

Bioethics and Transhumanism

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Transhumanism is a “technoprogressive” socio-political and intellectual movement that advocates for the use of technology in order to transform the human organism radically, with the ultimate goal of becoming “posthuman.” To this end, transhumanists focus on and encourage the use of new and emerging technologies, such as genetic engineering and brain-machine interfaces. In support of their vision for humanity, and as a way of reassuring those “bio-conservatives” who may balk at the radical nature of that vision, transhumanists claim common ground with a number of esteemed thinkers and traditions, from the ancient philosophy of Plato and Aristotle to the postmodern philosophy of Nietzsche. It is crucially important to give proper scholarly attention to transhumanism now, not only because of its recent and ongoing rise as a cultural and political force (and the concomitant potential ramifications for bioethical discourse and public policy), but because of the imminence of major breakthroughs in the kinds of technologies that transhumanism focuses on. Thus, the articles in this issue of The Journal of Medicine and Philosophy are either explicitly about transhumanism or are on topics, such as the ethics of germline engineering and criteria for personhood, that are directly relevant to the debate between transhumanists (and technoprogressives more broadly) and bioconservatives.

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I. INTRODUCTION

Transhumanism is an intellectual and socio-political movement that is concerned with a cluster of issues in bioethics, in particular, issues involving the

use of technology to transform the human organism radically. The core of transhumanism is to encourage the use of biotransformative technologies¹ in order to “enhance” the human organism, with the ultimate aim being to modify the human organism so radically as to “overcome fundamental human limitations” (Transhumanist FAQ, 2016) and thereby the “human” as such. In other words, to use transhumanist terminology, their fundamental goal is to become “posthuman.”²

According to transhumanists, a “transhuman” is a “transitional human” who aims at becoming posthuman and takes appropriate steps (e.g., technological enhancement) toward that end—whereas a “posthuman,” the ideal for and goal of transhumanists, is a being so radically different in physical, cognitive, and emotional capacities from normal or current humans as to be no longer unambiguously human. Transhumanist rhetoric on the posthuman typically goes much further than this, however: in his “Letter from Utopia,” for example, Nick Bostrom adopts the narrative voice of a future posthuman addressing current humans, and he writes “You could say I am happy, that I feel good. You could say that I feel surpassing bliss. But these are words invented to describe human experience. What I feel is as far beyond human feeling as my thoughts are beyond human thought. I wish I could show you what I have in mind” (Bostrom, 2010, 3–4). Elsewhere, he suggests that the intelligence gap between posthumans and humans will be less comparable to the intelligence gap between a human genius and a human of average intelligence than it will be to that between a human and a beetle or worm (Bostrom, 2014, 112).

Another core feature of transhumanism, advocated by almost all transhumanists, is a claimed continuity with Enlightenment rationalism and humanism. Transhumanism imports humanist values such as rationality, personal autonomy, and so on, claiming that the primary difference between *transhumanism* and traditional humanism is that the former is not limited to the traditional means employed by the latter to improve the human condition: “Humanism tends to rely exclusively on educational and cultural refinement to improve human nature whereas transhumanists want to apply technology to overcome limits imposed by our biological and genetic heritage” (More, 2013, 4).

It should be noted that today, even in the academic vernacular, the term “humanism” is typically used in a loose, historically ambiguous manner that blurs the line between humanism(s) and the Enlightenment.³ In this usage, the term is usually intended to refer nonspecifically to modern secular humanism, with an implied emphasis on the continuity between this movement and earlier “humanisms,” in particular, Renaissance humanism. This is how transhumanists, as well as those writing about them, typically use the term. For example, Max More writes that transhumanism “shares many elements of humanism, including a respect for reason and science, a commitment to progress, and a valuing of human (or transhuman) existence in this life rather than in some supernatural ‘afterlife’” (More, 1990, 1), while

Bostrom identifies “rational thinking, freedom, tolerance, democracy, and concern for our fellow human beings” (Bostrom, 2003, 4) as humanist values taken up by transhumanism.

