



Aesthetic Animism

Ryan P. Doran¹ 

Accepted: 24 April 2022
© The Author(s) 2022

Abstract I argue that the main existing accounts of the relationship between the beauty of environmental entities and their moral standing are mistaken in important ways. Beauty does not, as has been suggested by optimists, confer intrinsic moral standing. Nor is it the case, as has been suggested by pessimists, that beauty at best provides an anthropocentric source of moral standing that is commensurate with other sources of pleasure. I present arguments and evidence that show that the appreciation of beauty tends to cause a transformational state of mind that is more valuable than mere pleasure, but that leads us to falsely represent beautiful entities as being sentient and, in turn, as having intrinsic moral standing. To this extent, beauty is not, then, a source of intrinsic moral standing; it's a source of a more important anthropocentric value than has hitherto been acknowledged.

Keywords Environmental ethics · Intrinsic value · Moral standing · Sentience · Beauty · Elevation · Ugliness · Disgust

“A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise.” (Leopold, 1949/[1987]: 224–5)

✉ Ryan P. Doran
rd592@cam.ac.uk

¹ University of Cambridge, The Old Schools, Trinity Lane, Cambridge, CB2 1TN, UK

1 Introduction

Why should we protect non-animal environmental entities such as plants and landscapes? And what role, if any, does the beauty of such entities play in this?

Some environmental ethicists have been optimistic about the relationship between moral standing and a certain kind of beauty. They suggest that non-animal environmental entities such as plants and landscapes have *intrinsic* moral standing—they are worthy of protection independently of their relationship to humans and other living creatures—to the extent that they are non-functionally beautiful, where something is non-functionally beautiful when its beauty is not determined by its proper functions. This kind of beauty includes pleasing sensory properties, and arrangements thereof.

Other environmental ethicists have been more pessimistic about the role of non-functional beauty in justifications of the moral standing of such environmental entities. At best, they suggest that the non-functional beauty of such entities provides a lesser, *anthropocentric*, moral standing—namely, that such entities are worthy of protection just insofar as their beauty provides pleasure to humans. At worst, they suggest that non-functional beauty is superficial and distracts us from the properties—such as the property of possessing interests—that do in fact generate moral standing to the extent that they are present in such entities.

In this paper, I argue that both the optimists and pessimists about the relationship between non-functional beauty and moral standing are wrong in important ways. Specifically, I argue, and present evidence, for two main claims.

First, that experiences of non-functional beauty cause false mental representations of sentience which are partly responsible for our intuitions that non-animal environmental entities have intrinsic moral standing, focusing especially on the moral standing of plants. As a result, I argue that arguments based on the intuitive impermissibility of destroying such environmental entities, as are offered by the optimists, are likely to be a weak basis on which to defend them.

Second, that even if the evidence of aesthetic animism presented here exerts a debunking pressure on the intuitions that the optimists have appealed to, it also suggests that some of the pessimists' various claims are equally wrong.

While the pessimists are correct that non-functional beauty is only a source of anthropocentric moral standing, they are not correct to suggest that the role that non-functional beauty plays in the moral standing of environmental entities is commensurate with other sources of pleasure. Rather, the account put forward here suggests that the non-functional beauty of such environmental entities tends to be a source of a much more important kind of experience than mere pleasure.

Nor is it the case, as the pessimists also suggest, that non-functional beauty distracts us from features—such as sentience and the possession of interests—that would confer intrinsic moral standing to the extent that they are present. On the contrary, the account defended here suggests that the experience of non-functional beauty leads us to *falsely represent* such features as being present, or to represent them as being present for poor reasons.

Overall, the account defended here is more pessimistic about the role of non-functional beauty in the moral standing of the environment than the view defended by the optimists, but more optimistic than the view defended by the pessimists.

2 Two kinds of beauty

Before beginning in earnest, some distinctions concerning beauty are needed. Beauty is widely (though not universally) thought to be the disposition that some objects have to please us for themselves, independently of any desires we may have to use them (two of the classical loci for this view are Shaftesbury, 1711/[1999]; and Kant, 1790/[2000]). Different kinds of beauty can be distinguished in terms of the role that different kinds of properties play in determining this disposition to please in a disinterested fashion.

One kind of beauty, which some have labelled ‘formal’ and ‘free’ beauty (‘formal beauty’ hereafter), is at least partly determined by properties that can be sensed, and which are widely agreed to be represented in perception—such as colours, shapes, and pitches, and harmonious combinations thereof (e.g., Kant, 1790/[2000]; Zangwill, 2001; Carroll, 1991; Bell, 1914).¹

A second kind of beauty, which some have labelled ‘dependent’ or ‘adherent’ beauty (‘dependent beauty’ hereafter), is at least partly determined by properties that are not sensed—such as kind properties and functional properties—and which are not widely agreed to be represented in perception. Different kinds of dependent beauties can be distinguished according to the kind of non-sensory property that determines the beauty—such as ‘functional’ beauty (e.g., Parsons & Carlson, 2008; Paris, 2020).

Access to formal beauty is at least not purely mediated by our conceptual repertoire, and, unlike dependent beauty, in many cases is often not mediated by our conceptual repertoire at all, and so our access to formal beauty can be, and indeed often is, more direct than our access to dependent beauty.

These kinds of beauty admit of pure and impure cases. Pure formal beauties are determined *exclusively* by the sensory properties of an object. Examples of this kind of beauty include beautiful abstract patterns. Pure dependent beauties are determined *exclusively* by the non-sensory properties of an object. Examples of

¹ Three clarifications need to be introduced here to prevent confusion with other uses of ‘form’ and ‘formal beauty.’ First, some, such as Carroll (1991) and Zangwill (2001), suggest that ‘formal beauty’ is only determined by properties that can be sensed through hearing and sight. Second, some suggest that ‘form’ refers to one particular kind of property that is sensed in vision and audition—namely, a property that is more akin to structure and shape—and that ‘formal beauty’ is only determined by this property. Kant (1790/[2000]: §14, 5: 224 & 225), for example, at times suggests that colours and tones are merely “agreeable” or “charming,” and that in all the pictorial arts, for example, it is only the drawing or outline that determines the form; colours merely “enliven” and “charm.” Levinson (2016: 102) characterises ‘formal beauty’ as a subcategory of abstract beauty that consists in the beauty of patterns and configurations. Third, for some, there can be cases of ‘form’ and ‘formal beauty’ that are not even partly determined by properties that can be sensed. Paris (2020), for example, characterises functional beauty as that which is pleasingly *well-formed*, where something is well-formed when its parts achieve its proper end. In cases where the constellation of psychological dispositions (e.g., aims, desires, beliefs) that constitute a given moral virtue work together to achieve the proper end of that virtue (e.g., a compassionate state-of-affairs in the case of the virtue of being compassionate), this constellation would have ‘form’ in the sense intended by Paris (2020), and therefore could be formally beautiful. But since such constellations do not have properties that can be sensed, they cannot be formally beautiful in the sense discussed here. For a discussion of whether only low-level, sensory properties appear in perception, see Siegel and Byrne (2017).

this kind of beauty include beautiful virtues, such as compassion, and beautiful theorems.

Impure beauties are determined by both sensory and non-sensory properties. An example of an impure beauty where the non-sensory property that partly determines the beauty is not a functional property would be the attributive beauty of a tree that merely approximates the average tree. Here, the beauty of the tree is not equal to the beauty of the tree considered merely as a sensory array of lines, shapes and patches of colour; rather, the beauty of the tree is equal to the beauty of the sensory array *as it presents the tree to be*—namely, as approximating the average tree for a given individual, as determined by the mean of features such as canopy shape and density and leaf size and colour in the exemplars that the individual has been exposed to, and not by their knowledge of which such features function well. That is to say, the property of approximating the prototype of a tree co-determines the beauty of the tree in conjunction with its sensory properties.² An example of an impure beauty where the non-sensory property determining the beauty is a functional property would be the beauty of urohidrosis. Birds such as storks and New World vultures defecate on their own legs. The excrement coated appearance of the bird's featherless legs, considered by itself, is positively ugly. But when considered in light of the function that defecating on their legs serves, in helping these birds to cool themselves and avoid heat stress in the inhospitable environments in which these birds live (e.g., Kahl, 1963), and in further appreciating how this puts a waste product to good use on a part of the birds where feathers aren't required for the birds to be able to fly, these excrement-covered legs can seem beautiful.³

Among these different kinds of beauty, pure formal beauties and impure dependent beauties where the determining non-sensory property is non-functional are likely to be more accessible than impure dependent beauties where the determining non-sensory property is functional. Detection of many purely formal beauties—such as where a fashion design is beautiful because the formal features of one of the garments that makes up the design ‘picks out’ the formal features of the other garments in the design—involves basic mechanisms of perceptual organisation, such as feature grouping and binding (see e.g., Ramachandran & Hirstein, 1999), which are innate human psychological capacities whose operation proceeds in an automatic manner. Similarly, detection of many impure dependent beauties where the non-sensory property is non-functional—such as beauties that are determined by meeting our prototypes—involves basic mechanisms of categorisation, such as prototype acquisition and deployment, which are also innate human

² Sometimes people's prototypes will reflect not only the statistical average, but also relevant functions. Lettuce is a prototypical diet food, for example, in part because it is the most common, and in part because it is well-placed to achieve the aim of dieting in being low in calories. In this example, I only refer to impure dependent beauties where something is beautiful because, for example, it conforms to the statistical average. For a discussion of the connection between prototypes and beauty, see Hogan (2016) and Doran (2020).

³ Saito (1998: 103–4) rightly cautions against suggesting that features that appear ugly by sight alone—such as the excrement-crusting legs of storks and New World vultures—are in fact beautiful if they become beautiful once knowledge about their function is acquired, as this would be to commit a mereological fallacy.

psychological capacities whose operation proceeds in an automatic manner and is unaffected by top-down influences to an important extent. As a result, such beauties are likely to be automatically detected by a wide range of people.

By contrast, the detection of impure dependent beauties where the determining property is functional often involves psychological representations that are not innate, and which cannot be gleaned automatically from the mere naïve experience of the beautiful objects concerned. We cannot, for example, come to know that the excrement on the legs of storks and New World vultures serves a cooling function, and thereby come to detect its beauty, *merely* by looking at the birds' excrement-covered legs.⁴ Indeed, even when we have acquired the relevant knowledge to be able to detect such impure functional beauties and the conditions are such that we can detect the ability of an appearance to meet the functions concerned well, we may yet fail to do this. As Kant (1790/[2000]: §16, 5: 229) notes, a botanist may not pay any attention to the ability of a flower to help the plant achieve its reproductive function when appreciating its non-functional beauty.⁵ As such, such impure functional beauties are unlikely to be automatically, or even reliably, detected by a wide range of people.

Based on the foregoing, we can draw the following distinction, which, as we will see, will be important for understanding the positions that are the focus of this paper. What we might call 'non-functional beauties' include pure formal beauties, as well as impure dependent beauties where the non-sensory properties that partly determine this beauty are not functional properties. As we have seen, these beauties will tend to be widely and automatically detected. By contrast, what we might call 'functional beauties' include those impure dependent beauties where the non-sensory properties that partly determine the beauty are functional properties. As we have seen, these beauties will not tend to be widely and reliably detected.⁶

With this distinction set out, we are in a position to turn to existing accounts of the moral standing of the environment, and of its relationship to beauty.

⁴ Moreover, as noted by Budd (2003: 29, 42), in many cases of biological entities where we can glean something's function from our perceptual experience, this may not be possible from the stationary or isolated appearance of the biological entity in question, since functions are often a matter of bringing about certain effects in response to certain causes (in a temporal sequence).

⁵ Two further clarificatory points are required here to prevent potential confusion. First, some philosophers have used 'pure' in a slightly different way in this context. Kant (1790/[2000]), for example, refers to judgements of formal beauty, as it is characterised above, as cases of 'pure' beauty. I do not follow Kant here: as I have noted, we can have pure judgements of dependent beauty, as where we find the trait of compassion beautiful (see e.g., Doran, 2022a). Second, many have emphasised that Kant (1790/[2000]: §16) suggests that dependent beauties can only be functional beauties (see e.g., Zangwill, 2001: 59, and Budd, 2003: 42). We do not need to follow Kant in this respect here either; and indeed, some, such as Budd (*ibid.*), have criticised Kant for the exclusion of non-functional dependent beauties.

⁶ I will not discuss how pure dependent beauties such as moral virtues fit into this distinction as they are not relevant to the central concern of this article, and doing so may complicate matters unnecessarily as, for example, moral virtues are thought to be functional beauties in some cases (e.g., Paris, 2020), and non-functional beauties in other cases (e.g., Doran, 2022a).

3 Why have non-animal environmental entities been thought to have moral standing? And what role has beauty been thought to play in this?

According to the two main standard views of moral standing, what makes something worthy of considering in our practical judgements about what we should do is a certain psychological capacity.

On the sentience view, it is the capacity to feel valenced states, and particularly negatively valenced states—such as pain and suffering—that confers moral standing. As Bentham (1823/[1907]: 311) puts it, when thinking about what has moral standing, “the question is not, Can they *reason*? nor, Can they *talk*? but, Can they *suffer*?” On the personhood view, by contrast, it is the capacity to reason—in the sense of freely choosing one’s ends and not slavishly following one’s first nature—that confers moral standing (e.g., Kant, 1785/[1998]).

