. Moreover, we know that biological classifications<sup>63</sup> and prejudicial claims are morally irrelevant: so called “race”, “gender” and “species” cannot legitimately make anyone an inferior (see e.g., Regan, 2003, pp. 99–100). Thus, I conclude that the strong variety of anthropocentric sustainability is speciesist and morally wrong.

It is my contention that the anthropocentric<sup>64</sup> conceptions and discourses of sustainability are forms of oppression that privilege certain humans. In her earlier work (Young, 1990, Chapter 2), Young explains the concept of oppression through five aspects of it. Cultural imperialism is one of the aspects. The others are exploitation, marginalisation, powerlessness and violence. She states that oppression has traditionally meant “tyranny by a ruling group” (p. 40) and has also connected to the colonial rule. However, the social movements since the 1960s and 1970s have used the term ‘oppression’ of everyday disadvantages that certain groups face in a liberal society. In this case, oppression does not have to be intentional, despite it being systemic. For instance, assumed social norms and major cultural institutions can unintentionally cause oppression without there being a malicious ruling group. (Ibid., p. 41.) Young analyses oppression as relations between social groups and notices that some being oppressed entails some being privileged (ibid., e.g., p. 42). However, the same individual can face both forms of oppression and forms of privilege (ibid., p. 42). Especially feminist researchers refer by the concept of intersectionality to the fact that various forms of oppression and privilege interlink and that an individual locates in the crossroads of various social categories (see e.g., Crenshaw, 1989).

Young’s thinking is anthropocentric. Nonetheless, philosopher Robert Jones (2015) has extended Young’s work of oppression to nonhuman animals. He understands justice as protection of a being’s basic entitlements and argues for extending social justice to all sentient beings, which includes protection from systemic and institutional oppression and domination. He argues that sentient nonhumans used in the “animal agriculture”, or the flesh industry, are dominated and oppressed. The five faces of oppression

---

<sup>63</sup> Biological classifications, such as species, are of course also social classifications.

<sup>64</sup> The argument applies to the strong and weak varieties of anthropocentric sustainability.

that Young discerns apply to their condition, as they are physically imprisoned to a powerless and marginalised state, unable to express themselves in interaction, exploited for human purposes and exposed to violence. Jones also sees that cultural imperialism extends to the human-nonhuman animal relation, as humans subjugate non-human animals to human traditions and cultural practices. (Ibid.) I see this oppression as an issue of intra- and intergenerational justice and, thus, as a central issue in any plausible conception of sustainability.

Jones, however, discusses merely the flesh industry (or “animal agriculture”) as an example of the structural oppression of sentient nonhumans. Philosopher Lori Gruen (2009) expands Young’s model to sentient nonhumans and also recognises the oppression through human control and the destruction of habitats. Of the powerlessness of sentient nonhumans she writes that

“[e]ven seemingly powerful animals in the wild are increasingly rendered incapable of doing what they might otherwise choose to do as habitat is being destroyed and they are more frequently meeting human animals who are certainly less physically powerful, but who have guns and other high-powered weapons that can be shot from jeeps, ships, and helicopters.” (ibid., pp. 163-164)

The conceptions of the strong variety of anthropocentric sustainability maintain the oppression of sentient nonhumans by not questioning their violent exploitation and by disregarding their environmental, cultural, social and economic interests. Strong anthropocentrism maintains an oppressive system where the position of a “normal human” is a privilege while all nonhumans who have interests face oppression. Furthermore, anthropocentric politics has oppressed also certain humans, for instance, indigenous peoples in colonial contexts.

## **5.2 The Weak Variety of Anthropocentric Sustainability**

In weak anthropocentrism, human interests matter much more than the interests of any nonhumans (Brennan & Lo, 2020).<sup>65</sup> Accordingly, what I call the weak variety of anthropocentric sustainability (or weak anthropocentric sustainability) is a conception of sustainability that considers human interests primarily and some nonhumans’ interests secondarily. For example, the discourses of sustainable food systems have features of weak anthropocentrism if the primary focus lies clearly on human interests and minor consideration is given for nonhuman animal welfare.

---

<sup>65</sup> Norton (2014/1987, p. 12) defines strong and weak anthropocentrism differently. According to him, strong anthropocentrism means that there are only demand values in nonhuman nature whereas weak anthropocentrism accepts that there are also other instrumental values, that is transformative values, in nonhumans.

The weak variety of anthropocentric sustainability has similar ethical problems as the strong variety has. Namely, it is a speciesist view that does not give equal consideration to everyone's (also to sentient nonhumans') interests. In animal ethics, there are two central arguments that demonstrate the moral standing of all sentient beings, as environmental ethicist Joel MacClellan (2012, sec. 2.4) discusses. According to the argument from species overlap<sup>66</sup>, certain humans are morally relevantly similar to sentient nonhuman animals. Thus, their moral position is corresponding. There is no criterion for moral standing that all humans fill and all nonhuman animals fail to fill. (See e.g., MacClellan, 2012, pp. 100-101.) Children, certain persons with mental disability and sentient nonhumans lack the moral abilities of moral agents but share the possession of experiential welfare. The argument also justifies the equality of all sentient beings when we assume, as we should, that these humans are equal in comparison to moral agents. Children and persons with mental disability are without doubt equal members of societies. Because sentient nonhumans have similar morally relevant empirical features, also they are equal members of societies, and maximally morally significant, based on the requirement of impartiality: treating relevantly similar cases similarly (see e.g., Pluhar, 1995, p. 64).

The other argument is the extrapolation argument, according to which we should extend moral standing to all beings who have the quality based on which we matter morally (MacClellan, 2012, pp. 102-106). Thus, because it is plausible to think that having a welfare suffices for equal and maximal moral standing among humans, also sentient nonhumans, who have a welfare, qualify (Tiisala, 2020a, p. 187; see also Korsgaard, 2018a, pp. 144–145). There is also the argument from relevance: only morally relevant characteristics can affect moral standing. Sentience is relevant through making a being possess a well-being. Rationality, for example, is not in this sense morally relevant. The argument entails that anthropocentrism fails. (Faria, 2016, pp. 45–46.) Table 5 explains how various suggested criteria for moral standing make nonhuman and human beings qualify as the equal recipients of direct duties.

Moreover, ethicists accept widely that coincidental characteristics out of one's control cannot justifiably reduce anyone's moral position. Coincidental attributes like gendered and racialised characteristics, talent and the position to which one is born in a society should not reduce one's entitlements (see e.g., Gosepath, 2011; Rawls, 1971).<sup>67</sup>

---

<sup>66</sup> The argument is more famously known as 'the argument from marginal cases'. For example, MacClellan originally uses this name, not 'the argument from species overlap' (cf. Horta, 2014).

<sup>67</sup> As Gosepath (2011, sec. 3.6, para. 2) puts it: "Advantages or disadvantages that are due to arbitrary and unearned differences in social circumstances or natural endowments are unfair."

Species, abilities/disabilities and relations to humans are coincidental in the same fashion, which entails that they cannot justify the alleged inferiority of sentient nonhumans (see Tiisala, 2020b, Chapter 5). Being born as rational and human is clearly coincidental and undeserved and cannot justifiably increase anyone's moral entitlements (Rowlands, 2009/1998, pp. 148–152).

Table 5. Nonhuman and human qualification by various criteria for moral standing. Notice that only some biological humans qualify according to these criteria. For instance, dead humans disqualify in all cases. The subject-of-a-life criterion proposed by Tom Regan (2004/1983, p. 243) uses a cluster of cognitive, conative and emotional abilities as the criterion: for example, having beliefs, desires, future consciousness, memory and intentional agency, in addition to sentience. In unclear cases, one should give the benefit of the doubt to a being (e.g., *ibid.*, p. 320).

<i>Criterion for moral standing</i>	<i>Nonhumans who qualify</i>	<i>Humans who qualify</i>
Moral agency	Unclear or none	Adults capable of justifying their actions morally and choosing them freely
Subject-of-a-life	At least all psychologically paradigmatic mammals, birds and fishes (Regan, 2006)	Young children at least since the age of one (Regan, 2004/1983, p. 78), possibly infants and soon-to-be born foetuses ( <i>ibid.</i> , pp. 319-320), adults who are moral agents, most mentally disabled humans
Sentience	All psychologically paradigmatic vertebrates, certain or almost all invertebrates (Dunayer, 2013; cf. Proctor, 2012)	All mentally disabled sentient humans, sentient foetuses, children, infants, adults who are moral agents
Being alive	All living biological organisms	All living humans (also, e.g., non-sentient foetuses, embryos, brain dead humans)

We can oppose hierarchies also for psychological reasons. In her book, "Powerarchy", psychologist and critical animal studies researcher Melanie Joy (2019) argues against a metasytem, powerarchy, in which humans believe that individuals have a hierarchical amount of moral value. In contrast, the systems of integrity (i.e., power-with systems), that are the opposite of powerarchy, empower individuals, make them connect and protect their dignity (*ibid.*, pp. 102-104). Psychological research suggests that speciesism connects to other discriminatory prejudices (e.g., racism) while there is a negative correlation between speciesism and empathy (Caviola et al., 2019).

It is important to keep in mind that moral standing is only a normative aspect of a fully developed conception of sustainability (see Table 3, p. 17 above). The accepted theory of normative ethics, for instance consequentialism, virtue ethics or deontology, is decisive for what the duties to beings with moral standing are, which guides sustainability efforts in practice. For example, utilitarianism as a consequentialist ethical theory seeks to maximise the aggregated welfare, while rights-based deontological theories focus on respecting the moral rights of individuals according to moral principles. All conceptions



of the weak variety of anthropocentric sustainability have, however, one thing in common: humans' interests come first before any nonhumans' interests when the interests are of equal importance to the beings.

The conceptions of the weak variety of anthropocentric sustainability can differ based on the sharpness of the hierarchy. Depending on the sharpness of the hierarchy, for example, secondary human interests may overweight primary nonhuman interests. Destroying someone's habitat even for the sake of luxury consumption may be permitted in a conception of weak anthropocentric sustainability that has an extremely steep hierarchy between humans and other beings. The conceptions of the weak variety of anthropocentric sustainability can also differ based on which beings have moral standing in addition to humans. In addition to sentient nonhumans, some defend the moral standing of all living beings, species or also of ecosystems. For instance, ethicist Mary Anne Warren (2003) defends a multicriterial approach to moral standing where all living beings have some moral standing, sentient beings have higher standing and moral agents and other sentient humans the highest level of standing.

Weak anthropocentrism that extends moral standing to all sentient beings and the highest standing to humans represents the common-sense morality of Western societies (see e.g., Kagan, 2019, p. 4; see also Jaworska & Tannenbaum, 2018). Thus, it is unsurprising that the dominant discourses of sustainability are anthropocentric. For example, humans often perceive free-living sentient nonhumans as resources (e.g., "game") for human use, which means that the nonhumans' interests regarding habitats do not limit most human use and destroying of the habitats. As Boscardin and Bossert (2015) interpret, the anthropocentric views of sustainability reflect the hegemonic relations between humans and other animals in contemporary societies.

The weak variety of anthropocentric sustainability, still, always contains some moral limits to humans' use and harming of nonhumans who have moral standing. For example, destroying habitats for any purpose cannot be permitted when there are duties to nonhumans needing the habitats. This has implications for the debate between weak sustainability and strong sustainability (see e.g., Dobson, 1996; Pelenc & Ballet, 2015, sec. 2.1). According to the proponents of weak sustainability, what we should sustain is the aggregate and non-declining total capital of humans from a generation to the next. In contrast, the strong conception of sustainability entails that we cannot limitlessly substitute different forms of capital to each other. For instance, natural capital is not substitutable by human-made or manufactured capital limitlessly. Some crucial parts of the natural capital, that is critical natural capital, should sustain between generations. (See e.g., Ayres et al., 2001; Chiesura & de Groot, 2003, sec. 2; Pelenc & Ballet, 2015,

sec. 2.1; Robinson, 2004, p. 375, Footnote 9.)<sup>68</sup> Direct duties to nonhumans transform the debate between weak and strong sustainability, as nonhumans are not, hence, mere capital for humans: discharging duties to the nonhumans matters by itself from a generation to the next (see also Boscardin & Bossert, 2015; Dobson, 1998, pp. 39, 50–54, 1996). The view of moral standing, thus, influences sustainability policy by transforming the objectives of policy and setting moral limits to acceptable human actions.

