Three Types of Anthropocentrism

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Abstract

What is anthropocentrism? And when we call a paradigm *anthropocentric,* what are we saying about it? In this paper, I argue that a significant amount of environmental philosophy has used the catch-all term 'anthropocentrism' to refer to what is, in fact, a specific *type* of anthropocentrism – what I call *normative* anthropocentrism. In doing so, it has either confused this for, or simply ignored, another type, which I call *descriptive* anthropocentrism.[1] And it has sometimes conflated both of these with a third type, which I call *perceptual* anthropocentrism. These kinds of confusions radically hinder environmental philosophy's capacity for rigorous critical and reconstructive conversations in conversation with the sciences – which, I argue, really means they frustrate its reason for existing in the first place.

My aim here is to help remedy this, by setting up a framework that can distinguish, as clearly as possible, between these three types of anthropocentrism. I hope to show that 'anthropocentrism', and the anthropocentrism of paradigms, is something that should be of profound interest not just to ethicists, but also epistemologists, methodologists, and metaphysicians. I propose that a nuanced vocabulary is a prerequisite for talking clearly about the different ways in which a particular paradigm might be anthropocentric; for exploring the relationships between different types of anthropocentrism; for understanding how anthropocentrisms have consequences far beyond the obviously normative; and, ultimately, for understanding what it would mean to develop a paradigm that was truly *non*anthropocentric.

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[1] Note that in earlier work I labelled these terms 'analytic' (descriptive) and 'moral' (normative) (see, e.g., Mylius 2017) but I would now deprecate that usage in favour of the clearer terms used here. Thanks are due to my reviewers and colleagues for helpful conversations on these terminological questions!

Here are three summary definitions, which I will flesh out in what follows.

1. A paradigm is *perceptually* anthropocentric if it is informed by sense-data that a human being has received through their – human – sensory organs.

2. A paradigm is also *descriptively* anthropocentric if it in some way begins from, takes as its reference point, revolves around, focusses on, is centered around or is ordered according to the species *Homo sapiens* or the category of 'the human'.

3. A paradigm is also *normatively anthropocentric:*

   a. in a *passive* sense, if it constrains inquiry in a way that somehow privileges *Homo sapiens* or the category of 'the human';

   b. in an *active* sense, if it either a. contains assertions or assumptions about the superiority of *Homo sapiens*, its capacities, the primacy of its values, its position in the universe, etc.; and/or b. if it makes prescriptions (shoulds/oughts) based on these assertions or assumptions.

Introduction: the concept of anthropocentrism

Anthropocentrism has long been one of the bugbears of environmental philosophy: critiqued, lamented, mocked, dodged, and scorned. But what *is* it, exactly? A quick glance at some of the founding texts of environmental ethics reveals that many either don't define the term, or hardly use it at all.[2] Where definitions are provided, they are often negative, characterizing

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[2] For example, it appears only once in Arne Naess's *The Shallow and the Deep, Long-Range Ecology Movement: A Summary* (Naess 1973) and four times in *Ecology, Community and Lifestyle* (Naess, Rothenberg, and Næss 1989), without definition; four times in Holmes Rolston's *Is There an Ecological Ethic?* (Rolston III 1975); once in

anthropocentrism as the inverse of things like 'holism', 'ecocentrism', or 'deep ecology'. Subsequent texts do attempt explicit definitions, and here, a trend begins to emerge.[3] Consider the following examples:

1. Anthropocentrism is 'human chauvinism' (Routley 1973; Seed et al. 1988; Boddice 2011).

2. Anthropocentrism is akin to 'human exceptionalism' (Catton Jr and Dunlap 1978, 42).

3. Anthropocentrism 'confers intrinsic value on human beings and regards all other things, including other forms of life, as being only instrumentally valuable' (Callicott 1984, 299).

4. Anthropocentrism involves 'a concern with human interests to the exclusion of nonhumans' (Hayward 1997, 52) or manifests 'attitudes, values or practices which give exclusive or preferential concern to human interests at the expense of the interests or well-being of other species or the environment' (Hayward 2014).

5. Anthropocentrism proposes that 'the nonhuman world … exist[s] for the sake of human beings.' (Evans 2005, viii).

6. Anthropocentrism is an 'ethical attitude' (Minteer 2009a, 59) that 'only consider[s] human interests and harms worth recognizing' (Minteer 2009b).

7. Anthropocentrism holds that 'the only things valuable in themselves are human beings [and] their desires and needs' (Donahue 2010, 51).

Christopher Stone's *Should Trees Have Standing?* (Stone 1972); not at all in Richard Routley's *Is There a Need for a New, an Environmental, Ethic?* (Routley 1973); a smattering of times in George Sessions' *Deep Ecology for the Twenty-First Century*, but only once with a definition, by Fritjof Capra, which characterizes it as a perspective that 'views humans as above or outside of nature, as the source of all value, and ascribes only instrumental, or use value to nature' (id., ch 2). I borrow this list of early or foundational texts from both Gary Varner (Varner 1998, 6) and Ben Minteer (Minteer 2009b, ch 1). Contemporary work often follows a similar trend: for example, the term only appears a few times in each of Thomas Berry's *The Great Work* (Berry 2000), David Abram's *The Spell of the Sensuous* (Abram 1997), Gary Francione and Robert Garner's *The Animal Rights Debate* (Francione and Garner 2010), Cary Wolfe's *What is Posthumanism?* (Wolfe 2010), Jane Bennett's *Vibrant Matter* (Bennett 2010), and Timothy Morton's *The Ecological Thought* (Morton 2012).

[3] William Leiss writes, 'work [on these sorts of questions] may be divided into two categories: studies that deal with intellectual history (how the "attitude" or concept of mastery over nature arose and developed) and those that deal with the practical outcomes of this "attitude" (what damage has been done in its name, and what we must do to repair it).' (Leiss 1994, xii). My project here is slightly different to both of these approaches, I think, in that it is interested in both the concept of 'mastery' *as a subset of other ways of thinking, which themselves supervene upon descriptive anthropocentrism*, and is also interested in the *theoretical* or *cognitive* consequences, perhaps, as opposed to the 'practical' ones. (Although thought of course is 'practical' – compare John Dewey and the pragmatists on this point).

8. Anthropocentrism includes 'speciesism' and involves a 'difficult-to-define prejudice in favor of humans' (Milligan 2011).

9. Anthropocentrism 'consider[s] only humans, members of the species Homo sapiens, to have moral standing." (Kernohan 2012, 9).

10. Anthropocentrism 'sees individual humans and the human species as more valuable than all other organisms' (Washington et al. n.d.).

These definitions create the impression that anthropocentrism is exclusively, and inevitably, a matter of normative claims about human superiority. As such, they suggest that discussions of the concept are properly the domain of *ethics*.[4] They also create the impression that anthropocentrism is only of concern to those in the sub-sub-subfield of environmental ethics, conceived of as a niche within applied ethics, itself merely a subfield of ethics (which is 'soft', in contrast to 'hard' subfields like ontology).

But all of these impressions are false.[5] Claims about human superiority are by no means the only form of anthropocentrism; questions of anthropocentrism are not only questions about ethics; and, in my view, the concept properly understood should be front and center in any philosophical inquiry that takes seriously its connection to contemporary life and contemporary questions (like the question of the Anthropocene). There are therefore some grievous misunderstandings that deserve to be urgently rectified.

My approach to engaging this problem is to differentiate between three types of anthropocentrism – perceptual, descriptive, and normative (with the latter being further

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[4] For two excellent overviews of environmental ethics as a field, see Brennan and Lo 2015 and Cochrane 2017.

[5] It's worth nothing that *ecologists* (as opposed to philosophers) haven't necessarily made this same mistake – for example, Blackwell's Concise Encyclopedia of Ecology defines 'anthropocentric' simply as 'either: (i) describing plants or animals that have become strongly associated with humans; or (ii) [involving] reasons or explanations that put humans at the center of things.' (Calow 2009, 5). There are also hints of this usage in, for example, the work of geographers: 'human geographers have also tended to define 'context' in anthropocentric terms, focusing on the humanly constructed reference frames of laws, structures, and artefacts surrounding events.' (Douglas, Huggett, and Robinson 1996, 851). Also compare the usage in Buchanan 2008; Mathews 1996; Calarco 2008; and the usage in Andrews 2016.

divisible, into actively and passively normative variants).[6] I shall aim to survey a wide range of ways in which human thinking can be 'centered upon humans',[7] and in so doing, shall stake my claim that the concept of anthropocentrism must be re-situated at the center of contemporary philosophical inquiry.

Preliminary matters

Before getting into the nitty-gritty of my definitions, I should clarify a few concepts and establish a few caveats. These concern the concept of paradigms; the meanings of 'descriptive' and 'normative'; and the capacity of the types of anthropocentrism I'll explore to inhere in a single paradigm simultaneously. Those who are most interested in the tripartite schema might skip this section, but should beware that the definitions I use in that discussion are a little idiosyncratic, in the following terms.

