

# The Psychological Speciesism of Humanism<sup>1</sup>

Carrie Figdor

**Final draft; online first version available at *Philosophical Studies* at <https://link.springer.com/article/10.1007/s11098-020-01495-y>**

**(Please cite and distribute the published version as needed, or contact me at [carrie-figdor@uiowa.edu](mailto:carrie-figdor@uiowa.edu). This draft is not the final page-proofed version.)**

**Abstract:** Humanists argue for assigning the highest moral status to all humans over any non-humans directly or indirectly on the basis of uniquely superior human cognitive abilities. They may also claim that humanism is the strongest position from which to combat racism, sexism, and other forms of within-species discrimination. I argue that changing conceptual foundations in comparative research and discoveries of advanced cognition in many non-human species reveal humanism's psychological speciesism and its similarity with common justifications of within-species discrimination.

## Introduction.

Humanism in moral philosophy is a view of moral status that "insists on the equal and distinctive worth of human beings over non-human animals" (Setiya 2018: 452).<sup>2</sup> Humanists have

---

<sup>1</sup> Acknowledgements: For helpful comments and questions on versions of this paper as it evolved, I would like to thank audiences at the Beyond Anthropocentric Psychology invited symposium at the Philosophy of Science Association annual meeting in November 2018 and at my University of Sydney Philosophy Department colloquium talk in October 2019, and to extend particular appreciation to Paul Griffiths, members of his Theory and Method in Biosciences research group, and students in my Anderson Fellowship seminar in (southern hemisphere) spring 2019 at the University of Sydney; to Hannah Tierney; and to two anonymous reviewers for this journal.

<sup>2</sup> While I will use Setiya's perspicuous label, Bernstein (2017) calls this view "hierarchism", and Jaworska and Tannenbaum (2018) simply call the humans-only high status "full moral status". Others define the same position indirectly. Varner (2012) defends a concept of personhood in which individuals with certain cognitive and experiential capacities deserve special respect, and no non-humans have these capacities (though some qualify as near-persons); a parallel label in these terms might be "personism". In DeGrazia's terms (1996: 46), given that an ethical theory that did not affirm an equal consideration principle for humans "would yield distinct moral statuses among humans", humanism is equivalent to affirming equal consideration for humans only. An EC principle (e.g. Singer 1975) holds that one must give equal moral weight to relevantly similar interests of different individuals. This humanism is distinct from secular humanism, "a democratic and ethical life stance" in which humans give meaning to their lives using reason and science, eschewing belief in a supreme supernatural being (<https://humanists.international/what-is-humanism/>). These humanisms are compatible but logically independent: one can be a moral-status humanist and hold that our higher moral status over animals stems from our greater similarity to

relied, directly or indirectly, on human cognitive uniqueness in kind or degree to justify this moral-status distinction: humans have this higher moral status because they alone have certain advanced cognitive capacities among existing biological entities, and these capacities ground differences in interests and other features relevant to or constitutive of moral status. In addition, humanists may argue that humanism is the strongest position from which to combat racism, sexism, and other forms of within-species discrimination.

In this paper I will argue that foundational changes in comparative research reveal how humanists cannot use human cognitive uniqueness to justify their position without lapsing into psychological speciesism.<sup>3</sup> Recent discoveries of advanced cognition in a wide range of non-humans have raised questions about just how unique human cognition is. But the deeper threat stems from the underlying conceptual shifts that motivate and guide this research. I explain the inescapable circularity problem these changes raise for humanism using episodic memory research and representative proposals of cognitive capacities that have been recruited to justify the humanist's moral distinction. I also show how psychological speciesism reveals parallel reasoning in humanism and common forms of within-species discrimination, undermining the claim that humanism is the best position from which to oppose such forms of discrimination.

## **1. Humanism, Moral Status, and Higher Cognition**

---

God (essentially endorsing the *Scala Naturae*), and one can be a secular humanist who is a moral-status egalitarian. My discussion is only about moral-status humanism.

<sup>3</sup> I use the term “psychological” speciesism, rather than “cognitive” speciesism, because there is significant ongoing debate about what counts as cognitive but no such debate about whether these capacities count as psychological. Perceptual capacities and the so-called moral emotions, such as empathy, are also psychological, but the former have not been recruited to support humanism and the latter (and emotions generally) can be included among the cognitive capacities.

Humanism affirms a distinctive value in human life and assigns it a special moral status, whatever its quality. This status gives us reason to care more about human lives and interests than non-human lives and interests.<sup>4</sup> Non-humans may have non-instrumental moral value as moral subjects, or beings with regard to whom others have duties and responsibilities and which can be treated rightly or wrongly. However, for humanists, non-humans either lack moral subjecthood entirely or, more commonly, their subjecthood is of a lower grade than that of humans. Acknowledgment of a lower grade can yet ground vigorous defenses by humanists of animal welfare and rights. Nevertheless, when human and non-human lives or interests are in competition – for example, when we use animals for medical research to cure human ailments, kill a wild animal that has wandered into a new housing development, or destroy forests to provide farming opportunities – the humans’ win out for morally justified reasons.<sup>5</sup>

The humanists’ distinction does not require moral agency, which may be defined in terms of capacities to form judgments of right and wrong, engage in moral deliberation, act on the basis of moral reasons, and be held responsible for failing to carry these acts out (Taylor 1986:14). Not all humans are or are equal as moral agents, but all humans are and are equal as moral subjects. In terms of an equal consideration principle – that one must give equal moral weight to relevantly similar interests of different individuals – humanists affirm equal consideration for humans, and only humans, as moral subjects. My discussion regarding moral standing is focused on humanism’s

---

<sup>4</sup> Although my discussion is framed mainly in terms of the relative value of lives, my arguments carry over to the relative moral weight of interests or to claims about the rights that humans have that nonhumans lack entirely or have to a lesser degree. Whatever the moral category that is the target of concern – lives, rights, or interests – the core idea of humanism is that the human version of that feature has a special moral status or weight greater than that of any nonhuman versions.

<sup>5</sup> The question of consumption of non-human animals is a major issue in animal rights and welfare, but this issue rarely involves a direct conflict between an animal’s life and a human’s life. The difference between humanism and egalitarianism is sharper in conflicts where human lives and livelihoods are at stake.

claim as it pertains to the unequal value of humans and non-humans as moral subjects. The majority view – one that enjoys “broad agreement among philosophers and nonphilosophers” alike (Jaworska and Tannenbaum 2014) – is that while humans have the highest moral status, non-humans have some moral status rather than none at all (e.g. Kagan 2019; Varner 2012). A tiny egalitarian minority argues that humans and non-humans have equal moral standing (e.g., Bernstein 2015; Persson 1993).

The humanist's challenge is to justify this difference in non-instrumental moral value or status between human and non-human lives and interests. Many animals feel pain, and for many the capacity to feel pain suffices to garner its possessor some degree of moral subjecthood. If a being can suffer, it has interests in not suffering, and those interests must be taken into account. However, the ability to feel pain, or perhaps sentience generally, only establishes a moral floor. For many, subjecthood also requires at least some cognitive capacities, such as a sense of self, an ability to reason, or the use of language. These capacities add to moral standing directly or by way of enhancing conscious experiences. Either way, humans will still have superior moral status to that of non-humans that feel pain and have at least some higher cognitive capacities, because the cognitive capacities humans have uniquely, in degree or kind, give us reason to privilege human over non-human lives and interests.

The label “sophisticated” (or “advanced”) is a common qualifier used to express this comparative assessment of human and non-human capacities. Sometimes a claim of superiority can be cashed out in terms of gradable features, but often it involves degrees of qualitatively assessed complexity. For example, many non-humans have complex communication systems (Seyfarth and Cheney 2010; Tyack and Clark 2000; Suzuki 2016). But the human language system is considered more sophisticated: even if some non-human communication systems have syntax

in the sense of recombinable elements, human language has generative, hierarchically structured syntax (Zuberbühler 2019; Bolhuis et al. 2014; Lyn 2012).

I call psychological properties that are recruited by humanists to play the role of justifying humans' higher moral status *morally marked*. It is helpful to think of morally marked capacities as those that justify what Darwall (1977) calls recognition respect, which is owed to all persons equally regardless of their particular merits (where "person" can be understood here as equivalent to "human being"). In these terms, humanism holds that all humans are equal and all non-humans are inferior to humans with regard to the recognition respect they enjoy. In standard defenses of humanism, they possess this greater recognition respect because humans possess at least one morally marked psychological capacity uniquely, in degree or kind, than any non-human versions. This justification is compatible with defending a hierarchy of moral statuses that correlates with degrees of cognitive sophistication, such that some non-humans have more recognition respect (/higher moral status) than other non-humans. However, no non-humans merit more recognition respect (/higher moral status) than any humans.

Not all psychological properties are morally marked, and non-psychological properties can be (e.g., being poor as a moral failing, or being left-handed as a sign of moral evil). Differences in non-morally marked psychological capacities can justify the type of status that Darwall (op.cit.) calls appraisal respect, the result of assessments of merit to different degrees and in different ways in different individuals. Humans can and do differ in appraisal respect based on higher cognitive capacities. For example, those with superior intelligence often enjoy greater appraisal respect, even though superior intelligence does not give a human greater recognition respect over another human – that way lies within-species discrimination, familiarly in the form of racist assessments of intelligence. Genius merits high admiration, but not higher moral status.