The strong and weak variety of anthropocentric sustainability maintain human exceptionalism. Human exceptionalism means perceiving humans as ontologically different from all nonhumans and also as superior to the latter (Gruen, 2011, pp. 4–5; Srinivasan & Kasturirangan, 2016). However, no morally relevant empirical features are unique to all humans, like the argument from species overlap and the extrapolation argument demonstrate (see Table 5). Human exceptionalism has also been a central part of colonialism that has built on a claim that indigenous people resemble other animals (Montford & Taylor, 2020, pp. 3, 8–9).<sup>69</sup> Comparing indigenous humans to nonhuman animals has been a part of the arguments aiming at justifying colonialism: “The claim that Indigenous persons were closer to animals [sic] than to white European men also functioned to cast them without culture and as inferior persons requiring civilization, justifying colonial projects.” (Ibid., p. 3)

Thus, I argue that the subjugation of nonhuman animals and certain humans is connected in the project of human exceptionalism. This connection occurs on the level of justifications presented for domination, as, for instance, in the case of indigenous peoples. Moreover, the idea of a hierarchical worldview (see Cavalieri, 2009) and the specific forms of oppressions (e.g., patriarchy, Adams, 1990; ableism, S. Taylor, 2017) subjugate both certain sentient humans and all sentient nonhumans. In addition, Joy (2019) argues that all oppressive systems are fundamentally similar, for instance, regarding cognitive distortions and other psychological defences they involve.<sup>70</sup>

<sup>68</sup> According to Robinson (2004, p. 375, Footnote 9), David Pearce et al. (1989) introduced the distinct ideas of weak and strong sustainability.

<sup>69</sup> The authors analyse: “Human exceptionalism has been integral to Western settler colonial projects. Cogent with a racialized, gendered, and speciesist hierarchy of life has been the belief that culture is unique to (typically) white men. Dualisms such as nature/culture, body/mind, female/male, and animal/human have been used to mark those labelled as closer to nature, such as racialized persons, women, and animals [sic], as less human and therefore a-cultural non-agentic non-subjects.” (Montford and Taylor, 2020, pp. 8–9)

<sup>70</sup> She explains: “I had deconstructed the carnistic system, identifying and articulating the specific social and psychological defense mechanisms that keep it intact. In the process, I realized that these same mechanisms exist in all oppressive systems. In other words, the same psychological (and social) mechanisms that enable us to harm nonhumans enable us to harm humans.” (Joy, 2019, pp. 3–4) Moreover, Joy argues that similar mechanisms cause societal oppression and relational dysfunction in personal relationships: “The same attitudes and behaviors that enable social oppression and the oppression of nonhuman animals and the environment

Therefore, there are also psychologically similar mechanisms behind the oppression of different individuals.

### 5.3 Biocentric Sustainability

Biocentrism means extending direct moral concern to living organisms (e.g., P. W. Taylor, 1981). Accordingly, biocentric sustainability is based on the biocentric view of moral standing. Thus, interests of plants, animals (nonhuman and human) and fungi should be the basis of sustainability policy and politics. Biocentric thinkers have tried to justify biocentrism by their intuitions of the value of living organisms. For example, biocentric environmental philosopher Robin Attfield argues through his colleagues' thought experiments that humans value the flourishing or existence of plants as such and discusses this as an argument for biocentrism (Attfield, 2020, p. 68). Biocentric environmental philosopher Paul Taylor (1981) has argued that living organisms have inherent value as teleological centers of life that aim at surviving and realising their own good.

Justification for biocentrism is, however, weak. Non-sentient beings lack affective consciousness and a subjective viewpoint. Thus, I argue that they do not have a viewpoint from which their life could matter *to them* (Tiisala, 2020b, sec. 6.5.2; see also Singer, 1993/1979, pp. 279, 283-284). They do not have a good since they lack an intrinsic viewpoint (cf. Taylor, 1981, pp. 210-211). Therefore, their life can matter only extrinsically, due to reasons external to them, that is, due to the welfare of sentient beings. Moreover, it is unclear why all living organisms would have but human-designed artefacts would lack a good: both function apparently towards certain aims. Thus, biocentric thinkers cannot successfully demarcate living organisms from artefacts as possessors of moral standing, which is absurd (MacClellan, 2012, pp. 59-60).<sup>71</sup> Moreover, arguments for biocentrism relying merely on intuitions are problematic, because having an intuition is not yet a justification and because everyone does not share the intuition. I accept that plants may have intrinsic value as pieces of art have, while it is dubious to extend moral standing to them.<sup>72</sup>

---

also enable interpersonal and even intrapersonal **abuse**, and all levels are mutually reinforcing; each feeds the other." (Ibid., p. 11)

<sup>71</sup> Biocentrists have tried to answer this criticism by arguing that the origin of a being matters, which is, however, a problematic claim forming the Origin Problem for biocentrists (MacClellan, 2012, pp. 60-61). Biocentrism also faces the Normativity Problem: it is unclear why there would be duties to biological organisms even if they had interests (MacClellan, 2012, p. 62; see also O'Neill, 1992, pp. 131–132). On the problems of biocentrism and ecocentrism, see also, for instance, Janna Thompson's (1990) well-argued analysis and Tiisala (2020a).

<sup>72</sup> Intrinsic value has many meanings. Only one meaning of it is moral standing and, accordingly, a membership in the moral community (Jamieson, 2008, p. 70). Other meanings are: having value based on intrinsic characteristics, having non-instrumental value and having objective value (i.e., value regardless of whether someone values the object). (Ibid., pp. 69–72; O'Neill,

## 5.4 Ecocentric Sustainability

Ecocentrism extends moral standing to ecosystems (see e.g., Jamieson, 2008, sec. 6.2). Ecocentric sustainability means, hence, that sustainability policy and politics should rely on direct duties to ecosystems. Ecosystems are collective entities, which makes the view ethically holistic (Callicott, 1980). This primacy of ecosystems in comparison to individuals entails that sacrificing individuals for the sake of protecting ecosystems would be permissible, which Regan has called environmental fascism (Regan, 2004/1983, pp. 361-362, cf. Callicott, 1980, 2001; cf. Faria, 2016, pp. 116-117). For example, we could solve the climate crisis by sacrificing human and nonhuman animal interests, even by killing, to limit emissions. This is counterintuitive and morally unacceptable. For example, ecocentrist Callicott has developed his early view of ecocentrism (Callicott, 1980) to a view (e.g., Callicott, 2015) that is congruent with duties to individuals and ecosystems.<sup>73</sup> One problem is also how to delineate ecosystems clearly from each other, which would be necessary for defining duties to them (Jamieson, 2008, p. 151).

It is, in any case, unreasonable to extend moral standing to ecosystems. Philosophically, ecocentric sustainability is ill-founded. Like non-sentient organisms, ecosystems lack affective consciousness and an intrinsic viewpoint according to which things would matter to them (Singer, 1993/1979, pp. 283-284; Tiisala, 2020b, sec. 6.5.2). The same applies to species to which some ecocentrists (e.g., Johnson, 1991) expand moral standing. I consider species as collective entities used for classifying individual organisms; they lack a subjective viewpoint that would entail interest possession.<sup>74</sup> The multi-species justice approach to environmental politics (see p. 39 above, Celermajer et al., 2020) comes closest to ecocentrism, as the approach extends duties, for instance, to rivers, and fails for the same reasons. Also, the posthuman sustainability in the sense presented by Cielemeńska and Daigle (2019, p. 72) resemble ecocentrism and fail accordingly. Although there are duties *regarding* ecosystems, the duties are not owed *to* ecosystems.

---

1992.) I accept that plants might have intrinsic value in some other sense than as moral standing.

<sup>73</sup> Bergmann (2019) builds her framework of interspecies sustainability on the legacy of ecocentrism combined with concern for individuals.

<sup>74</sup> Duties to protect the members of endangered species can rely on the rights and interests of individuals. Also compensatory justice is relevant. (See Regan, 2013, sec. 8.3.2.)

## 5.5 Sentio-centric Sustainability

“From the moral point of view, each of us is equal because each of us is equally a somebody, not a something – –.” (Regan, 2013, p. 120)

“Recognizing the individuality of others interrupts the process of deindividuation, making it more difficult to maintain the psychological and emotional distance necessary to harm them.” (Joy, 2011, p. 120)

“[T]he question is not, Can they *reason*? nor, Can they *talk*? but, Can they *suffer*?” (Bentham, 1879/1789, p. 311, Footnote 1)

In my view, we should approach sustainability through the lens of equal sentient rights and dispense with the normative distinction between sentient nonhumans and sentient humans. All sentient beings have a life that matters to them, in which sense they are relevantly similar in ethics. We cannot separate ethical questions, therefore, into human ethics and animal ethics. All ethics should be sentient ethics.

Sentio-centric sustainability<sup>75</sup> relies on the sentio-centric view of moral standing. According to MacClellan, sentio-centrism is the ethical view where sentience is the sufficient and necessary criterion for moral standing: thus, it entails that all and only sentient beings matter morally for their own sake (MacClellan, 2012, pp. 44–45, 196).<sup>76</sup> Non-sentient beings can, however, matter for the sake of sentient beings. For instance, protecting ecosystems is necessary for the welfare of sentient beings. As ethicist Christine Korsgaard (2018a, p. 206) argues, habitats are shared goods for the members of animal species who genuinely need them as resources and places for collective activities.

We should protect non-sentient nature despite its lack of moral standing. Nonsentient living things have significant instrumental value for sentient beings (e.g., MacClellan, 2012, p. 208). Moreover, nonsentient beings can have aesthetic and intellectual value (ibid., p. 209). In what MacClellan (2012, sec. 4.4, esp. pp. 195-196, 205-206) calls strong sentio-centrism, only sentient beings and their rights or welfare matters; nonsentient entities have instrumental value. In weak sentio-centrism, non-sentient entities can have extrinsic non-instrumental value, that is, they can be valuable for their own sake

---

<sup>75</sup> This view has important similarities with interspecies sustainability developed especially by Bergmann (2019, see my sec. 4.2 above). However, since the normative focus is on duties to sentient individuals, not on relations between species, the name ‘sentio-centric sustainability’ is more accurate than ‘interspecies sustainability’. Moreover, Bergmann (2019, sec. 2.1, 2.5, see also her Table 1) builds on ecocentrism and on the Aristotelian tradition of virtue ethics by emphasising telos and flourishing, in which our conceptions of sustainability depart from each other.

<sup>76</sup> To draw a contrast between sentio-centrism and weak anthropocentrism, I suggest that at least some sentient nonhumans should be equal in comparison to humans in sentio-centrism (Tiisala, 2020b, p. 30). In other words, sentio-centrism rejects speciesism and considers, hence, more seriously nonhuman interests than weak anthropocentrism.

although the value derives from the relation of the entities to sentient beings.<sup>77</sup> Thus, natural features, species and ecosystems can have value in sentiocentrism even though they lack moral standing (*ibid.*, p. 200).

My sentiocentric view represents unitarianism that is a concept introduced by philosopher Shelley Kagan (2019, pp. 2–3) to mean views where all beings with moral standing are equal.<sup>78</sup> Unitarianism is, thus, an opposite of a hierarchical approach to moral standing. (*ibid.*) Kagan defends the hierarchical approach. However, I think that sentiocentric unitarianism is the best justified view because all and only sentient beings have a welfare. Duties against harming expand to all sentient beings who are vulnerable to harmful actions such as destroying their habitat. Non-sentient entities lack this literal vulnerability to harm. The equality of all sentient beings ensues from the irrelevance of abilities, group classifications and relationships for moral equality (Tiisala, 2020b, Chapter 5). For instance, linguistic and cognitive abilities, membership in gendered or racialised groups, species, nationality, ethnicity and social connections cannot make anyone morally inferior or superior. We know already from ethics regarding humans (e.g., the paradigm of human rights) that differences in abilities, group classifications and relations should not undermine anyone's fundamentally equal moral position.