Transhumanists also draw upon and claim continuity with other intellectual and cultural traditions, such as the scientific tradition (e.g., Roger Bacon), ancient philosophy (e.g., Plato and Aristotle), and others. An obvious motivation for such claims of continuity with various esteemed traditions is to reassure those, especially those so-called “bioconservatives,” who worry about the radical nature of the transhumanist project and the implications of potential discontinuity between the human and the posthuman.

Long a fairly small or even fringe movement in philosophy and futurology, transhumanism is gaining steam as a cultural and intellectual movement,⁴ and it is increasingly becoming a global political force. Zoltan Istvan, who established the first national transhumanist party (the Transhumanist Party of the United States) in 2014 and ran for president in 2016, co-founded the Transhumanist Party Global (TPG) at the end of 2014; already there are civil society umbrella organizations on all continents designed to support and coordinate transhumanist political parties at the national level.⁵

It is crucially important to give proper scholarly attention to transhumanism now, not only because of its recent and ongoing rise as a cultural and political force (and the concomitant potential ramifications for bioethical discourse and public policy), but because of the imminence of major breakthroughs in the kinds of biotransformative technologies that transhumanism focuses on, from genetic engineering to brain-machine interfaces to artificial intelligence. Thus, the articles in this issue of *The Journal of Medicine and Philosophy* are either explicitly about transhumanism or are on topics, such as the ethics of germline engineering and criteria for personhood, that are directly relevant to the debate between transhumanists (and “technoprogresives”⁶ more broadly) and bioconservatives.

II. POSTHUMANS AND PERSONHOOD

Concerns about personhood and moral status have been central to issues of the posthuman and artificial intelligence since at least 1920, when Karel Čapek coined the term “robot” from the Czech *robotá* (“forced labor”) to describe the eponymous automatons of his play *R.U.R.* (an initialization for “Rossum’s Universal Robots”). In the play, the robots are treated as less-than-human slave-laborers, or more specifically, as nonpersons, machines without the moral status of persons (and, of course, this leads to a robot uprising). The 2016 HBO show *Westworld* is yet another contemporary recasting of this theme. In the show, the posthuman “hosts” exist solely for the pleasure of the human “guests” who visit the eponymous theme park, no matter how sadistic or perverse those guests’ tastes might run. As the show progresses, it

becomes clear that the hosts have the potential to be (at least) as cognitively and emotionally advanced as their human guests and designers, in that their deficiencies in these respects are due exclusively to the constraints of their purposefully-limiting programming. Once again, a Judgment Day by humanity's righteously vengeful posthuman progeny seems to be the inevitable outcome, though perhaps *Westworld* will surprise in this regard.

Transhumanists worry seriously about precisely this possibility, as well as the flip side of this coin, which has been artistically expressed just as frequently—namely, the existential threat posed by posthumans who do not recognize the moral status or personhood of humans (one thinks of the *Terminator* and *Matrix* films, for instance). They are thus understandably opposed to any criteria for personhood that include species-membership,⁷ since, on such an account, humans would not judge (sufficiently different) posthumans to be persons whereas (sufficiently different) posthumans would not judge humans to be persons. Even those generally critical of transhumanism can see the value of formulating a criterion for personhood that is not tied to species-membership.⁸

Joseph Vukov in this issue thus makes an important contribution to the scholarship on personhood by crafting a criterion that should be appealing to transhumanists and bioconservatives alike—to the former for the aforementioned reasons, and to the latter because it allows for the intuitive notion of an *impaired person*. Vukov evaluates traditionally influential criteria for personhood, including the standard Lockean account (for any individual x , x is a person iff x has some specified advanced cognitive capacity F),⁹ species-membership accounts, and more, finding them all crucially lacking in one way or another. For example, Vukov finds the species-membership criterion unsatisfying precisely because it would disqualify in principle “robots with sophisticated artificial intelligence” (Vukov, 2017, 263) as well as other possible individuals that could near or even surpass humans in terms of advanced cognitive capacities (e.g., aliens, angels, non-corporeal Cartesian spirits, etc.).