We also generally agree, humanists included, that non-humans can have non-morally marked psychological capacities uniquely in degree or kind to those of humans. For example, the visual acuity of bald eagles and the olfactory acuity of dogs are superior, respectively, to the visual and olfactory acuity of humans. They also ground greater appraisal respect: we conventionally praise an unusually sharp-sighted human as having the eyes of an eagle, and we recruit canine olfaction for the purpose of detecting hidden explosives and illegal drugs. But these capacities do not make eagles' or dogs' lives more morally valuable than a human's, on anyone's account of moral status. They do not provide reasons that would make it morally wrong to kill an eagle to protect livestock or abandon a dog. To the contrary, for humanists it may be morally justified to kill the eagle or abandon the dog anyway.

In addition, we value some traits over others in ways that vary independently from either form of respect. Being healthy is valued highly, but a healthy person does not get special praise for being healthy; conversely, a person who wins a national pie-eating contest is a champion, but the ability to eat competitively is not one we value highly. (The Guinness Book of World Records provides many other examples.) Vision, hearing, smell, language, memory, abstract reasoning, numerical cognition, spatial navigation, empathy, and so on may be valued more or less highly by individuals or groups, but whether any of these capacities garners higher appraisal or recognition respect for its possessor is not determined by how highly it is valued. A trait may be highly valued because it confers higher moral status on its possessor, rather than vice versa, and highly valued traits need not be morally marked: vision and beauty are prime examples.

A reasonable, if imperfect, heuristic is that cognitive capacities may affect an entity's moral status (/recognition respect) while perceptual capacities may only affect non-moral status (/appraisal respect). Because Darwall's recognition/appraisal respect distinction neatly captures

this difference in morally relevant classificatory roles of psychological capacities, I will treat greater recognition respect and greater moral standing as equivalent: for humanists, all humans are equal with respect to both, and greater recognition respect and greater moral standing for humans over non-humans go hand in hand.

The cognition-based justification of humanism is intended to enable humanists to avoid an illicit speciesism.<sup>6</sup> For example, morally privileging humans based on their possession of a human genome is considered an illicit ground of humanism.<sup>7</sup> Humanism as such is not illicitly speciesist, but it acquires this character if the grounds for affirming its moral status distinction are. Human cognitive uniqueness, in kind or degree, is the allegedly non-speciesist means to the humanist's end.

The problem of marginal cases muddies these waters in telling ways. Humanists face significant difficulty providing non-speciesist justification of the superior moral status of severely cognitively impaired humans over non-humans with superior cognitive capacities (e.g. McMahon 1996). Failing to exhibit (and lacking any possibility of exhibiting) a morally marked cognitive capacity seems to take away the reason for owing recognition respect to the cognitively impaired humans, yet non-humans who have that capacity to any degree are not granted at least as much

---

<sup>6</sup> Originally, speciesism was the view that only humans were morally considerable (Gruen 2017). The more common view today (adopted here) is roughly Singer's (1975: 7): a bias towards the interests of one's own species and against those of other species, such that similar cases across species are weighed in favor of one's own species. So defined, speciesism is compatible with affirming that non-humans are morally considerable, but it still violates a universalizability requirement (or equal consideration principle) in moral judgments to treat similar cases similarly. Frequently, the qualifier "illicit" is dropped after first reference, and I'll generally do so here.

<sup>7</sup> For DeGrazia (op.cit.: 58-59), it is "highly arbitrary" to morally distinguish *Homo sapiens* from our ancestor *Homo erectus* or to highlight species-level genomic differences rather than genomic differences at other taxonomic levels. For Gruen (op.cit.), the genome is a "a bit of luck that is no more morally interesting than being born in Malaysia or Canada". I will write that it is arbitrary while leaving open what explains this judgment.

recognition respect if not more. It is special pleading if a cognitive capacity is morally marked when non-humans compare poorly to humans with respect to that capacity, yet is not morally marked when humans compare poorly to non-humans with respect to that same capacity. Calling humans in the first comparison group “normal” and humans in the second comparison group “severely disabled” merely adds information about the capacity’s normal distribution in the human population and where these subgroups or individuals in them fall within that distribution.

The humanist's well-known problem with marginal cases is a foretaste of a general, and insuperable, problem she faces in the light of empirical research into higher cognitive capacities throughout the biological realm. It turns out that any cross-species comparison of cognitive capacities – not just those involving marginal cases – raises a problem of speciesism. More specifically, speciesism turns out to have two broad subtypes. Biological speciesism claims that humans have higher moral standing because they are biologically human – e.g., they possess a human genome, but the genome is morally arbitrary.<sup>8</sup> Psychological speciesism claims humans have higher moral standing because they possess uniquely superior cognitive capacities – either a unique-in-kind capacity that makes the human life superior (given that uniqueness-in-kind does not entail anything about superiority), or a capacity not unique-in-kind that is the unique occupant of the highest degree on some hierarchical scale (or, if not highest, higher than any degree reached by a non-human variant of the capacity). In this case, the problem is circularity: briefly put, differences between evolved capacities cannot ground differences in moral value, so if lives with particular cognitive capacities have greater moral value it is because they already have it. The upshot is that the cognitive grounds humanists rely on to defend their moral hierarchy cannot be

---

<sup>8</sup> For the record, the human genome doesn’t define what it is to be human by contemporary biological definitions of species (e.g. de Queiroz 2007). In general, scientific biological criteria do not yield taxonomies that confirm folk biological categories (Atran 1998).



used for that purpose. Even if biological speciesism is avoidable, humanism inevitably lapses into speciesism if it relies, directly or indirectly, on cognitive criteria.

## **2. The evolving conceptual foundations of comparative research**

Studies of the cognitive lives of primates and some mammals are now just a portion of a burgeoning comparative literature that ranges from cephalopods and birds to plants and bacteria.<sup>9</sup> These empirically based ascriptions of sophisticated cognitive capacities to a wide range of non-human species have been noted in defenses of the moral value of animal lives and in objection to humanism (e.g., Bernstein *op.cit.*; Mezzina et al. 2018). In principle, it is open to humanists dismiss these new ascriptions as merely metaphorical or anthropomorphic and therefore irrelevant to the question of human cognitive uniqueness and moral standing. However, this semantic escape route is closed off by arguments that these ascriptions should be understood literally (Figdor 2018). There is still a great deal of debate among scientists regarding these comparative findings, but the threat to humanism cannot be dismissed this easily.

The threat is far more serious than is suggested merely by new findings of advanced cognition in a lot of unexpected places, although the impact of this evidence in debates about moral status should not be underestimated. The deeper threat stems from the conceptual changes in the comparative behavioral and cognitive sciences that lie behind these findings. The new evidence of widespread cognition is the result of new research questions being asked, new capacities being

---

<sup>9</sup> Representative literature reviews include Mather 2019, Suzuki 2016, and Ben-Jacob et al. 2004; article collections include Bekoff, Allen, and Burghardt 2002, Wasserman and Zentall 2012, and Vonk and Sheckelford 2012; journal theme issues include those introduced by Vonk and Shackelford 2013 and Heyes 2012. Despite evidence of plant cognition (Trewavas 2016; Gagliano et al. 2016) and arguments for the possibility of plant consciousness (Calvo 2017; Calvo and Keijzer 2011), many philosophers (and scientists) hold that plants are definitely not conscious or cognitive. I set plants aside here, but remain agnostic on this issue.

investigated, new research designs to investigate them, and new species being tested. In this research, humans are perceived and treated experimentally as just another animal species rather than a separate standard-setter for the rest, while non-humans are perceived and treated experimentally as cognizers in their own right rather than as inferior human (sub-standard) cognizers. For example, some researchers retest humans in similar conditions as those used for testing non-humans to get more reliable comparative results (Wright 2006); others compare phylogenetically related humans and non-humans in the same subject pool (Hodos and Campbell 1969; Herrmann, Call, Hernandez-Lloreda, Hare and Tomasello 2007; Horner and Whiten 2005).<sup>10</sup>

This scientifically egalitarian attitude stems from a turn towards investigating human cognition from an evolutionary perspective and thus comparing human and non-human cognition as one would compare any evolved species' traits (Vonk and Shackelford 2012, 2013; Shettleworth 1993, 2009, 2012a; Hulse 2012: 889).<sup>11</sup> Many credit E.O. Wilson's (1975) *Sociobiology: The new*

---

<sup>10</sup> In light of the convention of identifying non-human species by their Latin names in publications, Horner and Whiten's (op.cit.) title, "Causal knowledge and imitation/emulation switching in chimpanzees (*Pan troglodytes*) and children (*Homo sapiens*)" is a sly nod to this perspective. Of course, because we cannot raise humans from birth in controlled laboratory conditions or clone them to eliminate genetic confounds, researchers cannot treat humans and non-humans exactly alike in all ways relevant to interpreting comparative data. These confounds imply some bias in the comparative research record. As it is, the principle that absence of evidence is not evidence of absence may at times be honored in the breach (Pepperberg 2008; Allen and Bekoff 2006: 310).