On such views, humans and some animals have moral standing, but other entities in our environment, such as plants and landscapes, do not have moral standing in themselves. As these objects lack nervous systems, let alone nervous systems capable of instantiating negatively-valenced states and freely-chosen decisions to act, they do not have the hardware required for them to possess the capacities that confer moral standing. As a result, on such views we only need consider how our actions with respect to these objects will affect creatures with the relevant capacities. Plants, for example, may provide resources to humans such as food, medicines, materials for manufacturing and building, or opportunities for aesthetic appreciation. To this extent, they will frequently help to alleviate negatively-valenced states and promote positively-valenced states, or feature as the objects of freely-chosen ends.

Indeed, some have attempted to defend beautiful nature on just such grounds. In his lectures, Kant (1775–1784/[1997]) outlines the dominant view of the time, also articulated by Baumgarten in his textbook *Philosophical Ethics* (1751, 1763), that “No man ought to damage the beauty of nature; even though he cannot use it; other people may yet be able to do so” (213), where one such use for the beauty of nature may be providing contemplative pleasure to others independently of practical use (see also Passmore, 1974: 101–2).⁷ Similarly, Sidgwick suggests that beauty might confer just such an indirect moral standing because it engenders pleasure, when he notes that “no one would consider it rational to aim at the production of beauty in external nature, apart from any possible contemplation of it by human beings” (1874/[2012]: 101).

For many, such psychological accounts fail to capture all of the reasons why something, and particularly environmental entities, can have moral standing; and moreover, are *anthropocentric*—even *chauvinistic* (Routley, 1973: 207)—in focusing on what is valuable to humans.

⁷ Although for some in the eighteenth century, such as Hume (1739/[1975]), some inanimate natural beauties are beautiful, and thereby valuable, because of their practical usefulness.

To motivate the idea that the psychological views of moral standing are unduly restrictive, some philosophers, such as G.E. Moore (1903/[1922]) and Routley (1973), formulated isolation thought experiments. In such thought experiments, we are invited to imagine that non-animal environmental entities exist independently of all observers, who themselves are normally thought to possess intrinsic moral standing, and to ask ourselves whether it would be better if these environmental entities existed or did not exist, on Moore's (1903/[1922]: 84–5) formulation; or whether it would be wrong for the last people on earth to destroy them, on Routley's (1973: 207) formulation.

The intuitive answer that we are supposed to arrive at in response to these thought experiments is that it would be better if such entities existed, or wrong to destroy them, and since *ex hypothesi* there's nothing with the relevant capacities around to *care* about their existence, this must be because they have intrinsic moral standing. But what could confer this moral standing, and what role does beauty—functional or non-functional—play in this?

In their original formulations, beauty was appealed to in *justifying* our intuitions in these thought experiments, often without much by way of explanation. Routley (1973: 208) notes that “on an environmental ethic the last people have behaved badly; they have simplified and largely destroyed all the natural ecosystems, and with their demise the world will soon be an *ugly* and largely wrecked place” (my emphasis). Indeed, Moore develops his isolation thought experiments in order to show that Sidgwick's hedonism about the value of beauty is false.⁸ He writes:

Let us imagine one world exceedingly beautiful. Imagine it as beautiful as you can; put into it whatever on this earth you most admire—mountains, rivers, the sea; trees, and sunsets, stars and moon. Imagine these all combined in the most exquisite proportions, so that no one thing jars against another but each contributes to the beauty of the whole. And then imagine the ugliest world you can possibly conceive. Imagine it simply one heap of filth, containing everything that is most disgusting to us, for whatever reason, as a whole, as far as may be, without one redeeming feature... The only thing we are not entitled to imagine [according to Sidgwick's suggestion] is that any human being has ever, by any possibility, *can*, live in either, can ever see and enjoy the beauty of the one or hate the foulness of the other. Well, even so, supposing them quite apart from any possible contemplation by human beings; still, is it irrational to hold that it is better that the beautiful world should exist, than the one which is ugly? Would it not be well, in any case, to do what we could to produce it rather than the other? Certainly, I cannot help thinking that it would, and I hope that some may agree with me in this extreme instance. (Moore, 1903/[1922]: 84–85)

What kinds of beauty do Routley and Moore have in mind here? While Routley and Moore don't explicitly specify the kind of beauty that they have in mind in this

⁸ While Moore principally targets Sidgwick, he notes that aesthetic hedonism is “commonly held” (28), having also been held by Aristippus and the Cyrenaic school he founded, Epicurus and the Epicureans, and other utilitarians such as Bentham, Mill and Herbert Spencer (63).

context, it is likely that they at least include, if not primarily intend, non-functional beauty in this context. First, many of the beauties mentioned—such as stars and mountains—do not have functions and so could not be truly beautiful in the sense of being functionally beautiful (though they could be beautiful by say, approximating the average appearance of such kinds to the extent that there is variation in such entities' appearances). Second, Moore's target in formulating his isolation thought experiment, at least, is Sidgwick's account of beauty's contribution to the moral standing of the environment, and Sidgwick explicitly targets non-functional beauty (Sidgwick, 1874/[2012]: e.g. 97). Third, beauty is discussed in this context in ways that suggest that purely formal beauty is intended: Moore talks about "exquisite proportions" and of having parts that don't "jar," where we primarily use "jar" to talk about *discordant sensations* rather than *dysfunctional parts*.

Some philosophers, then, have been optimistic about the moral standing of environmental entities and the role of non-functional beauty in relation to this. Their views suggest that in addition to the psychological grounds for moral standing, the non-functional beauty of entities is a non-anthropocentric source of moral standing, and that, as a result, the range of environmental entities that have intrinsic moral standing includes both living and non-living entities.

Such appeals to non-functional beauty have since been largely disregarded by their successors, who favour views which are similar to the earlier, and more pessimistic, views of the relationship between non-functional beauty and moral standing, as noted by Kant and as espoused by Sidgwick.

For the optimist's successors, it is difficult to see how non-functional beauty could have value independently of the kind of creatures that can feel pleasure or choose the appreciation of beauty as an end, or how non-functional beauty could confer a greater amount of moral standing than any other source of the same magnitude of pleasure. In his formulation of Routley's last person thought experiment, Jamieson notes that "what [the last man] destroys is of great beauty and majesty, but... it doesn't matter, since it will never be appreciated or valued by anyone" (Jamieson, 2008: 74; see also Lee, 1995: 220); and Passmore suggests that the aesthetic appreciation of nature, and particularly the solitary appreciation of wildernesses, is simply one among many kinds of enjoyment, and that it is far from clear that it should be given "special consideration" among such sources (1974: 105–111).⁹ According to the pessimists, then, non-functional beauty can't furnish things with intrinsic moral standing; rather, non-functional beauty is merely an anthropocentric source of moral standing, on a par with, for example, the way that the deliciousness of some plants confers on them a weak moral standing.

⁹ Such pessimistic views seem to naturally fall out of the idea that beauty is the disposition to please, perhaps disinterestedly. It is not obvious, however, as has sometimes been suggested by Cooper (1998) and Rolston (2002), that such an account of beauty can be thought to warrant the view that non-functional beauty confers intrinsic moral standing merely by emphasising its dispositional nature. Even if non-functional beauty exists in the world as the *disposition* that some objects have to please disinterestedly, and so would remain even if living things disappeared or were destroyed, it nonetheless seems plausible to think that its *value as such* would evaporate, as this at least is arguably dependent on the presence of human perceivers.

Such is the cynicism for non-functional beauty among Moore and Routley's successors that they even reject the claim that non-functional beauty plays a lesser role in helping us to detect and preserve those things that have moral standing for reasons that are independent of their non-functional beauty. Their objections go as follows. In the case of humans, non-functional beauty tends to produce immoral behaviours by causing us to focus on human appearances, which are morally irrelevant and worse superficial and lead to objectification, rather than the features that ground moral standing in the case of humans—such as sentience or the capacity to freely choose ends, or related features such as the possession of interests. So too it is in the case of the non-animal environment, at least to the extent that non-animal environmental entities have features that might be able to ground their moral standing—such as, for example, having 'interests' in the sense that things can be said to *go well* or *badly* for them (see the discussion below; Loftis, 2003; see also Parsons & Carlson, 2008: 116–19 for a similar objection). And even if non-functional beauty currently happened to motivate us to detect such moral-standing-conferring features and to protect the environmental entities that possess them, it would do this in a manner that is too fragile to be important: as Lee (1995: 220) suggests "given its proneness to variations and shifts in taste, [non-functional beauty] is too insecure a basis on which to rest environmental protection" (see also Passmore, 1974: 109; and Hargrove, 1989: 185, for similar objections).

Indeed, even environmental ethicists such as Rolston (2002), Hettinger (2005), Lintott (2006) and Parsons and Carlson (2008), who have wished to defend beauty more broadly in light of such criticisms, tend to claim that these objections result from a myopic focus on non-functional beauty, to the exclusion of functional beauty.

They suggest an alternative way to account for our intuitions to isolation-style thought experiments, which follows those environmental ethicists who argue, controversially (see e.g., Feinberg, 1980; and Simmons, 2010), that there is a third, weaker, source of moral standing in addition to those based on the possession of psychological capacities: namely, the possession of 'interests' or 'wellbeing' in a certain sense (see e.g., Taylor, 1981, 1986; and Goodpaster, 1978). For supporters of this account of moral standing, environmental entities which have a natural teleology, such as plants, have moral standing to the extent that they can be said to have 'interests' in the sense that things can go well or badly for them, even if they do not themselves care about these interests.

Based on this way of grounding the moral standing of the environment, those environmental ethicists who have wished to rehabilitate beauty by shifting the focus from non-functional to functional beauty suggest that in discovering an environmental entity's functional beauty—that is, in discovering the way that features of an entity's appearance achieve certain functions—we often come to discover, and care about, the moral-standing-conferring interests of those entities. Take the case of the pitcher plant, *Nepenthes hemsleyana*. The part of the plant that connects the chamber of the pitcher to the lid is wide, elongated and curved. This allows the plant to better reflect echolocation signals, attracting Hardwicke's woolly bats to roost inside its chamber, and deposit nitrogen-rich faeces in the pitcher, which is essential for the production of chlorophyll (required for photosynthesis) and amino acids

(required for growth), among other things (Grafe, et al., 2011; Schöner et al., 2015). As such, in discovering this aspect of the plant's functional beauty, we are led to its interest to generate energy and grow, and in taking pleasure in this functional beauty, we are likely to come to care for such interests, since this beauty is dependent on these interests. Given the connection between functional beauty and interests, on the interest-based account of moral standing, a last man who destroyed entities which are functionally beautiful, without good cause, would be doing something wrong.

While this turn away from non-functional beauty to functional beauty amounts to a tactical retreat from the attempt to justify the idea that inanimate environmental entities have intrinsic moral standing (though cf. Parsons & Carlson, 2008: 124–30), supporters of this turn note that it avoids the objections levelled against non-functional beauty: since there is a fact of the matter about how well an organism's appearance meets its proper functions, functional beauty is hardly fragile; and since an organism's functional beauty is partly determined by its proper functions, which themselves tend to be connected to an organism's interests, functional beauty may motivate us to detect and protect an organism's interests, and so functional beauty is hardly normatively irrelevant, or worse, superficial and likely to lead to objectification.

Even where non-functional beauty isn't entirely eschewed by contemporary environmental ethicists, they tend to follow Plato (c. 370 BC/[2010]: 201b) in suggesting that non-functional beauty is valuable insofar as it is a *handmaiden* beauty to these less obvious, but more normatively significant, functional beauties of the environment; despite the fact that this will tend to lead us to act in an unjust manner by leading us to favour non-functionally beautiful entities. Rolston (2002: 129), for example, argues that he would be wrong not to appreciate his wife's non-functional beauty since this "might give [him] entrance to her further merits" and that "*mutatis mutandis*, our relations with sandhill cranes and sequoia trees might be similar."

4 Why are the existing views wrong? And what role does non-functional beauty truly play in the moral standing of the environment?

I propose that these accounts of the roles of beauty in the moral standing of the environment are mistaken in important ways, particularly as they concern non-functional beauty. Contra the optimists about non-functional beauty, such as Moore (1903/[1922]) and Routley (1973), I argue that the non-functional beauty of non-animal environmental entities does not confer intrinsic moral standing, and that the intuitions that they do stem in part from *false* representations of the beautiful entity as animated. In making this argument I focus especially on plants.

More specifically, I argue that the experience of beauty generally tends to give rise to a special affective state, which I call 'ecstasy' following Marghanita Laski (1961), and that this state tends to give rise to false mental representations of animism in the form of sentience. As a result, since things with sentience are thought to have intrinsic moral standing, I propose that experiences of the non-

functional beauty of environmental entities tend to pump the intuition that these things have intrinsic moral standing.

Contra the pessimists about non-functional beauty, such as Lee (1995), Loftis (2003), Rolston (2002), and Passmore (1974) I argue for two claims. First, rather than leading us towards or away from the *existing* features of non-animal biological entities that may in themselves confer some degree of moral standing, such as their interests, the non-functional beauty of such objects *generates false representations* of such features by leading to representations of animation and in turn moral standing. Second, the fact that non-functional beauty tends to give rise to such an affective state also explains why the anthropocentric value of non-beauty is greater than merely providing pleasure: non-functional beauty tends to be a source of experiences that are elevated, insofar as they express higher capabilities and orient us towards others. As a result, beauty both exercises some of the sensibilities that play a role in our moral lives, and is a source of experiences that are subjectively more valuable than mere experiences of pleasure.