Defining 'paradigms'

The term 'paradigm' was popularized by Thomas Kuhn in the context of his studies of the history of science. Kuhn famously defines paradigms as 'universally recognized scientific achievements that for a time provide model problems and solutions for a community of researchers' (Kuhn 1996, 10). Over time, usage of the term has broadened to include any

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[6] Clive Hamilton makes a distinction something like the one I am making when he differentiates anthropocentrism 'as a description of the uniqueness of humans as a species and our actual power on the Earth' from anthropocentrism as 'the attitude of arrogance and mastery that *typically, though not necessarily,* has gone with it' ((Hamilton 2017, 90, my emphasis). Note though that what I call descriptive anthropocentrism includes claims about human uniqueness/distinctiveness as merely one of its many variants. See below.

[7] For a critical reflection on the idea of 'centrism', compare Lars Samuelsson, 'At the Center of What? A Critical Note on the Centrism-Terminology in Environmental Ethics' (2013) 22(5) *Environmental Values* 627. Compare also Arthur Bradley, discussing Derrida: "Now, this idea of a 'center' has a complex relation to the structure which surrounds it. On the one hand, a center must be within any given structure: it gives form, order or balance to that structure, just as, say, a pivot or fulcrum enables something to move around it. On the other, however, a center is also paradoxically outside a given structure: it is the very thing that governs or controls that structure.' (Bradley 2008, 31).

coherent ensemble of assumptions, methods, truth and evidence conditions, etc., which facilitate thought.[8]

The language used in discussing paradigms often seems to imply that they are completely intentionally selectable – that is, that you or I or anyone else can consciously choose or discard a paradigm in the same way they might choose to speak English over French, or wear a hat as opposed to a beanie. This is, of course, not true. In a very real sense, a paradigm precedes individual agency, because *some* paradigm is a condition of possibility for thinking about anything (including themselves). This is why a paradigm change, or paradigm shift, is such a revolutionary event. At the same time, there must be *some* individual agency in questioning paradigms, for it is precisely this process that allows scientists and other thinkers working collectively to begin the processes that lead to paradigm shift.[9]

A detailed examination of these questions is beyond the scope of this paper.[10] For present purposes, Theresa Morris offers a gloss on the term that is particularly relevant.

> [A paradigm is] a perspective based upon a horizon that has been selected [with the caveats above] from the many positions and perspectives that are possible for thinking, imagining human beings. … It forms *a perimeter for possible experimentation*—being a collective of views and beliefs about what might be true. As a model for what is knowable about things, *it both permits exploration and delimits it*. It is

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[8] Paul Kockelman compiles an impressive list of similar concepts in his discussion of 'semiotic ontologies': "the epistemes of Foucault… the ideologies of Marx … the epistemic cultures of Knorr Cetina…the commens of Peirce… the ontologies and epistemologies of Quine… the imaginaries (reals and symbolics) of Lacan… the linguistic and semiotic language ideologies of anthropologists… the frames of Goffman … the cultures of Boas … the historical ontologies of Hacking… the relevance wholes of Heidegger… the hegemonies of Gramsci… the generalized others or "intersubjects" of Mead… the idols of Bacon… the actors and networks of actor-network theorists… and so forth." (Kockelman 2013, 10–11) (citations omitted).

[9] The 'hero model' of the individual scientist or creative genius who single-handedly develops a new paradigm is worth avoiding here.

[10] For further discussion, see both the text and references in Bird 2013.

best described as a method for isolating problems for experimentation in the hopes of gathering data that might create a better explanation for certain phenomena. *Its capacity [both] to limit or enlarge our vision about the world should not be overlooked.* (Morris 2013, 22–23) (emphasis added)

The most important element of this gloss is the idea of *simultaneous enabling and constraint.* Any paradigm you or I (or all of us) might use will both enable *and* constrain our thinking, in one and the same movement. In enabling our thinking, our paradigm will also, by that action, *necessarily* constrain it. This simultaneous-but-distinct element of paradigms is important for the definitions of 'descriptive' and 'normative' I outline below.

Defining 'descriptive' and 'normative'

The terms 'descriptive' and 'normative' are messy. The term 'descriptive' has been controversial because, if it is understood to mean 'value-independent', it becomes hard to see how any proposition can be descriptive. On the other hand, if we don't allow ourselves to use the word at all, how are we to characterize basic statements of fact, like 'the solar system has planets'?[11]

The term 'normative' has an even more checkered usage, because it can refer to a whole range of different intellectual activities, properties of propositions, or states of affairs. The OED asserts that something is normative if it 'constitutes or serves as a norm or standard; impl[ies or is] derived from a norm; [or is] prescriptive' ("Normative" 2016). I think this definition helps to illuminate the confusion. 'Constituting' something and 'deriving from' something almost seem like the opposite of each other (albeit opposites that often co-occur). Yet they are named by the

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[11] On these and other questions, I take significant inspiration from the work of the Australian philosopher Val Plumwood, especially Plumwood 1993a. Plumwood provides a rigorous discussion of the far-reaching nature of dichotomies and binaries and the complex mingling of descriptive and normative elements of those binaries (see especially id., chapter 2).

same word. For example: a piece of legislation that *constitutes* a legal norm may well itself be *derived from* another norm.[12] If we simply call the legislation 'normative', then, are referring to the establishing or the deriving?

These questions open a can of worms that go well beyond my focus here. But I require both terms, and so I shall define them in a way that helps me apply them to the specific concept of paradigms. I mentioned above, following Theresa Morris, that paradigms can be usefully understood as both enabling and constrain thinking. *For my purposes, the 'enabling' part is descriptive, and the 'constraining' part is (passively) normative.* I need *some* paradigm in order to think or say anything at all – to *enable* me to think in the first place. This enabling function is *descriptive*: it allows me to describe the world.[13] But at the very moment I become able to think and speak, I become *constrained to tend to think and speak in certain ways.* The paradigm I inhabit will influence the lines of inquiry I am likely to follow, the way I am likely to frame my questions, the things that can count for me as evidence of my conclusions, and so forth. This constraining function is *passively normative*. I use the qualifier 'passive' to indicate a lack of intentionality – I can't choose not to be constrained by my paradigm, as it were. It constrains me whether I want it to (or see it has) or not.

I also use the term 'passive' to differentiate this inherent feature of paradigms from the *actively* normative propositions – for example, value judgments, or ethical prescriptions – that I might make from *within* a paradigm, over which I do, arguably, have some agency. (Within the passively normative constraints to which my paradigm gives rise). Propositions concerning 'facts' about morality or value ('Humans are better than nature', 'Because of this, all and only humans have rights', etc.) or articulating norms of an ethical or legal nature ('Thou shalt not

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[12] As always, of course, things aren't quite this simple. There is a long-standing question in jurisprudence about whether legislation *really* 'constitutes' norms, or whether it rather gives written or legal form to norms that already exist: scholars also argue about whether it's 'norms all the way down', or whether some foundational norm, either actual or transcendental, grounds all those that supervene upon it, and so forth. See, for example, Bix 2015; Coleman, Himma, and Shapiro 2004; Wacks 2012.

[13] This usage is a little clunky precisely because the adjective 'descriptive', unlike 'normative', has not evolved the double usage 'establishing' and 'deriving from'.

kill'; 'a Board must give 30 days' notice of an AGM'; etc.), whether they be implicit or explicit, are what I am calling actively normative.[14]

I want to emphasize that the inherent passive normativity of paradigms is not some mysterious alchemy. If I am studying astronomy in the context of a Western scientific paradigm that denies the existence of ghosts and spirits, then – in becoming able to study astronomy – I am also constrained to avoid invoking ghosts and spirits as the cause of planetary movements. More subtly, but just as importantly, if I choose a paradigm that is descriptively Eurocentric (one in which Europe is the center of everything, and the rest of the world is understood by reference to Europe) I shall be constrained to see the world 'from Europe outwards'. I shan't be able to construct a history of India 'in itself', because the concepts in terms of which I try to think (civilization, government, freedom, technology, rationality, history) will already be inflected by the European experience (compare Chakrabarty 2000; Mehta 1999). This fact is what gives power to postcolonial work in history, literature, and anthropology.

Applying this terminology to anthropocentrism:

1. A paradigm will be *descriptively anthropocentric* if it is 'centered upon' *Homo sapiens* or the concept of 'the human' in one (or many) ways.
2. Such a paradigm will also be 'passively normatively anthropocentric', because, by virtue of its descriptive centeredness-upon-the-human, it will constrains thinking in certain ways, and tend to generate certain lines of inquiry, which orbit around, emerge from, or are anchored by 'the human'.

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[14] I want to note as a general point that these fine distinctions really only hold in the artificially pure realm of philosophical analysis – the line between descriptive and passively normative anthropocentrism is thin, and that between passively and actively normative anthropocentrism is thinner. For example: if I am working within a scientific paradigm (as opposed to, say, a religious one), knowing that it precludes ghosts and spirits, and having chosen it *because* of this fact, is this still only passively normative? This messiness aside, I think it is nonetheless a useful distinction for analytic purposes.

3. And such a paradigm[15] may also become *actively normatively anthropocentric* if I use it to articulate value judgments, moral 'truths', ethical or legal norms, like 'humans are the most valuable beings in the universe', 'humans are superior to nature', 'humans have inherent dignity', 'do not disrespect humans', etc.