<sup>11</sup> A generalized evolutionary perspective in psychology is distinguished from the specific research programme called Evolutionary Psychology, with upper-case letters often used to mark the difference. The latter (e.g. Barkow, Cosmides, and Tooby 1992) involves specific theoretical commitments, such as to modularity of mind (but see Heyes 2012); one can take an evolutionary perspective on the human mind without endorsing EP. In comparative research, the generalized approach has been labeled comparative evolutionary psychology (Vonk and Shackelford 2012, 2013), defined as the study of evolved traits, and incorporating principles from ethology, ecology, biology, anthropology, and psychology. This includes developmental and social psychology and social sciences as a result of theories emphasizing the role of culture in explaining human cognition (e.g. Heyes 2018; Whiten and Erdal 2012). Much of the new animal cognition research referred to in contemporary philosophical contexts stems from the methodological innovations of the comparative evolutionary framework. Pursuit of research from a more traditional "anthropocentric" approach (Shettleworth 1993, 2009, 2012a; Hulse 2012: 887; Vonk and

*synthesis* and the advent of Evolutionary Psychology in the early 1990's as landmark developments towards this perspective. It may seem odd that Evolutionary Psychology could be a new subdiscipline more than 130 years after Darwin. Certainly the dualist response to evolution, chosen by Darwin's contemporary Alfred Russel Wallace, Mortimer Adler, and others to avoid the implications of evolution for humans (Burghardt 2008), is no longer an issue. What was not taken to heart, and what the new approach in comparative research emphasizes, is the repudiation of the pre-Darwinian idea of a natural hierarchy in which humans are above all other animals. This idea was contained in Aristotle's hierarchy of nutritive, sensitive, and rational souls, where only humans had all three, and elaborated in the *Scala Naturae* developed from it (Lovejoy 1936). The latter dominated thinking about our place in nature and our moral status for centuries. To obtain humanism based on cognitive uniqueness, just morally mark the human mind in either of these hierarchies. (It already was so marked in the *Scala Naturae*.) Kant also exemplifies this long tradition with his psychological assertion that rational autonomy is uniquely human; he then morally marks this complex capacity.

This hierarchical perspective on nature has proven to be extraordinarily resilient in the biological and psychological sciences despite its inconsistency with evolutionary theory.<sup>12</sup> Even Dobzhansky (1973) – a founder of the Modern Synthesis in biology – declared, on the one hand, that “nothing in biology makes sense except in the light of evolution” and, on the other, that

---

Shackelford op.cit.) is compatible with the new synthesis, as is any comparative research that backgrounds evolutionary considerations to focus on such problems as the internal mechanisms or ontogenetic development of behavior, or the elucidation of general learning mechanisms. Lyman-Henley and Henley 2000, Parker 2002, Griffiths 2007, and Shettleworth 2012a provide critical historical accounts of the interrelations between the disciplines that study nonhuman behavior and cognition and their relations to human cognition and behavior.

<sup>12</sup> Even biology has found it difficult to eradicate the idea that evolution progresses from early and simple to late and complex organisms (Gould 1988; Keeling and Burti 2019). Hierarchical thinking can also seep into contemporary neuroscience (Parvizi 2009; Marino 2003).

humans are “the apex of evolution” because (he asserted) we are uniquely capable of conscious decision-making. Our classification of some cognitive capacities as “higher” is a relic of this history, as is our surprise upon learning of non-humans outperforming normal human adults in tasks measuring higher cognition (Inoue and Matsuzawa 2007), and of humans doing just as poorly as non-humans in the same higher cognitive tasks (Silva, Page, and Silva 2005).

But no such apex exists: evolution is not "a ladder of improvement" towards the human mind (Shettleworth 1993: 179), whatever the anointed capacity. As Hodos and Campbell (1969) put it: “The phylogenetic tree is a genealogy. It is based on the data of paleontology and comparative morphology and represents the current state of knowledge of the various animal species. Like any historical survey, it is subject to change with the acquisition of new data and by itself gives no indication of the relative status of the individuals listed with respect to any gradational arrangement.” Anecdotal evidence may sanction our prior belief in human cognitive uniqueness and superiority, but it provides no confirmation of the actual relationships between evolved minds. Hierarchical cross-species comparisons can of course be developed – scales of visual and olfactory acuity are examples – but phylogeny does not determine how species will be ordered on these scales.

Thus, when van Lawick-Goodall (1968) reported her field observations of chimpanzees making and using tools, the idea of Man the (unique) Tool-Maker was still a received view. But being able to fashion a tool to achieve some end is a skill one might think is generally adaptive, *if* one were inclined to think about it from an evolutionary perspective – and so it has proven to be (e.g. Emery and Clayton 2004). The same goes for abstract reasoning, inferring to others’ mental states, the ability to refer to features of one’s environment, and cultural transmission of learning: if our cognitive capacities are adaptive it is reasonable to hypothesize we’re not alone in having

them. And apparently we aren't (e.g., Giurfa et al. 2001; Call and Tomasello 2008; Seyfarth and Cheney 2010; Kendal et al. 2009).<sup>13</sup> Armed with new scientific evidence of these capacities in non-humans, how they relate to the human versions has become a leading research topic.

Many ethicists have taken note of these new comparative findings responsibly and in detail while arguing for humanism and its basis in human cognitive uniqueness in degree or kind. They are not alone in focusing on the discontinuities between human and nonhuman minds rather than the continuities; scientists from Darwin onwards have also differed in their emphases (Shackelford and von Friedeburg 2012: 8). What humanists have not taken note of is the fact that their moral status distinction is undermined by the lack of a built-in hierarchy in phylogeny, *even if* human cognitive traits turn out to be unique in degree (a continuity view) or kind (a discontinuity view).

This lack of hierarchy entails that no species' capacity is the standard or criterion for that capacity across species. (My use of "criterion" here is intended to be compatible with biologically appropriate analyses of the grounds of scientific kinds, such as Boyd (1999).) Human cognition has traditionally been the standard against which other species' capacities are calibrated (Figdor op.cit.; Lyon 2015: 2) – for example, by making it constitutive of thinking that a non-human must have human conceptual contents or requiring that a species behave like a human in some intuitively satisfying sense in order to be properly ascribed a capacity (Beck 2012: 219; Bennett and Hacker 2003). Any human-like capacity in a non-human species is also a non-human-like capacity in humans, but the symmetry of similarity is broken by this criterial status. It follows that cognitive capacities must be defined in ways that do not take human cognitive capacities or features of them

---

<sup>13</sup> The usual evolutionary processes are natural selection, genetic drift, mutation, and migration (Millstein 2017). While natural selection (adaptation) is considered foremost among these, and thus is a primary source of research questions, comparative evolutionary psychology is not committed to any particular claim about which evolutionary mechanisms explain cognitive traits.

as criterial in comparative research. Scientifically valid hierarchies can then be developed from this species-neutral foundation.

Humanists in particular need such definitions insofar as they are not interested in resting their moral status distinction on *a priori* truths. It is *a priori* psychologically speciesist to hold that a cognitive capacity defined in human-species-specific terms renders its possessor moral status-worthy. By analogy, if a human hand defined what it is to be a hand or human color vision defined what it is to have color vision, by definition no other species could have hands or color vision. If hands or color vision were morally marked, humanism would follow. In this light, consider Premack's (2007: 13861) remark regarding cross-species comparisons: "It is essential, when claiming human-like faculties in animals, to ask this question: Is the animal faculty equivalent to that of the human?" His question is ambiguous between a position in which the human faculty is criterial for having the faculty, and another in which it is a species-specific variant of a species-neutrally defined faculty. In the former case, our task is to assess the degree to which non-human versions are sub-standard; in the latter, each species' ranking on some scale is an open empirical question, even if we're pretheoretically convinced the human version is unique in degree or kind in least that respect. A shift to species-neutrality in defining cognitive capacities – in which the capacities and their features are defined at least one taxonomic level above the species level – makes it possible for humanism to avoid this problem.

In biological terms, empirically-based claims of human cognitive uniqueness are claims of species-level cognitive autapomorphies (Suddendorf 2008: 147). Strictly speaking, a species-level autapomorphy is a trait only one species has. It is a difference in kind, not degree. But both types of uniqueness claims require species-neutrally defined capacities if comparative rankings are to be established empirically. They must be understood as capacities that *could* be found across species

– in species-specific forms, of course – even if in fact they are not. If the trait is found across species, this result could help support a claim of uniqueness in degree; if the trait is not found elsewhere, this result would support a claim of uniqueness in kind (a species-level autapomorphy). A large zone of indeterminacy between these choices is likely, but that issue won't matter here.<sup>14</sup>

Note that biological speciesism is not *a priori* speciesist. A genome is a species-neutral biological category. The features of the human genome that make it uniquely human do not define what it is to be a genome; the human genome is just a genome, with whatever variations make it unique to *H. Sapiens*. Perceptual capacities too are species-neutrally defined at multiple taxonomic levels above the species level. For example, olfaction is a widely distributed trait, and this capacity will differ in species-specific ways – for example, by how many types of olfactory sensory neurons a species has or what types of odor sampling behaviors members exhibit. Our hierarchical comparisons are then made between species-specific variants of the same capacity. Species can be ranked on a scale of how many parts per million of volatile chemicals typical members can detect. By this type of scale, grizzly bears have a more sophisticated sense of smell than humans do. Species from different lineages can be near, far, or tied on the scale, depending on how things turn out. Not incidentally, no moral feathers are ruffled by human olfactory inferiority as measured by this scale. Human lives are not morally inferior because of this lower appraisal value.