In the remainder of this paper, I argue for these claims on a priori grounds, with reference to existing findings, and by presenting the results of two novel experiments.

4.1 Does the experience of beauty lead to false representations of sentience, and intrinsic moral standing? And if so, why?

Why think that the experience of non-functional beauty might lead to false representations of animism in the form of sentience? And why think that such representations of sentience will tend to lead to attributions of moral standing?

With regard to first question, a range of philosophers from different periods and traditions—from the platonists to the romantics, and from modern European philosophers to some contemporary analytic aestheticians—have implied that the experience of beauty tends to lead us to represent beautiful objects as being animated, in many cases focusing on non-functional beauty.

Among analytic aestheticians, Ronald Hepburn (1966: 294) defends such a view, in pointing out a number of ways in which the experience of natural beauty—including its non-functional beauty—has the character of “tending towards an ideal ‘oneness with nature’ or as leading to the disclosure of ‘unity’ in nature.” Hepburn notes that this unity can take a number of different, though frequently co-occurring, forms in the experience of the beauties of nature: he notes that the unity is sometimes perceptual in nature, as when we see the sensory content of our experiences—such as colours and shapes—hanging together harmoniously. At yet other times, we simply have a background sense of “reconciliation, suspension of conflict, and of being in that sense at one” with the beautiful object (Hepburn, 1966: 297).

Certain modern European philosophers have characterised the experience of non-functional beauty in similar ways, and have made the way in which the experience tends toward attributions of sentience more explicit. According to their most charitable interpreters, Adorno and Horkheimer (1969/[2002]) claim that positivistic conceptions of natural phenomena—including mechanistic and teleological

descriptions—*de-animate* natural phenomena (Bernstein, 2001: 192). For Adorno (1970/[2004]), the solution to this disenchantment is to appreciate the non-functional beauty of natural objects. This appreciation reintroduces the sense of mystery that positivistic conceptions strip out, in the sense of suggesting the presence of something beyond itself—something that is largely ineffable, but which is capable of suffering and which, like the mythical explanations of natural phenomena in terms of agents that the positivism of the enlightenment replaced, is not fully deterministic (Stone, 2006: 244–5).¹⁰

Partially echoing Adorno and Horkheimer’s analysis, Næss (1989: 173–9, 189–90) argues that engaging with the beauty of nature gives rise to a state, which Næss calls ‘friluftsliv,’ in which we “identify” with other biotic beings, and thereby attain a sense of unity with them, a “widening,” “deepening,” and “realising” of the self, and come to “care” for them. This state arises when we appreciate nature without “derob[ing] nature as such of its sensory diversity, and assert[ing] that it is really colourless” by thinking about it purely mechanistically or instrumentally.

Largely independently of this philosophical work, and focusing primarily on *moral* beauty rather than the non-functional beauty of natural objects (though see Strick & van Soolingen, 2018, for an exception), psychologists have investigated this unitive, and sometimes plaintive, state, which they variously call ‘elevation,’ ‘being moved,’ and ‘kama muta.’ These investigations have shown that this state is paradigmatically characterised by, for example, feeling uplifted, relaxed, and inspired, having a warm or glowing feeling in the chest, getting chocked up, chills, feeling at one with world, and wanting to be morally better (e.g., Landis et al., 2009, Algoe & Haidt, 2009; Zickfeld et al., 2018; Zickfeld et al., 2019; see also Doran, 2022a). Indeed, there is some evidence that such a state might lead to the attribution of mental capacities that are linked to sentience, at least in the context of moral beauty. Feeling this state in response to witnessing morally beautiful acts has been shown to lead to greater humanisation of the individuals undertaking those beautiful actions (Blomster et al., 2020), and having the capacity to feel affective states, and in particular to feel second-order affective states (such as the capacity for pride, and hope), has been shown to be thought to be characteristic of what it is to be human (e.g., Demoulin et al., 2004).

¹⁰ There are other accounts of how beauty and animacy might be connected. Some, such as Hegel (1835/[1975]) and Ruskin (1843-60/[1907]), have claimed, for example, that at least some of the properties that realise beauty are directly linked to perceptions of animacy. According to Ruskin’s theory of ‘vital beauty,’ the appearance of being animated in the sense of exhibiting “power” and seeming “capable of most quick and joyous sensation” is beautiful. And for Hegel, true beauty lies in the sensuous manifestation of a soul operating freely. Others have connected beauty, in the form of cuteness, to mental state attributions: The beauty of mammals has been shown to be predicted by their approximation to the baby schema (Landová, et al., 2018), approximating the baby schema has been suggested to lead to attribution of the capacity for sentience (Lorenz, 1950/[1980]), and beautiful animals are regarded as being deserving of greater protection than ugly animals (Gunnthorsdottir, 2001; Rozin & Ruby, 2020). I do not discuss such views at length here, as it is not clear that they apply to beauty generally—for example, few beautiful non-animal entities approximate the baby schema. Indeed, many commentators of Hegel (such as Adorno, 1970/[1997]: e.g., 98) have thought that Hegel thinks that non-human nature cannot be beautiful because it does not have a soul to manifest (for discussion, see Peters, 2015, esp. Ch. 2).

What is it about the experience of beauty that might tend towards sentience attribution, particularly in cases of non-animal environmental entities? For all kinds of non-animal environmental entities, including plants and landscapes, those components of the response to beauty that involve transformation of the self in some manner are likely to be partly responsible for sentience attributions. More specifically, two components seem to be especially likely to tend in the direction of animacy. First, feelings that are akin to empathic concern or compassion seem likely to lead to the inference of the presence of something that is fitting of those states—namely, the capacity to suffer.¹¹ And second, the sense that we are unified with the beautiful object, and perhaps with a larger reality more generally seems likely to tend to lead us to mentally transfer our own capacities for mental states to the beautiful objects themselves.

In the case of plants, specifically, rather than abiotic environmental entities, the experience of beauty might tend towards animism for another reason. There is evidence that people ordinarily intuitively represent plants as being sentient, and override these intuitive judgements through deliberative processes when they assert that plants are not sentient. Arico et al. (2011) found that participants exhibit a delay in denying that plants can feel pain or feel happy, but not when denying that artefacts (such as vehicles), or abiotic natural entities (such as clouds), have the capacity for such states. Arico and colleagues interpret this as indicating that people *automatically* represent plants as being sentient, and have to overcome these intuitive representations in order to answer accurately. There is also some evidence to suggest that feeling positive affect might lead to greater endorsement of intuitive representations and of currently accessible information (Clore et al., 2001; King et al., 2007; King & Hicks, 2009; though for dissenting evidence, see Isen, 2008). With this in mind, we might expect that the ecstatic experience of beauty—as a positively-valenced response—might lead people to fail to overcome their intuitive representations of plants as sentient.

Why think that such representations of sentience, specifically, among psychological capacities, will tend to lead to attributions of moral standing? As noted in Sect. 3, there are two main psychological capacities that are thought to be grounds for having moral standing *as a matter of metaphysical fact*—namely, the capacity for sentience, and the capacity to reason and freely choose ends. However, evidence from psychology and experimental philosophy suggests that, *pre-theoretically* at least, we tend to *think* that only sentience is relevant for moral standing. Pre-theoretically, we tend to divide mental states into those that are related to agency and those that are related to sentience (Gray et al., 2007), and we tend to think that,

¹¹ This idea has some resemblance to the idea of dyadic completion; see Gray et al. (2014).

by and large, only mental states that contribute towards sentience are relevant to moral standing (Jack & Robbins, 2012; Piazza et al., 2014).¹²

Collectively, this work suggests that appreciation of the non-functional beauty of environmental entities may give rise to representations of animacy, and specifically, sentience, and in turn, representations of intrinsic moral standing. Since these representations of sentience are likely to be false in the case of non-animal environmental entities, the intuitions that non-animal entities have intrinsic moral standing due to their beauty should be discarded to the extent that they arise from such representations (as discussed at greater length in Sect. 5).

Notwithstanding this philosophical and empirical work, some may remain sceptical on a number of grounds. With exceptions such as those discussed above, the idea that beauty gives rise to a unitive state has *largely* been eschewed by contemporary analytic philosophers, who tend to be squeamish about its grand and quasi-mystical language (Hepburn, 1966: 294, see also Riggles, 2016: 2); and empirical evidence concerning this state has largely concerned *moral* beauty. As such, it may be doubted that the non-functional beauty of non-animal environmental entities does indeed tend to give rise to such a state, and that such a state leads to representations of animacy, and as a result, moral standing. To help assuage such concerns, and to begin to cast light on the aspects of the experience that lead to representations of animation, a series of two studies was conducted. As a first step to investigate this relationship, the studies reported here examined the relationship between the experience of non-functional beauty and sentience representations in plants, as it is easier to test sentience representations of plants than of abiotic environmental entities, but future work should address sentience representations of the latter. In addition to the full description of the studies and findings offered below, a briefer summary is provided at the end of Sects. 4.1.1 and 4.1.2.

¹² There is mixed empirical support for the idea that beliefs about an entity's agency contribute to an entity's perceived moral standing (see e.g., Jack & Robbins, 2012; Piazza et al., 2014). The issue is difficult to settle: First, agency may have high cue validity for sentience, since there is evidence of bidirectional causal relationships between attributions of agency and sentience (e.g. Nahmias et al., 2020). Second, when agency and sentience are *stipulatively* pulled apart in experiments, it has proved difficult to devise a description of agency that is not confounded with sentience. Jack and Robbins (2012) and Piazza et al. (2014) used vignettes that describe an entity with agency as one which has the capacity for intelligence and inquisitiveness, where inquisitiveness clearly suggests the capacity for a state that is hedonically-valenced—namely, interest. As such, if beauty gives rise to animistic representations in the form of attributions of agency, it is not clear whether beauty should be expected to affect perceived moral standing to that extent. Irrespective of whether an entity's agency per se is thought to affect its moral standing, should we even expect a relationship between beauty and attributions of agency? Perhaps so. As we have seen, Hegel (1835/[1975]), for example, claims that true beauty is just the sensuous manifestation of a soul operating freely (i.e. an agent); and so this allows for the possibility that, although non-human nature cannot be *truly* beautiful since it has no freedom to manifest, it may at least *appear* to be so. In the remainder of the paper, I set aside the possibility that aesthetic appreciation might be connected to animation *qua* agency, and perceived moral standing as a result. Thanks to a reviewer for pressing me to consider the relationship between beauty and animism in Hegel.

4.1.1 Study 1—Does the appreciation of non-functional beauty lead to representations of animacy in plants?

To begin to test the idea that the experience of the non-functional beauty of non-animal environmental entities gives rise to representations of animation, and specifically sentience, a study was conducted focusing on non-functionally beautiful and ugly plants. Ethical approval for all of the studies reported here was granted by the University of Sheffield. In the interests of conducting transparent and replicable experimental philosophy, the supplementary materials are available on the Open Science Framework (<https://doi.org/10.17605/OSF.IO/HU8AD>).

Materials & method Participants were randomly assigned to an ugliness or beauty condition. In each condition, participants were presented with five ugly or beautiful plants. These were selected on the basis of two phases of pre-testing of 144 images of plants selected by the author (total N = 196, further details can be found in the *supplementary materials*). Five of the images of the ugliest plants—including images of two kinds of pitcher plant, Cretan birthwort, ‘vegetable sheep,’ and welwitschia—and five images of the most beautiful plants—including images of a dahlia, crocus, hydrangea and two kinds of peony—were selected for the main study. Participants in the beauty condition were presented with the five beautiful plants and asked to pick the most beautiful/least ugly, and participants in the ugliness condition were presented with the five ugly plants and were asked to select the ugliest/least beautiful. Participants were then presented with the image they selected once again, and were asked to focus on the plant’s beauty or ugliness, rate its beauty/ugliness, and experience it as such (full details are provided in the *supplementary materials*).

Participants were asked to report their experience of the beauty or ugliness of the plant that they viewed on 21 scales. Participants were presented with two scales related to generic pleasant or unpleasant feelings first, in order to prevent participants from using the scales that refer to determinate ways of being pleasant or unpleasant to record the mere positive valence of their experience (for a similar method, see Doran, 2021), followed by 19 randomly ordered scales. Five scales aimed to capture components of the disgust response, thirteen scales aimed to capture components of the ecstasy response, and one scale aimed to measure morbid fascination.

The scales intended to capture the components of ecstasy in addition to its hedonic valence were adapted from existing measures of the constructs ‘kama muta’ and ‘elevation’ (e.g., Algoe & Haidt, 2009; Zickfeld et al., 2018, 2019), and drew on a wide range of descriptions of the phenomenology of the experience of beauty (e.g., Plato, c. 370 BC/[1875]; Bell, 1914; Laski, 1961; Beardsley, 1981). The components of the response measured include physiological changes such as chills, goosebumps, opening up of the chest, and a lump in the throat and moist eyes, a sense of feelings of tenderness, compassion, unity, inspiration, calmness, revitalisation and upliftment, thoughts such as a sense of the world being perfect or of people being good, and action tendencies to be a good person in some manner.