The co-occurrence of the three types of anthropocentrism[16]

These three types of anthropocentrism and their variants are *neither mutually exclusive, nor exhaustive*. By 'not mutually exclusive,' I mean that, just as an individual human being can be simultaneously 'human', 'male', and 'old', so too can a single paradigm be perceptually anthropocentric, *and* descriptively anthropocentric, *and* passively normatively anthropocentric, *and* actively normatively anthropocentric, or one of many other combinations besides.[17]

By 'not exhaustive', I mean that the examples I explore below – particularly the various permutations of descriptive anthropocentrism – are not intended to establish some definitive list of categories that brooks no extensions or exceptions. Readers are likely to have more examples of ways in which paradigms are descriptively human-centered in ways I haven't captured here, and I would be keen to hear about them if so.

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[15] For completeness: descriptively *non*anthropocentric ones could also be used to make normatively anthropocentric statements. I contend that the reverse is not true. See below.

[16] I should note of course that many other thinkers have developed thoughtful and careful distinctions between types of anthropocentrism: Ben Minteer, for example, makes distinctions between ontologically, epistemologically and ethically anthropocentric thinking (2009); Tim Hayward distinguishes between weakly, strongly, and perspectivally anthropocentric thinking (1997); David Keller distinguishes five 'themes' of anthropocentric thinking of varying types (2010); J. Baird Callicott distinguishes between metaphysical, moral and tautological anthropocentrism (Callicott 2013, 8–9); Clive Hamilton, following John Passmore, distinguishes between 'teleological' and 'normative' anthropocentrism (Hamilton 2017, 53–55; Passmore 1980). I maintain that the rubric I develop here either extends or subsumes these rubrics (and is broadly compatible with each of them in any case).

[17] (I leave for now the question of whether and how these types of anthropocentrism supervene upon one another: for example, whether a paradigm must be descriptively *non*anthropocentric before it can generate truly normatively nonanthropocentric propositions).

Perceptual Anthropocentrism[18]

A paradigm is perceptually anthropocentric when it is directly or indirectly informed by data received or gathered by the senses of the human body. As conceived of here, all paradigms are inevitably anthropocentric in this basic sense: no paradigm can be based upon anything other than sense-data that a human being has received through their sensory organs, whether directly or indirectly.[19] Just as Nagel observed that there is no 'view from nowhere', so too is there no 'view from no*body*'[20] (Compare Nagel 1989; Code 2006; Nietzsche and Smith 1996, 97–8). This is the primordial type of anthropocentrism.[21]

Human beings necessarily receive the sense-data that informs their paradigms via their – human – bodies, and thus via their human sensory organs – sight via the eyes, sound via the ears, smell via the nose, taste via the mouth, and touch skin via the. (Some frameworks, like Buddhism, add 'intellect' or 'inner sense' to this list: compare Bodhi 2000, Part IV). Each of these functions within certain parameters and sensitivities to afford certain sensations.[22]

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[18] I interpret J. Baird Callicott's 'tautological anthropocentrism' to be covering much the same ground here; choose the term 'perceptual' though as I think it contrasts more clearly with 'descriptive' and 'normative'. See Callicott 2013, 8–9.

[19] This is true even if those sensory organs are aided by technology. Even if a scientist is using a microscope to see atoms, for example, they are still *seeing* them [not smelling them, etc.] Nor is the *microscope* 'seeing' them. The human scientist is seeing what is represented through the microscope. The x-ray scanner provides a set of signs which a human eye (or other organ) 'interprets', in the sense of that term used in the semiotics of CS Peirce. Compare Kockelman 2013, 2017, 2015.

[20] Compare Quentin Meillassoux: 'even if we concede that the transcendental subject does not exist in the way in which objects exist, one still has to say that there is a transcendental subject, rather than no subject… Moreover, nothing prevents us from reflecting in turn on the conditions under which there is a transcendental subject. And among these conditions we find that there can only be a transcendental subject on condition that such a subject *takes place*. What do we mean by 'taking place'? We mean that the transcendental, insofar as it refuses all metaphysical dogmatism, remains indissociable from the notion of a *point of view*. …The subject is transcendental only insofar as it is positioned in the world, of which it can only ever discover a finite aspect, and which it can never recollect in its totality. But if the transcendental subject is localized among the finite objects of its world in this way, this means that it remains indissociable from its incarnation in a body.' (Meillassoux 2010, 24–25)

[21] I shall expand on this below, but lest it be in mind already, I shall be claiming that human beings are capable of selecting descriptively nonanthropocentric framings for their paradigms, even though they must do so on the basis of information that is, of necessity, perceptually anthropocentric.

[22] What I have in mind here should not be construed as an extreme form of empiricism, but rather something more like pragmatism in the vein of Dewey or Peirce. Compare Charles Sanders Peirce 1877; Dewey 1958.

Humans can certainly use their imaginative capacities to consider how other creatures might experience the world: but no human being can 'think *as* a bat' (compare Nagel 1974), or a tick (compare von Uexküll 1982), or a mountain (compare Seed et al. 1988), if by this we mean 'inhabit the perceptual organs of these entities'.[23] For example: the human eye cannot generally directly perceive wavelengths of light outside the range 380-800 nM ("Spectral Sensitivity of the Human Eye" 2017; compare Jacobson 1951), whereas birds, insects and other animals can (Smith 2016; Sekar 2015); human ears cannot directly perceive wavelengths of sound outside a range of about 20 Hz – 20kHz (Nave 2000), whereas bats, beluga whales and many other organisms can (Strain 2017); the human nose cannot directly detect scents that elude its 10cm^2 olfactory epithelium, whereas dogs and rabbits can, with their much larger olfactory epithelia (Fox 2017; Purves et al. 2001).[24] These parameters stem from the evolution and material constitution of the human body in spacetime. In this sense, human beings perceive the world – and cannot help but perceive that world – 'as humans'. (Other species may well also have other senses available to them that humans do not, which we generally can only understand by analogy to human senses: compare Bittel 2014).

It follows that paradigms developed by humans, which are necessarily informed by this sense-data, are 'perceptually anthropocentric'. Of course, while perceptual *anthropo*centrism is of course limited to the *Anthropos* – to humans – perceptual X-centrism as a *structure of perception in general* is not something that is unique to the human species. It seems fair to assume that dingoes think and act 'dingo-centrically' (as dingoes, based on sense-data gathered by their dingo sense-organs); kangaroos, 'kangaroo-centrically' (ditto); and, depending on how far down the chain of sentience or life we hold 'thinking' to go, eucalypts 'think' eucalypt-centrically, or 'as trees' (compare Wohlleben 2016; Kohn 2013).

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[23] I think this is generally true, but for present purposes, I will limit myself to claiming that it is true within the 'naturalist' ontology of Western societies, as this is outlined by Philippe Descola (in his schema of naturalism/animism/totemism/analogism). Compare Descola and Lloyd 2013; Descola 2014.

[24] Note how smell is measured differently (less 'objectively'? More descriptively anthropocentrically?) than sight or sound.

Descriptive anthropocentrisms[25]

As well as its inevitable perceptual anthropocentrism, a paradigm is also *descriptively* anthropocentric if it in some way begins from, revolves around, focusses on, takes as its reference point, is centered around, or is ordered according to the species *Homo sapiens* or the category of 'the human'. This fact (of beginning from/revolving around/etc.) makes it anthropocentric in the 'way it sees the world'[26] and the statements it makes about that world: it is 'centered upon' the human in its descriptions. Other objects of contemplation are defined within the paradigm *by reference to*, *by comparison with,* or *in terms of their relation to* the *Anthropos* that is at the center of the paradigm. Variants on this theme are incredibly widespread across the humanities and social sciences, and often more broadly as well.

An analogy will be helpful here. This type of anthropocentrism is much closer to (descriptive) heliocentrism in scientific cosmology than it is to (normative) androcentrism (understood as male supremacism) in ethics. A heliocentric paradigm is one that is 'centered upon the sun', in the sense that the sun is posited as the physical center of the solar system, and/or that it is the object with reference to which distances and positions are calculated, the object around which

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[25] The term 'descriptive anthropocentrism' can be understood in contrast to the catch-all category of *descriptive nonanthropocentrism*, which is a label for any paradigm that is centered upon some context larger or smaller than *Homo sapiens*, individual human beings, or the category of 'the human'. Perhaps somewhat ironically, of course, the catch-all label 'descriptive nonanthropocentrism' is itself descriptively anthropocentric (in that it defines 'everything else' on the basis of its *not* being anthropocentric). The specific terms caught by this general definition, however – e.g. biocentrism, cosmocentrism – are not descriptively anthropocentric. Descriptive *biocentrism*, for example, could serve as a label for a paradigm that began from the concept of 'life' (or, more strongly, from the binary of life as opposed to nonlife). *Descriptive ecocentrism* could serve as a label for a paradigm that began from the concept of ecosystems, where these could (but need not) include *Homo sapiens*, and where these could include many different configurations of living and nonliving matter (assuming this binary is adopted).