Vukov then offers a criterion formulated in terms of natural kinds that allows for the intuitive notion of an impaired person while avoiding the pitfalls of the other criteria on offer. There is a vast and long-standing literature on the notion of natural kinds, but Vukov avoids unnecessary textual entanglements by framing a stipulative definition of “natural kind” such that a kind K is natural if (1) a member of K cannot continue to exist without being K , (2) K is ontologically-committing, and (3) there exist conditions that specify the normal functioning of K s. Vukov shows that these conditions sufficiently narrow the scope of the concept, such that, for example, biological kinds (like “dogs” or “vertebrates”) qualify as natural whereas geometrical kinds (e.g., “circles,” “triangles”) do not. For while geometrical kinds meet the first two conditions—an individual circle cannot continue to exist without continuing to be a member of the kind “circles,” and recognizing the existence of

circles adds something to our ontology, at least if we are realists about geometrical objects—they do not meet the third condition; whereas in the case of biological kinds, the third condition can at least in principle hold. In other words, geometrical kinds lack normativity: in contrast to biological kinds, it simply does not make sense to talk about how a circle “should” function or to speak of an “impaired circle” (one might interpret this phrase as a clever way of designating an ellipse—but then it would be an ellipse, belonging to the geometrical kind “ellipses,” not an impaired circle; whereas an impaired dog remains a member of the biological kind “dogs”).

Vukov’s Natural Kinds Criterion for Personhood (NKC) thus develops the Lockean account in terms of natural kinds as follows: “for any individual, x , and any natural kind, K , where $x \in K$, x is a person iff K is normally characterized by some advanced cognitive capacity, F ” (Vukov, 2017, 267). Vukov leaves what should fall under F unspecified in order to make his criterion as broadly appealing as possible, acknowledging that concrete accounts will have to fill in the schematic variables in his formulation. Nevertheless, significant gains have been made relative to the other accounts of personhood on offer, from species-membership to potentiality accounts (i.e., one is a person iff one has G or if one has the potential to have G —where G could be, e.g., “human life”). On the one hand, no matter what capacities are chosen for F in Vukov’s NKC, it will accommodate the personhood of cognitively-impaired human beings (unless cognitive capacities that most humans normally *don’t* have are chosen, but then of course this would disqualify *all* humans from personhood, not merely the cognitively impaired)—and, on the other hand, it avoids the problems faced by the other criteria on offer.

Thus, on Vukov’s criterion, it is allowed that members of different species, such as humans and sufficiently different posthumans, could nevertheless recognize each other as persons. However, it is not *guaranteed*, and a lingering worry might remain for many. For if (as Nick Bostrom suggests regarding superintelligent AI) the gap between posthuman and human intelligence is more analogous to that between a human’s intelligence and a beetle’s than it is to that between a human genius’s and the average human’s (Bostrom, 2014, 112), then who is to say what posthumans will consider to be “advanced” cognitive capacities? As Vukov himself says, he takes humans’ being a natural kind characterized by “a wide range of advanced cognitive capacities” to be “a straightforward empirical fact”—as it is, *from the human perspective*. Thus, although there seems little danger that, on Vukov’s criterion, future humans would judge cognitively-superior posthumans as not qualifying for personhood (as in *Westworld*), there also does not seem to be any in-principle reason why posthumans (assuming the gap between posthuman and human capacities is as vast as transhumanists like Bostrom suggest) would judge cognitively-inferior humans to be persons.

III. TRANSHUMANISTS AMONG THE ANCIENTS

Transhumanists frequently invoke figures from ancient philosophy and mythology in support of their positions, most prominently Prometheus, Plato, and Aristotle. They assert a shared ground with antiquity with regard to human beings' ideals and aspirations. This aspect of transhumanist discourse has received unusually little scholarly attention, which is why Susan B. Levin's contribution to this issue is so important.