This shift to treating human cognition in comparative research as just another species-specific case can be illustrated with the ongoing conceptual configuring of episodic memory, or

---

<sup>14</sup>Here's a non-cognitive example. A standard definition of menopause – the age-associated cessation of ovulation prior to death (Walker and Herndon 2008) – is species-neutral. Although it was once thought by some to be a species-level autapomorphy, killer whales and a few other primates also undergo menopause, each species in its species-specific way (Ward et al. 2009). Thus, menopause might have been uniquely human, but it turned out not to be. Note that a trait that is not a species-level autapomorphy may be an autapomorphy at a higher taxonomic level.

memory of a unique episode or event that one experienced. It is not directly morally marked, but it (or its auto-noetic consciousness element, such as in Varner op.cit.) contributes to capacities that are, such as future planning or enhanced subjective experiences.<sup>15</sup>

Tulving (1972) introduced the label to pick out a pre-theoretically recognizable and verbally reported subtype of human memory – sometimes characterized as what-where-when memory – to contrast with semantic memory (memory of facts). While the best way to characterize it remains in dispute, what is not in dispute is the new evolutionary approach to the problem. The initial step lies in reconceiving of a human capacity as a species-specific variant of a capacity that is not by definition uniquely human – it might or might not be unique to humans in kind or degree. This subtle perspectival shift makes possible scientific research programmes within which *a posteriori* uniqueness claims about human cognition are possible. Within this new conceptual space, it makes sense to ask which species are likely to have a capacity similar to one we initially understand (to the extent we do) in our own species-specific case and to test these new hypotheses. The similarity relation here is symmetric. In the case of episodic memory, researchers may predict that a species that survives by caching perishable and non-perishable food items is very likely to have episodic memory (Emery and Clayton 1998) while those that don't are less likely (Salwiczek et al. 2008). This initial step launches further empirical inquiry and theoretical debate regarding which features of the familiar human-species-specific version should be considered criterial for humans – explaining which humans have episodic memory and which don't – and how to define these features so that non-humans are not *a priori* ruled out from having them. Methodologically,

---

<sup>15</sup> This illustration is necessarily highly truncated given the enormous literature on episodic memory across species and ongoing debate regarding its definition and methodologies for studying it. For example, I do not touch on its relationships to other capacities or the potential for acquiring neural evidence (e.g. brain-imaging results) of mental time travel in nonhumans.



researchers also develop species-appropriate behavioral and other (e.g. neural) measures of these features.

By 2005, Tulving held that auto-noesis or auto-noetic consciousness, an ability “to think here and now about personal happenings in other places and other times”, is a required feature of episodic memory, and that only humans have this capacity because only they have auto-noesis (also called mental time travel or self-reflective consciousness). He explicitly remarks that his view “is not a delayed rearguard action in support of the myth of *scala naturae*. It is not a campaign for human superiority” (2005: 4). His uniqueness claim is an *a posteriori* hypothesis. As such it motivates Clayton and Russell’s (2009) proposal to characterize re-experiencing in such a way that each species can re-experience past episodes in its own species-specific way, if it can at all: “[J]ust as human episodic memory will inherit what is present in human experience, so will avian episodic memory inherit the character of avian experience” (op.cit.: 2331). In these species-neutral terms, Tulving is not claiming that human-species-specific auto-noetic consciousness is required for episodic memory, but that auto-noetic consciousness is a required feature and that, in his estimation, only humans have this feature – in our own way, of course – as a matter of *a posteriori* fact. Clayton and Russell agree with him that re-experiencing is necessary for episodic memory, but disagree with his claim that it is a human cognitive autapomorphy. Time will tell.

Before returning to the moral status question, I should note that consciousness remains a general epistemic problem in comparative research, although we’re not consistent about it. Bentham’s (1780/1889/2017: 143-144) famous plea for the moral considerability of non-human animals – “The question is not, Can they *reason*? nor, Can they *talk*? but Can they *suffer*?” – does not confront the same degree of scientific skepticism regarding pain experience as auto-noetic consciousness currently does. For some, a requirement of conscious re-experiencing may be an

insurmountable barrier to demonstrating episodic memory in non-humans, even if re-experiencing can be behaviorally measured (Clayton et al. 2007; Suddendorf and Corballis 2010); for others, conscious re-experiencing is not a necessary feature (Allen and Fortin 2013). In any event, a common methodological response regarding episodic memory has been to concede a lack of sufficient evidence (not evidence of lack) and sidestep the issue by saying a non-human species has “episodic-like” memory to signify this epistemic gap (Clayton and Dickinson 1998; Templer and Hampton 2013).

### **3. The humanist’s grounds of moral status revisited**

Rachels (1987) and Singer (1975) argue that the traditional foundations of morality in human cognition collapsed with Darwinism, and that moral philosophers have lagged in assimilating the implications of this loss. I’ve argued that comparative cognitive and behavioral disciplines have also needed time to adjust theoretically and methodologically to Darwinism. The lag Rachels and Singer identify is not, or not wholly, the fault of moral philosophers. Cognition-based defenses of humanism are a special case of this needed assimilation. The case of episodic memory illustrates the conceptual work that makes possible the *a posteriori* cross-species comparisons humanists need to be able to claim with empirical justification that a human cognitive capacity is *a posteriori* unique in degree or kind.

Unfortunately, even granting her psychological claims before any empirical verdict is in, the humanist cannot get what she wants without being psychologically speciesist. The road to *a posteriori* psychological speciesism is longer than in the *a priori* case, but she ends up there just the same.

To begin with, many if not all higher capacities may rank high by one measure but low by another. Unlike uniqueness in kind, uniqueness in degree requires the humanist to morally mark at least one particular feature of a shared capacity. There is a risk of sliding into *a priori* psychological speciesism at the level of features if we morally mark a feature that has not been reconceptualized species-neutrally. This problem is avoidable; Clayton and Russell's (op.cit.) proposal regarding re-experiencing is an example of how. A separate and more serious issue is justifying which features to morally mark without putting a thumb on the scale. For example, to morally mark the kind of syntax characteristic of human language stacks the deck against non-humans even if syntax is defined in *a posteriori* terms. It is always possible to redefine cognitive capacities and their features in species-neutral ways but subtly change the morally relevant criteria such that the feature that just so happens to be *a posteriori* unique to humans is the one that matters for higher moral status. Only honesty stops the humanist from engaging in goalpost-shifting.

But her insurmountable problem is that morally marking any *a posteriori* unique feature is inevitably speciesist. Actually, the uniqueness of the capacity or feature, in degree or kind, is irrelevant. In somewhat Humean terms, moral value cannot be derived from adaptive value. No evolved capacity or feature can justify morally valuing one kind of life over another. If the life does have greater moral status, this can only be because the life already has that value. The Scala Naturae did double-duty as a maximally fine-grained hierarchy of being *and* of moral value; to the extent that cognition defined what it is to be human, the moral value of human life and human mind were inseparable, intrinsic to both, and superior to the lives and minds of any other living thing. But that hierarchy has long been obsolete.

Suppose at least one other species meets all agreed-upon criteria for possessing episodic memory (*pace* Tulving), but the human version is more sophisticated in that it is domain-general

rather than domain-specific, as Premack suggests (op.cit.: 13863): “Does the [scrub-jay] have episodic memory for episodes other than caching, for attracting a mate, avoiding predators, etc.? Can it plan for episodes other than caching? Planning in the scrub-jay may be yet another adaptation, restricted to a single target.” Set aside the fact that in Premack’s terminology an “adaptation” has a single target and is contrasted with a domain-general competence – thus, scrub-jay episodic memory is an adaptation, human episodic memory is not. Set aside too the fact that individuating domains is problematic and the domain-specific/domain-general distinction vague. Finally, assume Premack’s distinction justifies greater appraisal respect for humans over scrub-jays. Premack himself presumably only goes this far. He is proposing a hierarchical scale based on number of domains, and claiming that human episodic memory is superior because it operates in more domains than scrub-jays’ episodic memory. This is a testable hypothesis. Suppose his claim is confirmed. Human episodic memory is unique in degree by this scale, and this position provides a reason to bestow higher appraisal value on human episodic memory.<sup>16</sup>

The standard problem of marginal cases arises when humans with no episodic memory (such as patient HM) are surpassed by scrub-jays, however domain-specific and inflexible scrub-jay episodic memory might be.<sup>17</sup> A new twist on this old problem can arise at the level of features: for a humanist, a disabled human whose episodic memory is domain-specific and inflexible would still have greater moral status than a scrub-jay, even though their capacities are identical (*ceteris paribus*). Both problems of marginal cases are outstripped by the problem raised by the evolutionary perspective on cognition. Premack’s episodic memory hierarchy is not a moral

---

<sup>16</sup> Premack supports a discontinuity view, so for him the difference in degree is so vast as to count as a difference in kind. Whether this will result in a new type (a human cognitive autapomorphy) may depend on other factors, but for present purposes this complication will not matter.