The scales intended to capture the components of disgust in addition to its hedonic valence were adapted from existing measures of state disgust (e.g., Bates &

Chadwick, 2015), drawing on characterisations of the state in the psychological and philosophical literature (e.g., Rozin et al., 2008; Doran, 2022c). The components of the response measured include bodily changes related to the upper gastrointestinal tract, such as a sense of wanting to retch, gag, or throw up; bodily changes related to the lower gastrointestinal tract, such as nausea and of one's stomach churning; feelings of disgust, revulsion and of being 'grossed out'; and action tendencies to avoid the offending object, especially as related to contamination (further details on the items are provided in the *supplementary materials*).

Disgust was measured to control for the possibility that experiences of ugliness might lead to de-animation rather than experiences of beauty leading to animation. There are some grounds for suspecting that ugliness might lead to de-animation: Ugliness has been argued to be constituted by the disposition to disgust (see e.g., Moore, 1903/[1922]: 84–85, and Doran, 2022b), and disgust is thought to be the functional opposite of 'elevation' (Haidt, 2000) and has been shown to lead to dehumanisation (e.g., Buckels & Trapnell, 2013). Morbid fascination was measured to control for the possibility that feeling *bewitched* by ugliness might lead to representing the ugly object as animated in some fashion.

Once participants had reported what their experience of the plant's beauty or ugliness was like, participants were told that shortly after the photograph of the plant was taken, the plant was consumed by locusts. Participants were asked to what extent they believed that the plant would have felt pain whilst being consumed. Finally, participants completed a measure of their dispositional sensitivity to beauty (Diessner et al., 2008) to begin to test the validity (in the psychological and not the philosophical sense) of the ecstasy measure, and attention checks to detect any participant satisficing.

It is likely that participants judged and appreciated the images of the plants in terms of their non-functional beauty, rather than their functional beauty. As noted in Sect. 2, detection and appreciation of many of the functional beauties of biological entities requires the deployment of knowledge of the entity's adaptations—and in many cases such knowledge cannot be gleaned from mere naïve viewing (particularly from isolated and stationary appearances), and even when such knowledge is acquired, it may not be deployed. Moreover, to the extent that the appearances of the plants that were selected *are* able give some indication of their possible functions to naïve perceivers, it's the case that many of the ugly plants selected, rather than the beautiful plants, appear to be well-adapted. Many of the ugly plants—such as the monkey cup and two types of pitcher plants—have mouth-like structures that appear to be well-adapted to catching flying insects; whereas it is far from obvious how the beautiful plants, which tend to feature flowers, are well-adapted to become pollinated (even if, indeed, one has any awareness that attracting pollinators tends to be the adaptive function of flowers). Yet the ugly plants selected were judged to be very ugly in all of the studies, suggesting that participants were not judging and appreciating the plants based on their functional beauty. For these reasons, it is unlikely that participants judged and appreciated the plants based on their functional beauty, or perceptions thereof. By contrast, as was also noted in Sect. 2, detection and appreciation of non-functional beauties depends on the operation of psychological capacities which are innate, and which tend to operate in

an automatic manner; and so it is highly likely that participants' responses were sensitive to this kind of beauty.¹³

318 participants were recruited online from Prolific in the US to take part, with the aim of obtaining a sample of approximately 300 (for justification of the sample size, see the *supplementary materials*). 16 participants failed the attention checks and were excluded from the analysis leaving a final sample of 302 (56% females, mean age = 32, SD = 11).

Results, Principal components analysis To identify the components underlying the experience items that were given to participants, a principal component analysis was run. Principal component analysis is a process that allows us to determine which of the items tend to cluster together, and so can help us to determine whether responses to the items are being driven by a smaller set of underlying components that cannot be directly measured by a single item. A principal component analysis using oblique rotation (direct oblimin) was conducted on all of the experience scales, with the exception of the scale measuring morbid fascination as this scale was unsuitable for inclusion as it had very small correlations with all other scales. An oblique rotation was selected as it was anticipated that some of the components that emerged would be negatively related to one another, given that it is thought that elevation, which is related to what I term 'ecstasy,' is thought to be the opposite of disgust (e.g., Haidt, 2000). The point of inflexion on the scree plot, and Kaiser's criterion of retaining factors that exceed 1 both indicated a two-component solution. As expected, one component included all of the ecstasy scales, and clearly indicated an underlying ecstasy component, and the second component included all of the disgust scales and the displeasure scale and clearly represented an underlying disgust component. The pleasure scale and the chills and goosebumps scale loaded on both components (with the threshold for loading set at 0.4, Stevens, 2002), and so the PCA was re-run without these variables, yielding a similar result (full details of all PCAs reported, including loadings, eigenvalues, % of variance explained, goodness-of-fit indicators, and correlations between components, are available in the supplementary materials). Reliability analyses were run to assess how consistent the scales that loaded onto the ecstasy component and disgust component were. Both the set of items that loaded onto the ecstasy component and the set of items that loaded onto the disgust component had Cronbach's alphas of 0.95, indicating that they are extremely consistent,¹⁴ and so overall ecstasy and disgust scales were composed by taking the mean of the items in each set.

Mediation analysis To test whether the aesthetic character of the plants affected representations of sentience via the types of experience measured—that is, to test

¹³ Although I do not discuss at length in this paper the pessimists' various claims that non-functional beauty may be a poor basis for grounding the moral standing of the environment based on the ostensive variability of taste, such as Passmore's claim that people in the future may cease to find natural entities beautiful altogether (1974: 109, see also Sect. 3), the fact that detection of non-functional beauty depends on capacities that are shared and whose operation is automatic suggests that the significance of such worries may be overstated where they concern non-functional beauty (for further considerations that count against variability in the tendency to appreciate, as well as detect, non-functional beauty, see f.n. 17).

¹⁴ Only deletion of the lump in throat and tears in eyes item would have improved the reliability of the ecstasy scale, but as the improvement was negligible (.003), the item was retained, nonetheless.

whether the condition (being presented with a beautiful versus an ugly plant) caused changes in the participants' judgements of beauty, which in turn caused changes in the participants' experiences, and which themselves caused changes in participants' attributions of sentience—a multiple mediation analysis was conducted using ordinary least squares path analysis (Hayes, 2013, see Fig. 1), with aesthetic

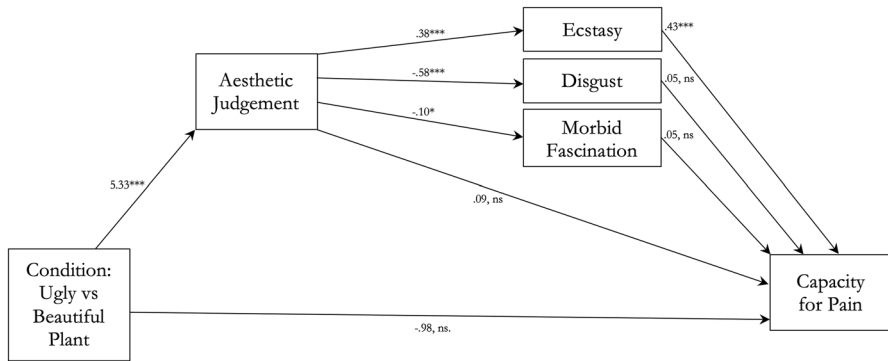


Fig. 1 A mediation model showing the effect of the condition on judgements of sentience via the aesthetic judgement made and experiences of ecstasy, disgust and morbid fascination, where $*** = p < .001$, $** = p < .01$, $* = p < .05$, $† = p < .1$, and ns = not significant. Each coefficient in this figure is an estimate of a one-unit change in the variable concerned on another variable (in terms of the scales used to measure these variables). So, for example, the difference between the ugliness and beauty condition was estimated to result in a 5.33 change in the aesthetic judgement variable; and every one-unit increase in the ecstasy scale was estimated to result in a .43 increase in the sentience judgement scale

judgement, ecstasy, disgust, and morbid fascination as mediators. Bias-corrected bootstrap confidence intervals for the effect of condition on judgements of sentience indirectly via the aesthetic judgement made and the experiences of ecstasy had in turn, indicate that this indirect effect was significant at the 0.05 level (0.86, 95% CI [0.39, 1.35]). There were no other indirect or direct effects. That is to say, these results suggest that, compared to participants who viewed ugly plants, participants who viewed beautiful plants tended to attribute sentience to the plants to a greater degree to the extent that they made more positive aesthetic judgements of the plant, and in turn experienced greater feelings of ecstasy in response; and not to the extent that they experienced feelings of disgust and morbid fascination.

Exploring the structure of ecstasy To determine what it is about ecstasy that affects representations of sentience, a further principal component analysis was conducted with more liberal thresholds for component retention, in line with Joliffe's criteria for retention (2002). All of the items that were intended to capture the experience of ecstasy were included in the analysis. A three-component solution emerged as the most optimal. Although the third component had an eigenvalue that was just below Joliffe (2002)'s recommendation of 0.7, the resulting set of components had a clear pattern of loadings, and was theoretically meaningful, and so was retained. The item measuring feeling energised and revitalised loaded onto two components (with the threshold for cross-loading as 0.4) and so this item was excluded and the analysis re-run. The most important component clearly included

items that referred to items measuring transformational aspects of the experience of beauty, either where the self was transcended, one was oriented towards others, or one gained knowledge or meaning. A second component clearly measured rarefied and intense bodily experiences such as feeling chills, piloerection, a lump in the throat and tears in one’s eyes. The third component clearly referred to the self-focused and pleasant aspects of the experience of beauty, and included feeling uplifted, relaxed, and pleased. These components correlated moderately to strongly with one another, suggesting that they may indicate different aspects of the same underlying construct. Reliability analyses were run to assess how consistent the scales that loaded onto the different components were. All of the sets of scales had adequate-to-excellent reliability: with Cronbach’s alphas of 0.79 (for the rarefied sensations scales), 0.93 (for the transformational scales), and 0.91 (for the hedonic scales). Therefore, sub-scales of ecstasy were composed by taking the mean of the items in each set.

Mediation analysis with subscales of ecstasy To examine whether the effect of ecstasy might depend on the particular aspect of the experience of ecstasy, an additional multiple mediation analysis was conducted using ordinary least squares path analysis with aesthetic judgement, the subscales of ecstasy, and disgust as mediators (see Fig. 2).¹⁵ Bias-corrected bootstrap confidence intervals for the effect

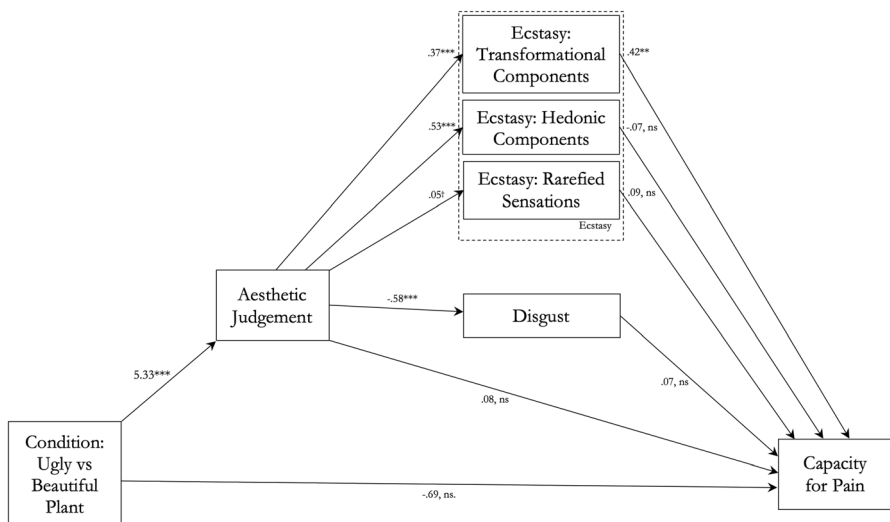


Fig. 2 A mediation model showing the effect of the condition on judgements of sentience via the aesthetic judgement made and experiences of disgust and the different components of ecstasy, where *** = $p < .001$, ** = $p < .01$, * = $p < .05$, † = $p < .1$, and ns = not significant

of condition on judgements of sentience indirectly via the aesthetic judgement made and the experiences of transformational ecstasy had in turn, indicate that this

¹⁵ Collinearity statistics indicated that there was not problematic levels of multicollinearity between the ecstasy scales, according to the conservative criteria of a VIF > 5 or a Tolerance Index < .2 (Chatterjee & Simonoff, 2013). The same was true of study 2.

indirect effect was significant at the 0.05 level (0.81, 95% CI [0.23, 1.44]). There were no other indirect or direct effects of condition on sentience judgements. That is to say, these results suggest that, compared to participants who viewed ugly plants, participants who viewed beautiful plants tended to attribute sentience to the plants to a greater degree to the extent that they made more positive aesthetic judgements of the plant, and in turn experienced greater feelings of the transformational component of the ecstasy response; and not to the extent that they experienced feelings of disgust, the hedonic component of the ecstasy response, or the rarefied sensations component of the ecstasy response.

