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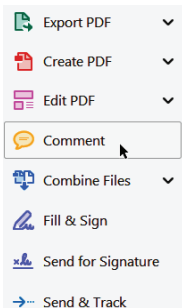
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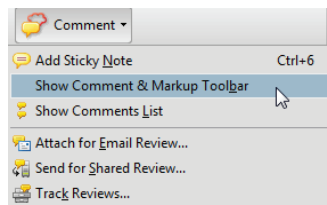
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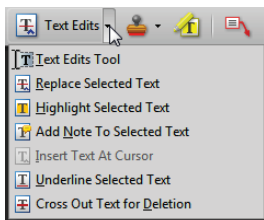


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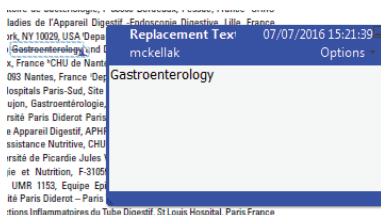
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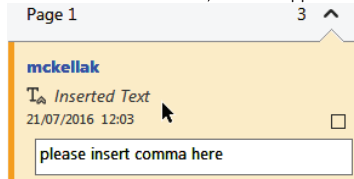


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Why Should We Become Posthuman? The Beneficence Argument Questioned 1.1

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AQ2 1.5

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AQ3 1.10

Why should we become posthuman? There is only one morally compelling answer to this question: because posthumanity will be a more beneficial state, better than present humanity. This is the Posthuman Beneficence Argument (PBA), the centerpiece of the liberal transhumanist defense of “directed evolution.” In this article, I examine PBA and find it deficient on a number of lethal counts. My argument focuses on the writings of transhumanist philosopher Nick Bostrom, who has developed the most articulate defense of PBA and disclosed its metaethical framework. I begin by locating PBA in the context of wider transhumanist claims for the desirability of posthumanity. I identify two crucial components: (1) a model of deliberative rationality, requiring reasons to endorse claims; and (2) the reasons themselves (i.e., the greater beneficence that posthumanity represents). I examine these two conditions, in turn, specifying the claims that they ask us to accept. Following Bostrom, I argue that there is a need for a foundationalist approach that assures us of some universality in the process of valuation. This is required to appropriately ground the moral continuity and appeal to universality that PBA demands. I examine the reasons why this approach ultimately fails, leaving posthumanity as an unintelligible concept with no moral force. I conclude by identifying (and endorsing) a more mature approach to the debate on human enhancement, one that forfeits the grandiose but baseless claims too often found in transhumanist defenses of directed evolution. In short, posthumanity may be a good science fiction trope, but it has no normative force in the moral philosophy of human enhancement.

Keywords: *critical posthumanism, directed evolution, human enhancement, metaethics, posthumanity, transhumanism* 1.40

2.1 I. INTRODUCTION: ESTABLISHING BENEFICENCE

Why *should* we become posthuman? Why is the artificial selection of the species in pursuit of Human+ a desirable project?

2.5 The most compelling and morally binding reason would be to establish that posthuman lives will be better than human lives. As Bostrom puts it: “The claim is that for *most* current human beings, there are possible posthuman modes of being such that it could be good for these humans to become posthuman in one of those ways” (2008, 108; emphasis in the original).
 2.10 Modification of present human traits will bring benefits variously quantifiable in terms of the aggregate individual well-being of a sufficiently large number of people, or as a global improvement on the human condition (which may imply unequal distribution), or perhaps in some other way. In all cases, beneficence (however quantified, or however vague and generic the notion may
 2.15 seem at this stage) provides the foundation for taking a normative, proactive approach to authored evolution; other alternatives, as we shall see, lack any normative force. In addition, beneficence provides a criterion by which to evaluate human enhancement (HE) technologies: “While future technological capabilities carry immense potential for beneficial deployments, they
 2.20 also could be misused to cause enormous harm, ranging all the way to the extreme possibility of intelligent life becoming extinct” (Bostrom, 2003b, 4). These reasons have led some to argue that bringing about posthumanity is not just desirable, but an ethical imperative.

2.25 In this article, I examine this, the Posthuman Beneficence Argument (PBA), from a metaethical perspective. I focus mainly on the writings of Nick Bostrom, the only transhumanist philosopher to have explicitly laid out the metaethical framework for PBA and to have brought to light the possible models of valuation that underlie the liberal transhumanist approach to enhancement. I will show that PBA requires a foundationalist approach, and
 2.30 my aim is to identify these foundations. My conclusion is that PBA is impossible to establish satisfactorily, leaving us with no good reason to undertake the transhumanist project.

To begin with, PBA commits us to two main assumptions, concerning *diachronic* and *synchronic* dimensions of valuation:

2.35 (1) An imaginable continuity between humans and posthumans as beings “like us.” Any counterfactual comparison between possible outcomes of directed evolution (DE) implies this: to say that X is better than Y, both
 2.40 must be commensurable to a degree. If I am to conceive of a healthier, better, longer, more enriching posthuman life, I need to imagine this future state as coextensive to my present values—even though the values of future purveyors of the project might change, and even though I might not benefit directly from present interventions. A decision to alter
 2.44 or select the genetic traits of one’s child takes place in view of this shared

horizon and is carried out on the assumption that the child is a person like me who will inhabit the same moral universe and benefit from my value choices. One main reason to pursue the transhumanist project is that it represents a continuation of values that we already hold dear.¹ We cannot assent to values we do not agree with or that strike us as alien. If we are to endorse posthumanity on the basis of reasons, these must be intelligible. For this, it is not necessary to have a substantive notion of posthumanity as some clearly defined species or group of species. Bostrom writes:

As we seek to peer farther into posthumanity, our ability to concretely imagine what it might be like trails off. . . . Yet we can at least perceive the outlines of some of the nearer shores of posthumanity . . . enough to give plausibility to the claim that becoming posthuman could be good for us. (2008, 112)

I might not know what it is like to do kite-surfing but can still agree to do it on the basis of reasons I can clearly represent to myself: it is safe, it will be fun, I am a risk-taking kind of person, I like flying, etc. PBA is established on this continuity, which embraces posthumans as persons like us and who can conceivably have moral claims on us. For kite-surfing to be a posthuman value, it is not enough that *I* like kite-surfing; I claim that *others* may, too.

(2) For posthumanity to be intelligible, it also has to represent sufficiently shared values. Posthuman values need to be founded on a collective consensus that provides a common basis for projection; otherwise, it would be impossible to predict the outcome of DE and much less to argue that it will be beneficial. We need (and Bostrom provides) two things: (a) some core transhumanist values to steer our artificial self-evolution toward an imaginable and hopefully desirable goal²; and (b) a common ground of valuation that assures us that these values are legitimate and universal. In other words, we need content (specific posthuman values) and form (a metaethical legitimation of these values). Together, these two aspects establish the possibility of conceiving futures on the basis of an anticipated continuity, making posthuman beneficence conceivable in principle.

These two claims are obviously related. As Bostrom writes, “the idea is that if we examine our own values carefully, we will find that they include values whose full realization would require that we possess posthuman capacities” (2007, 5). This last “we” includes future persons. Bostrom’s concern is metaethical: the critical issue is not so much the “content” (posthuman values) but the grounds on which valuation takes place. Foundationalism has a two-level structure: moral beliefs are based on a primary belief structure (such as a theory of human nature) that is unquestionable, self-evident, or somehow legitimates higher-level beliefs. A nonfoundationalist approach to

4.1 PBA cannot provide the continuity and universality required (although we will look at one nonfoundationalist or weakly foundationalist approach). As we will see, Bostrom addresses the foundations by offering not just one theory of valuation, but four.

4.5 My argument is not concerned about whether enhancement is desirable or feasible; at most, it is about the claims that need to be supported for a certain type of pro-enhancement argument to hold water. This type of argument is not limited to transhumanism, although it is strongly associated with it. In this respect, dystopic posthumanism and bioconservatism both reach diametrically opposite conclusions to transhumanism on the basis of an analogous argument: we should reject DE because posthumanity will be its dreadful outcome.