<sup>17</sup> Henry Molaison (HM) was left with severe anterograde amnesia following surgery to alleviate epilepsy (Scoville and Milner 1957). He could not form new episodic memories.

hierarchy. Moreover, the *a posteriori* uniqueness in degree of human episodic memory in his hierarchy is irrelevant to the issue of moral status. To morally mark this evolved capacity is simply to assert that it has recognition (/moral) value in addition to its appraisal value. Of course, presumably the humanist will only add recognition value to some or all of those cognitive capacities (or their possessors) that in their normal human versions have uniquely high appraisal value, in kind or degree. This can give the impression that uniquely high appraisal value justifies uniquely high moral status. But uniquely high appraisal value is just that. More generally, as Tulving (2005) explicitly emphasized, the *a posteriori* uniqueness of a cognitive capacity does not make human lives superior. No amount of moral value of a particular species' life can be squeezed out of its evolved capacities, or features, or even niche in which it evolved. Evolution does not have an apex, so it cannot support a moral apex.

Add that humans enjoy and suffer more and in relation to more types of things, create larger societies, coordinate more complex behaviors, alone feel regret and shame, and so on and so forth, in comparison to any non-human. In all these cases, what is supposed to confer higher value on the life is an evolved cognitive capacity. The capacity may be unique to us, along with the range of other capacities it enables. It may be ranked high on all the scales we develop and appraised as extraordinary. We may also value this capacity highly: for example, along with other highly valued but not uniquely highly appraised traits, it helps maintain social cohesion. But moral value (/recognition value) doesn't enter the picture – not unless we simply insert it *ex nihilo*. In the absence of the Scala Naturae, the humanist's moral status hierarchy is created by fiat, and her marginal cases will emerge from her choice of which capacities to morally mark.

In short, when Darwinism displaced the Scala Naturae, it eliminated the possibility of grounding the superior moral status of human lives in the human mind, no matter how unique in

kind or degree that mind might be. Rachels (1987: 102) almost put his finger on the problem: “[I]f man and animal are so much alike, how can it be right to treat them so differently? How can it be right to place them in different moral categories?” Rachels draws this troubling implication for traditional moral foundations from the cross-species similarities entailed by Darwin’s claim of differences in degree between human and non-human minds. As noted, some reject this and argue for differences in kind (e.g., Penn et al. 2008, Premack op.cit.). But the problem remains. Without the Scala Naturae or a similar moral hierarchy lurking in the background, human cognitive uniqueness only justifies uniquely high appraisal value. The humanist can only get her moral hierarchy by putting back into human cognition the moral value Darwinism excised from it.

Humanists might insist that a qualitative leap or saltation in evolution to something entirely new is possible – e.g. “a single, rapid, emergent event” (Bolhuis et al. 2014). One would want independent reason to think such a mechanism for the evolution of higher cognition (as opposed to microbes under environmental stress: Katsnelson et al. 2019) is plausible as an explanation of it, particularly in the light of the new findings in nonhumans. However, nothing is gained by this move. Evolution by saltation speeds things up, but it doesn’t change the fact that evolved traits don’t support a moral hierarchy. For this proposal to support humanism, one would have to interpret the result of the saltation as a form of dualism as strong as any non-naturalistic variety, and then argue that this all-but-non-natural mind just is morally superior.

#### **4. Psychology-Based Philosophical Defenses of the Superior Worth of Human Lives**

Consider a representative sampling of actual proposals of unique human cognitive capacities (in kind or degree) in the light of these changes in comparative research. It is

straightforward to show the proposals cannot provide non-speciesist justification for humanism, and that this conclusion holds for any psychological or psychologically-based proposal.

Anderson (2004: 281) argues that it is a greater loss to a cognitively deficient toddler to be unable to learn or use a human language ("sophisticated linguistic communication") than it is for a parrot or chimp with the same linguistic capacities as the toddler, because the characteristic species-life of parrots or chimps does not require this communication ability even though they can learn as much human language as the toddler. Their lives, unlike that of the toddler, are not disadvantaged by not fully learning or being able to fully learn a human language. In short, the greater the loss, the greater the value of the life affected.

Bernstein (2017: 1519-1520; 2006) calls this general type of argument for the humanist's moral hierarchy the Disvalue of Death Argument (DDA): because humans are uniquely capable of self-consciousness and of conceiving of themselves as temporally enduring creatures, they experience a unique kind of harm when they die. As an empirical matter, the truth of these particular uniqueness claims are in doubt, although Bernstein (2006: 212) also expresses the first premise in terms of "our sophisticated mental and conceptual lives". In short, the DDA can be generalized to any of the cognitive capacities that the humanist might want to use to justify the higher moral status of human lives. It can also employ either form of uniqueness: because humans have such a capacity uniquely in degree or in kind, they suffer a unique or uniquely greater harm by its loss or absence (e.g., via disability or death) and so their lives must be more valuable.

Bernstein argues against the DDA with a series of thought-experiments in which the humans and non-humans whose capacities he compares appear to suffer equal losses at death (or upon disablement) unless the humanist already assumes the human's life is intrinsically more

valuable to begin with. Unlike Bernstein, I will grant that the human capacities do have greater value. However, this greater value is appraisal value, not recognition (moral) value.

A loss or absence of communication ability for a chimp or parrot, given their communication systems, is presumably equally devastating to their species-lives as the loss or absence of human language is for a human. But it really doesn't matter whether or in what way human language is more sophisticated than chimp or parrot communication systems (including whether they count as languages). All three communication systems evolved along with the species, and members of all three species suffer a special – that is, species-specific – kind of harm when they lose it. The loss of an evolved capacity or feature gives rise to an evolved harm, and an evolved harm, like an evolved benefit, can only yield a difference in appraisal respect. For example, a grizzly bear that cannot smell fails to get the great appraisal respect for sophisticated olfaction that it otherwise might have had. (It is also unlikely to survive.) A normal human would not get that appraisal respect anyway, because human olfaction isn't so great to begin with. Similarly, the toddler fails to get the appraisal respect she might have merited if not for her language deficiency; the chimp or parrot would not get that appraisal respect anyway, because (by assumption) their communication systems aren't as terrific as ours to begin with. In short, the greater evolved harm the toddler suffers from the loss or absence of the human language capacity is not an indicator of her higher *moral* value – at least not unless we assume her life, or human language itself, already has greater moral value. That assumption is psychologically speciesist.

Psychological speciesism differs importantly from biological speciesism in that a genotype is clearly morally arbitrary whereas a psychological phenotype is not. The glaring moral arbitrariness of the genome may lie in the fact that genotypes are socially irrelevant – though human social structures, such as royal bloodlines, make it difficult to articulate this claim in any



precise sense. Cognitive and perceptual phenotypes are obviously socially relevant. As a result, psychological speciesism will not be glaringly arbitrary like biological speciesism. The fact that an evolved capacity is important for human social life is a good and non-arbitrary reason to value that capacity highly. This reason does not apply to the genome, although it does apply to sensory capacities.

What has distinguished cognitive phenotypes from perceptual phenotypes (as well as genotypes) is that cognitive phenotypes are alleged to provide reasons for both appraisal and recognition respect, not just appraisal respect. But evolved cognitive phenotypes are no different from evolved perceptual phenotypes. The only way the life of the possessor of an evolved cognitive feature merits any degree of recognition respect in virtue of possessing that feature is by assuming the life or feature already merits recognition respect. This is circular and speciesist no matter how important the cognitive phenotype is to the life of its possessor. Cognitive capacities, like perceptual capacities but unlike genomes, can give us excellent reason to owe greater *appraisal* respect to humans over non-humans, but that is all they can do. No higher moral status is gained thereby.

Rowlands (2002) and others argue that humans uniquely have a capacity for self-future-planning that leads people to invest time and effort into their future lives. Non-humans cannot make these investments because they lack this ability. Because humans lose far more when they lack this capacity, their lives are more valuable. Self-future-planning is a highly complex capacity that requires a self-concept, the capacity to form and remember plans, and other cognitive components. A wide range of nonhumans have at least some of these component capacities (Gruntman and Novoplansky 2004; Cazzolla Gatti 2015; Osvath and Martin-Ordas 2014). It is likely at least some of them have the whole suite and will invest species-appropriate amounts of

time and effort into their future lives. Nevertheless, assume the human version is unique, in kind or degree, and the corresponding investments greater. The same problem arises. The greater loss occasioned by the loss of the future-planning-capacity does not indicate its possessor's greater moral value without building that moral value into the life (or the capacity).

Superior human moral value has also been tied to personhood. Personhood is a complex construct rather than a capacity, but it rests at least in part on direct possession of various psychological capacities, such as being rational and self-conscious, or indirectly on such capacities in terms of personal relationships in which at least one of the parties to the relationship has the psychological capacities relevant to creating and sustaining it (Varner op.cit.; Kagan 2015; Kittay 2005). Philosophers familiar with great ape cognition have argued that none of the four main conceptions of personhood – species membership, social contract, community membership, and capacities – can define “person” in a way that rules out chimps as persons (Mezzina 2018). Anthropologists also consider this dichotomy of humans as persons and non-humans as non-persons a Western attitude; in other cultures, the difference between them “is not between an organism and a person, but between one kind of organism-person and another” (Ingold 1996: 50).

Here a psychology-based argument against the humanist depends on the conception of personhood. To the extent a conception depends directly or indirectly on possession of higher cognitive capacities, the same problem arises. To the extent that filling a role in a *human* society is necessary for (or constitutive of) personhood, this might be a new variety of *a priori* speciesism. But if the domain of morality extends beyond human social lives – and debate over humanism would be moot if it didn't – then the same species-neutral perspective for social abilities would be needed for the *a posteriori* uniqueness of human persons. As long as societies and cultures evolved,

and persons along with them on this view, we still end up in speciesism, albeit of a social or cultural variety.