[26] There is an implicit claim here about the relation between sense-data and the paradigms to which they are capable of giving rise. In technical terms, I contend that actively normative anthropocentrism supervenes upon descriptive anthropocentrism, which in turn supervenes upon perceptual anthropocentrism. But in proposing that paradigms are capable of being descriptively anthropocentric, I intend to imply that there is also such a thing as descriptive *non*anthropocentrism (and thus *normative* nonanthropocentrism). (I thus am asserting that it is possible to develop a descriptively nonanthropocentric paradigm – by not 'centring upon' or 'beginning from' the human *in description* – even on the basis of sense-data which have been gathered via perceptually anthropocentric human sensory organs. In more general terms, I am sympathetic to the perspective on these issues that is developed by philosophical pragmatism (as opposed to, say, rationalism or empiricism): compare Charles S. Peirce, Houser, and Kloesel 1992.

the planets orbit, etc. (Compare Goddu 2010; Gingerich 1973). I should call this, properly speaking, *descriptive heliocentrism.*[27]

I could, of course, go on to make statements from within this paradigm that try and establish values or 'moral facts': ('the sun is the most valuable object in the universe'; 'the sun is superior to humans'; 'the sun has inherent dignity') or ethical and legal norms ('do not disrespect the sun'; 'any human wishing to use sunlight must fill out this form', etc.). In this case, I would be using the paradigm in a way that was *actively normatively heliocentric.* The crucial point, though, is that these two things are clearly separable. I can label a paradigm 'heliocentric' without meaning to assert that it is the *moral* center of the universe.[28] In the same way, descriptive anthropocentrism involves some form of 'centeredness-upon-humans' that is not a *moral* centeredness, but is rather a 'centeredness' of starting-point, or frame-of-reference, or choice of scope conditions. This descriptive centeredness coexists with, but is distinct from, both passively and actively normative centeredness.[29]

Note, also, that I am not claiming that descriptive anthropocentrism is *necessarily* positive or negative. I am simply claiming that it *is*: i.e., that the term 'descriptive anthropocentrism' is useful as a label for a feature of certain paradigms. I will claim below though that it is *contingently* negative, because if I only have access to paradigms that are descriptively centered upon humans, I am profoundly limited in my ability to engage with the world beyond human beings. Centering my thinking on humans limits my ability to 'see', describe, or grapple with important phenomena: most importantly, those which exist at scales far beyond the scale of our

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[27] Note for completeness that this descriptive anthropocentrism also makes the paradigm *passively normatively heliocentric*, because it tends to push our thinking in certain ways, which are 'centered upon' the sun.

[28] This is not to say that the term cannot be used in such a way: as in, for example, anthropology, where we might find reference to the 'heliocentric culture' of ancient Egypt. This dual aspect or dual valence of the term is something we will find crops up repeatedly. Why it is, as a matter of historical and cultural fact, that being at the 'center' of something has so often come to mean 'being the best' or 'being the most important' is a question I leave to others. Compare (Lakoff and Johnson 2003).

[29] This dual meaning is also evident in the Oxford English Dictionary's definition of the term, according to which anthropocentrism involves '*centering on humanity or human beings* [or] regarding humanity as the central or most important element of existence, especially as opposed to God or the natural world' ("Anthropocentric" 2016, my emphasis).

daily lives or quotidian experience, like climate change (compare Morton 2013; Jamieson 2014), the evolution of the universe, the lifeworlds of other animals, etc. I also run the real risk of claiming that some actively normative paradigm I have developed is 'nonanthropocentric' (say, because I have tried to overcome Cartesian dualism) when in fact it is still completely descriptively anthropocentric, just in ways I have not noticed or identified.

In the following five sub-sections I shall examine what I propose are five different variants of descriptive anthropocentrism.[30] The discussions will be brief, but I hope they serve at least to illustrate the point I am aiming to make. Some of the observations, particularly in the first few sub-sections, may seem so self-evident as to be unnecessary or trivial. But I still contend that the exercise of naming them is useful, because it is a step along the road to identifying subtler and subtler variations on the theme, which are not so easily spotted or avoided.

The five variants are:

1. Descriptive anthropocentrism *by omission*: present in paradigms that excerpt or bracket *Homo sapiens* or some element of (human) society from its context – like human anatomy, positivist jurisprudence, and conventional history;

2. Descriptive anthropocentrism *by funneling*: present in paradigms that 'funnel' or filter the given, or even the existent, through human perception – like Kant's transcendental idealism;

3. Descriptive anthropocentrism *by extrapolation*: present in paradigms that purport to study phenomena in the world in general on the basis of a version of a concept developed

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[30] In this section, I am again inspired by, but approach my framework in a different manner to, Val Plumwood (see, e.g., Plumwood 1993a, 2005, [b] 1993). Plumwood identifies and explores six features of 'dualisms' that she contends are anti-ecological: backgrounding, denials of dependence, hyperseparation, incorporation, instrumentalization, and homogenization. I take a different approach in breaking down the variants of descriptive anthropocentrism I explore here, but the two approaches should be seen as basically complementary, with the difference being one of emphasis and angle of approach, rather than difference of substance. One way to understand the difference might be to say that the dualisms Plumwood identifies are the *outcomes* or *symptoms* of the various descriptive anthropocentrisms I aim to explore here. (For example: beginning from the human can lead one – in Plumwood's terms – to 'background' the Earth system, instrumentalize that system, and so forth.)

via the study of human beings in particular – like Saussure's semiotics or Aristotle's studies of rationality;

4. Descriptive anthropocentrism *by anchoring*: present in paradigms that proceed from the assumption that human beings are *literally* the center of the (physical or geographical) universe or the end product of evolution in time – like the cosmology of the Precopernicans or the evolutionary theory of Alfred Russell Wallace;

5. Descriptive anthropocentrism *by separation*: present in paradigms that assert that some capacity or feature that makes humans distinctive also somehow makes them metaphysically 'separate' from the rest of everything that exists – like the dualism of Descartes.

Descriptive anthropocentrism *by omission*: bracketing or excerpting the human from its contexts

This first variant is simply a form of reductionism. It involves bracketing the contexts in which *Homo sapiens* exists, or excerpting 'the human' from its context, in order to simplify the task of examining and describing it. Often, *Homo sapiens* or the human isn't considered in complete isolation in these paradigms, but the context that they give is limited to the *intra-human* – to the (human) social, symbolic, or community contexts that might impinge upon individual human actors. It rarely strays into geological, evolutionary, biosemiotic, cosmological, or other larger contexts.

This omission of contexts can be either completely innocuous, or severely problematic, depending on: how significant the context in fact is (i.e., how much it would change an understanding of the object of study); how much context is being ignored, how stubbornly, and why; and whether thinkers working within the paradigm remember and acknowledge that they have bracketed as they have, or if they forget this (or even repress it). As I read them, the newer 'ecological' subfields of various disciplines (bioethics, ecological jurisprudence, ecological economics, perhaps big history) can be seen as a response from within each of these disciplines

to concerns with this variant of descriptive anthropocentrism. They involve somebody saying that the bracketing is either no longer tenable, or is having deleterious effects on their work.

Classical mechanics provides a useful analogy. Imagine that an engineer wants to calculate the velocity of a truck moving along a road. For simplicity's sake, they will often excerpt the road and the truck from their context, and perform the relevant calculations as if those two entities form a closed system. (If they're well-trained, they'll note explicitly that they're making this assumption.) In so doing, they are ignoring a whole range of contextual factors – the effects of friction, the weight of Earth's atmosphere, the wind speed and direction, etc. Obviously this doesn't mean those other forces, or their influences, have ceased to exist. But the act of bracketing them makes the required calculations cleaner and simpler. Unless a very high level of precision is required, these rough calculations may well provide an answer that is close enough for the engineer's purposes. If 'close enough' isn't good enough, of course, then failing to factor in these other forces becomes an *over*simplification that could well have disastrous consequences.

In the context of *Homo sapiens* or 'the human', one sees a similar move. Two representative examples will suffice to make the point. First, consider the field of human anatomy. This is the subfield of mammal anatomy (itself a subfield of vertebrate anatomy) that uses descriptive anthropocentrism as an ordering principle, 'bracketing' a variety of contexts of *Homo sapiens* and the human body in order to succinctly present a vast amount of information to doctors and to surgeons. The famous *Grey's Anatomy* (Standring 2015), for example, contains sections on human cells, tissues, and systems; human embryogenesis; human neuroanatomy; the sections of the human body; etc. It does not contain sections about the potential formal relationship between human arms and crab pincers (compare Bateson 1979, 1987; Volk, Bloom, and Richards 2007); or about the coevolutionary context of human and dog gaze-sharing and attention (compare El-Showk 2015; Nagasawa et al. 2015); or, for that matter, about biopolitics, biosemiosis, or bioethics (compare Foucault and Senellart 2008; Barbieri 2009; Reich 1995).

Note well: I am *not* claiming that these omissions are inherently problematic.[31] I am simply noting that information on those contexts is not there. Given the practical purpose of an anatomy textbook, this makes perfect sense. But it is still useful to have a term to draw attention to the phenomenon.