My contention is that we should reinterpret all dimensions of sustainability through equal ethical consideration for the interests of all sentient beings (Figure 4). All sentient beings have environmental interests, as their life depends on the condition of their environment and especially of their habitat. However, sentient beings also have economic, social and cultural interests. Namely, many sentient nonhumans are social agents forming close relationships, which makes them members of their own social spheres.<sup>79</sup> There are, on the other hand, also mixed communities that consist of both human and nonhuman members (Midgley, 1995/1984).<sup>80</sup> At least certain sentient nonhumans have their own cultures (e.g., Rendell & Whitehead, 2001; see also Corman, 2020). Thus, they have an interest in protecting their valuable cultural heritage from a

---

<sup>77</sup> In presenting weak sentiocentrism, MacClellan (2012, p. 196) tells that his view resembles Eugene Hargrove's (2003) idea of weak anthropocentrism.

<sup>78</sup> Boscardin and Bossert (2015) have a similar view of sustainability emphasising the equality of sentient beings. They call their approach egalitarian sentientism. Objections to unitarianism exist in literature (e.g., Kagan, 2019; see also McMahan, 2008; Cohen & Regan, 2001). Previous research has, still, defended animal equality and answered to many criticisms (e.g., Donaldson and Kymlicka, 2011, Chapter 2; Dunayer, 2004; Francione, 2000; Regan 2004/1983, preface to the 2nd ed.; Singer, 1974; see also Tiisala, 2020b, Chapter 5).

<sup>79</sup> There is evidence of grief and love in sentient nonhumans, albeit knowledge of the topic is in its beginning (King, 2013). According to Isabel Bradshaw (2004, p. 147), "[g]rieving and mourning rituals are an integral part of elephant culture". Already Regan (2004/1983, pp. 84-86, 90) notices that many nonhuman animals are intentional agents with social needs.

<sup>80</sup> Midgley (1995/1984, p. 80) actually remarks that "[a]ll human communities have involved animals [sic]".

generation to the next. For example, poaching and habitat loss have harmed elephants and undermined their cultures in a traumatic manner (Bradshaw, 2004). Also, how we organise economies influences the wellbeing of sentient nonhumans drastically. Firstly, nonhuman right-holders should not be in the position of economic property (Francione, 2000; see also Regan, 2004/1983, p. 348). Rather, they can be property owners, for instance owners of the habitats they need (Hadley, 2005, 2015). Moreover, some argue for recognising sentient nonhumans as workers, for instance as care workers (Coulter, 2016). Thus, sentient nonhumans can meaningfully exercise also economic agency, partly through the help of proxies.

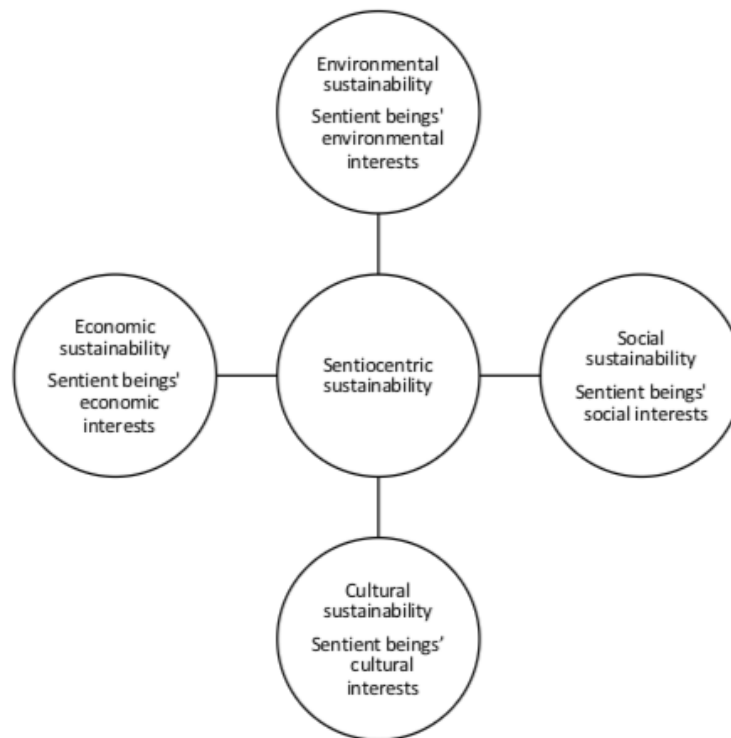


Figure 4. The sentiocentric dimensions of sustainability.

From the viewpoint of posthumanism, sentient nonhumans, of course, co-construct the dimensions of sustainability with humans. Material relations between human and non-human animals influence, for instance, the causes, impacts and solutions of climate change (see Twine, 2020). The social sphere of sustainability, for example, is co-constructed by sentient nonhumans and humans (Hiedanpää et al., 2012). My fundamental point is, still, that we should thoroughly include sentient nonhumans to sustainability thinking for ethical reasons.

Sentio-centrism entails according serious moral consideration for sentient nonhumans and their interests. Thus, I argue that the debate between weak and strong sustainability is morally unacceptable in its present sense because it assumes that all nonhumans

belong to humans' capital.<sup>81</sup> In contrast, sentient nonhumans are among those for whom natural resources belong. Their interests set moral limits to sustainability politics and policy, such as to the pursuing of economic growth, "developing" their habitats for humans' interest and deliberating on dietary choices. Equality entails, at least, that sentient nonhumans' primary interests should override humans' secondary interests. For example, having a home, a habitat, is a primary interest that secondary or trivial human interests (e.g., owning more consumer goods) cannot justifiably override. Changing the paradigm from anthropocentrism to the serious consideration of nonhuman animals' interests would also set limits to human population growth<sup>82</sup> and alter the legal position of sentient nonhumans from objects to subjects (Verniers, 2021, pp. 353-354). Incorporating concern for nonhuman animals in global sustainability regulation could also advance the development of global animal law (Verniers, 2021).

Sentiocentrism, like the other views of moral standing, entails a specific frame for the sustainability crisis. When we view the present planetary condition from the lens of sentient beings' interests, sustainability problems appear as hazards for sentient beings and their interests, not only for sentient humans. For example, biodiversity loss is not primarily a problem due to lost genetic and other resources for human purposes (cf. the Agenda 2030, UN, 2015), but because it means that sentient beings are dying, suffering and losing a favourable environment where to live. Likewise, climate change is a problem for the sake of sentient beings (nonhuman and human) who become exposed to hazards, suffering and deprivation related to climate change.

The sentiocentric conception of sustainability adjusts the three sustainability relations (see p. 7 above; Becker, 2012, p. 13) by extending the intra- and intergenerational relations to all sentient beings. Intragenerational and intergenerational sustainability relations are, thus, relations between sentient beings. The third relation (the human-nature relation) becomes a relation between sentient beings and non-sentient entities.

Sentiocentric sustainability represents a deeply transformative conception of sustainability. It transforms our understanding of sustainability problems, appropriate solutions and the dimensions of sustainability. System theorist Donella Meadows argues that changing a paradigm has deep leverage for a system change (Meadows, 1999). The sentiocentric conception of sustainability implies a paradigm change that would transform the system powerfully. This paradigm change would drastically advance environmental objectives. This is because the animal industry, that violates sentient

---

<sup>81</sup> Also Bergmann (2019, Table 3) mentions that interspecies sustainability "[e]schews the substitutability debate". However, she does not examine or justify this claim.

<sup>82</sup> Limits to human population growth should rely on the equality of individuals and oppose any form of domination towards vulnerable groups.



nonhumans' rights, also contributes to most environmental problems (see e.g., Steinfeld et al., 2006).<sup>83</sup> Respecting sentient nonhumans' rights to use natural resources would hinder or stop anthropocentric habitat destruction (see Hadley, 2005, 2015 defending nonhuman property rights). The pursued transformation is deeper than in the transformative approach to sustainable development discussed by Hopwood et al. (2005).

There are at least five reasons to accept the sentiocentric and unitarian conception of sustainability. Firstly, continuing in the anthropocentric frame, for example within sustainability science, is morally unacceptable because it disregards equal duties to sentient nonhumans. Secondly, anthropocentrism has connected to the oppression of certain, marginalised humans who have suffered from animalisation. Thirdly, research-based ethical arguments are crucial when dealing with the normative dimension of sustainability. Sustainability is a normative concept and project of which ethical claims we should rigorously justify, not assume. As Popa et al. (2012, p. 13) write:

“The values and assumptions that shape the understanding of researchers – and the organization of the scientific process – need to be explicitly acknowledged and subjected to critical scrutiny, if science is to avoid the unreflective, dogmatic acceptance of *given* theoretical and value assumptions.”

Psychological aspects form a fourth reason to accept the sentiocentric and unitarian conception of sustainability. According to Joy (2011, see also 2019), humans use psychological defence mechanisms when they participate in oppression, which creates distance from their authentic experience. For instance, participation in the speciesist practice of consuming nonhuman animals as food (i.e., the ideology of carnism) involves various defence mechanisms. These include denial, dissociation (i.e., disconnecting from experience)<sup>84</sup> and using the myths of normalcy, naturalness, and necessity to justify oppression. Defence mechanisms cover also cognitive distortions: the objectification of sentient nonhumans, their deindividualization and dichotomization (i.e., the dichotomised representation of the nonhumans perceived as inedible and those perceived as edible). According to Joy (2011, p. 141), dissociation hampers personal growth through reducing self-awareness. Through compassionate witnessing, we can reconnect with our authentic experience and stop participation in oppressive systems: “When we witness, we validate, or make real, the suffering the system works so hard to

---

<sup>83</sup> Vegan diets are significantly environmentally friendlier than animal-derived diets (e.g., Henning, 2011; Pelletier & Tyedmers, 2010; Springmann et al., 2016; van Dooren et al., 2014). When they are well planned, vegan diets are healthy throughout human lifespan (Melina et al., 2016) and suitable for cats and dogs as well (Knight & Leitsberger, 2016). Animal-derived eating is the key cause of biodiversity loss (Machovina et al., 2015).

<sup>84</sup> In Joy's words: “Dissociation is psychologically and emotionally disconnecting from the truth of our experience; it is the feeling of not being fully “present” or conscious.” (Joy, 2011, p. 140)

hide, and we also validate our authentic reaction to it.” (ibid., p. 138) Speciesism is an oppressive system. If Joy is correct in her psychological analysis, also being authentic and connected to oneself requires abandoning speciesist practices, such as supporting anthropocentric speciesism in the discourse and conceptions of sustainability.

Fifthly, the unitarian and sentiocentric conception of sustainability advances environmental protection and social wellbeing by requiring an end to nonhuman animal exploitation that includes, for instance, the consuming of nonhuman individuals through a non-vegan diet.<sup>85</sup> The animal industry contributes to environmental destruction (e.g., Steinfeld et al., 2006; see also Henning, 2011) and through the consuming of nonhuman animals to humans’ health problems, including cardiovascular diseases and certain cancers (see e.g., Melina et al., 2016). The flesh industry undermines nonhuman individuals’ health and welfare, for instance, by incarceration and killing. Overcrowding and the lack of opportunity to move traumatise individuals and induce even cannibalism and self-mutilation (Boscardin & Bossert, 2015). The animal industry is inefficient in producing calories and protein in comparison to the vegan production of them. Namely, only 10 % of energy is transferred from plants to animal body (Godfray et al., 2010, p. 816). Thus, the animal industry contributes to human starvation by its inefficiency of feeding plant-based food to nonhuman captives and then eating these individuals.