Levin critically evaluates transhumanists' invocations and appropriations of ancient philosophy and mythology, concluding that not only do these claims by transhumanists reflect serious misconceptions and misreadings, but that, when rigorously considered in proper context, the ancient sources they invoke actually hold views that are opposed to what transhumanists claim. Moreover, Levin argues that explicating this gap enables these ancient sources to be brought to bear critically on transhumanist theory, exposing weaknesses in transhumanist conceptions and argumentation.

Levin proceeds in systematic fashion. First, she examines and evaluates prominent transhumanists' claims with regard to Prometheus, Plato, and Aristotle, exposing the flawed readings and misconceptions involved therein. One of the primary upshots of this part of the paper is that, in their appeals to antiquity, transhumanists "strip ancient ideas of their historical setting, deforming them in service of their claim that antiquity manifests the same fundamental aspiration or provides antecedents of current views" (Levin, 2017, 283). As the reader will see in Aydin's article in this issue, this claim of historical decontextualization or lack of "historical sense" on the part of transhumanists is not unique to Levin.

Having gotten clear on the status of particular transhumanist claims about antiquity, Levin goes on to consider how antiquity's views on ideals, contrast-dependent aspiration, and worthwhile human endeavors not only diverge from transhumanist views (or even, more strongly, are diametrically opposed to them), but how they can illuminate the problems in those transhumanist views.

An important tendency characteristic of transhumanist discourse on antiquity emerges from these analyses, one that depends upon a structural analogy between—on the one hand—*transhumanist* conceptions of the *human*, the *posthuman*, and the relation between these, and—on the other—*ancient* conceptions of the *human*, the *divine*, and the relation between these. The tendency, critically pinpointed by Levin in her analyses of transhumanist discourse on antiquity, is for transhumanists (1) to explicitly assert or implicitly establish the claimed structural analogy or formal parallelism, and then (2) to eliminate or elide the "ontological gap" characteristic of the ancient conception of the relation between the human and the divine. The second step is necessary for the analogy to hold because the transhumanist conception of the posthuman (as an achievable, rather than merely regulative, ideal¹⁰)

depends, precisely, on there *not* being a fundamental or insurmountable ontological gap between the posthuman(s) that transhumanists aspire to become and the human(s) they currently are.

Levin first notes and criticizes this tendency in transhumanist invocations of Prometheus. Thus, we find Natasha Vita-More (2013, 78) speaking of “a Promethean utopia,” and Gregory Stock—biophysicist, biotech entrepreneur, and former director of the Program on Medicine, Technology and Society at UCLA’s School of Medicine—saying that enhancement conservatives “imagine we will see the perils, come to our senses, and turn away from such possibilities. But when we imagine Prometheus stealing fire from the gods, we are not incredulous or shocked by his act. It is too characteristically human (Stock, 2003, 2).

This kind of elision—for example, Prometheus “stealing fire from the gods,” where strictly speaking it should read “stealing fire from the *other* gods,” as Levin notes—is unsurprising in context. After all, Stock holds the standard transhumanist view of human nature, which either blurs or erases the line between human and god: “It is time to acknowledge our growing powers and begin to take responsibility for them. We have no choice in this, for we have begun to play god in so many intimate realms of life that we could not turn back if we tried” (Stock, 1999)¹¹.