A somewhat subtler example appears in the field of jurisprudence. Jurisprudence is concerned with questions like 'what is law?', and 'what is the relationship between law and morality?' (compare Bix 2015; Coleman, Himma, and Shapiro 2004; Wacks 2012). The dominant jurisprudential tradition for the past sixty years or so, at least in the Anglo-American legal world, is the 'positivist' tradition, exemplified by works like HLA Hart's *The Concept of Law* (Hart 1994). Hart's text, and the other positivist theories that follow it, each argue that the existence and validity of human-made laws is ultimately referable to nothing more than 'social facts'. Social facts are propositions that are contingently true for some particular human population at some particular historical moment: for example, a specific culture's belief that murder is wrong.[32] Positivist jurisprudence hits its bedrock with these social facts. It is not interested in any prior (evolutionary, cultural, biological, philosophical, political, economic…) context that might inform them: it simply brackets them out its inquiry.[33] This is also descriptively anthropocentric.[34]

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[31] This is not to say, of course, that this is true for medicine more generally: indeed, one of the concerns that gave rise to the subfield of bioethics was the fear that traditional paradigms in medicine excluded various contexts (environmental factors, sociocultural factors, religious factors, etc.) or reified *Homo sapiens* in a way that was hindering alternative, and potentially more illuminating, descriptively nonanthropocentric approaches to the subject (compare, again, Reich 1995).

[32] Although note that Hart believes this particular rule (against murder) to be present in all human cultures (Hart 1994, 193–99). As a general point, key theorists in the positivist tradition include Austin, Hart, Kelsen, and Raz. The contrasting tradition is the 'natural law' tradition, which (again in a variety of ways) makes the argument that there is some prior or larger realm of norms or laws (be these the laws of God, of Reason, of Nature, etc.) Compare the introductions in (Finnis 2016; Himma 2017).

[33] A related example is the concept of the 'rational actor' that underpins much of classical economic theory. Here, perhaps, critique is further advanced than in some other fields, as evident from the breadth of work in ecological economics (see, for example, Daly and Farley 2004; Common and Stagl 2005; Krishnan, Harris, and Goodwin 1995). As that work demonstrates, the rational actor whose supposed actions supply the basis for many different calculations and theories is an idealised version of a particular kind of human being, and a fairly contextless one to boot. This, too, is descriptively anthropocentric.

[34] The field of Earth Jurisprudence, I think, can be read as having emerged in response to the problems and limitations of this view. On Earth jurisprudence, see, for example, Burdon 2011, 2014 and Mylius 2017. See also

Perhaps the human mind needs to bracket contexts, or excerpt objects from their contexts (to reify them, at least temporarily) in order to do any thinking at all.[35] Perhaps it needs to consider some part of the constant, Heraclitean flow of reality *as if* it were a separate object, to avoid being overwhelmed by extraneous contextual details. (A person who can't do this, indeed – someone who has 'difficulty organizing and integrating sensory information for use' – is considered to have Sensory Processing Disorder. Compare Vaughn 2013). But, before I am accused of inflating trivial truths, let me be clear about the stakes. Watching out for this variant of descriptive anthropocentrism is vital, because it is incredible to see how fast an initially practical choice can become a blinker, an arbitrary constraint, or even a misleading seduction. Over the life of a discipline, contextual omissions and reifications can become 'baked in', and so come to seem natural. Really, this involves a *double* forgetting: first I forget there is a context, and then I forget I have forgotten. This can cause me to miss new information, even information suggesting that my 'object' is no longer a useful frame of inquiry. It can also cause me to reify the conceptual distinction between 'humans' and others, and project it downwards, turning it into a claim about humans' difference in kind from everything else. (See the discussion of Cartesian dualism, below.)

Descriptive anthropocentrism *by funneling*: filtering the universe through 'the human'

This variant of descriptive anthropocentrism reifies perceptual anthropocentrism. It conflates the truism that humans can only perceive the world through their human sensory organs with the metaphysical claim that the only entities that can meaningfully be said to exist are either perceptible to humans (in principle) and/or actually perceived by them (in practice). In this way, it 'funnels' the universe through human perception.

West 2011 and on the specific point of 'ecological indifference', see Mylius 2015 for a slightly more detailed analysis.

[35] Seligman 2016 has some thought-provoking discussion of questions like these.

This variant of descriptive anthropocentrism appears most obviously in transcendental idealism and its descendants, including phenomenology. There exists a far larger literature on both topics than I can survey here.[36]In brief, though, what I am here calling the 'funneling' thesis has both a weak and a strong form (see Passmore 1980 and, in a different context, Meillassoux 2010). The strong form, known either as Berkeleyan subjective idealism or as absolute idealism, holds that 'things in themselves [i.e., apart from their givenness-to-humans] are a contradiction in terms, because a thing must be an object of our consciousness if it is to be an object [i.e., exist] at all' (McQuillan 2017).[37] The weak form, which is both more pervasive and more resilient, is Kant's transcendental idealism. As should be well known, Kant holds in the *Critique of Pure Reason* that 'if we remove our own subject or even only the subjective constitution of the senses in general, then all constitution, all relations of objects in space and time, indeed space and time themselves would disappear' (Kant et al. 1998, 168).[38] This gesture of Kant's 'humanizes' both space and time by funneling them through the apparatus of human perception. As well as implying that the universe is best understood in terms of its givenness-to-humans, transcendental idealism opens itself to the further assumption that the universe's existence-as-given-to-humans matters more than, say, its existence-as-given-to-bacteria. (Could other organisms have their own 'transcendental idealisms'?)

Quentin Meillassoux, though he does not use the term 'anthropocentrism', identifies the consequences of this Kantian position in a way that is relevant here. Meillassoux indicts all transcendental idealisms as 'correlationisms',[39] and claims that they are compelled to add the

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[36] On transcendental idealism, see, for example, Kant et al. 1998; McCormick 2017; Rohlf 2016; Allison 2004; Stang 2016, Burnham and Young 2007. For an orientation into phenomenology, see, for example, Moran 2000; Sokolowski 2000. Abram 1997 is also a fascinating exploration in a specifically ecological context.

[37] McQuillan proposes that this view was also held by Fichte, Schelling, and Hegel.

[38] Michael Rohlf summarizes more succinctly: 'human beings experience only appearances, not things in themselves; and that space and time are only subjective forms of human intuition that would not subsist in themselves if one were to abstract from all subjective conditions of human intuition.' (Rohlf 2016).

[39] Because they contend that 'we only ever have access to the correlation between thinking and being, and never to either term considered apart from the other[, which means that] the relation is in some sense primary: *the world is only world insofar as it appears to me as world*, and the self is only self insofar as it is face to face with the world': (Meillassoux 2010, 5). Levi Bryant develops the related notion of the 'hegemonic fallacy', which he defines as '[t]he

'codicil' *for humans* to the end of any statement purporting to describe some extrahuman reality. (So that, for example, the statement 'the universe was formed 13 billion years ago' becomes the statement 'the universe was formed 13 billion years ago *for humans*') (Meillassoux 2010, 13–14). For him, this means in turn that transcendental idealism cannot help but collapse back into absolute idealism when confronted by 'arche-fossils', objects like meteorites or stars whose existence precedes not just the givenness of some particular human consciousness, but the existence of givenness *as such* (i.e., the emergence of human conscious life). The descriptive anthropocentrism of transcendental idealism renders it incapable of theorizing relations between entities where humans, or human perception, are uninvolved.

Descriptive anthropocentrism *by extrapolation*: universalizing concepts developed in the context of a study of 'the human'

This variant of descriptive anthropocentrism involves the use of concepts whose structure or content – even though it appears 'natural', or 'neutral' – is in fact specific to human beings. Practically speaking, it often involves taking a concept whose structure has been developed in the context of studying human beings, and then assuming it can be applied more generally or widely. Usually, this further involves assuming (often wrongly) that the human version of the phenomenon is either its paradigmatic or universal version: that it *instantiates* the phenomenon, rather than merely *exemplifying* some broader phenomenon that also occurs elsewhere, perhaps in a swath of different forms. It is effectively a category mistake, taking a token (language-in-humans, rationality-in-humans, morality-in-humans, etc.), and miscategorizing it as a *type* (language-in-general, rationality-in-the-abstract, morality-in-total, etc.). It results in the existence of something significant becoming invisible (or more easily ignored), *because of the fact that a particular framework is being used to look for it.* As I see it, this is perhaps subtlest variant of descriptive anthropocentrism.

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thesis that objects are an effect of the signifier, the symbolic, or language': (Bryant 2011, 131). Compare also the introduction to Shaviro 2014.

A useful analogy is work in postcolonial studies on British invasions of foreign territories. At the moment that British colonizers encountered other peoples, like Australian Indigenous communities, with radically different ways of living, they might have worked to put aside their prejudices and learn about a foreign concept of 'civilization'. ('Civilization' is already a murky concept, because it is so evaluatively loaded, but it will serve as a suggestive example). Instead, they looked for the hallmarks of *their own* (British) 'civilization' – currency, institutions, written texts, buildings, failed to find them,[40] and so 'concluded' that Australian Indigenous peoples had no 'civilization' at all. In reality, all that they had 'discovered' was that Australian Indigenous peoples didn't have *British* civilization.