The beneficial side-effects for humans, however, are irrelevant for the duty to adopt the sentiocentric and unitarian ethical frame. Sentiocentric unitarianism is obligatory due to there being equal moral duties to all sentient beings, not because of human benefits.

## 5.6 Chapter’s Conclusions

Based on the focal views of moral standing, we can distinguish the strong variety of anthropocentrism, the weak variety of anthropocentrism, sentiocentrism, biocentrism and ecocentrism in the conceptions of sustainability. I have argued that the philosophical research on moral standing supports best the sentiocentric and unitarian conception of sustainability. Sentiocentric sustainability entails significant moral limits to sustainability policy and politics based on the interests of sentient beings, including sentient nonhumans. In sentiocentric unitarianism committed to equality, secondary human interests cannot justify habitat destruction, as a place to live is a primary interest. This

---

<sup>85</sup> The exact implications vary depending on the accepted normative theory, such as utilitarianism (Singer, 2009/1975) or deontology (e.g., Dunayer, 2004; Francione, 2000; Korsgaard, 2018a; Regan, 2004/1983). My view represents deontological animal rights that entail abolitionism, the total eradication of the commercial and exploitative animal industry. In contrast, Singer’s utilitarianism does not necessarily entail strict veganism (see Singer, 1993/1979, pp. 133–134), although he writes that “– it would be better to reject altogether the killing of animals [sic] for food, unless one must do so to survive.” (ibid., p. 134).

implication sets limits to humans' economic activities. Instead of pursuing economic growth for an alleged human benefit, sustainability policy and politics should build on the social, environmental, economic and cultural interests of all sentient beings. Thus, the prevalent debate between weak and strong sustainability is problematic: sentient nonhumans are not capital for humans that should sustain from a generation to the next. Instead, they are part of those to whom the planet belongs.

## 6 Conclusions

In this thesis, I have examined moral standing in the conceptions of sustainability. The task has been three-fold: (1) to analyse the assumptions of moral standing in the influential and emerging conceptions of sustainability, (2) to present a typology of the conceivable main views based on philosophical literature on moral standing and (3) to assess the plausibility of the various conceptions of sustainability in my typology. In this way, I have answered the research questions pertaining to what kind of anthropocentric and non-anthropocentric conceptions of sustainability there are in sustainability literature (RQ 1), what kind of conceptions of sustainability ensue from the main philosophical views of moral standing (RQ 2) and how plausible the different anthropocentric and non-anthropocentric conceptions of sustainability are (RQ 3). I have answered these research questions both through examining moral standing in the discourse of sustainability (the above task 1, chapter 4) and through drawing on philosophical literature on moral standing (the above tasks 2 and 3, chapter 5).

My analysis supports the claim that the dominant discourse and conceptions of sustainability are anthropocentric. I argue that the anthropocentric conceptions of sustainability objectify and deindividualize sentient nonhumans. These conceptions maintain the human-animal dichotomy in the lines of speciesism. My chief examples of anthropocentrism in the discourse of sustainability have included both political documents (the Agenda 2030 and the Brundtland Report) and scientific research (the planetary boundaries framework and IPCC reports). In contrast, all examples of the emerging non-anthropocentric conceptions of sustainability are academic: interspecies sustainability, posthuman sustainability, ecocentric sustainability, multicriterial sustainability, the animal ethical dimensions of sustainability and multispecies sustainability. Therefore, critical social scientific research, in addition to philosophy, is a significant source of the new conceptions of sustainability contesting anthropocentrism. On the other hand, also indigenous worldviews approach sustainability issues in a less anthropocentric or non-anthropocentric manner, unlike for instance the Agenda 2030 (see Virtanen et al., 2020).

I have defended a sentiocentric and unitarian conception of sustainability according to which all sentient beings are equal. I conclude that the anthropocentric conceptions of sustainability are unacceptable in five ways. Firstly, the anthropocentric discourses of sustainability neglect the interests of sentient nonhumans and equal duties to these individuals. According to research in animal ethics, it is morally wrong to dismiss their interests or to give an inferior position to their interests (e.g., Dunayer, 2004; Singer, 1974). When non-anthropocentric views receive attention in the context of environmental issues, often the philosophically least plausible accounts enter the discussion, for instance, duties to ecosystems or species (i.e., collective entities lacking consciousness), while duties to sentient nonhuman animals robustly supported by research remain neglected (see e.g., McShane, 2016, 2018 discussing IPCC reports).

Secondly, the anthropocentric conceptions of sustainability have in practice treated some humans as inferiors. Anthropocentrism relies on the project of humanism that underpins also human rights thinking that is in the core of, for instance, the UN's (2015) Agenda 2030. However, posthumanist thinkers criticise humanism of universalising the experience of privileged white males and excluding equal concern for, inter alia, women, persons with disability and certain ethnic groups (see e.g., Nayar, 2014). I also argue that using the UN's Agenda 2030 as a universal ground for sustainability policy and politics represents cultural imperialism against indigenous peoples with less anthropocentric or non-anthropocentric worldviews.

Thirdly, the anthropocentric conceptions of sustainability disregard and marginalise the arguments of non-anthropocentric ethics, which is an argumentation flaw. Ignoring non-anthropocentric ethics creates a systematic bias into sustainability science. Especially animal ethics has received marginal attention in the dominant discourse of sustainability. In a search for truth, including ethical truth, we should assess arguments for and against alternative views and favour public debate that includes different ideas; we cannot presume to know the correct view before examining all alternatives (e.g., Mill, 2009/1859, Chapter 2). The normative layer of sustainability creates a need to draw on ethical research and careful arguments instead of unjustified opinions or disciplinary paradigms.

Fourthly, the conceptions of sustainability that embed discriminatory attitudes, such as speciesism, distance humans from their authentic experience. According to Joy (2011, 2019), humans participate in oppressive systems through using psychological defence mechanisms. These mechanisms distort a conception of reality and undermine connection to other individuals and to one's authentic self, values and feelings. Therefore, I

propose that also psychological reasons support accepting the sentiocentric and unitarian conception of sustainability instead of a speciesist conception.

Fifthly, sentiocentric unitarianism provides diverse welfare and environmental benefits for nonhuman and human individuals. By opposing the animal industry, that is harmful to health and environmental objectives (see e.g., Henning, 2011) and responsible for the killing of nonhuman individuals, sentiocentric unitarianism emancipates societies from large-scale violence and welfare problems.

I have introduced a typology including the strong variety of anthropocentric sustainability, the weak variety of anthropocentric sustainability, sentiocentric sustainability, biocentric sustainability and ecocentric sustainability. The anthropocentric conceptions of sustainability are unacceptable for above mentioned ethical reasons. However, also the biocentric and ecocentric conceptions of sustainability are lacking in philosophical support, as non-sentient entities do not have interests. In contrast, this thesis has defended a sentiocentric conception of sustainability where equal interests of all sentient beings are the ground of intra- and intergenerational justice and how we understand the sustainability crisis. Consequently, all dimensions of sustainability require a new, transformative definition as regarding the interests of all sentient beings, that is, their environmental, social, cultural and economic interests.

Future research should further develop this sentiocentric conception of sustainability. For example, researchers should examine what duties there are for various individuals in sustainability policy and politics and how to solve the trade-offs of interests. This research was limited to arguing that there are equal duties to all sentient beings in the context of sustainability. Analysing the content and clashes of duties requires further research. Additionally, it would be valuable to examine how we can realise the transformation to sentiocentric and unitarian sustainability in societies and the academic community. For the time being, speciesism permeates through societies. Thus, the needed ethical transformation involves deep learning processes. The transformation involves all dimensions of sustainability and it requires cognitive, emotional, social and political processes that are relevant for ethical knowledge and attitudes. Moreover, future research should examine and draw on the indigenous conceptions of sustainability that have anti-speciesist features.

Additionally, developing the sentiocentric conception of sustainability would require a systematic analysis of all core aspects of the general concept of sustainability presented in Table 1 (above p. 13). This covers the idea of limits, uncertainty, systemic mediation, threefold relationality, encompassing scope, relational asymmetries and normative orientation. The limited scope of this thesis has prevented discussing all of

the ontological, epistemological and ethical assumptions (see Table 2, above p. 15) of the unitarian and sentiocentric conception of sustainability. I have only addressed moral standing, the three sustainability relations and the human-animal relation, containing both ontological and ethical aspects. There are diverse possible sentiocentric conceptions of sustainability, of which examination and comparison has been impossible in the scope of this research. The limited scope has also prevented examining objections to sentiocentric unitarianism and answers to them in this thesis. Likewise, my criticism of anthropocentric speciesism, biocentrism and ecocentrism has been condensed in this thesis. I recommend turning to the cited literature for a more comprehensive analysis.

My sentiocentric and unitarian conception of sustainability implies a profound societal and theoretical transformation. It entails a paradigm change also in sustainability science. This paradigm change impacts environmental objectives favourably, as disregard for sentient nonhumans' interests in the animal industry and in activities destroying habitats has adverse environmental impacts. I demand a change in the understanding of sustainability: sentient nonhumans are individuals who have equal moral standing in comparison to humans. The planet belongs to all sentient beings in contemporary and future generations.

## 7 References

- Aaltola, E. (2006). *Animal individuality: Cultural and moral categorisations* [PhD dissertation]. University of Turku.
- Adams, C. J. (1990). *The sexual politics of meat: A feminist-vegetarian critical theory*. Polity Press.
- Anderson, E., Willett, C., & Meyers, D. (2021). Feminist perspectives on the self. In E. N. Zalta (Ed.), *The Stanford encyclopedia of philosophy* (Fall 2021 ed.). <https://plato.stanford.edu/archives/fall2021/entries/feminism-self/>
- Arcari, P. (2017). Normalised, human-centric discourses of meat and animals in climate change, sustainability and food security literature. *Agriculture and Human Values*, 34, 69–86. <https://doi.org/10.1007/s10460-016-9697-0>
- Attfeld, R. (2020). Biocentrism, climate change, and the spatial and temporal scope of ethics. In B. G. Henning & Z. Walsh (Eds.) *Climate change ethics and the non-human world* (pp. 63–74, ebook). Routledge.
- Ayres, R. U., van den Bergh, J. C. J. M., & Gowdy, J. M. (2001). Strong versus weak sustainability: Economics, natural sciences, and 'consilience'. *Environmental Ethics*, 23(2), 155–168. <https://doi.org/10.5840/enviroethics200123225>
- Becker, C. U. (2012). *Sustainability ethics and sustainability research* (ebook). Springer.
- Belcourt, B.-R. (2015). Animal bodies, colonial subjects: (Re)locating animality in decolonial thought. *Societies*, 5(1), 1–11. <https://doi.org/10.3390/soc5010001>
- Bentham, J. (1879/1789). *Introduction to the principles of morals and legislation* (A new 1823 ed., ebook). The Clarendon Press.
- Bergmann, I. M. (2019). Interspecies sustainability to ensure animal protection: Lessons from the thoroughbred racing industry. *Sustainability*, 11(19), 5539. <https://doi.org/10.3390/su11195539>
- Boogaard, B. K., Boekhorst, L. J. S., Oosting, S. J., & Sørensen, J. T. (2011). Socio-cultural sustainability of pig production: Citizen perceptions in the Netherlands and Denmark. *Livestock Science*, 140(1–3), 189–200. <https://doi.org/10.1016/j.livsci.2011.03.028>
- Boscardin, L. (2017). *Sustainable exploitation: The political ecology of the Livestock Revolution* [PhD dissertation]. University of Basel. [http://edoc.unibas.ch/diss/DissB\\_13318](http://edoc.unibas.ch/diss/DissB_13318)