Summary & discussion In this study, participants were either presented with a non-functionally ugly or beautiful plant and asked to appreciate it as such, and were then asked to judge to what extent the plant could feel pain. The results indicate that the beautiful plants were judged to be more sentient than the ugly plants to the extent that the beautiful plants tended to give rise to the transformational component of the emotion that is sometimes called ‘ecstasy’—where one feels, for example, tender feelings, and feelings of being moved, inspired, of somehow identifying or being unified with the object of this feeling—but not to the extent that they gave rise to the merely pleasant and self-focused component of this emotion—where one feels, for example, pleased, relaxed, and uplifted.¹⁶

This evidence provides support for the views of those, such as Hepburn, Næss and Adorno and Horkheimer (as discussed in Sect. 4.1), who suggest that the appreciation of non-functional beauty leads to the state that I label ‘ecstasy,’¹⁷ and in turn leads to attributions of sentience to the object of that emotion. Moreover, with respect to the possible mechanisms that might explain why ecstasy leads to

¹⁶ Strictly speaking, we are only warranted to say that this provides strong evidence for reasons that will be familiar from the philosophy of causation. We do not observe causation directly, but rather infer a causal relationship between two events where one event precedes another, the two events covary with one another, and all likely deflationary explanations have been eliminated (such as the possibility that there is a third factor that causes the two events). In this case, we can be confident that the plants did in fact cause changes in the outcome variables because participants were *randomly assigned* to the different conditions (thus making it less likely that a third factor is responsible for the changes observed). We can also be confident that the relevant variables covary in a way which is consistent with causation (as the analyses reported here indicate). And since we have good theoretical reasons to think that feelings of ecstasy cause attributions of sentience (see Sect. 4), it is likely that feelings of ecstasy cause attributions of sentience, rather than attributions of sentience causing feelings of ecstasy; although this remains a possibility, especially given Ruskin’s views on the relationship between beauty and animism (see f.n. 10), and evidence that people automatically represent plants as sentient (Arico et al., 2011).

¹⁷ An interesting further question is why beauty tends to give rise to a state of this kind. A reviewer for this journal helpfully suggests that one possible explanation for why beauty may tend to lead to aspects of this experience might be developed from Riggle (2016). Riggle suggests that “beauty can have a kind of life- or self-transforming import” (5) or “strong personal import” (7) when we see it as expressing “personal values or ideals” (13). In this case, insofar as the non-functional beauty of the plants might consist in an order or unity in their appearances, this might be seen to express personal ideals of “order” and “unity,” perhaps including broader, moral, senses of these ideals, and as a result be experienced as being important and meaningful. Doran’s (2021) work on moral-aesthetic analogues is also likely to be important in this context. Another possible explanation, which is consonant with the idea that we transfer our mental capacities onto the beautiful object, is provided by Doran (2022a), who suggests that we might feel our way into beauty when we experience it as such, in light of the complementarity between the features of the ecstasy response and the beautiful properties that tend to elicit this response.

attributions of sentience (as also discussed in Sect. 4.1), this evidence is consistent with the idea that ecstasy does this because it tends to involve feelings of identification and tenderness which, respectively, lead to the transference of our mental capacities to the object of this emotion and to the attribution of capacities (such as sentience) that warrant such feelings. Moreover, these findings are not what would be expected if ecstasy leads to such representations because it involves pleasant feelings which facilitate responding in line with automatic representations of the plant being sentient. Since only the latter possible explanation is specific to plants, this evidence may also suggest that the appreciation of the non-functional beauty of abiotic environmental entities will lead to attributions of sentience to those kinds of entities too.

4.1.2 Study 2—Does the appreciation of non-functional beauty lead to representations of animacy and, in turn, intrinsic moral standing?

A second study was conducted to replicate the findings of study 1, and to test whether the representations of sentience that arise from experiences of ecstasy in turn lead to representations of intrinsic moral standing.

Materials & method The method was similar to study one, with two main differences (for a full list of the changes, see the *supplementary materials*). In light of the analyses from study 1, a number of changes to the scales measuring participants' experiences were made. For example, the scale measuring upliftment and loss of desires was split to mitigate the possibility that this scale might confound transformational constructs (such as loss of desires and worries, which might be interpreted in a transformational rather than hedonic way) with more clearly hedonic and bodily constructs (such as feeling light). The second major change was that, after participants were asked to indicate to what extent they thought that the plant would feel pain when being eaten by locusts, they were asked to imagine the following scenario:

A scientist called Fred has invented a device that creates a special forcefield around the person holding it, which protects them from extreme forces. One day Fred is out in the wilderness testing the device when a catastrophic accident occurs on the other side of the world—a huge explosion. Fred, and the plant pictured above, happened to be inside the forcefield at the time of the explosion. With the exception of Fred and the plant, all other life in the universe is destroyed. Fred checks the scientific instruments he has with him, and what they tell him is clear: without the protection of the device, no life in the universe could possibly have survived. Feeling despair and anger, Fred pulls the plant out of the ground, and shreds it with his hands. Afterwards, Fred considers whether he did something wrong when he destroyed the plant and concludes that he probably didn't. He notes that he will die soon, and that once he does, there will be no living thing in the universe that could have benefitted from the plant in any way if he had stopped himself from destroying it. No living thing to eat it, or even look at it, or imagine it.

Participants were asked whether, in destroying the plant, Fred did something wrong.

This thought experiment is similar to those proposed by Moore and Routley, but attempts to defuse a number of potential weaknesses in their formulations. Jamieson (2008) cautions that the conclusions that can be drawn from isolation thought experiments can be compromised if there are reasons other than the destroyed entity's putative moral standing to think that Fred's actions are impermissible. Noting one such factor in his own formulation, Jamieson writes that "Fred would have to be a really arrogant and self-important jerk to destroy an entire world for no reason whatsoever. What an amazing act of cosmic vandalism!" (75). For this reason, Fred is described in a manner that does not suggest a character vice that participants would readily want to condemn: Fred does not destroy the plant wantonly, or because he is arrogant, self-important, or malicious; his actions are, arguably, entirely understandable in the situation he is faced with.

A potentially more serious problem comes in successfully isolating the plant from all human evaluators (as suggested by Elliott, 1985). If the question about the impermissibility of Fred's action is answered by imagining a world free of living creatures both with or without the plant, and assessing which state seems intuitively worse, then this would be done from the perspective of an evaluator. As such, if Fred's action is indeed thought to be impermissible, it might only be thought to be so because of some value the plant has that depends on the evaluator imagining the two states of the world, rather than any value it possesses that is not dependent on such an evaluator. To help assuage this possibility, participants are reminded that no living creature would exist to benefit from the plant in any way, including by looking at it or imagining it.

323 participants were recruited on Prolific in the US (for the reasons why this sample size was selected, see the *supplementary materials*). 53 participants were excluded as they failed the attention checks, leaving 270 participants (60% females, mean age = 33, SD = 13).

Results, Principal components analysis A principal component analysis using oblique rotation (direct oblimin) was conducted on all of the experience items. The point of inflexion on the scree plot and Kaiser's criterion of retaining factors that exceed 1 both indicated a two-component solution. As per study 1, one component included all of the ecstasy items, and clearly indicated an underlying 'ecstasy' component, and the second component included all of the disgust items and the displeasure item and clearly represented an underlying 'disgust' component. The pleasure item loaded on both components, and so the PCA was re-run without this variable, yielding a similar result with an 'ecstasy' and 'disgust' component. Reliability analyses indicated that the set of scales that loaded onto the ecstasy component had a Cronbach's alpha of 0.97 and the set of scales that loaded onto the disgust component had a Cronbach's alpha of 0.95, indicating that both sets of

scales are extremely consistent, and so overall ecstasy and disgust scales were composed by taking the mean of the items in each set.¹⁸

Mediation analysis To test whether the aesthetic character of the plants affected representations of intrinsic moral standing via the types of experience measured and representations of sentience—that is, to test whether the condition (being presented with a beautiful versus an ugly plant) caused changes in the participants' judgements of beauty, which in turn caused changes in the participants' experiences, and which themselves caused changes in participants' attributions of sentience and representations of intrinsic moral standing—a multiple mediation analysis was conducted using ordinary least squares path analysis, with aesthetic judgement, ecstasy, disgust, and judgements of sentience as mediators (see Fig. 3). Bias-corrected bootstrap confidence intervals for the effect of condition on judgements of intrinsic moral

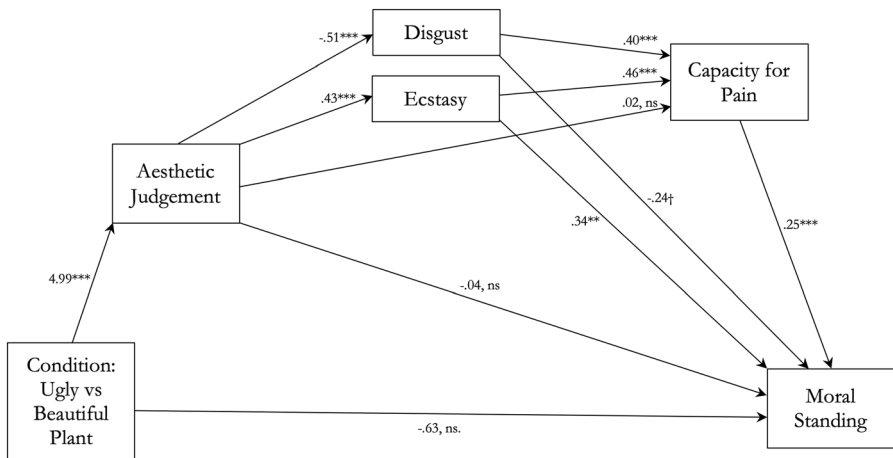


Fig. 3 A mediation model showing the effect of the condition on judgements of intrinsic moral standing via the aesthetic judgement made, experiences of ecstasy and disgust, and judgements of sentience, where *** = $p < .001$, ** = $p < .01$, * = $p < .05$, † = $p < .1$, and ns = not significant

standing indirectly via the aesthetic judgement made, experiences of ecstasy had, and judgements of sentience made in turn, indicate that this indirect effect was significant at the 0.05 level (0.25, 95% CI [0.10, 0.43]). There was an indirect effect of condition on intrinsic moral standing judgements via the aesthetic judgement made, experiences of disgust had, and judgements of sentience made in turn (-0.26, 95% CI [-0.48, -0.09]). There was also an indirect effect of condition on intrinsic moral standing via aesthetic judgements and experiences of ecstasy (0.73, CI [0.28, 1.18]). There were no other direct or indirect effects. That is to say, these results suggest that, compared to participants who viewed ugly plants, participants who viewed beautiful plants tended to attribute intrinsic moral standing to the plants to a greater degree to the extent that they made more positive aesthetic judgements of the plant, in turn experienced greater

¹⁸ Similar to study 1, only deletion of the rarefied bodily response items would have improved the reliability of the ecstasy scale, but as the improvement was negligible in each case (0.001 and 0.003), the items were retained nonetheless.

feelings of ecstasy in response, and in turn attributed greater sentence; and to the extent that they merely made more positive aesthetic judgements and in turn felt more ecstasy. These results also suggest that, compared to participants who viewed the beautiful plants, participants who viewed the ugly plants tended to attribute intrinsic moral standing to the plants to a greater degree to the extent that they made more negative aesthetic judgements of the plant, experienced greater feelings of disgust in response, and in turn attributed greater sentence to the plants.

Exploring the structure of ecstasy As per study 1, a further principal components analysis was conducted on all the items intended to capture the experience of ecstasy with more liberal thresholds for component retention. The same three-component structure from study 1 emerged. The components correlated moderately to strongly with one another, in the same manner as in study 1, which is consistent with them indicating different aspects of the same underlying construct. Reliability analyses indicated that all of the sets of scales had adequate-to-excellent reliability: with Cronbach's alphas of 0.71 (for the rarefied sensations scales), 0.95 (for the transformational scales), and 0.96 (for the hedonic scales).