In the context of anthropocentrism, the same conceptual move appears. I will briefly consider three representative examples below, in the form of the ostensibly 'neutral' (but in fact deeply human-specific) concepts of meaning, rationality, and value.

First, consider the concept of meaning. Ferdinand de Saussure is often described as one of the founders of semiotics, and his dyadic model of the sign has been enormously influential across the humanities in particular (in, for example, anthropology, media studies, and continental philosophy.) Saussure's framework is idealist: he proposes that signs consist in two elements, 'signifiers' and 'signifieds', which correspond roughly to phonemes, graphemes or other marks, and to 'ideas', or mental representations, respectively. These are, of course, elements of *human* communication (and, indeed, of a contingent and historically specific understanding of human mental representations). This makes sense, given that Saussure developed his framework on the basis of his studies of *Homo sapiens*. Glossed as such, it should be clear that Saussure's model cannot properly be understood as purporting to describe the structure of meaning *in general*,

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[40] Some accounts suggest the phenomenon was even darker than this, proposing that the British in fact *were* able to recognise practices, like agriculture, in Indigenous communities, and *chose* to reject the implications of their presence. Compare, for example, Pascoe 2014. Thanks to Peter Burdon for the reference.

but rather, as describing the structure of signification *for humans*: that is, how things are capable of signifying for *Homo sapiens.* He is, strictly speaking, a founder of *human* semiotics.[41]

As in the case of excerpting and bracketing explored above, this fact – of developing a framework in the context of studies of human beings – is not inherently problematic. What *is* problematic, though, is the way in which this scope condition or parameter is forgotten, so a human-specific concept becomes universalized. With time, and with its migration further and further from its home field, the qualifier *human* disappears from accounts of Saussure's concept of the sign. From there, it is a short and common step into work that misguidedly attempts to use a Saussurean framework to grapple with 'meaning in general'. Just as the British, in the analogy above, forgot or refused to acknowledge that their concept of 'civilization in general' was in fact a concept of *British* civilization, so too might a researcher begin to conduct studies of other living organisms and 'discover' (surprise!) that dogs or birds don't possess (human) language (compare de Waal 2016; Bekoff and Pierce 2009; Waldau 2013) and, in the inverse sense, Tomasello 2014; Hrdy 2009). This 'discovery' meshes nicely into strongly normatively anthropocentric ideas like Aristotle's *Scala Naturae*, or 'great chain of being'.[42]

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[41] As opposed, say, to zoosemiotics and biosemiotics: compare Barbieri 2007. Like ecological economics and Earth jurisprudence, these newer fields can be read as a response to perceived limitations of traditional, descriptively anthropocentric approaches. Tellingly, they use the alternative, descriptively *non*anthropocentric concept of the sign developed by Charles Sanders Peirce. As Joseph Liskza observes, "[Peircean] Semiology is concerned with the study of signs, but for Saussure, signs are primarily a psychological entity': (Liszka 1996, 15). He continues: 'For Peirce, semeiotic [*sic*] is an organon … which can then be applied across disciplines. Presumably for Saussure, semiology is not applicable to the physical sciences, and it is subordinate to psychology. For Peirce, semeiotic is applicable to the physical sciences as well (although it is more directly applicable to the psychical sciences) and, indeed, by allowing a much wider concept of sign to include, besides conventional signs, natural and nonhuman ones as well, Peirce envisioned semeiotic as a more comprehensive study whose results would be employed by the several empirical disciplines': (Liszka 1996, 16–17). Paul Kockelman's work provides a powerful (if self-professedly idiosyncratic) introduction to Peircean ideas: see, for example, Kockelman 2013, 2015.

[42] The *Scala Naturae* involves the ordering of entities according to their 'degree of perfection': the classic discussion is Lovejoy 1936. It is a good example of the slippage from descriptive anthropocentrism ('there is a great chain of being and humans are at the center') into actively normative anthropocentrism ('and therefore humans are better than everything else, and should be treated so… etc.'). The move is easy to spot in the context of ancient frameworks like Aristotle's: unfortunately, it repeats itself over and over in more modern work, just in ways that are harder to detect. ('Only *Homo sapiens* has rationality… therefore humans are better than everything else'?)

It is quite conceivable, even likely, that the communications of dogs or birds is incapable of being understood in terms of human communicative processes. But it does *not* follow from the fact that dogs and birds do not use *human* language that they use *no* language. Nor does it follow that dogs and birds 'only' have some proto-version of a capacity that reaches its zenith in humans.[43]

Second, consider the concept of 'rationality'.[44] One early discussion of the concept, which continues to inflect some (not all) contemporary discussions, is Aristotle's. Aristotle often seems to approach the concept of rationality *through* the concept of *humanity,* by defining 'the human' in Book 1 of the *Nichomachean Ethics* as the creature that possesses a 'rational principle' (Aristotle 1999, 5).[45] The concept is not so much defined here as it is identified with an abstract feature of *Homo sapiens.* It thus becomes precisely that thing that humans have that sets them apart from other animals, and becomes impossible, by definition, to discover in other organisms outside the human species. More recent work attempts to define the term in a less circular way,[46] but do not necessarily succeed in removing its descriptive anthropocentrism. Rationality in modern philosophy is sometimes defined positively, as something like 'thinking in accordance with reason, or logic'. But this simply moves the question one step back, for is this not actually a definition that equates the concept with '*human* thinking in accordance with *human* logic'?[47]

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[43] Compare Murray Bookchin, who makes a broadly similar point with a slightly different inflection: 'To deal with so-called insect hierarchies the way we deal with so-called animal hierarchies, or worse, to grossly ignore the very different functions animal communities perform, is analogic reasoning carried to the point of the preposterous. Primates relate to each other in ways that seem to involve "dominance" and "submission" for widely disparate reasons. Yet, terminologically and conceptually, they are placed under the same "hierarchical" rubric as insect "societies"-despite the different forms they assume and their precarious stability.' (Bookchin 1982, 27–8).

[44] This is obviously a hugely truncated discussion of a vast literature and complex concept: I sketch the outlines of an argument here only to give it as an example.

[45] (To complicate matters, elsewhere he seems to define 'the human' as a *zoon politikon*, or *political* being, as opposed to a rational animal.) In terms of the rationality-based definition, Kant makes a similar move, taking rationality (which is construed as a uniquely human quality) as the quality that is constitutive of membership in his ethico-political community of subjects, or his 'kingdom of ends': (Kant, Wood, and Schneewind 2002).

[46] Biological and zoological studies, again, have a more sophisticated understanding here: compare Andrews 2016; Allen and Trestman 2016. Compare also Hurley and Nudds 2006; Lurz 2009.

[47] Alongside rationality, the concept of 'logic' is perhaps the most neutral-sounding of all concepts – what could be more 'natural' than logical reasoning? But in fact even classical logic has been historicized and provincialized – compare Plumwood 2005; Priest 2008.

In other work it is defined negatively, either in opposition to 'the passions', or in opposition to 'irrationality' (compare Elster 2009). But this involves the same sleight-of-hand. Defining rationality in opposition to the (human) passions seems to rely upon a binary that may be human-specific; defining it in opposition to 'irrationality' generally involves invoking a conception 'acting in accordance with one's best interests', where 'interests' are characterized as things that *humans* in fact want or value, or are capable of wanting or valuing. (Things that humans are not capable of desiring or valuing seem as though they would be incapable of serving as 'interests' on this rubric). Defining rationality in a way that avoids this descriptive anthropocentrism requires a vast amount of conceptual work.

Third, consider the concept of value and valuing. This example perhaps cuts closest to the bone for environmental philosophers. What *is* 'value'? There is, of course, a whole subfield of philosophy devoted to this question (i.e., value theory[48]). For present purposes, though, it is useful to examine the definitions of the concept that have been taken up in environmental ethics. A significant body of early work in environmental ethics is concerned with revealing the ways in which the concept of 'value in general' is, in fact, a concept of *instrumental* value (value as a means, usually a means-for-humans) masquerading as a universal. Later work seeks to develop the concept of 'intrinsic value', or 'inherent value', which is often written about as if it is inherently nonanthropocentric (Much of this work owes a lot to thinkers like Kant, Heidegger and Weber).[49.] This is a step in the right direction, but it does not go far enough. For what if it is not the concept of 'instrumental value', but the concept of valuing *per se*, which is being defined in a way that is descriptively anthropocentric?[50] 'Intrinsic value' is supposed to involve the valuing of things as 'ends in themselves', rather than 'mere means', or something to this effect. But does this not depend on an opposition between means- and ends-based usage that was itself developed in the context of studies of *Homo sapiens*? More generally: what if it the

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[48] For an overview of the way it asks its questions, see Schroeder 2008.

[49] For an overview, see, again, Brennan and Lo 2015; Cochrane 2017. Compare also Callicott 1984.