4.10 The argument is structured as follows:

4.15 Section II locates PBA in the wider context of what I will call the transhumanist argument (TA). In this context, PBA is mounted on four minimal, necessary conditions for the transhumanist case for HE: reflective endorsement, the value of increasing capacities, feasibility, and high-tech means. Of these four, I single out the first two claims as the most essential to the beneficence argument. In other words, we could argue for PBA without being transhumanists.

4.20 Section III examines these two central conditions: reflective endorsement and valuability of greater capacities. Reflective endorsement mobilizes a tacit model of deliberative rationality. What are the assumptions lurking here? There are two: reflective endorsement invokes a model of the moral agent; and the desirability of enhanced capacities, in turn, is justified by reference to a future posthuman state that will be the outcome of a process of rational evolution. I discuss the (first) problem of human nature and propose a deflated view of personhood that allows us to minimize the need for essentialism. This theory of personhood sets some minimal requirements for reflective endorsement. In the next subsection, I examine the second issue: directed evolution and the notion of posthumanity as (itself) a reason. Here, posthumanity comes to represent the long-term, future beneficial outcome of reflectively endorsing certain core values.

4.25 The last subsection examines the *incalculability objection*, showing that the above model of deliberative rationality and directed evolution quickly leads to an unintelligible concept of posthumanity. Since unknowns cannot be reasons, PBA cannot be defended on the grounds examined in this section.

4.30 Section IV examines Bostrom's attempts to construct a theory of value that grounds PBA. Bostrom offers four approaches: counterfactual, shared, intrinsic, and absolute. All of these are problematic, and I reject them as a basis to ascertain projectivity or beneficence.

4.35 In conclusion, I argue that, following from all the above, the state of greater beneficence that posthumanity will supposedly bring cannot be

4.44

established. Therefore, posthumanity should have no normative force in debates around HE. 5.1

II. PBA IN THE CONTEXT OF TRANSHUMANISM PBA 5.5

In the context of the TA for directed evolution, PBA is found in a network of interlinked claims, not all of which directly concern beneficence. Other conditions must uphold. We begin, then, by identifying these necessary conditions, the minimal claims of the transhumanist defense of HE. 5.10

We should begin with a piece of advice from [Blackford \(2011\)](#):

it is not intellectually useful to challenge a specific viewpoint within transhumanism, or to synthesize some composite viewpoint out of the (perhaps conflicting) writings of a few . . . transhumanist thinkers, then attack this—and *then* claim to have refuted or discredited transhumanism itself. This could leave the essential idea of transhumanism untouched. (177) 5.15

What is this “essential idea”? Blackford states it thus: “So long as we give *reflective endorsement* to the *value* of increasing human capacities, and so long as there is a *realistic prospect* of pursuing this by *technological means*, the *essential idea* is defensible” (182; emphases mine). I will call this the transhumanist argument. 5.20

Blackford identifies four necessary conditions to be a transhumanist: (1) giving reflective endorsement to HE on the basis that (2) it is valuable, therefore morally desirable; (3) arguing that it is feasible (not just technologically but perhaps also ethically, politically, socially, biologically, etc.); and (4) agreeing that enhancement must be pursued by “technological” means—denoting, as we shall see shortly, not just any old methods but emerging and future technologies. (I refer to these last as “high-tech.”) 5.25

The fourth condition may be worded more strongly, bringing to light an implicit assumption: high-tech HE is a *moral urgency*. Bostrom states it explicitly: we need to fast-track and prioritize funding for research into these new technologies and promote their wide implementation. “Every day that the introduction of effective human genetic enhancement is delayed is a day of lost individual and cultural potential, and a day of torment for many unfortunate sufferers of diseases that could have been prevented” ([Bostrom, 2003a](#), 499). And: “150,000 human beings on our planet die every day, without having had any access to the anticipated enhancement technologies that will make it possible to become posthuman” ([Bostrom, 2003b](#), 11). High-tech HE is necessary for future human benefit because these forthcoming technologies provide a “great humanitarian opportunity to genuinely improve the human condition” ([Bostrom, 2004](#)). 5.30 5.35 5.40

A transhumanist must defend *all* four of these necessary conditions. If you claim that posthumanity is morally desirable but not feasible, you are not a 5.44

6.1 transhumanist. If you claim that posthumanity is morally desirable but that
 there are more urgent priorities, you are not a transhumanist. If you claim
 that posthumanity is feasible but catastrophic, you are not a transhumanist.
 6.5 You could claim that not all proposed enhancements are desirable, or that
 certain technologies should be rejected on moral or practical grounds; yet
 there is an unspecified minimum number of HE technologies you should
 approve of in order to call yourself transhumanist (i.e., someone who con-
 sistently rejects all proposed HE technologies is not a transhumanist).

6.10 TA is, in essence, a consequentialist normative argument: we *should* pursue
 posthumanity as a valuable goal because of its consequences (assuming they
 are beneficial, of course). Note that the first condition (giving reflective en-
 dorsement) is the fulcrum, a rational agent who assents to posthumanity
 on the basis of two reasons: (2) it is *valuable* and (3) *feasible*. Condition 4
 6.15 adds a proviso: it should be pursued by *high-tech means*. This premise is
 what gives transhumanism its identity, so to speak, denoting the techno-
 fundamentalism and technological progressivism characteristic of it. Also,
 note that condition 2 makes no reference to beneficence. HE just has to be
 “valuable,” and in principle, other reasons could be conceived. Yet the argu-
 ment remains consequentialist, inasmuch as it is asking us to pursue some
 6.20 action because of its results.

We will work backwards, examining conditions 4 and 3 first, before diving
 into the core ones (conditions 1 and 2). My aim is to show that conditions 1
 and 2 are the essential claims of the argument for beneficence, while condi-
 tions 4 and 3 are accessory claims that can be immediately questioned on
 6.25 **AQ4** moral grounds.

The most obvious objection to condition 4 is that genuine commitment to
 human benefit and improvement logically leads to a form of prioritarianism:
 we should help those currently in most need with the means at our disposal.
 6.30 Forty thousand children die every day around the world from starvation and
 easily preventable diseases, a situation that could be remedied with the dis-
 tribution of food and medicines, as well as other low-tech measures. Why is
 it that transhumanists never argue for this, considering that “[t]ranshumanism
 advocates the well-being of all sentience” (Bostrom, 2003b, 12)? Winner puts
 it this way: “Better genes and electronic implants? Hell, what about potable
 6.35 water?” (2002, 44).

If commitment to human benefit is honest, we need to stretch the feasi-
 bility condition, and therefore condition 4 comes to rest on 3: the moral pri-
 oritization of new technologies requires us to argue that these technologies
 will achieve these ends faster, more efficiently, more extensively, at a lower
 6.40 human and economic cost, efficaciously where traditional methods fail, or
 all of the above. In other words, we need to argue that wide implementation
 is *feasible* in a way that justifies offsetting current priorities.