Mediation analysis with subscales of ecstasy As per study 1, to examine whether the effect of ecstasy might depend on the particular aspect of the experience of ecstasy, an additional multiple mediation analysis was conducted using ordinary least squares path analysis with the subscales of ecstasy, disgust, and judgements of sentence as mediators (see Fig. 4). Bias-corrected bootstrap confidence intervals for

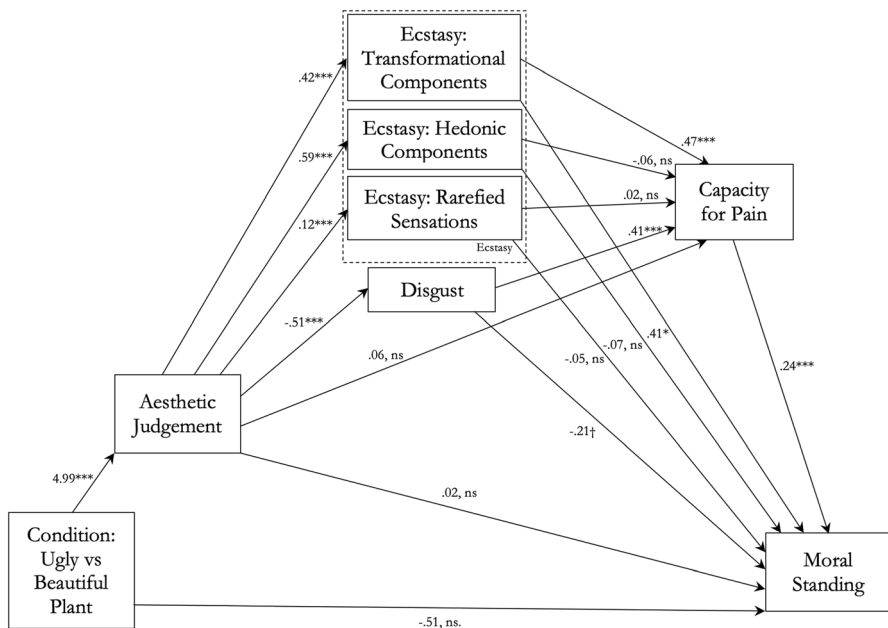


Fig. 4 A mediation model showing the effect of the condition on judgements of intrinsic moral standing via the aesthetic judgement made, experiences of disgust and the different components of ecstasy, and judgements of sentence, where *** = $p < .001$, ** = $p < .01$, * = $p < .05$, † = $p < .1$, and ns = not significant

the effects of condition on judgements of intrinsic moral standing via the aesthetic judgement made, experiences of transformative ecstasy had, and judgements of sentience made in turn, and via the aesthetic judgement made and experiences of transformational ecstasy had, indicated that these indirect effects were significant at the 0.05 level (0.24, 95% CI [0.07, 0.45]; 0.85, CI [0.26, 1.53] respectively). There was also an indirect effect of condition on intrinsic moral standing via the aesthetic judgement made, experiences of disgust had, and judgements of sentience made in turn (-0.25, 95% CI [-0.48, -0.08]). There were no other direct or indirect effects. That is to say, these results suggest that, compared to participants who viewed ugly plants, participants who viewed beautiful plants tended to attribute intrinsic moral standing to the plants to a greater degree to the extent that they made more positive aesthetic judgements of the plant, in turn experienced greater feelings of the transformational component of ecstasy in response, and in turn attributed greater sentience; and also to the extent that they merely made more positive aesthetic judgements and in turn felt more transformational ecstasy. These results suggest that the same is not true, *mutatis mutandis*, of the hedonic and rarefied sensations components. Furthermore, these results suggest that, compared to participants who viewed the beautiful plants, participants who viewed the ugly plants tended to attribute intrinsic moral standing to the plants to a greater degree to the extent that they made more negative aesthetic judgements of the plant, in turn experienced greater feelings of disgust in response, and in turn attributed greater sentience to the plants.

Summary & discussion In this study, participants were either presented with a non-functionally ugly or beautiful plant and asked to appreciate it as such, and then judge to what extent the plant was able to feel pain and possessed intrinsic moral standing. The main results indicate that the beautiful plants were judged to be more sentient, and to have greater intrinsic moral standing to the extent that the beautiful plants tended to give rise to the transformational component of the emotion that is sometimes called ‘ecstasy’—where one feels tender feelings, and feelings of being moved, inspired, and of somehow identifying or being unified with the object of this feeling—but not to the extent that they gave rise to the merely pleasant and self-focused component of this emotion—where one feels, for example, pleased, relaxed, and uplifted.

This study provides further support, in addition to the evidence provided by study 1, for the views of those, such as Hepburn, Næss and Adorno and Horkheimer (as discussed in Sect. 4.1), who suggest that the appreciation of non-functional beauty leads to the state that I label ‘ecstasy,’ and in turn mental representations of sentience in the object of that emotion. Moreover, with respect to the possible mechanisms that might explain why ecstasy leads to attributions of sentience (as also discussed in Sect. 4.1), this study provides further support, in addition to the evidence provided by study 1, for the idea that ecstasy does this because it tends to involve feelings of identification and tenderness which, respectively, lead to the transference of our mental capacities to the object of this emotion and to the attribution of capacities (such as sentience) that warrant such feelings. Moreover, this study also finds no evidence in favour of the idea that ecstasy might lead to such

representations because it involves pleasant feelings which may facilitate responding in line with automatic representations of the plant as being sentient.

In addition to replicating the findings of study 1 concerning ecstasy, this study additionally shows that non-functional beauty leads to representations of intrinsic moral standing to the extent that it tends to give rise to ecstasy (and specifically the transformational component) in itself, and to the extent that ecstasy (and specifically the transformational component) tends to lead to representations of sentience.

Unlike study 1, and contrary to the expectation that the experience of ugliness might tend to decrease attributions of sentience given existing findings showing that disgust can lead to dehumanisation (see Sect. 4.1), the results of this study suggest that ugliness leads to representations of sentience via experiences of disgust. One possibility for the inconsistency with study 1 and the existing literature is that being disgusting may at times lead to pity, which may itself lead to the representation of a capacity that would warrant such a feeling (in line with Gray et al., 2014). In resolving this inconsistency, future work might wish to include pity as a further mediator between disgust and representations of sentience.

What might explain the additional, and unexpected, finding that beauty led to representations of intrinsic moral standing via experiences of transformational ecstasy (but not the hedonic component) independently of its expected effect via representations of sentience? One possibility is that some participants are not willing to report their representations of the plant as sentient (cf. Arico et al., 2011), even if those representations are nonetheless influencing their judgements of intrinsic moral standing. Another possibility is that transformational ecstasy leads to representations of intrinsic moral standing because the experience of transformational ecstasy includes a sense of gaining knowledge of, or contact with, something that is pure and perfect, and which may include the attribution of moral goodness to its object. Indeed, since this transformational state seems to frequently arise in response to moral goodness (see Sect. 4.1), it may have high cue-validity for moral goodness. This suggestion is consistent with previous work showing that the disposition to be morally good affects our intuitions about whether something has moral standing (Piazza et al., 2014), and with recent work showing that beauty tends to lead to moral standing as a result of leading to judgements of purity (Klebl et al., 2022).

A third possibility is as follows. The transformational ecstasy component included a sense of meaningfulness and of the world fitting together somehow, and these may have been understood by participants to consist in, or result from, a sense that the plants exhibited some kind of teleology or purposiveness. Such a thought seems to be similar to what Scruton (2009) is referring to when he suggests, along Kantian lines, that the experience of natural beauty brings an intimation of the “orderliness” and “finality” of the world and inspires a thought of “purposiveness without purpose” (77). If that is right then it may also be the case that the transformational component of the ecstasy response led participants to attribute the property of having interests (e.g., Taylor, 1981, 1986) to the plants (even if it didn’t result in the attribution of specific interests), and in turn intrinsic moral standing, independently of attributions of sentience. Clearly, however, this deserves further investigation, as does the question of whether these findings generalise to other non-animal environmental entities such as landscapes.

5 What is the overall significance of these findings for views about the relationship between the non-functional beauty of the environment and its moral standing?

What do these findings tell us about the true relationship between non-functional beauty and intrinsic moral standing? They suggest, I submit, that the isolation thought experiments that the beauty optimists have deployed to justify the idea that non-functional beauty confers moral standing likely only support one variety of pessimism at best, or need to be debunked altogether.

As we have seen in Sect. 3, the optimists variously suggest that, intuitively, a non-functionally beautiful world would be preferable to a non-functionally ugly world, or that, intuitively, it would be wrong for the last man to destroy beautiful nature, even if there were nobody around to appreciate it; and that this shows that non-functional beauty confers intrinsic moral standing. The studies reported here suggest that people do indeed have this kind of intuition, but only to the extent that they tend to feel ecstasy, and specifically its transformational component.

Now, the fact that transformational ecstasy seems to *cause* people to have this intuition does not, by itself, suggest that these intuitions need to be debunked. It may be the case that during experiences of transformational ecstasy in response to non-functionally beautiful objects we are given access to reasons which would justify the view that they have intrinsic moral standing. If that were the case, then rather than exerting a debunking pressure, the evidence presented here would provide support for the optimist's claims.

As we have seen in Sect. 3, there are three main reasons that have been offered for thinking that an entity has some moral standing. The two strongest, and least controversial, reasons are that an entity is sentient, and that it has agency. The third, weaker and more controversial, reason is that an entity has 'interests,' in the sense that things can be said to go well or badly for it, even if it cannot itself care about its 'interests.'

Indeed, as we have also seen in Sects. 4.1.1 and 4.1.2, to that extent that non-functional beauty is received with ecstasy (and specifically its transformational component), it leads to representations of sentience and in turn intrinsic moral standing; and to the extent that non-functional beauty is received with ecstasy (and specifically its transformational component) it *might* also lead to representations of interests and in turn intrinsic moral standing (as well as representations of moral goodness and in turn intrinsic moral standing).

Despite this, rather than vindicating the claims of optimists such as Moore, the evidence presented here suggests that these findings either exert a debunking pressure on these very grounds, as the ostensibly intrinsic-moral-standing-conferring reasons are not likely to hold in the relevant cases; or they may lead to a form of pessimism, as these ostensibly intrinsic-moral-standing-conferring reasons might only unreliably hold for poor reasons.

In the case of sentience specifically, non-animal environmental entities such as plants are clearly unlikely to be sentient.¹⁹ As a result, the representations of sentience that appreciation of non-functional beauty gives rise to are likely to be false, and so too are the representations of intrinsic moral standing that arise as well *to the extent* that they are the result of such false representations of sentience.

In the case of interests, specifically, while it might be true that some non-animal environmental entities, such as plants, have moral standing in virtue of having ‘interests’ in the sense that things can go well or badly for them, appreciation of their non-functional beauty does not reliably lead to these interests, for the right reasons. To the extent that plants have interests in this sense, then both non-functionally beautiful and non-functionally ugly plants possess them (and indeed, likely to the same extent). Moreover, non-functional beauty is not related to the natural functions which are linked to interests in this sense (cf. the pessimist’s superficiality objection in Sect. 3). As such, if plants (at least) do indeed have interests, and if the appreciation of their non-functional beauty does indeed lead to representations of the presence of interests, then appreciation of their non-functional beauty *at best* provides an unreliable means of accessing this fact for beautiful plants, and indeed, leads us to represent the property of possessing interests for reasons that are poorly connected to the specific interests themselves. For these reasons, the findings reported in Sect. 4.1.2 at best provide support for the pessimist’s conception of non-functional beauty as a handmaiden.²⁰

Failing the possibility that non-functional beauty might reliably acquaint us with intrinsic-moral-standing-conferring properties (let alone for the right reasons), there is a second way in which it might be suggested that the fact that people have the intuition that non-animal environmental entities such as plants have intrinsic moral standing to the extent that those entities tend to lead to transformational ecstasy

¹⁹ It may be objected that this deflationary argument partly fails as plants (at least) are, in fact, sentient, even if other non-animal environmental entities such as landscapes are not. However, the prospects for such an objection don’t currently look promising. Some of the claims that have been made in support of the idea that plants are sentient—such as that they have structures that are functionally equivalent to neurons and brains that are capable of sentience (e.g., Calvo et al., 2017)—are currently speculative, even by the admission of the supporters of plant sentience, and have further been robustly criticised (e.g., Robinson & Draguhn, 2021). And many of the facts that have been cited in support of plant sentience—such as the fact that plants behave in ways which seem suggestive of the capacity for sentience, with, for example, touch-me-nots recoiling from touch—are insufficient for sentience (e.g., Hamilton & McBrayer, 2020). Moreover, even if plants *were* sentient, arguably these findings would still lead to a pessimism about non-functional beauty, since appreciation of non-functional beauty would not be a reliable means of detecting sentience, since, for example, both non-functionally beautiful *and* non-functionally ugly plants would be sentient (see Sect. 5).

²⁰ Since inanimate environmental entities do not have interests, to the extent that this evidence suggests that people likely attribute such interests as a result of experiencing transformational ecstasy, they will be false, and so the corresponding intuitions concerning intrinsic moral standing should be discarded. Furthermore, as per Sect. 4.1.2, I note that the evidence presented here may suggest that people represent the plants as having intrinsic moral standing to the extent that their experience of ecstasy (and specifically its transformational component) may lead them to represent the plants as being morally good. Since even plants (among non-animal environmental entities) are not capable of being morally good, and moral goodness is not one of the reasons that is thought to truly ground moral standing in any case, the intuition that optimists appeal to would clearly need to be debunked if it were determined by such representations.

vindicates the optimist. Once we account for the degree to which people's representations of intrinsic moral standing are accounted for by the fact that they variously represent non-animal environmental entities such as plants as being sentient, morally good or as having interests (falsely, or at least unreliably and for poor reasons, as I have argued), it may be the case that people might still *to some extent* have the intuition that these objects have intrinsic moral standing to the extent that they give rise to transformational ecstasy. Further, it might be suggested that this remaining intuition is *basic* in the justification it provides for thinking that non-functional beauty confers intrinsic moral standing: this residual intuition does not justify the belief that such objects have intrinsic moral standing to the extent that it tracks, howsoever unreliably, a further reason (such as the possession of sentience or interests), but rather provides justification in itself.

However, such a suggestion isn't convincing. Even if it is indeed the case that the intuition that non-functionally beautiful non-animal environmental entities such as plants possess intrinsic moral standing arises to the extent they are received with transformational ecstasy, and independently of such further reasons (which is far from clear from the evidence presented here), I submit that such a state of affairs should be taken to count *against* the idea that such intuitions are tracking the truth.

First, it is far from obvious that such intuitions should be regarded as having justificatory purchase if they cannot be rationally justified, especially given that pessimists seem to possess the opposite intuition, and are able to provide a rational basis for this: as Jamieson asks (see Sect. 3), if no one is there to experience the non-functionally beautiful entity, then why should its destruction matter?