[50] The anthropologist David Graeber has another fascinating take on the ways in which the term 'value' has been used both within and beyond philosophy – see Graeber 2001.

ostensibly neutral concept of 'valuing' is in fact profoundly structured on the basis of reflection upon how *human beings* are capable of valuing things? (Does a tree 'value' sunlight as a means to grow its leaves or as an end in itself? Can a tree 'value itself intrinsically' in the same way as *Homo sapiens* are presumed to value themselves as themselves? Does it make sense to speak of the relationship or interaction between trees and sunlight, or between 'trees and themselves' (?) in these terms at all?) Just as with meaning and rationality, conflating *human* valuing with 'valuing in general' serves to blind one to the possibility that radically different forms of 'valuing' may exist in the world – and that a way to conceive of these other forms of valuing on their own terms is needed for a real descriptive nonanthropocentrism.

Note well that this variant of descriptive anthropocentrism is *not* 'anthropo*morphism*', the application of human traits to animals or other creatures. In many ways, it is the *inverse* of anthropomorphism. It does not involve taking a human capacity or feature and ascribing it to other organisms (making Donald Duck speak in English, or making Tolkien's Ent-trees bipeds, like humans). Rather, it involves *denying other organisms a capacity or feature they in fact possess on the basis of the fact that they don't seem to possess it in the same way as human beings.*

This variant of descriptive anthropocentrism can be summarized as follows:

1. Making a study of some phenomenon as it manifests in the context of the human species;
2. Naming that phenomenon in a way that obscures its human origins ('language', rather than '*human* language');
3. Forgetting to examine the extent to which this concept is *human-specific*, and thus universalizing or absolutizing it (so that 'human' language becomes isomorphic with language *in general*);
4. 'Discovering' that the phenomenon in question is only present in humans.

Descriptive anthropocentrism *by anchoring*: conceiving of humans at the literal center of the universe, or humans as the 'end product' of evolution

This variant of descriptive anthropocentrism involves the assumption that *Homo sapiens* is the literal center of the universe, in either space or time. The spatial form involves the assertion, as in the work of pre-Copernican astronomers, that the earth (made for humans) is the geographical center of the universe. This first form, common at one time, is now of course rather rare, given the uptake of work by Kepler, Newton, and others, demonstrating that the earth (and its humans) is not the object around which the universe revolves.[51]

The second assumption is more persistent. This is the idea that evolution somehow 'ended' with the human species. (What, indeed, is this supposed to mean?) Stated this baldly, the idea seems ridiculous: but in fact it accords with the (misguided) theory of evolution put forward by Darwin's contemporary and competitor, Alfred Russell Wallace. Wallace, as Franz de Waal notes, was famous for his dictum that 'evolution stops at the human head' (an idea known in biology as 'Wallace's Problem': de Waal 2016, 122). Calling this 'centeredness' is perhaps clumsy, but it seems as good a designation as any to capture the idea that evolution somehow 'ended' with the human species. More enlightened work does not presume to claim that evolution has 'finished'. But this does not mean it escapes this variant of descriptive anthropocentrism. As Clive Hamilton discusses, work that has been deeply influential in religiously-inflected environmental thought, like Thomas Berry's 'the Universe Story' and its descendants, implies or asserts that the human species represents the universe's 'becoming conscious of itself', which, in turn, seems to imply that humans occupy a central universal position.[52]

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[51] Hence Freud's rather self-aggrandizing list: that Copernicus displaced humans from the center of the universe, Darwin from the center of evolution, and Freud from the center of themselves. Compare Grey 1993 and Hamilton 2017, 113.

[52] See Hamilton 2017, 59: compare Berry 2000. A common line of argument is that humans are the 'most complex' organisms (which supposedly means they are also superior).

This variant of descriptive anthropocentrism serves as a good example of the way in which descriptive and normative anthropocentrisms shade into each other.[53] (As I conceive of them, they are really 'separable' only in analytic terms, in the context of an artificially-pure intellectual rubric, not in the realm of practice.) The idea that human beings are the 'end of evolution' in a *temporal* sense (as in, 'end point' or 'end product') very often blurs into the idea that they are also the 'end' in a *teleological sense* (as in, 'end goal' or 'end purpose').

Descriptive anthropocentrism *by separation*: Purporting to separate 'the human' from everything else

This variant of descriptive anthropocentrism involves asserting or assuming that human beings have some feature or capacity that '*separates*' them from the rest of the universe (whatever that means), making them different not just in degree but in *kind*.[54] Arguments of this form generally involve the same sleight-of-hand. First, they make the empirically testable claim that *Homo sapiens* possesses some feature or capacity that makes them *distinctive* (has not been found anywhere else). Then they falsely conflate this claim with the *metaphysical*, and entirely incoherent, claim that this *distinctiveness* somehow entails or gives rise to human 'separateness'. Another way to understand what is going on here is to propose that there are two different meanings of the term 'separate', a weak one and a strong one, which advocates of this argument mix together. Strong separateness involves ideas of being 'parted, divided, or withdrawn from others; disjoined, disconnected, detached, set or kept apart'; 'withdrawn from society or intercourse; shut off from access'; 'not joined to a body, disembodied'; or 'withdrawn or divided from something else so as to have an independent existence by itself' ("Separate" n.d.). Weak

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[53] Clive Hamilton, as I read him, uses the term 'teleological anthropocentrism' to refer to something like this variant of descriptive anthropocentrism, but does not separate its descriptive and normative elements from each other: (Hamilton 2017, 53–55).

[54] Compare what Val Plumwood calls 'hyperseparation' or 'radical exclusion' (Plumwood 1993a, 49–52). Compare also William Leiss: 'environmental concerns are unavoidably connected with our being as a natural species, with all aspects of the "relation" between humanity and its natural environment. Here the overriding question is how it can be appropriate to separate what is merely one natural entity among countless others from its embeddedness in the larger order that sustains it—to conceive it as standing apart and against its sustaining home—and then to relate it back to that order as if it were autonomous.' (Leiss 1994, xii).

separateness – or distinctiveness - involves ideas of 'belonging or [being] peculiar to one, not common to or shared with… others'; being 'considered or reckoned by itself'; being 'distinct in occurrence' ("Separate, v." 2017). Confusing these two leads to no end of errors.[55]

Perhaps the most famous example of this phenomenon is Cartesian dualism. Descartes, of course, posited that humans alone possessed the *cogito*, which he suggested was localized in the pineal gland (?!), and which, for him, put them in an entirely different category of being. (It is this latter claim that characterizes what Arne Naess would later call 'shallow ecology'.). Descartes' commitment to this belief required him to selectively and grossly misinterpret the results of his own scientific experiments, and declare that the cries of pain of the animals he tortured were merely the stimulus-responses of complex automata (because they couldn't be the cries of thinking beings). While his is the most egregious, though, Descartes is far from the only thinker to make a claim that turns human distinctiveness into 'separateness'. A quick survey of the history of Western science, religion and philosophy provides a list of other features or capacities which have been posited as the cause of human separateness at one time or another, including souls; consciousness, speech, reason, altruism, the capacity to use symbolic language, to make tools, to build complex communities, or to understand irony; laughter; free will; opposable thumbs; self-reflexivity; the capacity to lie; 'evolution'; joint attention; some form of access to the Gods; participation in a transcendent realm of Platonic Forms; etc. Many of the more modern 'explanations' establish their credibility by scoffing at Descartes' 'primitive' ideas – by mocking the idea that human separateness could be guaranteed by the pineal gland, before claiming in the next breath that it could, instead, be guaranteed by the human facility for symbolic language.

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[55] It is worth noting that discussions can certainly be had about *distinctiveness* without lapsing into this: Clive Hamilton, for example, explores the idea that humans are uniquely distinctive because of their 'world-making capacity', without claiming that this makes them 'separate' from nature (indeed, his claim is the reverse: that humans are intertwined with the Earth system in a way they have never been before). Also worth noting though is the way in which even a writer as careful as Hamilton often uses terminology that shades from the descriptive into the normative.) (Hamilton 2017, 5–9 and ch 2).

The essential point is this. Best present evidence suggests that many of the things on this list do, indeed, make *Homo sapiens* distinctive: we have not seen them anywhere else.[56] We can test this through observation and experiment: going out and testing chimps to see if they learn (human-style) language, or examining bees to see if they 'really' form (human-style) communities, or probing mitochondria to explore whether they're 'conscious (in the same way humans are), and so on. But the fact that 'distinctiveness' is a property that can be scientifically tested means that Homo sapiens is not the only organism that is capable of being distinctive.[57] Squid, for example, shoot ink when threatened, which certainly makes them distinctive. But no text I have ever read makes the further claim that squid, on this basis, are 'separate from nature'. Separateness from nature, it seems, is a fairly exclusive club, of which *Homo sapiens* alone is a member. Indeed, what we might call human separatism not only involves the claim that humans are separate, it involves the claim that separateness is a term that will only ever be applicable to humans.[58] Consider a thought experiment: what if, at some point in the future, another Earthly species – let's say howler monkeys – developed symbolic language, then the ability to build microcomputers, and then the capacity to travel to space? Would human beings be willing to grant that these speaking, computing, astronauting howler monkeys had joined the ranks of the 'separates from nature'?