The claim that an alien creature without a human genome can have advanced morally marked psychological capacities is sometimes suggested as a way for humanism to avoid speciesism. It may avoid biological speciesism. It may also avoid psychological speciesism in the sense that the aliens and humans independently happened to evolve identical advanced psychological capacities. Who knows? The hypothetical aliens may be some of the actual non-humans around us. In any case, this scenario entails that our capacities would not be unique in kind or degree. But because the capacities evolved in each species (assuming the aliens are a species), the same moral holds. We and they would have equally high appraisal respect, like two athletes who tie for first place; but our and their higher moral status would still be unjustified.

## **5. Discrimination is Discrimination, Whatever the Target**

Various forms of moral egalitarianism deny the humanist's claim that human lives always have more moral value than nonhuman lives (Leopold 1949; Naess 1973; Taylor op.cit.). While my aim here is not to defend such ethical theories, Setiya (op.cit.) also supports humanism by disputing egalitarianism's claim that all life has inherent and equal non-instrumental moral value. Responding to his psychologically-relevant objection reveals how humanism's psychological foundation is the same as that of common forms of within-species discrimination. It also points to how the changes described above in psychology can motivate a similar shift in ethics.

Setiya (op.cit.: 452) claims that humanism "is the ground of the most compelling objections to racism and sexism", and presumably also other "repugnant" and "odious" forms of within-species discrimination. This may be true as a descriptive fact about the role of humanism in human

history, but it is false as a claim about what is conceptually most compelling. Humanism argues that all humans are morally equal by drawing an us/them distinction grounded in psychology that puts all humans in one class and all non-humans in the other. But racism and sexism often exhibit the same psychological basis as humanism. The discriminated class is dehumanized by ignoring or downgrading their psychological capacities relative to the preferred class (Leyens et al 2001; Haslam et al. 2005). Humanism effectively does the same thing regarding non-humans, with the same appalling outcome for the discriminated class: "Assign the status, and the treatments follow" (Tirrell 2012: 193). If not for the tradition of a cognitive hierarchy, these us/them distinctions would all count as "de-psychologizing" or "de-minding" (Bastian et al. 2012); "dehumanizing" would just be the special case of de-minding where it is used to create and maintain a hierarchy between human groups (see also Brandt and Reyna 2011).

This problem affects Setiya's (op.cit.: 466) strategy for avoiding genome-based speciesism in responding to the problem of marginal cases. He argues that grounding humanism in a non-biological concept of a *human being* (or *humanity*) enables the humanist to "extend the scope of our special status to encompass those with severe congenital cognitive disabilities without falling into an illicit speciesism" (op.cit: 459).<sup>18</sup> A non-genome based criterion for humanity may avoid a crude biological speciesism, but our pretheoretical attitudes often involve making inferences about psychological features from superficial features and excluding humans from *humanity* on this basis (Livingstone Smith 2012). Non-whites, deformed infants, and disabled people, among others, have

---

<sup>18</sup> It is not clear whether his position is intended to be a variety of essentialism about human nature, which is controversial for independent reasons (Kronfeldner et al. 2014). My criticism is independent of this possibility. Anderson (op.cit.: 289) explicitly endorses essentialism about human nature in order to argue that speciesism is not racism – racism (interracial animosity) is a contingent social phenomenon whereas speciesism is not: humans are "by their species nature fit for living with one another in society".

been routinely classed as animals, demons, or sub-humans, with inferior and often sinister psychologies. Farther back, Neanderthals and Denisovans were likely excluded from our pretheoretical human concept even if we interbred with them (Proctor 2003: 213). Setiya's strategy is highly unlikely to yield the class of humans that the humanist wants given the way psychology has been and still is used to distinguish full-fledged humans from sub-humans and non-humans.

This fact also reveals why it matters whether non-humans are denied equal recognition value. Humanists can be ardent supporters of animal welfare and rights, but that is because there is enormous scope for humanists and egalitarians to join forces to improve non-human lives without seriously affecting human lives. Eliminating the cruelty of standard practices in industrial meat production is one example. Avoiding medical experimentation on non-humans is another. But the humanist's commitment to unequal moral status (/recognition value) means she will only go so far before she privileges human lives. Even if directly causing an entity to suffer is morally impermissible (aside from well-known exceptions), many non-humans can still be caused to suffer for what the humanist considers a morally justified reason if the price in human lives is right. Her support for animal welfare is inevitably a form of *noblesse oblige* or patronizing paternalism towards those who have the misfortune of not being human. That may help explain the appeal of humanism, along with our reluctance to give up our privileged moral position.

But the evolutionary perspective in the comparative cognitive sciences exposes humanism as the last stand of the Scala Naturae: humans remain the moral standard even though they are no longer the cognitive standard. In principle, the loss of the cognitive justification of humanism doesn't mean there is none, nor does it rule out a moral hierarchy. But it is difficult to see how the humanist can ground her moral distinction without reinstalling the Scala Naturae somewhere. What independent motivation for doing that could she have? And why would she want to, given

that the problem of marginal cases is an artifact of her implicit allegiance to an obsolete metaphysico-moral hierarchy? Why cling to the source of her biggest headache?

Vonk and Sheckelford (2012: 549) note that it was long accepted that men were intellectually superior to women, and that our tradition of assuming non-humans are mindless or mentally limited is just as likely to be “accepted as dogma and halt the progress of science” as the gendered assumption did. Humanism may be a speciesist (and able-ist, etc.) dogma that is halting the progress of moral philosophy. Instead, ethicists might finally take up the challenge Rachels and Singer posed. In this case, the challenge is to formulate a species-neutral foundation for moral status, from which a moral hierarchy may or may not be reconstructed. Without the cognitively and experientially normal human adult as the standard for moral status, where would we begin? And what difference would this make? I can only provide some initial thoughts on these questions here.

Jaworska and Tannenbaum (2018: 5) provide a characterization of moral status in terms of how an entity can be treated – that is, in terms of observable behavior towards that entity.<sup>19</sup> Their primary criterion is that it involves a stringent moral presumption that the entity cannot be interfered with in certain ways – “destroyed, experimented on, directly caused to suffer, etc.”. This non-interference criterion is species-neutral: all it would take for non-humans (and discriminated humans) to have the same moral status as the traditional standard human is for them to not be interfered with in the same ways with the same stringency. In other words, we reverse Tirrell’s (op.cit.) relationship between status and treatment: Assign the treatment, and the status will follow.

---

<sup>19</sup> To be clear, my remarks do not reflect any of their views. They also begin their article with a definition of what it is for an entity to have moral status, rather than what moral status is: “An entity has moral status if and only if its interests morally matter to some degree for its own sake.” One might combine these by saying, roughly, that an entity that is not-interferable-with is one whose interests matter. But these can be treated as independent definitions, too.

After all, we would have little or no reason to care about moral status if not for the treatment differentials associated with different statuses. Justified fear of actual or potential mistreatment of sub-groups of humans by other humans stems from this association. It also motivates the mistaken idea that humanism is the best bulwark against it, as if throwing the non-humans to the more fortunate humans is the best way to save the less fortunate humans.

From this species-neutral starting point, what requires justification is any proposed systematic difference in morally relevant treatment. This starting point is neutral regarding a hierarchical or egalitarian outcome. For any proposed systematic difference, which group benefits or loses is an open question – just as with *a posteriori* hierarchies of cognitive traits. This open-endedness regarding who will end up where in any justified hierarchy of differential treatment is the biggest difference from any moral hierarchy rooted in the Scala Naturae. First, it unbundles moral status into types of morally relevant treatment. A group that loses out regarding one type of treatment may be favored regarding another, while in other cases no treatment differential between groups can be justified. Perhaps no entity can be directly caused to suffer, but those that can be experimented on cannot be destroyed, and those that can be destroyed cannot be experimented on. No one group by default gets all the best treatment. Second, it allows that the relevant groups can be heterogeneous from a species perspective. If the genome is morally arbitrary, species-based groupings are just one possibility. There is no obvious reason why the species needs to remain the basic taxonomic concept for moral status.

This is highly counterintuitive because we are so used to thinking of moral status as a species-tied concept and of high moral status as a package deal. This structure has the Scala Naturae written all over it. Humanism fills in this structure with the claim that the human species has the high moral status package. (Felinism would involve the same structure, but with *F.*

*domesticus* in the place of *H. sapiens*.) But like cognition, moral status is not intrinsically hierarchical or species-specific. A species-neutral conception takes away this familiar structure, but it leaves open whether *H. sapiens* might end up enjoying similar privileges within a species-neutral structure. (It is also possible that no moral status hierarchy emerges. However, rather than spending so much energy trying to justify why one species should enjoy exclusive high privileges, our efforts are aimed in the first instance at understanding what might justify differentials in morally relevant treatment without regard to species membership or cognitive endowment.