This is where Levin’s critical strategy—debunk the claimed continuity between ancient and transhumanist conceptions of X (e.g., ideals) by showing that the ancient conceptions of X are not what the transhumanists claim, and then observe that, when properly understood, the ancient conceptions of X are not only different from but opposed to the transhumanist interpretation—takes off. In this case, the transhumanist elision of the ontological gap between human and divine distorts the very meaning of Prometheus’s gift: as Levin persuasively argues, the “gift” of fire symbolizes the promotion of human crafts and of activities contributing to human (emphasis on human) flourishing more generally—hence Prometheus’s divine role as patron of activities from prophecy and cooking to arithmetic and medicine. Not only is Prometheus’s divinity explicitly asserted in ancient texts, but the ontological gap between the divine and the human is ingredient to the meaning of his gift as such: as Levin says, Prometheus chooses to help to realize our potential or capacities *as* mortal humans, precisely in contrast to “divine Prometheus” whose grim “fate is [that] I cannot die” (Levin, 2017, 280). Prometheus’s gift does not jeopardize the ontological gap between human and divine that was so significantly operative in the minds of antiquity—on the contrary, it presupposes it, for, in Levin’s words, the “telos” of this gift “is squarely our thriving as the kind of being we are” (Levin, 2017, 280).

In short, transhumanists’ claims about Prometheus depend upon a neglect, untenable by scholarly standards, of proper context (in this case, textual and historical context). The same pattern plays out with regard to transhumanist discourse on antiquity and ideals (whether they are regulative,

as on antiquity's view, or achievable, as on transhumanism's account) and contrast-dependent aspiration (is contrast-dependency necessary for aspiration, as on antiquity's view, or can contrast-dependency itself or as such be overcome, as on transhumanism's account?).

For antiquity, ideals are regulative rather than achievable: they are, as Levin says, "steady guides and models for human conduct, where flourishing means approximating as closely as possible what is viewed as optimal simpliciter while necessarily falling short" (Levin, 2017, 284). There was no question for antiquity of these ideals being achievable, whether we are considering Platonic Forms such as courage, justice, etc., or the perfect, ceaseless self-contemplation of Aristotle's Prime Mover. This is because of the ontological gap: were a human actually to *achieve* the Aristotelian ideal of self-contemplation, for instance, he or she would no longer be human. Likewise, for antiquity, it is conceptually impossible that a human could become a Form or could "achieve" a Formal ideal in actuality. Even a human who *never once* deviated from the ideal of justice in his or her dealings with others would not thereby have *achieved* the ideal (rather, he or she would have lived life in as close an approximation to that ideal as possible—in other words, regulative ideals are only asymptotically approachable). All this is, of course, in contrast to transhumanist conceptions of the posthuman as an ideal achievable by means of technology.

Transhumanist rhetoric on what posthumans will be like, or on what it will be like to be a posthuman, tends to the hyperbolically optimistic, whether what is being discussed are enhanced physical, cognitive, or emotional capacities:

You have just celebrated your 170th birthday and you feel stronger than ever. Each day is a joy. You have invented entirely new art forms, which exploit the new kinds of cognitive capacities and sensibilities you have developed. You still listen to music—music that is to Mozart what Mozart is to bad Muzak. (Bostrom, 2008, 112)

Have you ever known a moment of bliss? . . . If you have experienced such a moment, experienced *the best type* of such a moment, then a certain idle but sincere thought may have presented itself to you: "Oh Heaven! I didn't realize it could feel like this . . . Why can't it be like this always? Why must good times end? . . . Yet behold, only a little later, scarcely an hour gone by, and the softly-falling soot of ordinary life is already piling up . . . I am summoning this memory of your best experience—to what end? In the hope of kindling in you a desire to share my happiness. And yet, what you had in your best moment is not close to what I have now—a beckoning scintilla at most. If the distance between base and apex for you is eight kilometers, then to reach my dwellings would take a million light-year ascent. The altitude is outside moon and planets and all the stars your eyes can see. Beyond dreams. Beyond imagination. (Bostrom, 2010, 2–3)

One may get the sense from such passages that transhumanists think that posthumans can "have it all," or even perhaps that "posthuman" merely names

a particular techno-fantasy of “having it all”—a life pervaded by pleasure and unsullied by suffering. For example, the transhumanist Abolitionist Project¹² seeks the abolition of pain and suffering, and the Transhumanist FAQ even ponders the technological elimination of boredom (see Transhumanist FAQ, “Won’t it be boring to live forever in a perfect world?”). In his “Letter from Utopia,” framed as an epistle from a future posthuman to current humans, Bostrom writes “*What is Suffering in Utopia?* Suffering is the salt trace left on the cheeks of those who were around before. *What is Tragedy in Utopia?* There is tragedy in Snowman’s melting. Mass murders are not required” (Bostrom, 2010, 8). The question for transhumanists is whether this is conceptually coherent.