In principle, traditional forms of intervention are not excluded from TA.
 6.44 Bostrom writes that transhumanism “is not limited to gadgets and medicine,

but encompasses also economic, social, institutional designs, cultural development, and psychological skills and techniques” (2003a, 493). Yet, these are seldom the object of transhumanist reflection.³ This commitment to novelty (condition 4) is a central value choice of TA: take away the focus on high-tech and transhumanism begins to look a lot like ordinary humanism—and this is precisely its point. Yet, arguing for Third World debt relief or universal health care does not make you a transhumanist. So, TA needs to address the objection that traditional resources, properly redistributed, may achieve human benefit more quickly, and more widely and effectively. 7.1
7.5

Another worrying objection that follows from the above is that condition 4 prioritizes not just new technologies, but certain human groups over others. We need good reasons to justify putting the interests of future beneficiaries of these technologies above those of populations presently suffering the afflictions of war, famine, oppression, and poverty. We could also argue (following Murphy, 2012, 197) that failure in these areas should give some indication of our likelihood of success in making HE technologies as widely available as Bostrom contends they should be (2003a, 2003b).⁴ 7.10
7.15

The above objections do not exhaust the issue, and perhaps future mutant versions of transhumanism may find some persuasive answers. The point is that these two conditions (feasibility and moral urgency of high-tech) are accessories to beneficence: they tell us *how* benefit should be pursued for a transhumanist. Both claims need to account empirically and realistically for the desirability of DE, showing us that it is feasible and that it should be pursued by high-tech means. Only condition 3 (feasibility) could be interpreted as a *reason*, but it is a weak one: just because we can do not mean we should. 7.20
7.25

AQ5

As I show next, the core claims for posthuman beneficence are contained in the first two conditions. In other words, we could support PBA and *not* be transhumanists. We could argue that posthumanity is desirable and will be beneficial, but that it is not a priority and that we should pursue it by means other than new technologies. 7.30

III. THE WHO, HOW, AND WHAT OF VALUE

Who and How? 7.35

The first condition of TA requires some unpacking. Ostensibly, it presents an idealized rational agent who either assents or rejects claims on the basis of reasons. What assumptions are lurking behind this model of rationality?⁵ 7.40

The first objection, widely discussed in the literature,⁶ is that this picture carries an essentialist and metaphysical notion of “human nature.” As the term itself indicates, transhumanist notions of human nature derive from Enlightenment humanism. Also, human nature appears to play a normative 7.44

8.1 role in the very notion of enhancement: if we advocate “augmenting” or
 “extending” certain “potentials” or “capacities” of human beings, perhaps to
 the point of “radically altering” them, then we must assume that there is a
 8.5 base set of capacities to augment, potentials to realize, and a humanity to
 alter. This can be interpreted in a number of ways. Most versions of transhu-
 manism are clearly committed to an essentialist view, such as in Huxley’s
 original definition of the term in 1957:

8.10 The human species can, if it wishes, transcend itself—not just sporadically, an in-
 dividual here in one way, an individual there in another way, but in its entirety, as
 humanity. We need a name for this new belief. Perhaps transhumanism will serve:
 man remaining man, but transcending himself, by realizing new possibilities of and
 for his human nature. (1957, 13)

8.15 [Hauskeller \(2009\)](#) has brought transhumanists to task on this, arguing that
 their claims rely “on certain value assumptions that are tied to a particular
 conception of human nature that is just as normative as the one transhuman-
 ists so eloquently attack” (3).⁷ So, transhumanists and bioconservatives, usu-
 ally considered to be at opposite ends of the debate on human enhancement
 (HE), differ merely on their conception of human nature, while agreeing that
 8.20 “what we are is relevant for what we ought to do” (10).

Human nature also has a way to sneak into unsuspecting places. For
 example, if we focus on shared biological features of human beings, we
 are simply shifting the normative benchmark to some “natural” standard of
 good functioning. In other words, certain improvements to the digestive,
 8.25 perceptual, or circulatory system may be desirable because they further the
 proper functions of a biological system—that is, “nature” in another form.
 Moreover, if we were to reject the notion of a stable human nature, the
 being that recognizes itself as historically, socially, and culturally constituted
 would still have an essence or ontology (grounded on this self-constitution
 or reflexivity).⁸

8.30 On a strong and rather popular metaphysical reading, transhumanist an-
 thropology considers the human being an indeterminate entity who can
 freely posit its own values independently of any constitutive “natural” con-
 ditions (such as biological). This lack of nature comes to act as a sort of
 nature [or as God, as [Bishop \(2010\)](#) has argued]. In this manner, this defin-
 8.35 ing quality is reminiscent of Francis Fukuyama’s infamous Factor X: “some
 essential quality that has always underpinned our sense of who we are and
 where we are going, despite all of the evident changes that have taken place
 in the human condition through the course of history” (2002, 101). This may
 lead to a contradiction. For example, [Ogilvy](#) writes, in an existentialist key,
 8.40 that “enhancement is paradoxically the essence of creatures whose existence
 precedes their essence” (2011, 81). A few lines later, he criticizes biocon-
 servatives because their theories are based on “an ahistorical human nature”
 8.44 (81–2)—unaware that he has just made the same argument himself.

Hughes (2010), a former president of the World Transhumanist Association, has leveled similar criticisms. Transhumanists, he argues, state the “Enlightenment case for Reason without awareness of its self-undermining nature” (624). He then concludes: “Transhumanists are staunch advocates of the supremacy of reason, but like all Enlightenment partisans they need to develop nonrational grounds on which [to] argue for reason and Enlightenment values” (636).⁹ 9.1 9.5

However, I believe it is possible to take a more deflated view for the purpose of establishing PBA. A theory of valuation can be grounded on certain claims—not about human nature per se, but about the capacities of *persons*; such as the ability to rationally self-determine values on the basis of reasons, make projections about possible futures, and act on these judgments. Transhumanism borrows the standard liberal model of personhood without adding anything to it or explicitly defending its foundations. As such, personhood implies rationality and moral agency and is neither sufficient nor necessary for humanness.¹⁰ Most relevantly, personhood grounds the possibility of relating to future others like us, having duties to them, and evaluating the moral status of posthumans.¹¹ In other words, it assures us of a moral continuity with future other persons, and this is crucial for PBA.¹² 9.10 9.15

One last but important consequence of adopting personhood as the basis for PBA is the normative role it comes to play in HE choices. In a way, the argument for DE reaches an ironically bioconservative conclusion: the ethical limits of DE need to be drawn around the permanence of core human capacities.¹³ Humanity will alter its own nature only on the provision that it does not alter the conditions of its becoming-posthuman. It is possible that greater capacities (physical, intellectual, and emotional) might cause posthumans to hold values different from our own, prompting them to lead DE in an unforeseen direction; yet the very capacity for rational self-determination must remain unchanged. However, unlike bioconservatives who appeal to an unchanging essence of humanness, TA argues that these values are freely chosen, self-ascertained. Further, an increase in capacities such as memory, imagination, visual judgment, abstract reasoning, and sensory perception can all contribute to a more virtuous exercise of rationality, agency, and autonomy. Bostrom says: 9.20 9.25 9.30

The enhancements that transhumanists advocate—longer healthy lifespan, better memory, more control over emotions, etc.—would not deprive people of the capacity for moral agency. If anything, these enhancements would safeguard and expand the reach of moral agency. (2004) 9.35

To conclude: personhood takes on some of the ontological and normative functions formerly performed by human nature and, as a concept, it is just as metaphysically obscure. However, my aim was to identify the minimal assumptions necessary for establishing the reflective endorsement condition. To this end, it is not immediately relevant to sketch all the possible conditions 9.40 9.44

10.1 for personhood in the deliberative model (although we get the picture); it is important just to stress that such a set of conditions is indispensable and that (at some point) they point to a tacit theory of human nature.

10.5 Now, a theory of personhood is not enough to determine beneficence. As a model of who values (and how that who values), PBA needs to convince us of what to value (increasing human capacities) and why (*reasons*, preferably good ones).

Directed Evolution, or What is Posthumanity Anyway?

10.10 Do all transhumanists have to be utilitarian? It appears so. The arguments for HE that do not appeal to beneficence are not sufficiently convincing or even persuasive. There are two major arguments of this kind:

10.15 (1) We can appeal to a perceived historical *necessity*: reproductive choice technologies will be an “inevitable” development that will prove widely irresistible to consumers. Technological progress cannot be stopped, so we should embrace it. There may be a good reason why some prominent high-tech HE enthusiasts, such as [Silver \(1997\)](#) and [Stock \(2002\)](#), do not call themselves transhumanist. It is because they welcome the posthuman future without giving us any reasons why we *should* welcome it ([McKenny, 2009](#), 161). Stock, for example, takes a pragmatic approach to emerging HE technologies, offering guidelines and criteria, as well as mapping possible risks and challenges. The problem is that hundreds of different scenarios are routinely touted as necessary and inevitable. They are grounds too unspecific to count as reasons, and insufficient to justify taking a proactive attitude toward redesigning humanity. If anything, the attitude promoted by necessity arguments is defensive: we must prepare, but it is not necessary to do much. Waters spells it out: “we cannot simply assert that because something is necessary it is therefore good, much less that something is good because it is necessary” ([2009](#), 146).