### **Conclusion.**

Empirical discoveries resulting from an explosion of research into the cognitive capacities of non-humans have been used to undermine the idea that many advanced capacities are non-trivially uniquely human. This research has not yet undermined humanism and the unequal moral status of humans and non-humans, but it should. I've described how the empirical results are driven by the development of an evolution-based understanding of human cognition that rejects a metaphysical hierarchy where humans are above all other living beings. Subsequent theoretical changes make possible cross-species comparisons in which human species-specific capacities may still turn out, *a posteriori*, to be unique in degree or kind. But the evolutionary perspective on cognition exposes an insuperable problem for humanism. Evolved cognitive capacities, however advanced and unique, cannot ground humanism's moral-status difference.

In addition, rather than being the strongest bulwark against racism and sexism, humanism uses the same psychological tools to maintain a defunct moral hierarchy and justify directing our most destructive tendencies towards non-humans. Instead, just as comparative behavioral and cognitive scientists are eliminating an inherited cognitive hierarchy from their research, ethicists



can begin assimilating the loss of the Scala Naturae's moral hierarchy into the way they approach the question of moral status.

## References

- Allen, C. and M. Bekoff 2007. Animal Minds, Cognitive Ethology, and Ethics. *The Journal of Ethics* 11: 299-317.
- Allen, T. and N. Fortin 2013. The evolution of episodic memory. *PNAS* 110 (2): 10379-86.
- Anderson, E. 2004. Animal rights and the values of nonhuman life. In C. Sunstein and M. Nussbaum, eds., *Animal Rights: current debates and new directions* (Oxford): 277-98.
- Atran, S. 1998. Folk biology and the anthropology of science: Cognitive universals and cultural particulars. *Behavioral and Brain Sciences* 21: 547-609.
- Barkow, J., L. Cosmides, and J. Tooby, eds. 1992. *The Adapted Mind: Evolutionary psychology and the generation of culture*. Oxford University Press.
- Beck, J. 2012. Do animals engage in conceptual thought? *Philosophy Compass* 7/3: 218-229.
- Bekoff, M., C. Allen, and G. Burghardt 2002. *The Cognitive Animal: Empirical and theoretical perspectives on animal cognition*. Cambridge, MA: MIT Press.
- Ben Jacob, E., I. Becker, Y. Shapira, and H. Levine 2004. Bacterial linguistic communication and social intelligence. *Trends in Microbiology* 12 (8): 366-72.
- Bennett, M. and P.M.S. Hacker 2003. *Philosophical Foundations of Neuroscience*. Blackwell.
- Bentham, J. (1780/1789/2017) *An Introduction to the Principles of Morals and Legislation*. Reference is to J. Bennett, ed. <https://www.earlymoderntexts.com/assets/pdfs/bentham1780.pdf>.
- Bernstein, M. 2006. On the dogma of hierarchical value. *American Philosophical Quarterly* 43 (3): 207-220.

- Bernstein, M. 2015. *The Moral Equality of Humans and Animals*. Palgrave-Macmillan.
- Bernstein, M. 2017. On the relative value of human and nonhuman lives. *Philosophical Studies* 174: 1517-38.
- Bolhuis, J., I. Tattersall, N. Chomsky, and R. Berwick 2014. How could language have evolved? *PLoS Biology* 12 (8): e1001934.
- Boyd, R. 1999. Kinds, Complexity, and Multiple Realization. *Philosophical Studies* 95: 67-98.
- Brandt, M. and C. Reyna 2011. The Chain of Being: A hierarchy of morality. *Perspectives on Psychological Science* 6 (5): 428-446.
- Burghardt, G. 2008. The Sun Always Rises: Scientists also need semantics. *Behavioral and Brain Sciences* 31 (2): 133-134.
- Calvo, P. 2017. What is it like to be a plant? *Journal of Consciousness Studies* 24 (9-10): 205-227.
- Calvo, P. and F. Keijzer 2011. Plants: Adaptive behavior, root-brains, and minimal cognition. *Adaptive Behavior* 19 (3): 155-171.
- Campbell, C. and W. Hodos 1991. The Scala Naturae Revisited: Evolutionary scales and anagenesis in comparative psychology. *Journal of Comparative Psychology* 105 (3): 211-221.
- Call, J. and M. Tomasello 2008. Does the Chimp Have a Theory of Mind? 30 years later. *Trends in Cognitive Sciences* 12 (5): 187-192.
- Cazzolla Gatti, R. 2015. Self-consciousness: beyond the looking glass and what dogs found there. *Ethology, Ecology & Evolution* 28 (2): 232-240.
- Clayton, N., and J. Russell (2009). Looking for episodic memory in animals and young children: Prospects for a new minimalism. *Neuropsychologia* 47: 2330-2340.
- Darwall, S. 1977. Two Kinds of Respect. *Ethics* 88 (1): 36-49.
- Darwin, C. 1871. *The Descent of Man, and Selection in Relation to Sex*. John Murray.

- DeGrazia, D. 1996. *Taking Animals Seriously: Mental life and moral status*. Cambridge.
- De Queiroz, K. 2007. Species Concepts and Species Delimitation. *Systems Biology* 56 (6): 879-886.
- Dobzhansky, T. 1973. Nothing in Biology Makes Sense except in the Light of Evolution. *The American Biology Teacher*. 35 (3): 125-129.
- Emery, N. and N. Clayton 2004. The Mentality of Crows: Convergent evidence of intelligence in corvids and apes. *Science* 306: 1903-1907.
- Feigenson, L., S. Dehaene, and E. Spelke 2004. Core Systems of Number. *Trends in Cognitive Sciences* 8 (7): 307-314.
- Figdor, C. (2018). *Pieces of Mind: The proper domain of psychological predicates*. Oxford and New York: Oxford University Press.
- Gagliano, M., V. Vyazovskiy, A. Borbely, M. Grimonprez, and M. Depczynski 2016. Learning by Association in Plants. *Scientific Reports* 6 (38427): 1-9.
- Giurfa, M., S. Zhang, A. Janett, R. Menzel, and M. Srinivasan 2001. The concepts of 'sameness' and 'difference' in an insect. *Nature* 410: 930-933.
- Griffiths, P. 2007. Ethology, Sociobiology, and Evolutionary Psychology. In S. Sarkar and A. Plutynski, eds., *A Companion to Philosophy of Biology* (Blackwell Publishing Ltd.): 393-414.
- Gruen, L. 2017. The Moral Status of Animals. *The Stanford Encyclopedia of Philosophy* (Fall 2017), E. Zalta, ed., URL = <https://plato.stanford.edu/archives/fall2017/entries/moral-animal/>
- Gruntman, M. and A. Novoplansky 2004. Physiologically mediated self/non-self discrimination in roots. *PNAS* 101 (11): 3863-67.
- Haslam, N., P. Bain, L. Douge, M. Lee, and B. Bastian 2005. More Human Than You: Attributing humanness to self and others. *Journal of Personality and Social Psychology* 89 (6): 937-950.

Herrmann, E., J. Call, M. V. Hernandez-Lloreda, B. Hare, and M. Tomasello 2007. Humans Have Evolved Specialized Skills of Social Cognition: The cultural intelligence hypothesis. *Science* 317 (5843): 1360-1366.

Heyes, C. 2012. *New Thinking: The evolution of human cognition*. Philosophical Transactions of the Royal Society B 367: 2091-2096.

Heyes, C. 2018. *Cognitive Gadgets: The cultural evolution of thinking*. Cambridge: Harvard University Press.

Hodos, W. and C. Campbell 1969. Scala Naturae: Why there is no theory in comparative psychology. *Psychological Review* 76 (4): 337-350.

Horner, V. and A. Whiten 2005. Causal knowledge and imitation/emulation switching in chimpanzees (*Pan troglodytes*) and children (*Homo sapiens*). *Animal Cognition* 8: 164-181.

Hulse, S. 2012. Postscript: An essay on the study of cognition in animals. In E. Wasserman and T. Zentall, eds., *The Oxford Handbook of Comparative Cognition*, 2<sup>nd</sup> ed. (New York: Oxford): 881-890.

Ingold, T. (1996). Hunting and gathering as ways of perceiving the environment. In R. Ellen and K. Fukui, eds., *Redefining nature: Ecology, culture, and domestication*. Berg.

Inoue, S. and T. Matsuzawa 2007. Working memory of numerals in chimpanzees. *Current Biology* 17 (23): R1004-R1005.

Jaworska, A. and J. Tannenbaum 2014. Person-Rearing Relationships as a Key to Higher Moral Status. *Ethics* 124: 242-271.