Second, the mechanics of the thought experiment should give cause for concern about this proposal. The fact that optimists such as Moore appeal to *isolation* thought experiments suggests that we cannot easily and clearly intuit the fact (if indeed it is a fact) that non-functional beauty confers intrinsic moral standing merely by contemplating the destruction, or mere existence or non-existence, of beauty in ordinary circumstances. The reason for this seems to be that the content of our intuitions in relation to such thought experiments is simple: its content is something like a mere "yay!" or "nay!" as a result of imagining the thought experiment, and doesn't, in itself, contain the *grounds* for the intuition, which themselves need to be inferred from the features of the thought experiment itself.

But if that's so, then it seems that facts about the conditions under which such intuitions arise should also come to bear on the significance of these intuitions too; and that's where the evidence presented here exerts an additional debunking pressure. For, the fact that the relevant intuition does, as a matter of fact, depend on a certain kind of emotional experience that paints its objects as having value (namely, transformational ecstasy) arguably suggests that these intuitions likely indicate a failure on the part of the imaginer to quarantine the value of the experience provided to one person—namely, themselves—in order to adopt the view from nowhere. Furthermore, if the intuition that non-functional beauty confers intrinsic moral standing truly isn't connected to the value of the experience of affective states such as transformational ecstasy, then one might wonder why this intuition—with its basic justificatory power—should only arise when we experience

transformational ecstasy, rather than when we merely recognise non-functional beauty.

So, the fact that this intuition doesn't arise independently of a given kind of affective experience (transformational ecstasy) should be taken to count against the idea that the non-functional beauty of non-animal environmental entities does indeed confer intrinsic moral standing, even if our uninterrogated intuitions suggest that they do. Indeed, if the foregoing is correct, then the insistence of optimists such as Moore that we should imagine the *most beautiful world possible* in contemplating the isolation thought experiment—which is most likely to give rise to emotional experiences—should give further cause for concern about the likelihood that the resulting intuitions will be able to track moral-standing-conferring reasons (basic or otherwise) that do not depend on the value of emotional experiences to the subjects of those experiences.

In sum, the evidence presented here suggests that the isolation thought experiments that optimists such as Routley and Moore deploy to justify the idea that non-functional beauty confers intrinsic moral standing, either should be discarded, or regarded as merely supporting a form of pessimism about non-functional beauty.

5.1 Why does beauty secure a more valuable form of anthropocentric value than merely pleasant experiences do?

All is not lost, however, as the evidence presented here suggests that the anthropocentric value of non-functional beauty is greater than is suggested by pessimists about non-functional beauty for two reasons.

First, the self-same transformational experiences that seem to mislead us into thinking that non-functional beauty is intrinsically valuable are also the reason why beauty tends to cause experiences that are subjectively more valuable than other kinds of pleasant experiences.

As Mill (1861/[1879]: 11–16) rightly notes, not all kinds of pleasant experiences tend to be thought to be equally valuable to those who have experienced them ('competent judges' in Mill's terminology).²¹ The value of some pleasant experiences, which are often bodily in nature, such as many that come from satisfying hunger or from orgasms, are not as subjectively valuable as the pleasures that come from 'elevated' pursuits such as exercising our moral, intellectual and aesthetic capacities. The transformational ecstasy that beauty tends to give rise to, I submit, just the kind of higher pleasant experience that Mill's competent judges would identify as such: in bringing about pleasing feelings of inspiration, of transcending ourselves, and of being sympathetically oriented towards others, it is *precious*. It is for this reason that beauty has been described as satisfying our

²¹ A reviewer asks what expertise is required for a judge to be competent, and how we can be sure that the participants in the study had sufficient expertise to judge the beauty of the plants. In the former case, at a minimum, we might expect them to be able to experience lower pleasures as well as ecstasy, and to compare them. In the case of the latter, given that non-functional beauties tend to be widely detected in an automatic manner, it is likely that they had the requisite expertise.

“spiritual” needs (Cooper, 1998: 95): by appreciating beauty we allow ourselves to exercise our higher capacities.²²

To this, it might be objected that we have not actually self-transcended or been inspired, at least in the sense of receiving some profound truth in the latter case, when we appreciate non-functional beauty. As a result, the value of the experience of these things (at least) might be thought to be subject to deflation in the same way that the fact that transformational ecstasy gives rise to *false* representations of sentience at least partly deflates our intuition that non-functionally beautiful objects have intrinsic moral standing, as we have seen.

However, the two are disanalogous in a number of important ways. The truth-makers in the case of deciding whether, say, a plant is sentient or not, are *just* facts about whether the plant concerned can feel valenced states, and do not include how humans tend to represent it. By contrast, the truth-makers in the case of self-transcending and being inspired *just are*, in an important sense at least, feelings of these things occurring in the individual concerned themselves. We cannot *actually* step outside of ourselves, but nonetheless can rightly be said to have self-transcended when we feel as such; and inspiration is more often than not ineffable or without specific content (inaccessible or otherwise), but no less inspiration in the sense of feeling mentally stimulated to do something good. And even if the foregoing is not true, it is far from clear that we need to actually have self-transcended or received profound truths for feelings of these things to be valuable to those experiencing them: just as we often tend to be fictionalists in the domain of art appreciation, finding value in the experience of exercising our higher capacities in many cases even if we don't believe that the content of the art is true, so too it may be in the case of appreciating non-functional beauty.

Second, independently of the subjective value of the experiences that are engendered by the appreciation of non-functional beauty, the appreciation of non-functional beauty also provides a second anthropocentric source of moral standing insofar as it exercises capacities that may actually tend to lead us to act in a moral manner towards entities that warrant this (even if non-functionally beautiful plants do not). This idea is closely aligned to the brief comments that Kant makes with respect to the reasons we have to protect beauty, particularly in *The Metaphysics of*

²² Indeed, even if Moore's claim that non-functional beauty confers intrinsic value is false and far too optimistic, as I have sought to argue in the previous sections of this article, Moore himself makes a similar, and perhaps even stronger, claim with regard to the value of the experience of beauty. Moore suggests that “by far the most valuable things, which we know or can imagine, are certain states of consciousness, which may roughly be described as the pleasures of human intercourse and the enjoyment of beautiful objects” (1903/[1922]: 189, see also xxv); and, indeed, that “it is only for the sake of these things—in order that as much of them as possible may at some time exist—that anyone can be justified in performing any public or private duty; that they are the *raison d'être* of virtue... [and] the rational ultimate end of human action and the sole criterion of social progress” (189). It is important to note, however, that Moore is not referring to the value of the aesthetic emotion in isolation. Rather, Moore thinks that this highest value is the value of a whole which consists of at least a bare cognition of a beautiful property as such, and the appropriate aesthetic emotion, and perhaps a true belief in the existence of the beautiful object (see e.g., 189-99, xxv); and that these are ‘organic wholes’ insofar as the value of the whole is not equal to the sum of the value of the individual parts.

Morals, and with explicit reference to the beauty of non-animal environmental entities, including plants:

A propensity to wanton destruction of what is *beautiful* in inanimate nature (*spiritus destructionis*) is opposed to a human being's duty to himself; for it weakens or uproots that feeling in him which, though not of itself moral, is still a disposition of sensibility that greatly promotes morality or at least prepares the way for it: the disposition, namely, to love something (e.g., beautiful crystal formations, the indescribable beauty of plants) even apart from any intention to use it. (Kant, 1797/[2018]: 209)

Kant's thought here may most plausibly be glossed in the following way. Respect for rational being is at the root of all duties, and this involves us not taking an interest in using others for our ends. Similarly, the appreciation of a beautiful object involves a love for the object independent of any interest we may have to use it for our ends. So, the appreciation of beauty may give rise to a *taste* for not taking an interest in using people for our ends, helping to bring our sensibilities in line with our rational capacities. In a similar vein, Iris Murdoch (1970/[1985]) suggests that the appreciation of the beauty of our surroundings might alter "consciousness in the direction of unselfishness" by leading us to focus less on our concerns (84).

We need not follow this gloss of Kant and Murdoch entirely, however, in their account of the way that the appreciation of beauty generally cultivates our moral sensibilities. The kinds of features that they point to—a taste for approaching things without any interest and a tendency to focus less on ourselves—may help to scaffold a range of moral virtues, including honesty, compassion and being fair-minded, without preferentially directing us towards any in particular. But the findings in the studies reported here suggest that in addition to promoting these moral inclinations, the experience of non-functional natural beauty may tend particularly in the direction of tender moral behaviours, insofar as the transformational component of ecstasy included a sense of compassion, sympathy or tenderness, and of a desire to be *kind* and *caring*. As such, non-functional natural beauty may be particularly valuable as a source of developing tender moral capacities.

6 Conclusion

This paper suggests that the main existing views of the relationship between non-functional beauty and the moral standing of the environment are mistaken in important ways. The pessimists about non-functional beauty are wrong when they variously claim that the non-functional beauty of the non-animal environment is, at best, a morally trivial property that confers as much moral standing as merely pleasure-generating properties; or worse, a dangerous property, which leads us to ignore normatively significant features. And the optimists about non-functional beauty are wrong when they suggest that beauty confers intrinsic moral standing. Non-functional beauty is, in fact, Janus-faced: as a source of transformational experiences, it is both a cause of false mental representations of animacy and of experiences that are much more valuable and anthropocentric than merely pleasant

experiences. And if it transpires that non-animal environmental entities such as plants do not have moral standing in virtue of having ‘interests,’ especially given that this view is controversial, such anthropocentric grounds for having moral standing may be among the strongest reasons we have to protect these entities.

Acknowledgements I express warm thanks to two anonymous peer reviewers for this journal and Anthony I. Jack for their extremely helpful comments on this paper, and to Derek Matravers for his advice on this paper. I am grateful to the Faculty of Arts and Humanities at the University of Sheffield for awarding me a grant to undertake this work, and to the trees of Sheffield and the New Forrest for inspiration.

Funding Funding for the studies reported in this paper was provided by a Faculty Small Grant (2017/18) from the Faculty of Arts and Humanities at the University of Sheffield, awarded to RPD for the project “Aesthetics and Attributions of Mentality: Mechanisms and Ethical Implications.”

Open Access This article is licensed under a Creative Commons Attribution 4.0 International License, which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons licence, and indicate if changes were made. The images or other third party material in this article are included in the article’s Creative Commons licence, unless indicated otherwise in a credit line to the material. If material is not included in the article’s Creative Commons licence and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder. To view a copy of this licence, visit <http://creativecommons.org/licenses/by/4.0/>.

References

- Adorno, T. W. (1970/[2004]). *Aesthetic Theory*. Continuum.
- Adorno, T. W., & Horkheimer, M. (1969/[2002]). *Dialectic of the enlightenment: Philosophical fragments*. Stanford University Press.
- Algoe, S., & Haidt, J. (2009). Witnessing excellence in action: The ‘other praising’ emotions of elevation, gratitude, and admiration. *The Journal of Positive Psychology, 4*(2), 105–127.
- Arico, A., Fiala, B., Goldberg, R. F., & Nichols, S. (2011). The Folk Psychology of Consciousness. *Mind & Language, 26*(3), 327–352.
- Bates, B. J., & Chadwick, A. E. (2015). Measuring State Disgust: Initial Evidence for the Reliability and Validity of an English-Language Version of the Ekel-State-Fragebogen. *Communication Research Reports, 32*(1), 73–82.
- Baumgarten, A. G. (1751, 1763). *Ethica Philosophica Scripsit Acroamatice (Philosophical Ethics)* (2nd edn). Carl H. Hemmerde.
- Beardsley, M. C. (1981). *Aesthetics: Problems in the Philosophy of Criticism* (2nd edn). Hackett Publishing.
- Bell, C. (1914). *Art*. Chatto & Windus.
- Bentham, J. (1823/[1907]). *An Introduction to the Principles of Morals and Legislation*. Clarendon Press.
- Bernstein, J. M. (2001). *Adorno: Disenchantment and Ethics*. Cambridge University Press.
- Blomster Lyshol, J. K., Thomsen, L., & Seibt, B. (2020). Moved by observing the love of others. *Frontiers in Psychology, 11*, 1240.
- Budd, M. (2003). *The Aesthetic Appreciation of Nature*. Oxford University Press.
- Buckels, E. E., & Trapnell, P. D. (2013). Disgust facilitates outgroup dehumanization. *Group Processes & Intergroup Relations, 16*(6), 771–780.
- Calvo, P., Sahi Pratap, V., & Trewavas, A. (2017). Are plants sentient? *Plants, Cell and Environment, 40*, 2858–2869.