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10.30 (2) Similar problems arise with romantic, libertarian, “heroic,” and individualist defenses of freedom of choice and “self-direction” ([Max More, 2003](#)). These have been most vulnerable to the human nature objection and the naturalistic fallacy that derives from it. Again, there is no appeal to beneficence: we should accept our historical fate whatever the consequences because it is who we are and what we are destined to do. This deprives libertarian, heroic transhumanism from any normative force.

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10.44 In a recent, important book, [Roden \(2014\)](#) examines the possibility that posthuman phenomenologies might be incommensurable with ours, a kind of unimaginable, radical other that resists our projections. For speculative posthumanism (the approach that Roden favors), posthumanity is a valuable heuristic device to reflect on possible futures. Now, from the point of view of beneficence, we could imagine (or conceive as unimaginable) such a

future, but we have no grounds to claim it will be more beneficial. To have a compelling case, PBA must convince us that posthumanity will be *better*. 11.1

As Bostrom sees it, there are two dimensions of posthumanity: one near, one far. We ought to pursue values that are important to us, *and* the pursuit of these values will lead to a state of beneficence widely known as posthumanity, accommodating a variety of scenarios, but also open to the unimaginable. 11.5

The emphasis shifts between these two aspects. In the first, becoming posthuman represents an extension or outcome of values we presently share. Posthumanity is thus near to us, within our sphere of care. In the second meaning, becoming posthuman may itself be the reason, a determinate long-term goal to keep in view. Although both aspects are continuous, they pose different ethical challenges. The second claim is that the future state will be collectively better, and *not* that it may be better for a certain person to be enhanced in certain circumstances. 11.10
11.15

The second meaning is the one that most excites transhumanists, who want us to be posthuman—and not just individually but as a future collective state of posthumanity; Huxley’s vision still stands in this respect. In this way, posthumanity comes to play a normative role in guiding HE choices with a future perspective and should be held in view as a package of costs and benefits. 11.20

Nontranshumanist arguments in favor of HE adopt more restricted moral foci. Some are concerned with the ethical frameworks involved in the decision to endow one’s children with a given trait or set of traits (e.g., [Savulescu, 2001](#), [Savulescu and Kahane, 2009](#)); others consider the best healthcare models to apply to HE technologies (e.g., [Buchanan et al., 2000](#)) or which regulatory guidelines should be put in place (e.g., [Mehlman, 2009](#)). 11.25

In contrast, TA requires a much more daring leap in which posthumanity is conceived as the eventual result of a process of directed evolution. [Harris \(2007\)](#) representatively puts the case as follows: 11.30

we have reached a point in human history at which further attempts to make the world a better place will have to include not only changes to the world but changes to humanity. . . . I propose both the wisdom and the necessity of intervening . . . by taking control of evolution and our future development to the point, and indeed beyond the point, where we humans will have changed, perhaps into a new and certainly into a better species altogether. (3–5) 11.35

As such, directed evolution is an ambitious type of pro-enhancement argument that extends across a broad stretch of time and concerns all of humanity, directly or indirectly. Any self-respecting transhumanist will advance one or several of the variants that these premises inspire. 11.40

Particularly in the early days of transhumanism, DE was conceived as a teleological process directed towards a posthuman stage, as the term “transhuman” indicates: a transitional step in human evolution (e.g., [FM-2030](#), 11.44

12.1 1989). We should note that the term “evolution” should be applied loosely
 or metaphorically in this context. As Askland (2011, 73–4) points out, engi-
 12.5 neered changes are not evolutionary changes, since the former implies a
 normative dimension (aiming at a valued end) not consistent with evolu-
 tionary theory.¹⁴ The model of rational personhood discussed above clearly
 serves to establish a basis for this process of deliberation on reasons, ends,
 and values.

Directed evolution also demands a specific moral perspective, for it
 involves actions done to *others*. In Bostrom’s terms, DE aligns itself with *re-*
 12.10 *productive* as opposed to *morphological* freedoms:

Transhumanists promote the view that human enhancement technologies should
 be made widely available, and that individuals should have broad discretion over
 which of these technologies to apply to themselves (morphological freedom), and
 that parents should normally get to decide which reproductive technologies to use
 12.15 when having children (reproductive freedom). Transhumanists believe that, while
 there are hazards that need to be identified and avoided, human enhancement
 technologies will offer enormous potential for deeply valuable and humanly bene-
 ficial uses. Ultimately, it is possible that such enhancements may make us, or our
 descendants, “posthuman,” beings who may have indefinite health-spans, much
 12.20 greater intellectual faculties than any current human being—and perhaps entirely
 new sensibilities or modalities—as well as the ability to control their own emo-
 tions. The wisest approach vis-à-vis these prospects, argue transhumanists, is to em-
 brace technological progress, while strongly defending human rights and individual
 choice, and taking action specifically against concrete threats, such as military or
 12.25 terrorist abuse of bioweapons, and against unwanted environmental or social side-
 effects. (2005a, 203)

In this scheme, morphological and reproductive freedoms have different
 moral weights. The choice of persons to alter their own bodily and mental
 capacities (morphological freedom) falls within the province of individual
 12.30 autonomy, with the limits and provisos this implies: “A liberal democracy
 should normally permit incursions into morphological freedoms only in
 cases where somebody is abusing these freedoms to harm another person”
 (2005a, 210). However, DE concerns enhancements done to future oth-
 ers, for instance, through germline gene therapies.¹⁵ In this last procedure,
 12.35 introduced traits are transmissible to the enhanced person’s future descend-
 ants. Bostrom (2003a) argues that the libertarian approach is misguided (in-
 deed, inapplicable) in these cases: we should take a carefully regulated
 approach that limits certain parental freedoms and makes enhancement
 options equitably available (499–500), as well as adopt social policies that
 12.40 mitigate the “inequality-increasing tendencies of enhancement technology”
 (503). Bostrom also highlights the importance of promoting enhancements
 that have “positive externalities”: traits that derive into some social good, ra-
 ther than a purely individual good (501). Vedder and Klaming (2012, PAGE)

12.44

make a similar point when they argue that enhancements should be implemented with a view to a “common good.” 13.1

Now we need to be convinced that these values that posthumanity will share with us are sufficiently widespread and desirable for most of humanity. These values are widely shared because they are intrinsic, or absolute, or can be counterfactually ascertained. There is a contradiction at heart of the transhumanist defense of PBA, DE, and HE. Values are shared so that their pursuit is legitimate, *and* they are diverse. Before we turn to Bostrom’s proposals, we need to consider this contradiction and consider one more reason to seek such a foundation. 13.5
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Computing Posthumanity

A problem for PBA is that the model of deliberative rationality quickly leads to incalculability. 13.15

At the core, evaluating the increased benefits of posthumanity is a quantitative problem that concerns the calculation of benefit. Let us assume that posthumans will display a certain set of characteristics that will differentiate them sufficiently from present human beings in some way. Let us also suppose that this distribution of traits will be wide enough to merit talk of the arrival of a new species or of some state of affairs deserving the name of “posthumanity.” How do we measure this change? According to the dominant account (Daniels, 2009), the only scientifically respectable definition of species nature is a population concept; namely, species are defined by a distribution of phenotypic variations that are considered typical in the context of some normative framework.¹⁶ As Lewens (2012) argues, it follows that 13.20
13.25

the only biologically respectable notion of human nature that remains is an extremely permissive one that names the reliable dispositions of the human species as a whole. This conception offers no ethical guidance in debates over enhancement, and indeed it has the result that alterations to human nature have been commonplace in the history of our species. (460) 13.30