“As we seek to peer farther [*sic*] into posthumanity, our ability to concretely imagine what it might be like trails off” (Bostrom, 2008, 5). Might this be due, contra Bostrom et al., not to limitations of human imagination themselves due to limitations of human physiology, but rather to deeper issues of conceptual (im)possibility? Specifically, vis-a-vis antiquity, is it conceptually coherent to assert that contrast-dependency can be eliminated, as transhumanists do, without thereby eliminating a necessary condition for the possibility of aspiration? Levin levels this challenge at transhumanists in terms of their own discourse, noting that transhumanists escape contrast-dependency neither between the human and the posthuman nor within posthuman existence itself. As to the former, transhumanists consistently describe posthuman capacities with comparative adjectives and adverbs: “better” (than humans), “stronger” (than humans), “faster,” “smarter,” etc. As to the latter, recall Bostrom’s “snowman melting” line: even if posthumans eliminate many historically human causes of tragedy (e.g., war), they will still have a sense of the tragic, it is just that the objects of this sense will cause less suffering and damage to human organisms (indeed, most of us would probably be tempted to call these “tragedies” trivial—perhaps even accuse their being named thusly of trivializing the tragic).

The problem here, which I will return to in the conclusion, is a significant one. Transhumanists want to “have it all” without any sacrifices or downsides—a life of perpetual bliss untarnished by suffering, a happy life without any (involuntary) experience of unhappiness, etc. But, this view may be conceptually incoherent insofar as it either (1) seeks to maximize certain positively-perceived values while eliminating certain negatively-perceived values on which those positively-perceived values in fact depend as necessary conceptual contrasts,¹³ or (2) seeks to maximize multiple values which may be incompatible. Levin argues for (1), and I will argue for (2) in the conclusion.

The onus, as Levin argues, is on transhumanists to argue persuasively that humans’ existing inability to transcend contrastive thought is a contingent function of our evolved physiology, psychology, and language (as opposed to its being rooted in a deeper conceptual necessity independent of the

contingencies of human nature and being). In other words, and until transhumanists persuasively argue otherwise, it would seem—as it did to the ancients—that contrast-dependency is not only a necessary component of human aspiration (we must experience or recognize a current lack of X in order to be able aspire to having X), but is characteristic of comparative or evaluative thought as such. This casts transhumanist rhetoric, which characteristically implies posthumans can “have it all” without cost, in a suspicious light. To anticipate the conclusion: what if it is, in some cases at least, impossible to have it all or maximize all values—and not due to any merely human limitations, such as could be overcome by technology, but because of the nature of the values involved? If this is so, what should we think of transhumanist exhortations to radical enhancement, exhortations which elide this fundamental fact?

IV. TRANSHUMAN, POSTHUMAN, OVERHUMAN: NIETZSCHE

Many have connected transhumanism and the thought of Friedrich Nietzsche. Outside the transhumanist camp, for instance, Habermas has characterized transhumanists as “self-styled Nietzscheans” (Habermas, 2003, 22). Inside the transhumanist camp, views are multiple and divergent. Bostrom, for example, sees only “some surface level similarities with the Nietzschean vision” (Bostrom, 2005, 4), whereas Max More agrees with Stefan Sorgner in seeing “fundamental similarities” (More 2010, 1) between Nietzsche’s conception of the *Übermensch* (which, following Aydin, I will translate as “overhuman”) and transhumanism’s conception of the posthuman.