Jaworska, A. and J. Tannenbaum 2018. The Grounds of Moral Status. *The Stanford Encyclopedia of Philosophy* (Spring 2018), E. Zalta, ed., URL =

<https://plato.stanford.edu/archives/spr2018/entries/grounds-moral-status/>

- Kagan, S. 2015. What's wrong with speciesism? *Journal of Applied Philosophy* 33: 1-21.
- Kagan, S. 2019. *How to Count Animals, More or Less*. Oxford University Press.
- Katsnelson, M., Y. Wolf, and E. Koonin (2019). On the feasibility of saltational evolution. *PNAS* 116 (42): 21068-075.
- Kittay, E. 2005. At the margins of moral personhood. *Ethics* 116: 100-31.
- Leyens, J.-P., A. Rodriguez-Perez, R. Rodriguez-Torres, R. Gaunt, M.-P. Paladino, J. Vaes, and S. Demoulin 2001. Psychological essentialism and the differential attribution of uniquely human emotions to ingroups and outgroups. *European Journal of Social Psychology* 31: 395-411.
- Livingstone Smith, D. 2012. *Less than human: why we demean, enslave, and exterminate others*. St. Martin's Press.
- Kronfeldner, M., N. Roughley, and G. Toepfer (2014). Recent Work on Human Nature: Beyond traditional essences. *Philosophy Compass* 9/9: 642-652.
- Leopold, A. 1949. *A Sand County Almanac*. Oxford.
- Lovejoy, A. 1936. *The Great Chain of Being: A study of the history of an idea*. Harvard.
- Lyman-Henley, L., and T. Henley 2000. Some Thoughts on the Relationship Between Behaviorism, Comparative Psychology, and Ethology. *Anthrozoös* 13 (1): 15-21.
- Lyn, H. 2012. Apes and the Evolution of Language: Taking stock of 40 years of research. In Vonk, J. and T. Shackelford, eds., *The Oxford Handbook of Comparative Evolutionary Psychology* (New York: Oxford University Press): 356-378.
- Lyon, P. 2015. The cognitive cell: bacterial behavior reconsidered. *Frontiers in Microbiology* 6, article 264: 1-18.
- Marino, L. 2003. Has Scala Naturae Thinking Come Between Neuropsychology and Comparative Neuroscience? *International Journal of Comparative Psychology* 16: 28-32.

- McMahon, J. 1996. Cognitive disability, misfortune, and justice. *Philosophy & Public Affairs* 25 (1): 3-35.
- Mezzina, M.J. 2018. Proposed brief by Amicae Curiae Philosophers in Support of the Petitioner-Appellant. Filed in Court of Appeals State of New York, NY County Clerk's Index Nos. 162358/15 and 150149/16.
- Millstein, R. 2017. Evolution. *The Stanford Encyclopedia of Philosophy* (Summer 2019), E. Zalta, ed., URL = <https://plato.stanford.edu/archives/sum2019/entries/evolution>
- Naess, A. 1973. The shallow and the deep, long-range ecology movement. *Inquiry* 16: 95-100.
- Osvath, M. and G. Martin-Ordas 2014. The future of future-oriented cognition in non-humans: theory and the empirical case of the great apes. *Philosophical Transactions of the Royal Society B* 369: 20130486.
- Parker, S. 2002. Comparative Developmental Evolutionary Psychology and Cognitive Ethology: Contrasting but compatible research programs. In Bekoff, Allen, and Burghardt, eds. *The Cognitive Animal* (Cambridge, MA: MIT Press): 59-67.
- Parvizi, J. 2009. Corticocentric myopia: old bias in new cognitive sciences. *Trends in Cognitive Sciences* 13 (8): 354-9.
- Penn, D., K. Holyoak, and D. Povinelli 2008. Darwin's mistake: Explaining the continuity and discontinuity between human and nonhuman minds. *Behavioral and Brain Sciences* 31 (2): 109-178.
- Pepperberg, I. 2008. Difficulties with "Humaniqueness". *Behavioral and Brain Sciences* 31 (2): 143-144.
- Persson, I. 1993. A basis for (interspecies) equality. In P. Cavalieri and P. Singer, eds., *The Great Ape Project* (New York: St. Martin's): 183-193.

- Premack, D. 2007. Human and animal cognition: Continuity and discontinuity. *PNAS* 104 (35): 13861-867.
- Proctor, R. N. 2003. Three Roots of Human Recency. *Current Anthropology* 44 (2): 213-239.
- Rachels, J. 1987. Darwin, Species, and Morality. *The Monist* 70 (1): 98-113.
- Rowlands, M. 2002. *Animals Like Us*. Verso Press.
- Salwiczek, L., A. Dickinson, and N. Clayton 2008. What Do Animals Remember about Their Past? In R. Menzel, ed., *Learning and Behavior* (vol. 1 of *Learning and Memory: A comprehensive reference*, 4 vols., J. Byrne, ed., Elsevier): 441-459.
- Samhita, L. and H. Gross 2013. The “Clever Hans Phenomenon” Revisited. *Communicative and Integrative Biology* 6:6, e27122.
- Shackelford, T. and R. von Friedeburg 2012. Toward Bridging Gaps: Finding commonality between evolutionary and comparative psychology. In Vonk and Shackelford, eds., *The Oxford Handbook of Comparative Evolutionary Psychology* (Oxford): 3-16.
- Scoville, W. and B. Milner 1957. Loss of recent memory after bilateral hippocampal lesions. *Journal of Neurology, Neurosurgery, and Psychiatry* 20: 11-21.
- Setiya, K. 2018. Humanism. *Journal of the American Philosophical Association*: 452-70.
- Seyfarth, R. and L. Cheney 2010. Production, usage, and comprehension in animal vocalizations. *Brain & Language* 115: 92-100.
- Shettleworth, S. 1993. Where is the comparison in comparative psychology? *Psychological Science* 4 (3): 179-84.
- Shettleworth, S. 2009. The evolution of comparative cognition: Is the snark still a boojum? *Behavioural Processes* 80: 210-17.

Shettleworth, S. 2012a. Darwin, Tinbergen, and the Evolution of Comparative Cognition. In Vonk and Shackelford, eds., *The Oxford Handbook of Comparative Evolutionary Psychology* (Oxford): 529-546.

Shettleworth, S. 2012b. Modularity, Comparative Cognition, and Human Uniqueness. *Philosophical Transactions of the Royal Society B* 367: 2794-2802.

Silva, F., D. Page, and K. Silva 2005. Methodological-conceptual Problems in the Study of Chimpanzees' Folk Physics: How studies with adult humans can help. *Learning & Behavior* 33 (1): 47-58.

Singer, P. 1975. *Animal Liberation*. HarperCollins.

Suddendorf, T. 2008. Explaining human cognitive autapomorphies. *Behavioral and Brain Sciences* 31 (2): 147-148.

Suddendorf, T. and M. Corballis 2010. Behavioural Evidence of Mental Time Travel in Nonhuman Animals. *Behavioural Brain Research* 215: 292-298.

Suzuki, T. 2016. Semantic communication in birds: evidence from field research over the past two decades. *Ecological Research* 31: 307-319.

Taylor, P. 2011. *Respect for Nature: A theory of environmental ethics*. Princeton.

Templer, V. and R. Hampton 2013. Episodic Memory in Nonhuman Animals. *Current Biology* 23 (17): R801-R806.

Tirrell, L. 2012. Genocidal language games. In I. Maitra and M.K. McGowan, eds., *Speech and Harm: Controversies over free speech* (Oxford): 174-221.

Trewavas, A. 2016. Intelligence, cognition, and language of green plants. *Frontiers in Psychology* 7, article 588: 1-9.



Tulving, E. 1972. Episodic and semantic memory. In E. Tulving and W. Donaldson, *Organization of Memory* (Academic): 381-403.

Tulving, E. 2005. Episodic memory and Autonoesis: Uniquely human? In H. Terrace and J. Metcalfe, eds. *The Missing Link in Cognition: Origins of self-reflective consciousness* (Oxford), 3-56.

Tyack, P. and C. Clark 2000. Communication and acoustic behavior of dolphins and whales. In Wu, W., R. Fay, and A. Popper, eds., *Hearing by Whales and Dolphins* (Springer): 156-224.

Van Lawick-Goodall, J. 1968. The behaviour of free-living chimpanzees in the Gombe Stream Reserve. *Animal Behaviour Monographs* 1(3): 161-311.

Varner, G. 2012. *Personhood, Ethics, and Animal Cognition: Situating animals in Hare's two-level utilitarianism*. Oxford University Press.

Vonk, J. and T. Shackelford 2012. Comparative Evolutionary Psychology: A united discipline for the study of evolved traits. In Vonk and Shackelford, eds., *The Oxford Handbook of Comparative Evolutionary Psychology*. (New York and Oxford: Oxford University Press): 547-560.

Vonk, J. and T. Shackelford 2013. An Introduction to Comparative Evolutionary Psychology. *Evolutionary Psychology* 11 (3): 459-469.

Walker, M. and J. Herndon 2008. Menopause in Nonhuman Primates? *Biology of Reproduction* 79: 398-406.

Ward, E., K. Parsons, E. Holmes, K. Balcomb III, and J. Ford 2009. The Role of Menopause and Reproductive Senescence in a Long-Lived Social Animal. *Frontiers in Zoology* 6 (4): 1-10.

Wasserman, E. and T. Zentall 2012. *The Oxford Handbook of Comparative Cognition*. (New York: Oxford) (This is newer edition of Wasserman and Zentall, eds. 2006, *Comparative Cognition: Experimental explorations of animal intelligence* (Oxford).

Whiten, A. and D. Erdal 2012. The Human Socio-cultural Niche and Its Evolutionary Origins. *Philosophical Transactions of the Royal Society B* 367: 2119-2129.

Wilson, E.O. 1975. *Sociobiology: The new synthesis*. Harvard University Press.

Wright, A. 2006. Memory processing. In E. Wasserman and T. Zentall, eds. *Comparative Cognition: Experimental explorations of animal intelligence*. New York: Oxford: 164-185.

Zuberbühler, K. 2019. Syntax and compositionality in animal communication. *Philosophical Transactions of the Royal Society B* 375: 20190062.

Final Draft