Lewens’ argument works both ways: human “nature” (understood as a given distribution) can neither be the basis to reject or accept HE. If we think of posthumanity in terms of species nature, it should display an observable disposition of traits that yield some measurable improvement on present conditions; yet this distribution could easily display a variation as diverse as that of the present human population, and it is not clear why we should consider it as historically unprecedented, let alone more beneficial. 13.35

The problem is twofold: it is not just a matter of quantifying distributions of values across possible future states of affairs, in the manner of classic utilitarian calculus; posthumanity does not simply stand for some general good—otherwise, we could reach improved beneficence by any other means, as we have been doing through most of human history. It is 13.40
13.44

14.1 also necessary to determine *which* specific features will be reliably disposed
 across posthuman state spaces. The broad consensus is that posthumans
 will be smarter, stronger, and healthier; they will have sharper sensory and
 emotional capacities, and live longer lives or even be immortal. They might
 14.5 be different in as yet unimaginable ways. Further, Bostrom contends that, for
 posthumanity to be a beneficial state worth our effort, these features should
 be *justly* distributed; this may be why he includes wide access as a central
 transhumanist value.¹⁷ Just distribution could mean an equitable but not necessarily
 14.10 homogeneous allocation that benefits everyone; hence, Bostrom's
 insistence on positive externalities.

But the problem remains: in assenting to posthumanity, we are assenting
 to the aggregate outcome of countless autonomous decisions, carried out in
 accordance with a diversity of reasons and values. So it is not clear to *what*
 we are assenting.

14.15 Note also that the calculation of these traits is relatively independent of the
 assessment of which values will give rise to these traits, or how we will value
 them in terms of benefit. Thus, a prong of TA requires a normative frame-
 work, some list of specific values for which to look (and to yearn).

14.20 We can sense how, for PBA to merit our attention, these values must
 be widely spread. Taking their wide availability for granted, enhancement
 options will be assessed and adopted in diverse contexts and value frame-
 works. Powell (2012a) argues that the present diversity of values will prevent
 posthumanity from becoming a monoculture with lower adaptive flexibility.
 14.25 Individuals and cultures will not converge on a common use of genetic en-
 gineering technologies, because there are no common conceptions of the
 good that hold across them:

14.30 it is absurd to think that there is anything approaching consensus on the value and
 content of complex human dispositions (such as aesthetic taste, sexual attractive-
 ness, or moral virtue). Although there are certain organizing principles that are stable
 across cultures (such as morphological symmetry), they represent atolls amidst a sea
 of different strokes for different folks. Even if there is widespread access to GET
 [Genetic Engineering Technologies], disparate economic, religious, moral, political
 and other cultural preferences will prevent the fixation of a small subset of pheno-
 14.35 types. In fact, by enabling people to act on these divergent preferences, GET could
 actually increase human biological diversity, allowing for new (and otherwise in-
 accessible) combinations of desired characteristics. (213–4)

Bostrom says something similar:

14.40 Humans differ widely in their conceptions of what their own perfection or improve-
 ment would consist. Some want to develop in one direction, others in different
 directions, and some prefer to stay the way they are. It would be morally unaccept-
 able for anybody to impose a single standard to which we would all have to con-
 form. (2003b, 11)

14.44

Powell is not arguing that this new diversity will be beneficial. If anything, his argument stresses the incalculability of posthumanity, which loses all claims to be an intelligible and morally compelling reason to pursue HE and DE. There is no constant or predictable outcome in this exponential game of choice, and an unknown by definition cannot be a reason, let alone a good one. 15.1
15.5

Let us insist on this. The problem of incalculability affects not just calculations of distributions, but it can also frustrate even short-term predictions. Values are fickle creatures, highly sensitive to context. Changes in context lead to changes in frameworks of valuation, to the extent of possibly imposing values on someone who might not have otherwise endorsed them. Context sensitivity is a problem from an autonomy-based perspective, since in some cases it may be construed as a contingent limitation. Cohen (2014) refers to this as the “coercion of voluntary enhancement”: 15.10
15.15

In what will seem like a contradiction in terms, there is a potential objection of “coercion” with “voluntary enhancement.” To illustrate, imagine a good that is distributed in a zero-sum way, be it money, a job, a meaningful romantic relationship, etc. Imagine a population of one hundred identically situated individuals. If fifty of those individuals choose to enhance, they increase their share of the zero-sum goods. The other individuals in the population must enhance in order to compete. The result is a new equilibrium where everyone enhances, or at least many choose to enhance who would not choose to enhance but for the need to compete with the enhanced in a zero-sum distribution, and those who fail to enhance will suffer in terms of the distribution. (659) 15.20
15.25

Lastly, there is one problem we need to consider, which will also have relevance to section IV: the problem of the instrumentality of capacities, or what I will call ‘The Cynthia Objection’ (after the example in Buchanan et al. (2000), to be discussed shortly). This objection is relevant to incalculability because it adds a dimension of significant moral risk, a high possibility of harm or nonbeneficence. 15.30

Often, pro-HE arguments seem to imply that enhancements are intrinsically good and that there is an automatic, natural relationship between capacities and benefits: the capacity or disposition *itself* represents greater beneficence. This interpretation is partly encouraged by the term itself: to “enhance” obviously means to make something better or more perfect. However, the very instrumentality of capacities introduces a great degree of uncertainty in the calculation of well-being. My parents may have enhanced me with the capacity to be a mathematical genius, but I would rather spend the day drinking beer and watching soap operas. This kind of life may be a happy life for me and in accordance with my values, but it hardly justifies my parents’ decision, and it does not constitute an argument for the intrinsic worthiness or moral desirability of high intelligence. Alternatively, I could be an unhappy and depressed mathematical genius who has ruined the lives of everyone 15.35
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16.1 around me. In all these cases, enhanced capacities and beneficence are not
causally aligned, and the relationship between them is not reliable enough
to support the idea that enhancing capacities is itself fundamentally benefi-
16.5 cial. Bostrom recognizes this problem and replies that valuable goods might
just mean the things that

would *normally* make a positive contribution to the value of your life; they would
add value in a very wide range of plausible contexts. This mundane meaning is
what I have in mind when I speak of modes of being having a value: i.e., in a very
16.10 wide range of plausible contexts, lives instantiating that mode of being would tend
to contain that value. (2008, 110)

The notion of “normality” (essentially a statistical concept) is hard to deter-
mine, and Bostrom seems to be pointing to something like “all purposeness”
(a topic we return to later). However, as Buchanan et al. (2000) claim, we
16.15 should be wary of arguments that promote the enhancement or creation of
capacities because they lead to certain dispositions or beneficial outcomes.
Buchanan et al. speak of “virtues,” rather than “goods” or “values.” Virtues
(such as temperateness, self-control, empathy, kindness, and courage) are
valuable because they make a person better at steering the course of life.
16.20 The capabilities or dispositions underlying virtue, which are the target of
enhancements, are instrumental in relation to it. Buchanan et al. illustrate
this issue with the imaginary example of “Cynthia,” a person with a high
degree of empathy and emotional intelligence who could be a kind social
worker but is instead a con artist who sells nonexistent properties to vul-
16.25 nerable retirees. Cynthia’s capacities clearly do not lead to virtue or benefit.

If anything, the above considerations highlight the need for the type of
metaethical approach that Bostrom takes. Liberal transhumanism is com-
pelled to argue for the moral desirability of greater *capacities*, and *not* for
the desirability of certain virtues and outcomes that issue from the exercise
16.30 of capacities. These capacities need to be *themselves* linked to claims of
greater beneficence. This is one more reason to seek some justification for
them. We turn, now, to see how Bostrom attempts to do this.