- Boscardin, L. (2018). Greenwashing the animal-industrial complex: Sustainable intensification and the Livestock Revolution. In D. H. Constance, J. Konefal, & M. Hatanaka (Eds.), *Contested sustainability discourses in the agrifood system* (pp. 111–126). Routledge.
- Boscardin, L., & Bossert, L. (2015). Sustainable development and nonhuman animals: Why anthropocentric concepts of sustainability are outdated and need to be extended. In S. Meisch, J. Lunderhausen, L. Bossert, & M. Rockoff (Eds.), *Ethics of science in the research for sustainable development* (pp. 323–352). Nomos Verlagsgesellschaft. [https://www-researchgate.net/publication/309424097\\_Sustainable\\_development\\_and\\_nonhuman\\_animals\\_why\\_anthropocentric\\_concepts\\_of\\_sustainability\\_are\\_outdated\\_and\\_need\\_to\\_be\\_extended](https://www-researchgate.net/publication/309424097_Sustainable_development_and_nonhuman_animals_why_anthropocentric_concepts_of_sustainability_are_outdated_and_need_to_be_extended)
- Bradshaw, I. G. A. (2004). Not by bread alone: Symbolic loss, trauma, and recovery in elephant communities. *Society & Animals*, 12(2), 143–158. <https://doi.org/10.1163/1568530041446535>
- Brennan, A. (1992). Moral pluralism and the environment. *Environmental Values*, 1(1), 15–33. <https://doi.org/10.3197/096327192776680188>
- Brennan, A., & Lo, Y.-S. (2020). Environmental ethics. In E. N. Zalta (Ed.), *The Stanford encyclopedia of philosophy* (Summer 2020 ed.). <https://plato.stanford.edu/archives/sum2020/entries/ethics-environmental/>
- Callicott, J. B. (1980). Animal liberation: A triangular affair. *Environmental Ethics*, 2(4), 311–338. <https://doi.org/10.5840/enviroethics19802424>
- Callicott, J. B. (1998). 'Back together again' again. *Environmental Values*, 7(4), 461–475. <https://doi.org/10.3197/096327198129341672>
- Callicott, J. B. (2001). The land ethic. In D. Jamieson (Ed.), *A companion to environmental philosophy* (pp. 204–217). Blackwell Publishers Inc. <https://doi.org/10.1002/9780470751664.ch14>
- Callicott, J. B. (2015). How ecological collectives are morally considerable. In S. M. Gardiner & A. Thompson (Eds.), *The Oxford Handbook of Environmental Ethics* (pp. 113–124, ebook). Oxford University Press. <https://doi.org/10.1093/oxfordhb/9780199941339.013.11>
- Callicott, J. B., & Mumford, K. (1997). Ecological sustainability as a conservation concept. *Conservation Biology*, 11(1), 32–40. <https://doi.org/10.1046/j.1523-1739.1997.95468.x>
- Cavaleri, P. (2009). The death of the animal: A dialogue on perfectionism. In *The death of the animal: A dialogue* (pp. 1–41). Columbia University Press.
- Caviola, L., Everett, J. A. C., & Faber, N. S. (2019). The moral standing of animals: Towards a psychology of speciesism. *Journal of Personality and Social Psychology*, 116(6), 1011–1029. <https://doi.org/10.1037/pspp0000182>
- Celermajer, D., Schlosberg, D., Rickards, L., Stewart-Harawira, M., Thaler, M., Tschakert, P., Verlie, B., & Winter, C. (2020). Multispecies justice: Theories, challenges, and a research agenda for environmental politics. *Environmental Politics*, 30(1–2), 119–140. <https://doi.org/10.1080/09644016.2020.1827608>
- Chiesura, A., & de Groot, R. (2003). Critical natural capital: A socio-cultural perspective. *Ecological Economics*, 44(2–3), 219–231. [https://doi.org/10.1016/S0921-8009\(02\)00275-6](https://doi.org/10.1016/S0921-8009(02)00275-6)
- Chiu, R. L. H. (2004). Socio-cultural sustainability of housing: A conceptual exploration. *Housing, Theory and Society*, 21(2), 65–76. <https://doi.org/10.1080/14036090410014999>
- Cielemecka, O., & Daigle, C. (2019). Posthuman sustainability: An ethos for our anthropocenic future. *Theory, Culture & Society*, 36(7–8), 67–87. <https://doi.org/10.1177/0263276419873710>
- Cohen, C., & Regan, T. (2001). *The animal rights debate*. Rowman & Littlefield Publishers.
- Connelly, S. (2007). Mapping sustainable development as a contested concept. *Local Environment*, 12(3), 259–278. <https://doi.org/10.1080/13549830601183289>
- Corman, L. (2020). He(a)rd: Animal cultures and anti-colonial politics. In K. S. Montford & C. Taylor (Eds.), *Colonialism and animality: Anti-colonial perspectives in critical animal studies* (pp. 159–180, ebook). Routledge.
- Coulter, K. (2016). Beyond human to humane: A multispecies analysis of care work, its repression, and its potential. *Studies in Social Justice*, 10(2), 199–219. <https://doi.org/10.26522/ssj.v10i2.1350>
- Crenshaw, K. (1989). Demarginalizing the intersection of race and sex: A black feminist critique of antidiscrimination doctrine, feminist theory and antiracist politics. *University of Chicago Legal Forum*, 1989(1, Article 8), 139–167. <http://chicagounbound.uchicago.edu/uclf/vol1989/iss1/8>
- Crist, E. (2013). Ecocide and the extinction of animal minds. In M. Bekoff (Ed.), *Ignoring nature no more: The case for compassionate conservation* (pp. 45–61, ebook). The University of Chicago Press.
- Cuomo, C. (2017). Sexual politics in environmental ethics: impacts, causes, alternatives. In S. M. Gardiner & A. Thompson (Eds.), *The Oxford handbook of environmental ethics* (pp. 288–300, ebook). Oxford University Press. <https://doi.org/10.1093/oxfordhb/9780199941339.013.26>
- Davies, O., & Riach, K. (2019). From mainstream measuring to multispecies sustainability? A gendered reading of bee-ing sustainable. *Gender, Work & Organization*, 26(3), 246–266. <https://doi.org/10.1111/gwao.12245>

- Derrida, J. (2008). *The animal that therefore I am* (M.-L. Mallet, Ed.; D. Wills, Trans.). Fordham University Press. Orig. *L'animal que donc je suis*, 2006.
- Dessein, J., Soini, K., Fairclough, G., & Horlings, L. (Eds.). (2015). *Culture in, for and as sustainable development. Conclusions from the COST Action IS1007 investigating cultural sustainability*. University of Jyväskylä. <https://doi.org/10.13140/RG.2.1.3380.7844>
- Dobson, A. (1996). Environment sustainabilities: An analysis and a typology. *Environmental Politics*, 5(3), 401–428. <https://doi.org/10.1080/09644019608414280>
- Dobson, A. (1998). *Justice and the environment: Conceptions of environmental sustainability and dimensions of social justice*. Oxford University Press.
- Dunayer, J. (1990). On speciesist language. *On the Issues Magazine*, 17(Winter 1990), 30–31. [https://www.ontheissuesmagazine.com/1990winter/winter1990\\_dunayer.php](https://www.ontheissuesmagazine.com/1990winter/winter1990_dunayer.php)
- Dunayer, J. (2001). *Animal equality: Language and liberation*. Ryce Publishing.
- Dunayer, J. (2004). *Speciesism*. Ryce Publishing.
- Dunayer, J. (2013). The rights of sentient beings: Moving beyond old and new speciesism. In R. Corbey & A. Lanjouw (Eds.), *The politics of species: Reshaping our relationships with other animals* (pp. 27–39, ebook). Cambridge University Press. <https://doi.org/10.1017/CBO9781139506755.005>
- Earnshaw, G. I. (1999). Equity as a paradigm for sustainability: Evolving the process toward interspecies equity. *Animal Law*, 5, 113–146.
- Eichler, L., & Baumeister, D. (2020). Predators and pests: Settler colonialism and the animalization of Native Americans. *Environmental Ethics*, 42(4), 295–311. <https://doi.org/10.5840/enviroethics202042430>
- FAO (Food and Agriculture Organization of the United Nations). (n.d.). Maximum sustainable yield. In *FAO fisheries glossary*. Retrieved March 1, 2022, from <https://www.fao.org/faoterm/collec-tion/fisheries/en/>
- Faria, C. (2016). *Animal ethics goes wild: The problem of wild animal suffering and intervention in nature* [PhD dissertation]. Universitat Pompeu Fabra. <https://www.tdx.cat/bitstream/handle/10803/385919/tcf.pdf?sequence=1>
- Fox, N. J., & Alldred, P. (2020). Sustainability, feminist posthumanism and the unusual capacities of (post)humans. *Environmental Sociology*, 6(2), 121–131. <https://doi.org/10.1080/23251042.2019.1704480>
- Francione, G. L. (2000). *Introduction to animal rights: Your child or the dog?* Temple University Press.
- Francione, G. L. (2008). *Animals as persons: Essays on the abolition of animal exploitation* (ebook). Columbia University Press.
- Gerber, P. J., Steinfeld, H., Henderson, B., Mottet, A., Opio, C., Dijkman, J., Falcucci, A., & Tempio, G. (2013). *Tackling climate change through livestock: A global assessment of emissions and mitigation opportunities*. Food and Agriculture Organization of the United Nations. <http://www.fao.org/3/i3437e/i3437e00.htm>
- Godfray, H. C. J., Beddington, J. R., Crute, I. R., Haddad, L., Lawrence, D., Muir, J. F., Pretty, J., Robinson, S., Thomas, S. M., & Toulmin, C. (2010). Food security: The challenge of feeding 9 billion people. *Science*, 327(5967), 812–818. <https://doi.org/10.1126/science.1185383>
- Goodland, R., & Anhang, J. (2009). Livestock and climate change: What if the key actors in climate change are... cows, pigs, and chickens? *World Watch*, 22(6), 10–19.
- Gosepath, S. (2011). Equality. In E. N. Zalta (Ed.), *The Stanford encyclopedia of philosophy* (Spring 2011 ed.). <https://plato.stanford.edu/archives/spr2011/entries/equality/>
- Griessler, E., & Littig, B. (2005). Social sustainability: A catchword between political pragmatism and social theory. *International Journal for Sustainable Development*, 8(1/2), 65–79. <https://doi.org/10.1504/IJSD.2005.007375>
- Gruen, L. (2009). The faces of animal oppression. In A. Ferguson & M. Nagel (Eds.), *Dancing with Iris: The philosophy of Iris Marion Young* (pp. 161–172, ebook). Oxford University Press.
- Gruen, L. (2011). *Ethics and animals: An introduction* (ebook). Cambridge University Press.
- Gruen, L. (2016). Conscious animals and the value of experience. In S. M. Gardiner & A. Thompson (Eds.), *The Oxford handbook of environmental ethics* (pp. 91–100, ebook). Oxford University Press. <https://doi.org/10.1093/oxfordhb/9780199941339.013.9>
- Gunn, A., S. (1984). Preserving rare species. In T. Regan (Ed.), *Earthbound: New introductory essays in environmental ethics* (pp. 289–335). Temple University Press.
- Hadley, J. (2005). Nonhuman animal property: Reconciling environmentalism and animal rights. *Journal of Social Philosophy*, 36(3), 305–315. <https://doi.org/10.1111/j.1467-9833.2005.00277.x>
- Hadley, J. (2015). *Animal property rights: A theory of habitat rights for wild animals*. Lexington Books.
- Hargrove, E. (2003). Weak anthropocentric intrinsic value. In A. Light & H. Rolston III (Eds.), *Environmental ethics: An anthology* (pp. 175–190). Blackwell Publishing.
- Haughton, G. (1999). Environmental justice and the sustainable city. *Journal of Planning Education and Research*, 18(3), 233–243. <https://doi.org/10.1177/0739456x9901800305>