The crucial conclusion is that the distinctive features and capacities of *Homo sapiens* – like those of other species – are simply things that are 'peculiar to [us], not … shared with … others', things which make human beings 'distinct in occurrence' amongst the plethora of organisms humans themselves have encountered. These things may, indeed, have made the human species incredibly accomplished, self-reflective, uniquely powerful, and uniquely destructive. But by no

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[56] (Some of them, of course, we have. One of the key strategies of a lot of animal rights work is to argue that animals, too, have a feature that makes them 'like us'. As I see it, such arguments often avoid this variant of descriptive anthropocentrism at the cost of the 'extrapolating' variant, above.)

[57] In a way, indeed, even this is an understatement: The whole point about evolution is that an organism can only survive if it is distinctive in the sense of being able to find its own ecological niche. Thanks to Raffael Fasel for drawing my attention to these connections.

[58] Tautologically so, even: what does it mean to be separate from nature? It means being human (here we find echoes of, for example, Aristotle's definition of rationality, as outlined above.) What does it mean to 'be human'? It means 'being separate from nature'.

means does it follow from the claim that human beings are distinctive in all these ways that we are *also* 'disjoined, disconnected, detached' (from nature?), 'shut off from access', or 'disembodied'; nor can it mean that humans are 'withdrawn or divided [from the Earth?] …so as to have an independent existence'. In what sense could the claim that human beings are 'independent of nature' even be meaningful? Is it akin to the claim that human beings have no need of the materials of the physical world to survive? Or that they somehow 'float above' the banality of the physical world, like Forms equanimously contemplating the travails of Earth? If this is what these claims mean, then they are manifestly metaphysical, because they are not amenable to testing. A different gloss – say, '*Homo sapiens* can exist without the physical sustenance of oxygen, food, or water' might be empirically testable (all tests to date, of course, having shown it to be false). Yet even careful environmental writers often slip from describing some distinctive feature of human beings into describing them as 'separate', in a way that smacks of *strong* separateness.

Normative anthropocentrisms

Having examined both perceptual and descriptive anthropocentrism, I turn finally to the third type of anthropocentrism in my schema: normative anthropocentrism. Recall that definitions of the term in existing environmental philosophy often suggest that this third type is the primary, or even the *only* type of anthropocentrism a paradigm could involve. I trust that I have shown that this is not the case. Normative anthropocentrism is, in fact, one of several types of anthropocentrism (albeit a very significant one in political and ethical terms.) It can itself be subdivided into two variants.

1. *Passively normative* anthropocentrism manifests in paradigms that constrain inquiry in a way that somehow privileges *Homo sapiens* or the category of 'the human' (generally because whatever the paradigm at issue is *descriptively* anthropocentric).

2. *Actively normative* anthropocentrism manifests in paradigms that either a. contain assertions or assumptions about the superiority of *Homo sapiens*, its capacities, the primacy of its values, its position in the universe, etc.; and/or b. attempt to make ethical or legal prescriptions (shoulds/oughts) based on these assertions or assumptions.

I shall flesh these out in turn.

Passively normative anthropocentrism

Passively normative anthropocentrism is, in effect, the 'other side of the coin' of descriptive anthropocentrism. Recall that paradigms which *enable* thinking by being 'centered upon' the human (descriptive anthropocentrism) also *constrain* thinking *around* that human (passively normative anthropocentrism). This they do simply by virtue of closing off some options over others. Hence, the crucial point: *any paradigm that is descriptively anthropocentric is necessarily also passively normatively anthropocentric.*[59]

Paradigms that are passively normatively anthropocentric tend to channel lines of thought and action in certain directions, and constrain their possibilities in certain important ways. Some examples will help to flesh this out. If I start my thinking in philosophy following Descartes, by assuming that humans have some feature that makes them fundamentally separate from everything else, my next question will *not* be, 'what's the continuum upon which human beings and every other living things exist?'. Rather, it will be something like: 'given that humans are separate from nature, what is it about them that makes this so? And what follows from their separateness?' My starting-point has influenced my subsequent line of inquiry, in a way that is almost invisible unless I pay it close attention.

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[59] This holds as a structural point: any paradigm that was descriptively biocentric, for example, would also be passively normatively biocentric. (I leave it to the reader to consider whether the inverse is true: would a paradigm that is descriptively *non*anthropocentric necessarily be passively normatively nonanthropocentric, too, or might it still be, or be capable of being, passively normatively anthropocentric?)

In a similar fashion, if I begin my work in linguistics like some devotees of Saussure, by assuming that human language is Language-with-a-capital-L – that it is the epitome or model of language - I will *not* start my inquiries by surveying how birds, dolphins, trees and humans communicate, in order to ask what it is that these different forms of communication have in common that I might group under the label 'language in general'. Instead, I will probably start by asking: 'how do birds communicate without language?'[60] Or I might ask: 'given that dolphins only have proto-language, how does it work, and why is it so much less powerful than human language?' My paradigm will have constrained my thinking before that thinking even begins – and most often, *without my having even noticed this has happened.*

Or, as a third example, if I begin my work in jurisprudence like many of the legal positivists do, by assuming that anything below or beyond 'social facts' is irrelevant to my conception of the nature and validity of human positive law, I will *not* generally ask: 'what is the relationship between human laws and the laws of ecology or 'nature', given that human laws emerge in a world that is already subject to those laws of ecology?' Nor will I ask, with Naomi Klein: 'does climate change 'change everything'? (Klein 2015). Instead, I will ask something like: 'what is the relationship between human laws and human social facts?' Or: 'what is the relationship between human laws and other human laws?' (Compare Mylius 2015). In all of these examples, thinking from within a descriptively anthropocentric paradigm makes my thinking *passively normatively anthropocentric.*

Actively normative anthropocentrism

Actively normative anthropocentrism, finally and simply, manifests in assertions that *Homo sapiens* is superior to nature, and in attempts to make ethical or legal prescriptions

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[60] If I even ask the question at all: it is probably more likely that I would simply ignore birds altogether and focus my attention on human communication.

(shoulds/oughts) based on these assertions. It involves the view that that humans are 'the central or most important element of existence' ("Anthropocentric" 2016). And it inheres in propositions that look like these:

1. Humans are better than nature.
2. Only humans have value. (This statement masquerades as a fact, but really it is an evaluation. Value according to what? What kind of value? Etc.)
3. Humans should have legal rights, but other organisms shouldn't.
4. Humans should dominate or subdue nature.
5. Nothing has value unless it has value for humans.

By contrast, it does not necessarily inhere in statements like these (which might merely be descriptively anthropocentric) – unless, of course, they are silently followed (which they often are) by the claim, '…*and this makes them better than everything else*'.

1. Only humans have values.
2. Only humans have language.
3. Only humans have rationality.

It is this variant of anthropocentrism that has been the focus of much, if not most, environmental ethics, including the wide range of work I cited in my introduction. I cannot do justice to the sophisticated analyses of actively normative anthropocentrism that those other thinkers put forward in the short space I have here. I would direct readers to the excellent resources in (Brennan and Lo 2015; Cochrane 2017; Kernohan 2012; Minteer 2009b; Keller 2010; Pojman 2015).

I suggested above that *passively* normative anthropocentrism is simply the normative face of descriptive anthropocentrism. (The simultaneously enabling and constraining elements of a

paradigm). What about the relationship between descriptive anthropocentrism and *actively normative anthropocentrism?*

In my view, *a paradigm that is descriptively anthropocentric cannot be used to develop an ethics that is actively normatively nonanthropocentric.* It may be used to develop *no* ethics – but if it *is* so used, the ethics to which it gives rise will be actively normatively anthropocentric. This is a crucial point. My claim here is that a descriptively anthropocentric paradigm *lacks the intellectual resources to develop anything other than an anthropocentric ethics.* A nonanthropocentric ethics is *unthinkable* from within an anthropocentric paradigm. If this is true, here is the upshot: those who seek to develop actively normatively nonanthropocentric ethical systems *must either use, or otherwise develop, descriptively nonanthropocentric paradigms.* Otherwise we will have failed before we've begun.

7. Conclusions

I hope I have succeeded in making clear that, when we call a paradigm *anthropocentric,* we could be saying a wide variety of things about it: and thus, that there is a need to be rigorous in distinguishing between perceptual, descriptive, and normative anthropocentrism. As I indicated in my Introduction, it is my view that this should help to make both the concept of 'anthropocentrism', and inquiries into the anthropocentrism of paradigms, of profound interest not just to ethicists, but also to other philosophers, as well as political and legal theorists, social scientists, and anybody else interested in normative thought. I also think it can help bring into focus a problem that persists in a significant amount of environmental philosophy – that it tries to articulate an alternative body of values, ethics or norms from within a paradigm that is not up to the task. Doing this radically hinders our ability to deal with the fact that 'we have become powerful enough to change the course of the Earth yet seem unable to regulate ourselves' (Hamilton 2017, vii–viii).

I think there is something interesting in seeing anthropocentrism as a *failure of imagination*. Certainly, it can be read as a failure of *ethical or normative imagination* (a failure of empathy, altruism, or understanding) – and many have done this. But the framework I have proposed here allows it to be seen also as *a failure of descriptive or conceptual imagination*: a failure to work hard enough for a truly capacious frame of reference, in order to see what new concepts might be thought, and what new horizons and centers might come into view.

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