16.35 IV. BOSTROM’S THEORIES OF VALUATION

Although this part of Bostrom’s argument is arguably the most important,
I hope the reader can appreciate why it was left for last, after ascertaining
its role in PBA. Bostrom suggests four different foundations for a theory of
16.40 value: (1) values can be calculated counterfactually, in terms of *individual*
benefit; (2) values are *intrinsic*; (3) values are *shared*; and (4) they are *absol-*
ute. We will discuss each of these in turn.

16.44

Individualist Counterfactual Theory

17.1

[Bostrom \(2008\)](#) argues that benefits can be measured according to “the value that a life has for the person whose life it is” (110). This value should be assessed counterfactually: Bostrom compares a person who, after living in poverty and isolation, dies from a painful illness at the age of 15; and an 80-year-old who has lived a life full of love, creativity, “worthwhile achievements,” and joy (110). This example is obviously contrived, and Bostrom acknowledges that this type of assessment might not be possible in all cases; but his point is that it can be made in *some* cases. The conclusion is that we should aim to bring about the most valuable life.

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The main problem is that this criterion does not get us very far. We could decide in a particular context, out of a range of possible children, who would be the best child to bring into the world. We could settle for, say, the child with improved spatial reasoning and no genetic inclination for depression or obesity, but it is not clear which possible lives that the same child would be weighing up when the time comes for the next generation of posthuman improvements.

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It follows that counterfactual comparisons between possible individuals cannot be reliably projected into the future without facing the incalculability objection. For a start, evaluating the life of a person “whose life it is” can be tricky. The approach could perhaps provide a handy heuristic for specific cases, but it is not enough to determine long-term beneficence.

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Intrinsic Values

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The second option is to claim that posthumanity represents certain “intrinsic” values¹⁸ that “most of us” accept, such as high intelligence, better memory, increased health, and longer lifespans ([2003a](#), 501, [2003b](#)). Here, Bostrom is conflating “intrinsic” and “shared”; perhaps he is claiming that some goods are widely accepted because they are intrinsically valuable. But I will treat both aspects separately, leaving shared values for the next section.

17.30

An intrinsic good has value in itself or for its own sake. It is not beneficial in a positional sense (desirable insofar as others lack them or they give us an advantage) but absolute “in the sense that one would want to have the enhancement even if everyone were to have it” ([Cohen, 2014](#), 651). An attractive feature of intrinsic goods is that at least some of them are general enough to be compatible with a wide range of life plans, which means that enhancements are not foreclosing the autonomy of future others ([Cohen, 2014](#), 649). Yet, intrinsicness also suggests a stable context in which a value holds good regardless of any other factors or circumstances. Plato offers the following argument in *The Republic*:

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17.40

You agree that justice is one of the greatest goods, the ones that are worth getting for the sake of what comes from them, but much more so for their own sake, such

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- 18.1 as seeing, hearing, knowing, being healthy, and all other goods that are fruitful by their own nature and not simply because of reputation. (367c–d)
- 18.5 In Bostrom’s words: “There is clearly an intrinsic value to enhancing memory or intelligence in as much as most of us would like to be a bit smarter, even if that did not have the slightest effect on our standing in relation to others” (2004, 501).
- There are a number of objections to this view in the context of PBA:
- 18.10 (1) It forfeits consequences and therefore beneficence. An intrinsic good may be worth pursuing even if it has dire costs, and a wretched and miserable life might be more worth living than a fulfilling one if it contains more intrinsic goods.
- 18.15 (2) Once we have an intrinsic good, it is not clear why it follows that we should have *more* of it (see again Hauskeller’s discussion of this point [2013]). According to TA, the value we need to endorse in order to be transhumanists is *increasing* human capacities (although not necessarily in all cases). In other words, the intrinsic value is *not*, say, memory, but *more* memory. But where does this leave plain memory? Is plain memory an intrinsic value also? How do these two values (memory, and more of it) relate to or derive from one another? Interestingly, Plato suggests above that intrinsic goods are all-or-nothing goods: you either have them or you do not.
- 18.20 (3) The Cynthia Objection: if we conceive values as capacities, intrinsic or not, we still have no assurance of greater benefit.
- 18.25 (4) Intrinsic values are devoid of context. As De Melo-Martín (2008) observes, arguments on both transhumanist and bioconservative sides of the camp “commit the error of assuming that our biological traits and behaviors can be evaluated outside of the environmental, social and political contexts in which such traits and behaviours are expressed” (201). A good life is the result of individual choices, circumstances, and contexts, rather than of any specific set of capacities. If an enhancement is instrumental in view of a capacity and a capacity is instrumental in view of a virtue (which, in turn, is instrumental in view of a good), it follows that consequent benefit depends only feebly on the allegedly intrinsic good in question. Only the virtuous exercise of capacities can heighten beneficence. Hauskeller agrees: “even if we are pretty clear about our values, the essential contextuality of every concrete biomedical intervention, cognitive or otherwise, makes it difficult, perhaps impossible, to decide, once and for all, whether an intervention should, ultimately, count as an enhancement or not” (2013, 116).
- 18.30 (5) Intrinsic values leave the door ajar (again) to accusations of human-nature essentialism and the naturalistic fallacy. To whom or what are values intrinsic? And why? This suggests some kind of given, ahistorical human constitution.
- 18.44

- (6) A good could have *both* intrinsic and instrumental value. In general, people desire intelligence, longevity, and good health because they are instrumental, inasmuch as they establish a solid basis to pursue one's life plans. However, this dual nature of values raises some questions. At which point do consequences outweigh intrinsicness? Are we compelled to reject an intrinsic value because of its negative consequences?

Shared Values

A good could be valuable because most people consider it so. The deliberative model of personhood can accommodate values as conventional, that is, values "become good" the moment "most of us" reflectively endorse them. Values are the result of rational consideration by an individual or collective in an ideal context of free and informed deliberation. Even if we argue on the basis of biological necessity or species survival, this seemingly objective necessity enters the deliberative process as a *reason* to take a certain course of action but has no compelling force beyond that. In other words, following the shared view, we cannot endorse a value simply on the basis that it is intrinsic, inherent, or "objective."

In a way, this is the least "foundationalist" of all theories, since it does not predicate any essence to values (such as intrinsicness or absoluteness). It also does not make any reference to benefit (the desirability of mass suicide could be a cherished value, as long as it is sufficiently shared). The issue is that we need to be convinced that there *are* some values that are shared consistently across all cultures, times, and historical contexts. Agar (1995), for example, has proposed that we consider values that are "clearly interculturably desirable" (14) as a guideline to assess the moral acceptability of specific modifications to the human genome, but this has proven to be harder than it looks.

Transhumanist rhetoric is infused with constant appeals to universality, often based on essentialist notions of human nature, humanity, mankind, and the human species. Assertions such as Ronald Bailey's are commonplace: the transhumanist movement "epitomizes the most daring, courageous, imaginative and idealistic aspirations of humanity" (2009, 45).