- Hawthorne, J. (2021). Inductive logic. In E. N. Zalta (Ed.), *The Stanford encyclopedia of philosophy* (Spring 2021 ed.). <https://plato.stanford.edu/archives/spr2021/entries/logic-inductive/>
- Henning, B. G. (2011). Standing in livestock's 'long shadow': The ethics of eating meat on a small planet. *Ethics & the Environment*, 16(2), 63–93. <https://doi.org/10.2979/ethicsenviro.16.2.63>
- Herrero, M., Gerber, P., Vellinga, T., Garnett, T., Leip, A., Opio, C., Westhoek, H. J., Thornton, P. K., Olesen, J., Hutchings, N., Montgomery, H., Soussana, J.-F., Steinfeld, H., & McAllister, T. A. (2011). Livestock and greenhouse gas emissions: The importance of getting the numbers right. *Animal Feed Science and Technology*, 166–167, 779–782. <https://doi.org/10.1016/j.anifeedsci.2011.04.083>
- Hettinger, N. (2013). Environmental ethics. In M. Bekoff & C. A. Meaney (Eds.), *Encyclopedia of animal rights and animal welfare* (pp. 159–161, ebook). Greenwood Press.
- Hiedanpää, J., Jokinen, A., & Jokinen, P. (2012). Making sense of the social: Human-nonhuman constellations and the wicked road to sustainability. *Sustainability: Science, Practice and Policy*, 8(1), 40–49. <https://doi.org/10.1080/15487733.2012.11908083>
- Hirsch Hadorn, G., Bradley, D., Pohl, C., Rist, S., & Wiesmann, U. (2006). Implications of transdisciplinarity for sustainability research. *Ecological Economics*, 60(1), 119–128. <https://doi.org/10.1016/j.ecolecon.2005.12.002>
- Hopwood, B., Mellor, M., & O'Brien, G. (2005). Sustainable development: Mapping different approaches. *Sustainable Development*, 13(1), 38–52. <https://doi.org/10.1002/sd.244>
- Horta, O. (2014). The scope of the argument from species overlap. *Journal of Applied Philosophy*, 31(2), 142–154. <https://doi.org/10.1111/japp.12051>
- Horvath, K., Angeletti, D., Nascetti, G., & Carere, C. (2013). Invertebrate welfare: An overlooked issue. *Annali Dell'Istituto Superiore Di Sanità*, 49(1), 9–17. [https://doi.org/10.4415/ANN\\_13\\_01\\_04](https://doi.org/10.4415/ANN_13_01_04)
- Hume, D. (2009/1740). *A treatise of human nature: Being an attempt to introduce the experimental method of reasoning into moral subjects* (ebook). The Floating Press.
- Independent Group of Scientists appointed by the Secretary-General. (2019). *Global sustainable development report 2019: The future is now – science for achieving sustainable development*. United Nations. <https://doi.org/10.18356/5d04ad97-en>
- IPCC. (2014a). Summary for policymakers. In O. Edenhofer, R. Pichs-Madruga, Y. Sokona, E. Farahani, S. Kadner, K. Seyboth, A. Adler, I. Baum, S. Brunner, P. Eickemeier, B. Kriemann, J. Savolainen, S. Schlömer, C. von Stechow, T. Zwickel, & J. C. Minx (Eds.), *Climate change 2014: Mitigation of climate change. Contribution of Working Group III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*. Cambridge University Press. [https://www.ipcc.ch/site/assets/uploads/2018/02/ipcc\\_wg3\\_ar5\\_summary-for-policy-makers.pdf](https://www.ipcc.ch/site/assets/uploads/2018/02/ipcc_wg3_ar5_summary-for-policy-makers.pdf)
- IPCC. (2014b). Summary for policymakers. In C. B. Field, V. R. Barros, D. J. Dokken, K. J. Mach, M. D. Mastrandrea, T. E. Bilir, M. Chatterjee, K. L. Ebi, Y. O. Estrada, R. C. Genova, B. Girma, E. S. Kissel, A. N. Levy, S. MacCracken, P. R. Mastrandrea, & L. L. White (Eds.), *Climate change 2014: Impacts, adaptation, and vulnerability. Part a: Global and sectoral aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* (pp. 1–32). Cambridge University Press. [https://www.ipcc.ch/site/assets/uploads/2018/02/ar5\\_wgii\\_spm\\_en.pdf](https://www.ipcc.ch/site/assets/uploads/2018/02/ar5_wgii_spm_en.pdf)
- IPCC. (2018). Summary for policymakers. In V. Masson-Delmotte, P. Zhai, H.-O. Pörtner, D. Roberts, J. Skea, P. R. Shukla, A. Pirani, W. Moufouma-Okia, C. Péan, R. Pidcock, S. Connors, J. B. R. Matthews, Y. Chen, X. Zhou, M. I. Gomis, E. Lonnoy, T. Maycock, M. Tignor, & T. Waterfield (Eds.), *Global warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty*. [https://www.ipcc.ch/site/assets/uploads/sites/2/2019/05/SR15\\_SPM\\_version\\_report\\_LR.pdf](https://www.ipcc.ch/site/assets/uploads/sites/2/2019/05/SR15_SPM_version_report_LR.pdf)
- IPCC. (2019). Summary for policymakers. In P. R. Shukla, J. Skea, E. Calvo Buendia, V. Masson-Delmotte, H.-O. Pörtner, D. C. Roberts, P. Zhai, R. Slade, S. Connors, R. van Diemen, M. Ferrat, E. Haughey, S. Luz, S. Neogi, M. Pathak, J. Petzold, J. Portugal Pereira, P. Vyas, E. Huntley, ... J. Malley (Eds.), *Climate change and land: An IPCC Special Report on climate change, desertification, land degradation, sustainable land management, food security, and greenhouse gas fluxes in terrestrial ecosystems*. [https://www.ipcc.ch/site/assets/uploads/sites/4/2020/02/SPM\\_Updated-Jan20.pdf](https://www.ipcc.ch/site/assets/uploads/sites/4/2020/02/SPM_Updated-Jan20.pdf)
- IPCC. (n.d.). The Intergovernmental Panel on Climate Change. Retrieved October 14, 2021, from <https://www.ipcc.ch>
- Jamieson, D. (1998). Sustainability and beyond. *Ecological Economics*, 24(2–3), 183–192. [https://doi.org/10.1016/S0921-8009\(97\)00142-0](https://doi.org/10.1016/S0921-8009(97)00142-0)
- Jamieson, D. (2002). *Morality's progress: Essays on humans, other animals, and the rest of nature*. Oxford University Press. (Cited in Vinnari & Vinnari, 2014)

- Jamieson, D. (2008). *Ethics and the environment: An introduction* (ebook). Cambridge University Press.
- Jaworska, A., & Tannenbaum, J. (2018). The grounds of moral status. In E. N. Zalta (Ed.), *The Stanford encyclopedia of philosophy* (Spring 2018 ed.). <https://plato.stanford.edu/archives/spr2018/entries/grounds-moral-status/>
- Johnson, L. E. (1991). *A morally deep world: An essay on moral significance and environmental ethics*. Cambridge University Press.
- Jones, R. C. (2015). Animal rights is a social justice issue. *Contemporary Justice Review*, 18(4), 467–482. <https://doi.org/10.1080/10282580.2015.1093689>
- Joy, M. (2011). *Why we love dogs, eat pigs, and wear cows: An introduction to carnism – the belief system that enables us to eat some animals and not others*. Canari Press.
- Joy, M. (2019). *Powerarchy: Understanding the psychology of oppression for social transformation* (ebook). Berrett-Koehler Publishers, Inc.
- Kagan, S. (2019). *How to count animals, more or less* (ebook). Oxford University Press.
- Kates, R. W., Clark, W. C., Corell, R., Hall, J. M., Jaeger, C. C., Lowe, I., McCarthy, J. J., Schellnhuber, H. J., Bolin, B., Dickson, N. M., Faucheux, S., Gallopin, G. C., Grüber, A., Huntley, B., Jäger, J., Jodha, N. S., Kasperson, R. E., Mabogunje, A., Matson, P., ... Svedin, U. (2001). Sustainability science. *Science*, 292(5517), 641–642. <https://doi.org/10.1126/science.1059386>
- Keeling, L., Tunón, H., Olmos Antillón, G., Berg, C., Jones, M., Stuardo, L., Swanson, J., Wallenbeck, A., Winckler, C., & Blokhuis, H. (2019). Animal welfare and the United Nations Sustainable Development Goals. *Frontiers in Veterinary Science*, 6, Article 336. <https://doi.org/10.3389/fvets.2019.00336>
- Kim, C. J. (2015). *Dangerous crossings: Race, species, and nature in a multicultural age* (ebook). Cambridge University Press. <https://doi.org/10.1017/CBO9781107045392>
- King, B. J. (2013). The expression of grief in monkeys, apes, and other animals. In R. Corbey & A. Lanjouw (Eds.), *The politics of species: Reshaping our relationships with other animals* (pp. 106–114, ebook). Cambridge University Press. <https://doi.org/10.1017/cbo9781139506755.012>
- Knight, A., & Leitsberger, M. (2016). Vegetarian versus meat-based diets for companion animals. *Animals*, 6(9), 57. <https://doi.org/10.3390/ani6090057>
- Koch, F., Kabisch, S., & Krellenberg, K. (2018). A transformative turn towards sustainability in the context of urban-related studies? A systematic review from 1957 to 2016. *Sustainability*, 10(1), 58. <https://doi.org/10.3390/su10010058>
- Kopnina, H. (2012). Education for sustainable development (ESD): The turn away from ‘environment’ in environmental education? *Environmental Education Research*, 18(5), 699–717. <https://doi.org/10.1080/13504622.2012.658028>
- Kopnina, H. (2016). The victims of unsustainability: A challenge to Sustainable Development Goals. *International Journal of Sustainable Development & World Ecology*, 23(2), 113–121. <https://doi.org/10.1080/13504509.2015.1111269>
- Korsgaard, C. M. (2012). A Kantian case for animal rights. In M. Michael, D. Kühne, & J. Hänni (Eds.), *Animal law—Tier and rect: Developments and perspectives in the 21st century* (pp. 3–27). Dike Verlag. <http://nrs.harvard.edu/urn-3:HUL.InstRepos:34903186>
- Korsgaard, C. M. (2018a). *Fellow creatures: Our obligations to the other animals*. Oxford University Press. <https://doi.org/10.1093/oso/9780198753858.001.0001>
- Korsgaard, C. M. (2018b). The claims of animals and the needs of strangers: Two cases of imperfect right. *Journal of Practical Ethics*, 6(1), 19–51.
- Langhelle, O. (2017). Sustainable development: Linking environment and development. In D. J. Fiorino & J. Meadowcroft (Eds.), *Conceptual innovation in environmental policy* (pp. 181–206, ebook). The MIT Press. <https://doi.org/10.7551/mitpress/9780262036580.003.0008>
- Langton, R. (2009). *Sexual solipsism: Philosophical essays on pornography and objectification* (ebook). Oxford University Press. <https://doi.org/10.1093/acprof:oso/9780199247066.001.0001>
- Lemert, C. (2005). Discourse. In G. Ritzer (Ed.), *Encyclopedia of social theory* (pp. 203–205). SAGE Publications, Inc.
- Luke, T. W. (1995). Sustainable development as a power/knowledge system: The problem of ‘governmentality’. In F. Fischer & M. Black (Eds.), *Greening environmental policy* (pp. 21–32, ebook). Palgrave Macmillan US. [https://doi.org/10.1007/978-1-137-08357-9\\_2](https://doi.org/10.1007/978-1-137-08357-9_2)
- Luke, T. W. (2005). Neither sustainable nor development: Reconsidering sustainability in development. *Sustainable Development*, 13(4), 228–238. <https://doi.org/10.1002/sd.284>
- MacClellan, J. P. (2012). *Minding nature: A defense of a sentiocentric approach to environmental ethics* [PhD dissertation]. University of Tennessee. [http://trace.tennessee.edu/utk\\_grad-diss/1433](http://trace.tennessee.edu/utk_grad-diss/1433)