- Clore, G. L., Wyer, R. S., Dienes, B., Gasper, K., Gohm, C., & Isbell, L. (2001). Affective Feelings as Feedback: Some Cognitive Consequences. In L. L. Martin, & G. L. Clore (Eds.), *Theories of mood and emotion: A user's guidebook* (pp. 27–62). Lawrence Erlbaum Associates Publishers.
- Chatterjee, S., & Simonoff, J. S. (2013). *Handbook of Regression Analysis*. Wiley.
- Cooper, D. E. (1998). Aestheticism and environmentalism. In D. E. Cooper & J. A. Palmer (Eds.), *Spirit of the Environment: Religion, Value and Environmental Concern* (pp. 95–106). Routledge.
- Carroll, N. (1991). Beauty and the genealogy of art theory. *The Philosophical Forum*, 22(4), 307–334.
- Diessner, R., Solom, R. D., Frost, N. K., Parsons, L., & Davidson, J. (2008). Engagement With Beauty: Appreciating Natural, Artistic and Moral Beauty. *The Journal of Psychology: Interdisciplinary & Applied*, 142(3), 303–329.
- Demoulin, S., Leyens, J. P., Paladino, M. P., Rodriguez-Torres, R., Rodriguez-Perez, A., & Dovidio, J. (2004). Dimensions of “uniquely” and “non-uniquely” human emotions. *Cognition & Emotion*, 18(1), 71–96.
- Doran, R. P. (2020). Beauty and Sublimity: A Cognitive Aesthetics of Literature and the Arts. *The British Journal of Aesthetics*, 60(4), 492–495.
- Doran, R. P. (2021). Moral Beauty, Inside and Out. *Australasian Journal of Philosophy*, 99(2), 396–414.
- Doran, R. P. (2022a). Thick and Perceptual Moral Beauty. *Australasian Journal of Philosophy*. Online First. <https://doi.org/10.1080/00048402.2022.2029921>
- Doran, R. P. (2022b). Ugliness Is in the Gut of the Beholder. *Ergo: An Open-Access Journal of Philosophy*. <https://doi.org/10.3998/ergo.2261>
- Doran, R. P. (2022c). Sullyng Sights. *Philosophical Psychology*, 35(2), 177–204.
- Elliott, R. (1985). Meta-Ethics and Environmental Ethics. *Metaphilosophy*, 16(2/3), 103–117.
- Feinberg, J. (1980). *Rights, Justice, and the Bounds of Liberty: Essays in Social Philosophy*. Princeton University Press.
- Goodpaster, K. E. (1978). On Being Morally Considerable. *The Journal of Philosophy*, 75(6), 308–325.
- Gunthorsdottir, A. (2001). Physical Attractiveness of an Animal Species as a Decision Factor for its Preservation. *Anthrozoös*, 14(4), 204–215.
- Grafe, T. U., Schöner, C. R., Kerth, G., Junaidi, A., & Schöner, M. G. (2011). A novel resource-service mutualism between bats and pitcher plants. *Biology Letters*, 7, 436–439.
- Gray, H., Gray, K., & Wegner, D. M. (2007). Dimensions of Mind Perception. *Science*, 315(5812), 619.
- Gray, K., Schien, C., & Ward, A. F. (2014). The Myth of Harmless Wrongs in Moral Cognition: Automatic Dyadic Completion From Sin to Suffering. *Journal of Experimental Psychology: General*, 143(4), 1600–1615.
- Haidt, J. (2000). The Positive Emotion of Elevation. *Prevention & Treatment*, 3(3), 1–5.
- Hamilton, A., & McBrayer, A. (2020). Do Plants Feel Pain? *Disputatio*, 12(56), 71–98.
- Hargrove, E. C. (1989). *Foundations of Environmental Ethics*. Prentice Hall, Inc.
- Hayes, A. F. (2013). *Introduction to Mediation, Moderation and Conditional Process Analysis: A Regression-Based Approach*. The Guildford Press.
- Hegel, G. F. (1835/[1975]). *Lectures on fine arts* (Vol. I) (T. M. Knox, Trans.). Oxford University Press.
- Hepburn, R. W. (1966). Contemporary Aesthetics and the Neglect of Natural Beauty. In B. Williams, & A. Montefiore (Eds.), *British Analytical Philosophy* (pp. 285–310). Routledge.
- Hettinger, N. (2005). Allen Carlson's Environmental Aesthetics and the Protection of the Environment. *Environmental Ethics*, 27(1), 57–76.
- Hogan, P. C. (2016). *Beauty and Sublimity: A Cognitive Aesthetics of Literature and the Arts*. Cambridge University Press.
- Hume, D. (1739/[1975]). *A Treatise of Human Nature* (edited by L. A. Selby-Bigge and revised by P. H. Nidditch). Oxford University Press.
- Isen, A. M. (2008). Some ways in which positive affect influences decision making and problem solving. In M. Lewis, J. M. Haviland-Jones, & L. F. Feldman (Eds.), *Handbook of the emotions*. Guildford.
- Jack, A. I., & Robbins, A. I. (2012). The Phenomenal Stance Revisited. *Review of Philosophy and Psychology*, 3, 383–403.
- Jamieson, D. (2008). *Ethics and the environment*. Cambridge University Press.
- Joliffe, I. T. (2002). *Principal Components Analysis* (2nd edn). Springer.
- Kant, I. (1785/[1998]). *Groundwork of the Metaphysics of Morals* (edited and translated by M. Gregor). Cambridge University Press.
- Kant, I. (1790/[2000]). *The Critique of the Power of Judgement* (edited by P. Guyer, and translated by P. Guyer & E. Matthews). Cambridge University Press.

- Kant, I. (1797/[2018]). *The Metaphysics of Morals* (2nd edn, translated by M. Gregor). Cambridge University Press.
- Kant, I. (1775–1784/[1997]). *Lectures on Ethics. (Georg Ludwig Collin's Notes)* (edited by P. Heath & J. B. Schneewind, and translated by P. Heath). Cambridge University Press.
- Kahl, M. P. (1963). Thermoregulation in the Wood Stork, with Special Reference to the Role of the Legs. *Physiological Zoology*, 36(2), 141–151.
- King, L. A., Burton, C. M., Hicks, J. A., & Drigotas, S. M. (2007). Ghosts, UFOs, and magic: Positive affect and the experiential system. *Journal of Personality and Social Psychology*, 92(5), 905–919.
- King, L. A., & Hicks, J. A. (2009). Positive affect, intuition and referential thinking. *Personality and Individual Differences*, 46, 719–724.
- Klebl, C., Luo, Y., & Bastian, B. (2022). Beyond Aesthetic Judgement: Beauty Increases Moral Standing Through Perceptions of Purity. *Personality & Social Psychology Bulletin*, 48(6), 954–967.
- Landis, S. K., Sherman, M. F., Piedmont, R. L., Kirkhart, M. W., Rapp, E. M., & Bike, D. H. (2009). The relation between elevation and self-reported prosocial behaviour: Incremental validity over the Five-Factor Model of Personality. *The Journal of Positive Psychology*, 4(1), 71–84.
- Landová, E., Poláková, P., Rádllová, S., Janovcová, M., Bobek, M., & Frynta, D. (2018). Beauty rankings of mammalian species kept in at the Prague Zoo: does beauty of animals increase the respondents' willingness to protect them? *The Science of Nature*, 105(69), 1–14.
- Laski, M. (1961). *Ecstasy: A Study of some Secular and Religious Experiences*. The Cressett Press.
- Lee, K. (1995). Beauty for Ever? *Environmental Values*, 4(3), 213–226.
- Leopold, A. (1949/[1987]). *A Sand Country Almanac*. Oxford University Press.
- Levinson, J. (2016). *Aesthetic pursuits: Essays in philosophy of art*. Oxford University Press.
- Lintott, S. (2006). Toward Eco-Friendly Aesthetics. *Environmental Ethics*, 28(1), 57–76.
- Loftis, J. R. (2003). Three Problems for the Aesthetic Foundations of Environmental Ethics. *Philosophy in the Contemporary World*, 10(2), 41–50.
- Lorenz, K. (1950/[1980]). Part and parcel in animal and human societies. In *The Panda's Thumb* (pp. 95–107). W.W. Norton & Co.
- Mill, J. S. (1861/[1879]). *Utilitarianism*. Longmans Green & Co.
- Moore, G. E. (1903/[1922]). *Principia Ethica*. Cambridge University Press.
- Murdoch, I. (1970/[1985]). *The Sovereignty of Good*. Ark Paperbacks.
- Næss, A. (1989). *Ecology, community and lifestyle: Outline of an ecosophy* (translated and revised by D. Rothenberg). Cambridge University Press.
- Nahmias, E., Allen, C., & Loveall, B. (2020). When Do Robots Have Free Will? Exploring the Relationship between (Attributions of) Consciousness and Free Will. In M. Missla & A. Feltz (Eds.), *Free Will, Causality, and Neuroscience*. Brill.
- Paris, P. (2020). Functional Beauty, Pleasure, and Experience. *Australasian Journal of Philosophy*, 98(3), 516–530.
- Parsons, G., & Carlson, A. (2008). *Functional Beauty*. Clarendon Press.
- Passmore, J. (1974). *Man's Responsibility for Nature: Ecological Problems and Western Traditions*. Charles Scribner & Sons.
- Peters, J. (2015). *Hegel on Beauty*. Routledge.
- Plato. (c. 370 BC/[1875]). Phaedrus. In *The dialogues of Plato* (Vol. II, pp. 154–155) (translated by B. Jowett). The Clarendon Press.
- Plato. (c. 370 BC/[2010]). Symposium. In O. Bychkov & A. Sheppard (Eds. & Trans.), *Greek and Roman Aesthetics* (pp. 22–25). Cambridge University Press.
- Piazza, J., Landy, J. F., & Goodwin, G. P. (2014). Cruel nature: Harmfulness as an important, overlooked dimension in judgments of moral standing. *Cognition*, 131(1), 108–124.
- Ramachandran, V. S., & Hirstein, W. (1999). The Science of Art. *Journal of Consciousness Studies*, 6(6–7), 15–51.
- Riggle, N. (2016). On the Interest in Beauty and Disinterest. *Philosophers' Imprint*, 16(9), 1–14.
- Robinson, D. G., & Draguhn, A. (2021). Plants have neither synapses nor a nervous system. *Journal of Plant Physiology*, 263, 153467.
- Rolston, H. (2002). From beauty to duty. In A. Berleant (Ed.), *Environment and the Arts: Perspectives on environmental aesthetics* (pp. 127–141). Ashgate.
- Routley, R. (1973). Is There a Need for a New, an Environmental, Ethic? In *Proceedings of the XVth World Congress in Philosophy* (pp. 205–210). Sofia Press.
- Rozin, P., Haidt, J., & McCauley, C. R. (2008). Disgust. In M. Lewis, J. M. Haviland-Jones, & L. F. Barrett (Eds.), *Handbook of Emotions* (pp. 757–776, 3rd edn). Guildford Press.

- Rozin, P., & Ruby, M. B. (2020). Bugs are belch, butterflies are beautiful, but both are bad to bite: Admired animals are disgusting to eat but are themselves neither disgusting nor contaminating. *Emotion*, 20(5), 854–865.
- Ruskin, J. (1843–60/[1907]). *Modern painters* (Vol. II). J.M. Dent & Co.
- Saito, Y. (1998). The Aesthetics of Unscenic Nature. *The Journal of Aesthetics and Art Criticism*, 56(2), 101–111.
- Scruton, R. (2009). *Beauty*. Oxford University Press.
- Schöner, M. G., Schöner, C. R., Simon, R., Grafe, T. U., Puechmaille, S. J., Ji, L. L., & Kerth, G. (2015). Bats are acoustically attracted to mutualistic carnivorous plants. *Current Biology*, 25, 1911–1916.
- Shaftesbury (Cooper, A. A., Third Earl of Shaftesbury). (1711/[1999]). *Characteristics of Men, Manners, Opinions, Times* (edited by L. E. Klein). Cambridge University Press.
- Sidgwick, H. (1874/[2012]). *The Method of Ethics*. Cambridge University Press.
- Siegel, A. & Byrne, A. (2017). Rich or Thin? In B. Nanay (Ed.), *Current Controversies in Philosophy of Perception*. Routledge.
- Simmons, A. (2010). Two Arguments Against Biological Interests. *Environmental Ethics*, 32(3), 229–245.
- Stevens, J. P. (2002). *Applied Multivariate Statistics for the Social Sciences* (4th edn). Erlbaum.
- Stone, A. (2006). Adorno and the disenchantment of nature. *Philosophy & Social Criticism*, 32(2), 231–253.
- Strick, M., & van Soolingen, J. (2018). Against the odds: Human values arising in unfavourable circumstances elicit the feeling of being moved. *Cognition & Emotion*, 32(6), 1231–1246.
- Taylor, P. W. (1981). The Ethics of Respect for Nature. *Environmental Ethics*, 3(3), 197–218.
- Taylor, P. W. (1986). *Respect for Nature: A Theory of Environmental Ethics*. Princeton University Press.
- Zickfeld, J. H., Schubert, T. W., Seibt, B., Blomster, J. K., Arriaga, P., Basabe, N., Blaut, A., Caballero, A., Carrera, P., Dalgard, I., Ding, Y., Dumont, K., Gaulhofer, V., Gračanin, A., Gyenis, R., Hu, C.-P., Kardum, I., Lazarević, L. B., Mathew, L., Mentser, S., Nussinson, R., Onuki, M., Páez, D., Pásztor, A., Peng, K., Petrović, B., Pizarro, J. J., Schönefeld, V., Śmieja, M., Tokaji, A., Vingerhoets, A., Vorster, A., Vuoskoski, J., Zhu, L., & Fiske, A. P. (2018). Kama Muta: Conceptualizing and measuring the experience often labelled being moved across 19 nations and 15 languages. *Emotion*, 19(3), 402–424.
- Zickfeld, J. H., Schubert, T. W., Seibt, B., & Fiske, A. P. (2019). Moving through the literature: What is the emotion often denoted being moved? *Emotion Review*, 11(2), 123–139.
- Zangwill, N. (2001). *The Metaphysics of Beauty*. Cornell University Press.

Publisher's Note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.