At heart, this appeal to universality is nothing but an appeal to popularity and to tradition (i.e., that something is good because it has always been considered good). For example, Bostrom claims that these improvements "are eagerly sought by many" (2008, 120), and that the "quest for subjective well-being . . . seems to be a powerful motivator for billions of people" (n. 120). At times, Bostrom's exhortations come close to an appeal to human nature:

The human desire to acquire new capacities is as ancient as our species itself. We have always sought to expand the boundaries of our existence, be it socially, geographically,

20.1 or mentally. There is a tendency in at least some individuals always to search for a way around every obstacle and limitation to human life and happiness. (2005b)

20.5 By far the most habitual rhetorical ploy of HE adherents and detractors alike is the omnipresent use of the first person plural to create an artificial sense of consensus: *we, our, us, ours, beings like us*. (I have also been deliberately using this rhetorical device throughout.) The use of the first person is meant to evoke the sense of a shared human condition and a common horizon of values. But who are *we*? Bostrom clarifies the issue for “us”:

20.10 We read and write, we wear clothes, we live in cities, we earn money and buy food from the supermarket, we call people on the telephone, watch television, read newspapers, drive cars, file taxes, vote in national elections, women give birth in hospitals, life-expectancy is three times longer than in the Pleistocene, we know that the Earth is round and that stars are large gas clouds lit from inside by nuclear fusion, and that the universe is approximately 13.7 billion years old and enormously big. In the eyes of a hunter-gatherer, we might already appear “posthuman.” (2005a, 213)

20.20 It is certain that only a small proportion of the human population fits into Bostrom’s definition of humanity: educated, wealthy, professional First World denizens. For instance, according to a recent poll, the vast majority of the US population (four out of five) does not believe that the universe is 13.7 billion years old, so presumably, these people do not count as humanity (Associated Press, 2014). The issue is that transhumanist values are too culturally specific to provide a credible roadmap to posthumanity. Ida (2009) observes that the cultures of Japan and other Asian countries, shaped by Buddhist and Confucianist philosophies, tend not to share the Western values that are embedded in transhumanism; according to Ida, this explains why the reception of transhumanist ideas has been mostly negative or indifferent in these cultures. We can also mention the cases of Latin America, the Caribbean, and Spain, where transhumanism has had a negligible cultural impact. In Latin America, bioethical debates have concentrated on much more immediate and tangible matters. Lastly, as Bostrom (himself) and Savulescu (2009) contend, there are significant variations of opinion within the same culture, which seldom coincides with a unified worldview (12–13).

20.35 Absolute Values

20.40 The “absolutist” line of argument is partly meant to respond to the problem of distorted preferences: the fact that values do not necessarily coincide with the good; or, in the words of Savulescu (2001), the fact that “procreative autonomy” and “procreative beneficence” may not always be aligned. The issue is complicated by the fact that benefits depend not just on the result of well-considered individual decisions, but on the wider value economies that surround enhancement choices. Just to convey some of the complexities, I quote from the work of Einer Elhauge:

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[There are] situations where we cannot trust individuals to weigh the benefits and costs of their biological interventions because many of those effects are external to them. In particular, sometimes part or all of benefits are transferred to them from others or part or all of the costs are shifted from them onto others. As a result, individuals who consider only the benefits and costs they personally experience will be agreeing to biological interventions that impose a net harm, including a net harm on themselves once one considers that other individuals will undergo similar biological interventions that inflict a net harm back. (Cohen, 2014, 665)

One possible way out of this is to argue for a dispositional theory of values, such as the one elaborated by Lewis (1989). According to this theory, something can be a value if, and only if, one were to be fully acquainted with it. Bostrom wants to take this further and argues that posthuman values might be of a kind we cannot fully comprehend:

Some values pertaining to certain forms of posthuman existence may well be of this sort; they may be values for us now, and they may be so in virtue of our current dispositions, and yet we may not be able to fully appreciate them with our current limited deliberative capacities and our lack of the receptive faculties required for full acquaintance with them. This point is important because it shows that the transhumanist view that we ought to explore the realm of posthuman values does not entail that we should forgo our current values. The posthuman values can be our current values, albeit ones that we have not yet clearly comprehended. (2003b, 8)

This is asking us to accept an unknown as a reason, endorsing values we can dimly comprehend as extensions of our current values. The idea is that “some of our ideals may well be located outside the space of modes of being that are accessible to us with our current biological constitution” (2003a, 495). Following Agar’s (2007a) example, someone who likes music might not fully understand or enjoy J. S. Bach’s Mass in B Minor, but the Mass “may be among his musical values if it were the case that he would enjoy it were he to be acquainted with it” (15). Posthumans will have “entirely new sensibilities and modalities” (Bostrom, 2005a, 203), and this means that we may not be able to understand their values yet.

This requires a leap of faith. As Charles Rubin argues: justification of DE “in terms of achieving some ineffable posthuman condition is not exactly a reasoned defense, and the very incomprehensibility of the posthuman makes it look like allegiance to it is an article of faith” (Rubin, DATE, 144). On his part, Agar writes that Bostrom’s enthusiasm “seems reminiscent of a home buyer prepared to purchase sight unseen” (2007b, PAGE). Agar claims that Bostrom’s re-engineering of dispositional theory has one huge problem: it tends to *subtract* values as well as to add them, leading us to reject values we are acquainted with and accept values that we do not currently share. For example, assuming that posthumans will have a developed sense of smell (Agar’s example again), they may value the scent of dog excrement as a fine pleasure. However, there is no reason why we should accept this as

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22.1 our current value and enhance our children so that they come to love the
 smell of dog excrement. Indeed, it is hard to see how parents may come to
 decide on any particular enhancement on the basis of a nebulous injunc-
 22.5 tion to “explore [a] hitherto inaccessible realm of values” (Bostrom, 2003b,
 8). How can this provide a workable norm in guiding specific enhancement
 choices?

The main problems rest on the heavy metaphysical commitment to a
 theory of “modes of being” and the consequences it leads to. In Bostrom’s
 graph, modes of being are pictured as intersecting Venn diagrams. Human
 and animal modes partly intersect, but both have their own exclusive spaces
 22.10 inaccessible to each other. In this view, our values would be an extension of
 those of a fly or a dolphin. On their part, transhumans and posthumans have
 access to larger realms of value that encompass both animal and human
 modes. Following this model, Bostrom can argue that posthuman existence
 22.15 will be *objectively* better—not because of its consequences or its benefi-
 cence, but because it is existentially better; the same way that being a human
 is existentially better than being a mouse.

Bostrom’s metaphysics raises more questions than it answers. To begin
 with, we could question the assertion that perceptual and cognitive capaci-
 22.20 ties determine modes of access to some shared universal space of Being. We
 could easily picture modal spaces as a discontinuous series of *Umwelten*,
 none of which is “better” or “wider” than any other. The choice seems to
 come down to a question of philosophical taste. Secondly, and most worry-
 22.25 ingly, Bostrom claims that there is value in extending modes of access across
 the whole space of being (more is better). However, any point in this space,
 outside the human mode, is as valuable as any other. Becoming posthuman
 could include having gills to breathe underwater, wings to fly and eyes that
 allow us to see all the electromagnetic spectrum. Any point is as valuable as
 any other. This does not constitute much of a solid norm or route map to DE.
 22.30 Agar concludes, and I agree: “What Bostrom requires is an account of value
 that tells us that posthuman experiences are objectively better than human
 ones. Good luck!” (2007b, 6).

22.35 V. CONCLUSION

I have argued that Bostrom fails to argue convincingly for a consistent set of
 values that will make posthumanity a conceivable good worth striving for.
 His attempt at the foundation is not firm enough for the amount of work
 22.40 it is meant to carry out. Although I have focused on transhumanism, my
 conclusion equally applies to consequentialist bioconservative arguments:
 projecting the outcomes of human enhancement to an appalling future post-
 humanity cannot constitute a reason to reject DE or HE. As we have seen,

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as it happens in all controversies, both sides have agreement on the basic assumptions. 23.1