- Machovina, B., Feeley, K. J., & Ripple, W. J. (2015). Biodiversity conservation: The key is reducing meat consumption. *Science of the Total Environment*, 536, 419–431. <https://doi.org/10.1016/j.scitotenv.2015.07.022>
- McMahan, J. (2008). Challenges to human equality. *The Journal of Ethics*, 12, 81–104. <https://doi.org/10.1007/s10892-007-9020-9>
- McShane, K. (2007). Anthropocentrism vs. nonanthropocentrism: Why should we care? *Environmental Values*, 16(2), 169–185. <https://doi.org/10.3197/096327107780474555>
- McShane, K. (2016). Anthropocentrism in climate ethics and policy. *Midwest Studies in Philosophy*, 40(1), 189–204. <https://doi.org/10.1111/misp.12055>
- McShane, K. (2018). Why animal welfare is not biodiversity, ecosystem services, or human welfare: Toward a more complete assessment of climate impacts. *Les ateliers de l'éthique / The ethics forum*, 13(1), 43–64. <https://doi.org/10.7202/1055117ar>
- MEA (Millennium Ecosystem Assessment). (2005). *Ecosystems and human well-being: Synthesis*. Island Press. <https://www.millenniumassessment.org/documents/document.356.aspx.pdf>
- Meadows, D. H. (1999). *Leverage points: Places to intervene in a system*. The Sustainability Institute. [http://donellameadows.org/wp-content/userfiles/Leverage\\_Points.pdf](http://donellameadows.org/wp-content/userfiles/Leverage_Points.pdf)
- Melina, V., Craig, W., & Levin, S. (2016). Position of the academy of nutrition and dietetics: Vegetarian diets. *Journal of the Academy of Nutrition and Dietetics*, 116(12), 1970–1980. <https://doi.org/10.1016/j.jand.2016.09.025>
- Midgley, M. (1981). *Heart and mind: The varieties of moral experience*. The Harvester Press.
- Midgley, M. (1995/1984). The mixed community. In J. P. Sterba (Ed.), *Earth ethics: Environmental ethics, animal rights, and practical applications* (pp. 80–90). Prentice-Hall, Inc. (Reprinted from *Animals and why they matter*, by M. Midgley, 1984, University of Georgia Press)
- Mill, J. S. (2009/1859). *On liberty* (ebook). The Floating Press.
- Montford, K. S., & Taylor, C. (2020). Colonialism and animality: An introduction. In K. S. Montford & C. Taylor (Eds.), *Colonialism and animality: Anti-colonial perspectives in critical animal studies* (pp. 1–16, ebook). Routledge. <https://doi.org/10.4324/9781003013891-101>
- Moriggi, A., Soini, K., Franklin, A., & Roep, D. (2020). A care-based approach to transformative change: Ethically-informed practices, relational response-ability & emotional awareness. *Ethics, Policy & Environment*, 23(3), 281–298. <https://doi.org/10.1080/21550085.2020.1848186>
- Nagatsu, M., Davis, T., DesRoches, C. T., Koskinen, I., MacLeod, M., Stojanovic, M., & Thorén, H. (2020). Philosophy of science for sustainability science. *Sustainability Science*, 15(6), 1807–1817. <https://doi.org/10.1007/s11625-020-00832-8>
- Nagel, T. (1974). What is it like to be a bat? *The Philosophical Review*, 83(4), 435–450. <https://doi.org/10.2307/2183914>
- Narayanan, Y. (2016). Where are the animals in sustainable development? Religion and the case for ethical stewardship in animal husbandry. *Sustainable Development*, 24(3), 172–180. <https://doi.org/10.1002/sd.1619>
- Nayar, P. K. (2014). *Posthumanism* (ebook). Polity Press.
- Noll, S. (2018). Nonhuman climate refugees: The role that urban communities should play in ensuring ecological resilience. *Environmental Ethics*, 40(2), 119–134. <https://doi.org/10.5840/enviroethics201840213>
- Norman, D. (2020). Reflective equilibrium. In E. N. Zalta (Ed.), *The Stanford encyclopedia of philosophy* (Summer 2020 ed.). <https://plato.stanford.edu/archives/sum2020/entries/reflective-equilibrium/>
- Norton, B. G. (1991). *Toward unity among environmentalists*. Oxford University Press.
- Norton, B. G. (2005). *Sustainability: A philosophy of adaptive ecosystem management*. University of Chicago Press. <https://doi.org/10.7208/chicago/9780226595221.001.0001>
- Norton, B. G. (2014/1987). *Why preserve natural variety?* (ebook) Princeton University Press.
- Norton, B. G. (2016). Sustainability as the multigenerational public interest. In S. M. Gardiner & A. Thompson (Eds.), *The Oxford handbook of environmental ethics* (pp. 355–366, ebook). Oxford University Press. <https://doi.org/10.1093/oxfordhb/9780199941339.013.29>
- Nussbaum, M. (1995). Objectification. *Philosophy & Public Affairs*, 24(4), 249–291. <https://doi.org/10.1111/j.1088-4963.1995.tb00032.x>
- O'Connor, M. (2006). The “Four Spheres” framework for sustainability. *Ecological Complexity*, 3(4), 285–292. <https://doi.org/10.1016/j.ecocom.2007.02.002>
- O'Neill, J. (1992). The varieties of intrinsic value. *Monist*, 75(2), 119–137. <https://doi.org/10.5840/monist19927527>
- Ott, K., Kerschbaumer, L., Köbbing, J. F., & Thevs, N. (2016). Bringing sustainability down to earth: Heihe river as a paradigm case of sustainable water allocation. *Journal of Agricultural and Environmental Ethics*, 29(5), 835–856. <https://doi.org/10.1007/s10806-016-9640-9>
- Palmer, C. (2003). An overview of environmental ethics. In A. Light & H. Rolston III (Eds.), *Environmental ethics: An anthology* (pp. 15–37). Blackwell Publishing.

- Palmer, C. (2016). Living individuals: Biocentrism in environmental ethics. In S. M. Gardiner & A. Thompson (Eds.), *The Oxford handbook of environmental ethics* (pp. 101–112, ebook). Oxford University Press. <https://doi.org/10.1093/oxfordhb/9780199941339.013.10>
- Palmer, C. (2019). Assisting wild animals vulnerable to climate change: Why ethical strategies diverge. *Journal of Applied Philosophy*, 38(2), 179–195. <https://doi.org/10.1111/japp.12358>
- Papadaki, E. (Lina). (2021). Feminist perspectives on objectification. In E. N. Zalta (Ed.), *The Stanford encyclopedia of philosophy* (Spring 2021 ed.). <https://plato.stanford.edu/archives/spr2021/entries/feminism-objectification/>
- Pearce, D., Barbier, E. B., & Markandya, A. (1989). *Blueprint for a green economy*. Earthscan Publications.
- Pelenc, J., & Ballet, J. (2015). Strong sustainability, critical natural capital and the capability approach. *Ecological Economics*, 112, 36–44. <https://doi.org/10.1016/j.ecolecon.2015.02.006>
- Pelletier, N., & Tyedmers, P. (2010). Forecasting potential global environmental costs of livestock production 2000–2050. *Proceedings of the National Academy of Sciences*, 107(43), 18371–18374. <https://doi.org/10.1073/pnas.1004659107>
- Pepper, A. (2019). Adapting to climate change: What we owe to other animals. *Journal of Applied Philosophy*, 36(4), 592–607. <https://doi.org/10.1111/japp.12337>
- Perry, C. J., Barron, A. B., & Chittka, L. (2017). The frontiers of insect cognition. *Current Opinion in Behavioral Sciences*, 16, 111–118. <https://doi.org/10.1016/j.cobeha.2017.05.011>
- Pietarinen, J. (2015). Etiikka. In *Ensyklopedia Logos*. Filosofia.fi. <https://filosofia.fi/fi/ensyklopedia/etiikka>
- Pluhar, E. B. (1995). *Beyond prejudice: The moral significance of human and nonhuman animals*. Duke University Press.
- Poore, J., & Nemecek, T. (2018). Reducing food's environmental impacts through producers and consumers. *Science*, 360(6392), 987–992. <https://doi.org/10.1126/science.aag0216>
- Popa, F., Guillermin, M., & Dedeurwaerdere, T. (2012). Methodological pluralism in sustainability research: A critical-reflexive approach. SSRN. <http://dx.doi.org/10.2139/ssrn.2175085>
- Probyn-Rapsey, F., Donaldson, S., Ioannides, G., Lea, T., Marsh, K., Neimanis, A., Potts, A., Taylor, N., Twine, R., Wadiwel, D., & White, S. (2016). A sustainable campus: The Sydney declaration on interspecies sustainability. *Animal Studies Journal*, 5(1), 110–151. <http://ro.uow.edu.au/asj/vol5/iss1/8>
- ProClim (Ed.). (1997). *Forschung zu Nachhaltigkeit und Globalem Wandel—Wissenschaftspolitische Visionen der Schweizer Forschenden*. Schweizerische Akademie der Naturwissenschaften. (Cited in Hirsch Hadorn et al., 2006)
- Proctor, H. (2012). Animal sentience: Where are we and where are we heading? *Animals*, 2(4), 628–639. <https://doi.org/10.3390/ani2040628>
- Raffensperger, C., & Tickner, J. A. (1999). Introduction: To foresee and to forestall. In C. Raffensperger & J. A. Tickner (Eds.), *Protecting public health and the environment: Implementing the precautionary principle* (pp. 1–11, ebook). Island Press.
- Ramp, D., & Bekoff, M. (2015). Compassion as a practical and evolved ethic for conservation. *BioScience*, 65(3), 323–327. <https://doi.org/10.1093/biosci/biu223>
- Rawles, K. (2006). Sustainable development and animal welfare: The neglected dimension. In J. Turner & J. D'Silva (Eds.), *Animals, ethics and trade: The challenge of animal sentience* (pp. 208–216). Earthscan.
- Rawles, K. (2010). Developing ethical, sustainable and compassionate food policies. In J. D'Silva & J. Webster (Eds.), *The meat crisis: Developing more sustainable production and consumption* (pp. 209–226, ebook). Earthscan.
- Rawls, J. (1971). *A theory of justice* (Original ed., ebook). The Belknap Press of Harvard University Press.
- Raworth, K. (2012). *A safe and just space for humanity: Can we live within the doughnut?* [Oxfam discussion papers]. Oxfam. [https://doi.org/10.1163/2210-7975\\_HRD-9824-0069](https://doi.org/10.1163/2210-7975_HRD-9824-0069)
- Raworth, K. (2017). *Doughnut economics: Seven ways to think like a 21st century economist*. Chelsea Green Publishing.
- Regan, T. (1986). The case for animal rights. In M. W. Fox & L. D. Mickley (Eds.), *Advances in animal welfare science 1986/87* (pp. 179–189). The Humane Society of the United States. [https://animalstudiesrepository.org/cgi/viewcontent.cgi?article=1003&context=acwp\\_awap](https://animalstudiesrepository.org/cgi/viewcontent.cgi?article=1003&context=acwp_awap) (Reprinted from *In defence of animals*, pp. 13–26, by P. Singer, Ed., 1985, Basil Blackwell)
- Regan, T. (1997). The rights of humans and other animals. *Ethics and Behavior*, 7(2), 103–111. [https://doi.org/10.1207/s15327019eb0702\\_2](https://doi.org/10.1207/s15327019eb0702_2)
- Regan, T. (2003). *Animal rights, human wrongs: An introduction to moral philosophy*. Rowman & Littlefield Publishers, Inc.
- Regan, T. (2004/1983). *The case for animal rights* (2nd ed.). University of California Press.
- Regan, T. (2006). Sentience and rights. In J. Turner & J. D'Silva (Eds.), *Animals, ethics and trade: The challenge of animal sentience* (pp. 79–86). Earthscan. <https://doi.org/10.4324/9781849770484>