Now that we have journeyed through the structure and assumptions of PBA, it is important to pause and reconsider the role of Bostrom's theories of value in it. I have claimed that this foundation is necessary, yet its place remains uncertain in PBA. It seems that Bostrom is just trying to find a way to justify the alleged popularity of posthuman values, yet none of his approaches clearly supports greater beneficence. It may easily be that PBA crumbles, due to the incalculability objection alone. In any case, perhaps foundationalism is less coherently articulated with PBA and TA than I make it out to be. 23.5
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If my interpretation of TA holds, this objection to PBA knocks down necessary condition 2 and therefore the whole argument. The great virtue of transhumanism has been to *naturalize* the prospect of HE. Once we agree that there is nothing intrinsically objectionable about HE *in abstracto*, transhumanism seems at a loss as to what to do next. For example, is there a "transhumanist" approach to the role of the health care worker in counseling prospective parents about enhancement options? Is there a characteristic "transhumanist" approach to liability in cases where biomedical interventions go wrong? The agents of posthumanity will be (and possibly already are) the parents responsible for deciding, in each particular case, what characteristics they will want to bestow on their offspring. Transhumanists have nothing useful to say to these parents. Certainly, enhancing children to explore hitherto hidden modal spaces of posthumanity is not likely to be a popular, useful, or even intelligible notion. In the end, as Savulescu (and Bostrom himself) argue, "there is nothing special about human enhancement interventions: they should be evaluated, sans prejudice and bias, on a case-by-case basis using the same messy criteria that we employ in other areas of practical ethics" (Bostrom and Savulescu, 2009, 4). They continue, furthermore: 23.15
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On this line of reasoning, it is time to take a further step, from asking "Should we do it?" to analyzing the "it" and asking a number of much more specific questions about concrete actions and policy options related to particular enhancement issues within a given sociopolitical-cultural context. The result of this will not be a yes or no to enhancement in general, but a more contextualized and particularized set of ideas and recommendations for how individuals, organizations, and states should move forward in an enhancement era. (Bostrom and Savulescu, 2009, 19) 23.35

The HE debate (and Bostrom, it seems) has moved onto this mature stage. Posthumanity can play a vital heuristic role (as in speculative posthumanism), and certainly, it can make for great science fiction, but it has no place in the moral philosophy of human enhancement. The further shores of posthumanity can be left uncharted for now, since they are not cause for any meaningful ethical concern. For posthumanity to carry any effective 23.40
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normative weight, we need to be convinced that it will either be good or bad; and transhumanists have yet to persuade “us” of either conclusion.

NOTES

1. I thank an anonymous reviewer of an earlier draft of this article for this comment.

2. Here, I ignore Ayn-Randesque visions of a privileged elite of posthumans enslaving or exterminating lesser unmodified human beings. These visions are, at best, unpopular and hard to take seriously. More to the point, they do not make any appeal to beneficence, so they give us no reason to become posthuman (and quite a few reasons to avoid it).

3. Good old tech is drummed up almost always in support of the *technological parity* thesis. According to this thesis, there are no ontological (and therefore no moral) differences between old and new technologies. This is a normative analogical argument. For example, Harris writes: “if the goal of enhanced intelligence, increased powers and capacities, and better health is something that we might strive to produce through education, including the more general health education of the community, why should we not produce these goals, if we can do so safely, through enhancement technologies or procedures?” (2007, 2). Bostrom adds: “From the transhumanist standpoint, there is no need to behave as if there were a deep moral difference between technological and other means of enhancing human lives” (2005a, 213).

4. Another objection concerns the nonidentity problem: the fact that our present choices (aimed to benefit a hypothetical lot of future others) will give rise to a new set of future individuals that have been brought into existence precisely by these same choices, so that in the end we are not benefiting who we intended to benefit. A full exploration of this problem would lead us astray from the main argument, but it deserves mentioning. As a representative sample of discussions of this problem: see Kavka (1981), Parfit (1987), and Fotion and Heller (1997).

5. This section is loosely aligned with a radical posthumanist approach. Radical (or critical) posthumanism issues from poststructuralist approaches to “foundational discourses based in terms like ‘nature’ and ‘the human’, as well as anti-humanist critiques of the liberal, Enlightenment subject as a unified, autonomous and rational self” (Sharon, 2014, 6).

6. In particular, Sharon (2014) has contributed the most extensive study of the problem of human nature (and plain nature) in posthumanist thought.

7. As one of many representative examples, he cites Savulescu et al. (2004): “biological manipulation embodies the human spirit—the capacity to improve ourselves on the basis of reason and judgment. When we exercise our reason, we do what only humans do” (quoted in Hauskeller, 2009, 11).

8. I thank another anonymous reviewer of a very different early draft of this article for pointing this out.

9. This exposes transhumanists to precisely the same charges routinely aimed at bioconservatives: that it “is based on the belief that there are some essential, but obscure, characteristics of man (*sic*) that compose his all important essence”; that it is “an unsound and outmoded argument which seeks to defend anthropocentrism by employing increasingly obscure, ambiguous and potentially fictional identifiers”; and that it displays a “propensity to defend humanity by relapsing (potentially duplicitously) into metaphysical fantasy” (Smith, 2005, PAGE). We can agree with Smith, then, that “if posthuman enhancement is to be engaged with greater success, new perspectives and arguments are needed” (PAGE).

10. Here, I consider it appropriate to address a comment made by one of my anonymous reviewers: if we speak of enhancing something, of rendering something *better than* a previous state, we must have some concept (explicit or implicit) of some basic essence or capacity that is the object of enhancement. Both capacities and essences play the same role: they establish the kind of “thing” a thing is. A capacity for intelligence seems to mean that, whether intelligence exists in me or not, intelligence is the kind of thing that is possible for beings like me. On this reading, transhumanists do not escape the essentialist objection (and the naturalistic fallacy). This could well be true, but my strategy here is to address a more deflated or “devious” way in which the transhumanist could get around this objection.

11. Wilson (2007) argues that posthumans will not deserve higher moral status (and conversely they will not regard humans as morally inferior) because personhood-relevant properties are threshold properties: more capacities do not mean *more* status. Following John Rawls, Wilson argues that there are two

- sufficient threshold properties for an entity to count as a person. These properties are capacities: a capacity to understand and act from principles of justice, and a capacity to conceive and pursue a conception of the good. These capacities enable persons to create “an ordered family of final ends and aims which specifies a person’s conception of what is of value in human life, or, alternatively, of what is regarded as a fully worthwhile life” (Rawls, quoted in [Wilson, 2007](#), 422). 25.1
12. The cost of this approach is that it is uninformative and somewhat circular, since it defines persons in terms of some observed characteristics that persons have. A fish is a fish because it lives underwater, is a vertebrate, etc. 25.5
13. As [Tobey \(2004\)](#) argues, the most plausible interpretation of Fukuyama’s Factor X is, precisely, a *capacities* view: Factor X is “our human capacity to do certain things” (79); or, rather, a compound set of complexly interlinked capacities.
14. According to Askland, transhumanism “focuses on qualities that are valuable because the group decides so, irrespective of its implications for survival aside from the group’s valuing” ([2011](#), 74). This conventionalist theory of values (at times also defended by Bostrom, as we shall see) will be discussed later. However, Askland’s view is not universal, since some proposals argue for species-wide change precisely on the basis of maladaptation to present conditions and species survival (e.g., [Bostrom and Sandberg, 2009](#); [Powell and Buchanan, 2010](#); [Gyngell, 2012](#)). Besides, evolutionary considerations are very relevant in arguing for or against some aspects of HE and DE. Powell writes: “Any serious ethical discussion of the enhancement of human nature must begin with a reasonably accurate picture of the causal-historical structure of the living world” ([2012b](#), 485). 25.10
15. Strictly speaking, this does not exhaust the range of modifications we could do to others. Parents may decide to administer Human Growth Hormone, use somatic gene therapy, or give cochlear implants to their hearing-impaired child. But germ-line interventions seem to encapsulate the kind of lasting, essential modifications that posthumanity requires. 25.15
16. Daniels adds that species nature is also a (1) *dispositional* concept, since phenotypic traits “vary within some range under different conditions” and (2) a *selective*, theory-laden concept, for we are likely to select relevant traits in order to explain something we think is important to us ([2009](#), 30). 25.20
17. [Bostrom \(2003b\)](#) provides a list of “transhumanist values” that establish the conditions for the coming of posthumanity: freedom to explore posthuman realms, global security, technological progress, and wide access.
18. I will be using “goods” and “values” interchangeably. The idea is that there are some things that we think are good and, in turn, these constitute values that we strive for and guide our actions. 25.25

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