- Regan, T. (2013). Animal rights and environmental ethics. In D. Bergandi (Ed.), *The structural links between ecology, evolution and ethics: The virtuous epistemic circle* (pp. 117–126, ebook). Springer. [https://doi.org/10.1007/978-94-007-5067-8\\_8](https://doi.org/10.1007/978-94-007-5067-8_8)
- Reiss, J., & Sprenger, J. (2020). Scientific objectivity. In E. N. Zalta (Ed.), *The Stanford encyclopedia of philosophy* (Winter 2020 ed.). <https://plato.stanford.edu/archives/win2020/entries/scientific-objectivity/>
- Rendell, L., & Whitehead, H. (2001). Culture in whales and dolphins. *Behavioral and Brain Sciences*, 24(2), 309–382. <https://doi.org/10.1017/S0140525X0100396X>
- Rittel, H. W. J., & Webber, M. M. (1973). Dilemmas in a general theory of planning. *Policy Sciences*, 4(2), 155–169. <https://doi.org/10.1007/BF01405730>
- Robinson, J. (2004). Squaring the circle? Some thoughts on the idea of sustainable development. *Ecological Economics*, 48(4), 369–384. <https://doi.org/10.1016/j.ecolecon.2003.10.017>
- Rockström, J., Steffen, W., Noone, K., Persson, Å., Chapin III, F. S., Lambin, E., Lenton, T. M., Scheffer, M., Folke, C., Schellnhuber, H. J., Nykvist, B., de Wit, C. A., Hughes, T., van der Leeuw, S., Rodhe, H., Sörlin, S., Snyder, P. K., Costanza, R., Svedin, U., ... Foley, J. (2009). Planetary boundaries: Exploring the safe operating space for humanity. *Ecology and Society*, 14(2), Article 32. <http://www.ecologyandsociety.org/vol14/iss2/art32/>
- Rodman, J. (1977). I. The liberation of nature? *Inquiry*, 20(1–4), 83–131. <https://doi.org/10.1080/00201747708601834>
- Rowlands, M. (2009/1998). *Animal rights: Moral theory and practice* (2nd revised ed.). Palgrave Macmillan. <https://doi.org/10.1057/9780230245112>
- Rupprecht, C. D. D., Vervoort, J., Berthelsen, C., Mangnus, A., Osborne, N., Thompson, K., Uru-shima, A. Y. F., Kóvskaya, M., Spiegelberg, M., Cristiano, S., Springett, J., Marschütz, B., Flies, E. J., McGreevy, S. R., Droz, L., Breed, M. F., Gan, J., Shinkai, R., & Kawai, A. (2020). Multispecies sustainability. *Global Sustainability*, 3, e34. <https://doi.org/10.1017/sus.2020.28>
- Ruuska, T., Heikkurinen, P., & Wilén, K. (2020). Domination, power, supremacy: Confronting anthropology with ecological realism. *Sustainability*, 12(7), 2617. <https://doi.org/10.3390/su12072617>
- Ryder, R. D. (2015). *Speciesism, painism and happiness: A morality for the twenty-first century* (ebook). Andrews UK.
- Sayre-McCord, G. (2014). Metaethics. In E. N. Zalta (Ed.), *The Stanford encyclopedia of philosophy* (Summer 2014 ed.). <https://plato.stanford.edu/archives/sum2014/entries/metaethics/>
- Shafer-Landau, R. (2015). *The fundamentals of ethics* (3rd ed.). Oxford University Press.
- Singer, P. (1974). All animals are equal. *Philosophic Exchange*, 5(1), Article 6. <http://hdl.handle.net/20.500.12648/3306>
- Singer, P. (1993/1979). *Practical ethics* (2nd ed.). Cambridge University Press.
- Singer, P. (2009/1975). *Animal liberation: The definitive classic of the animal movement* (Updated ed.). Harper Perennial.
- Soini, K. (2017). Kestävyystiede – kestävyystutkimuksen uusi paradigma? *Tieteessä tapahtuu*, 35(1), 37–42. <https://journal.fi/tt/article/download/60788/22593>
- Soini, K., & Birkeland, I. (2014). Exploring the scientific discourse on cultural sustainability. *Geoforum*, 51, 213–223. <https://doi.org/10.1016/j.geoforum.2013.12.001>
- Springmann, M., Godfray, H. C. J., Rayner, M., & Scarborough, P. (2016). Analysis and valuation of the health and climate change cobenefits of dietary change. *Proceedings of the National Academy of Sciences*, 113(15), 4146–4151. <https://doi.org/10.1073/pnas.1523119113>
- Srinivasan, K., & Kasturirangan, R. (2016). Political ecology, development, and human exceptionalism. *Geoforum*, 75, 125–128. <https://doi.org/10.1016/j.geoforum.2016.07.011>
- Steffen, W., Richardson, K., Rockström, J., Cornell, S. E., Fetzer, I., Bennett, E. M., Biggs, R., Carpenter, S. R., de Vries, W., de Wit, C. A., Folke, C., Gerten, D., Heinke, J., Mace, G. M., Persson, L. M., Ramanathan, V., Reyers, B., & Sörlin, S. (2015). Planetary boundaries: Guiding human development on a changing planet. *Science*, 347(6223). <https://doi.org/10.1126/science.1259855>
- Steinfeld, H., Gerber, P., Wassenaar, T., Castel, V., Rosales, M., & Haan, C. de. (2006). *Livestock's long shadow: Environmental issues and options*. Food and Agriculture Organization of the United Nations. <http://www.fao.org/3/a0701e/a0701e00.htm>
- Stumpf, K. H., Baumgärtner, S., Becker, C. U., & Sievers-Glotzbach, S. (2015). The justice dimension of sustainability: A systematic and general conceptual framework. *Sustainability*, 7(6), 7438–7472. <https://doi.org/10.3390/su7067438>
- Taylor, P. W. (1981). The ethics of respect for nature. *Environmental Ethics*, 3(3), 197–218. <https://doi.org/10.5840/enviroethics19813321>
- Taylor, S. (2017). *Beasts of burden: Animal and disability liberation*. The New Press.
- The Royal Society. (2009). *Reaping the benefits: Science and the sustainable intensification of global agriculture*. The Royal Society. <https://royalsociety.org/topics-policy/publications/2009/reaping-benefits/>

- Thompson, J. (1990). A refutation of environmental ethics. *Environmental Ethics*, 12(2), 147–160. <https://doi.org/10.5840/enviroethics199012216>
- Tiisala, K. (2020a). Tuntoisia eläimiä kunnioittava ilmastoetiikka. In S. Kyllönen & M. Oksanen (Eds.), *Ilmastonmuutos ja filosofia* (pp. 175–198). Gaudeamus.
- Tiisala, K. (2020b). Sentience draws the line: The sufficient and necessary criterion for equal rights in Tom Regan's animal ethics [Master's thesis]. University of Helsinki. <http://urn.fi/URN:NBN:fi:hulib-202012285539>
- Tschakert, P. (2020). More-than-human solidarity and multispecies justice in the climate crisis. *Environmental Politics*, 31(2), 277–296. <https://doi.org/10.1080/09644016.2020.1853448>
- Tschakert, P., Schlosberg, D., Celermajer, D., Rickards, L., Winter, C., Thaler, M., Stewart-Harawira, M., & Verlie, B. (2021). Multispecies justice: Climate-just futures with, for and beyond humans. *WIREs Climate Change*, 12(2), e699. <https://doi.org/10.1002/wcc.699>
- Twine, R. (2020). Where are the nonhuman animals in the sociology of climate change? *Society and Animals* (published online ahead of print 2020), 1–26. <https://doi.org/10.1163/15685306-BJA10025>
- Twine, R. (2021). Emissions from animal agriculture—16.5% is the new minimum figure. *Sustainability*, 13(11), 6276. <https://doi.org/10.3390/su13116276>
- UN (United Nations). (2015). *A/RES/70/1—Transforming our world: The 2030 agenda for sustainable development*. [https://www.un.org/ga/search/view\\_doc.asp?symbol=A/RES/70/1&Lang=E](https://www.un.org/ga/search/view_doc.asp?symbol=A/RES/70/1&Lang=E)
- UN (United Nations). (n.d.). *Take action for the sustainable development goals*. Retrieved March 21, 2022, from <https://www.un.org/sustainabledevelopment/sustainable-development-goals/>
- van Dooren, C., Marinussen, M., Blonk, H., Aiking, H., & Vellinga, P. (2014). Exploring dietary guidelines based on ecological and nutritional values: A comparison of six dietary patterns. *Food Policy*, 44, 36–46. <https://doi.org/10.1016/j.foodpol.2013.11.002>
- Väyrynen, P. (2021). Thick ethical concepts. In E. N. Zalta (Ed.), *The Stanford encyclopedia of philosophy* (Spring 2021 ed.). <https://plato.stanford.edu/archives/spr2021/entries/thick-ethical-concepts/>
- Verniers, E. (2021). Bringing animal welfare under the umbrella of sustainable development: A legal analysis. *Review of European, Comparative & International Environmental Law*, 30(3), 349–362. <https://doi.org/10.1111/reel.12414>
- Vinnari, E., & Vinnari, M. (2022). Making the invisibles visible: Including animals in sustainability (and) accounting. *Critical Perspectives on Accounting*, 82, 102324. <https://doi.org/10.1016/j.cpa.2021.102324>
- Vinnari, M., & Vinnari, E. (2014). A framework for sustainability transition: The case of plant-based diets. *Journal of Agricultural and Environmental Ethics*, 27(3), 369–396. <https://doi.org/10.1007/s10806-013-9468-5>
- Virtanen, P. K., Siragusa, L., & Guttorm, H. (2020). Introduction: Toward more inclusive definitions of sustainability. *Current Opinion in Environmental Sustainability*, 43, 77–82. <https://doi.org/10.1016/j.cosust.2020.04.003>
- Visseren-Hamakers, I. J. (2020). The 18th Sustainable Development Goal. *Earth System Governance*, 3, 100047. <https://doi.org/10.1016/j.esg.2020.100047>
- Vucetich, J. A., & Nelson, M. P. (2010). Sustainability: Virtuous or vulgar? *BioScience*, 60(7), 539–544. <https://doi.org/10.1525/bio.2010.60.7.9>
- Wadham, H. (2020). Horse matters: Re-examining sustainability through human-domestic animal relationships. *Sociologia Ruralis*, 60(3), 530–550. <https://doi.org/10.1111/soru.12293>
- Wallach, A. D., Batavia, C., Bekoff, M., Alexander, S., Baker, L., Ben-Ami, D., Boronyak, L., Cardilin, A. P. A., Carmel, Y., Celermajer, D., Coghlan, S., Dahdal, Y., Gomez, J. J., Kaplan, G., Keynan, O., Khalilieh, A., Kopnina, H., Lynn, W. S., Narayanan, Y., ... Ramp, D. (2020). Recognizing animal personhood in compassionate conservation. *Conservation Biology*, 34(5), 1097–1106. <https://doi.org/10.1111/cobi.13494>
- Warren, M. A. (2003). Moral status. In R. G. Frey & C. H. Wellman (Eds.), *A companion to applied ethics* (pp. 439–450, ebook). Blackwell Publishing.
- Washington, H., Taylor, B., Kopnina, H., Cryer, P., & Piccolo, J. J. (2017). Why ecocentrism is the key pathway to sustainability. *The Ecological Citizen*, 1(1), 35–41. <https://www.ecologicalcitizen.net/pdfs/v01n1-08.pdf>
- WCED (World Commission on Environment and Development). (1987). *Our common future*. Oxford University Press.
- Williams, B. (2011/1985). *Ethics and the limits of philosophy* (ebook). Routledge.
- Wolfe, C. (2010a). *What is posthumanism?* (ebook) University of Minnesota Press.
- Wolfe, C. (2010b). Before the law: Animals in a biopolitical context. *Law, Culture and the Humanities*, 6(1), 8–23. <https://doi.org/10.1177/1743872109348986>
- Young, I. M. (1990). *Justice and the politics of difference*. Princeton University Press.
- Ziegler, R., & Ott, K. (2011). The quality of sustainability science: A philosophical perspective. *Sustainability: Science, Practice, & Policy*, 7(1), 31–44. <https://doi.org/10.1080/15487733.2011.11908063>