This lack of consensus is not surprising. On the one hand, statements like “Current humanity need not be the endpoint of evolution” (Bostrom, 2003, 1) seem to echo directly such Nietzschean proclamations as “Man is a rope, tied between beast and overman—a rope over an abyss . . . What is great in man is that he is a bridge and not an end” (Nietzsche, 1954, 14–15); on the other hand, Nietzsche was famously critical of humanism and humanistic values, such as equality, that are still championed by transhumanists today.

In this issue, Ciano Aydin leverages Nietzsche’s conception of the overhuman in order to analyze and evaluate transhumanism’s conception of the posthuman. The reader will notice herein a distinct parallel to Levin’s treatment of transhumanism vis-a-vis antiquity: once again, upon rigorous examination, the invoked continuity between the source’s (here, Nietzsche’s) and transhumanism’s respective conceptions proves to be lacking, whereas the conception of the overhuman, once rigorously understood, actually serves critically to expose certain problems with the transhumanist notion of the posthuman.

The first thing to note about Nietzsche’s conception of the overhuman in this context is that, to use the language employed above with reference to Levin’s discussion of ideals, it is not—in contrast to the transhumanist ideal

of the posthuman—an achievable ideal. Aydin even says that Nietzsche portrays it as an “anti-ideal par excellence” (Aydin, 2017, 313). I would argue that it is a regulative ideal, but in a specific sense. To understand this sense, one must understand (1) the relation between Nietzsche’s conceptions of the overhuman and the “eternal return,” which must in turn be understood in terms of (2) the relation between Nietzsche’s conception of the eternal return and Kant’s categorical imperative.

As many, such as French poststructuralist Gilles Deleuze (1983, 68–69), have argued, Nietzsche’s conception of the eternal return serves a critical function for practical reason similar to that of Kant’s categorical imperative. Both give the will a practical rule (a rule for the formation of practical maxims), but where the latter says “Act only according to that maxim whereby you can at the same time will that it should become a universal law” (Kant, 1993, 30), the former says “*whatever you will, will it in such a way that you also will its eternal return*” (Deleuze, 1983, 68). The key point in this context is that Nietzsche’s eternal return is not a physical or cosmological doctrine; rather, its primary significance is as a thought experiment or maxim-test (or “selective thought” Deleuze, 1983, 68) of practical reason. It is thus like Kant’s categorical imperative, except that it incorporates Nietzsche’s criticism of Kant as not extending the method of critique far enough (namely, to values): where the categorical imperative’s criterion for a valid maxim of practical reason is universalizability, the eternal return’s criterion might well be called “singularizability.”¹⁴

Nietzsche “himself insisted on the close relationship” (Kaufmann, 1950, 319) between his conceptions of the overhuman and the eternal return. And one way to explain the conception of the overhuman is to say that the overhuman is the Nietzschean ideal person, that is, the one able to “pass the test” of the eternal return all the time (whereas most of us have many moments—of suffering, wrongdoing, or even worse, mediocrity—that we would not wish to repeat eternally). In other words, the ideal of the overhuman is an ideal of self-mastery over the will and over the self as a whole. For Nietzsche, this means above all being active rather than reactive—or, in a word, creative. Alexander Nehamas identifies the conception of the overhuman with this ideal of self-creation (Nehamas, 1985, 174), as does Kaufmann, who, however, puts more of an emphasis on the virtue-ethical nature of the ideal of the overhuman as one “who overcomes himself, sublimating his impulses, consecrating his passions, and giving style to his character” (Kaufmann, 1950, 312). Of course, these notions of “self-creation” and “self-overcoming,” which correspond to the conception of the ideal (of the human or posthuman) as regulative, are very different from the transhumanist notion of the “auto-theist” posthuman, as analyzed by Aydin, which corresponds to the conception of the ideal (of the posthuman) as achievable.

Both Kaufmann and Nehamas (and Deleuze, for that matter) agree with Aydin’s assessment of the overhuman as symbolizing a creative disruption

of any fixation or invariability of identity (especially insofar as identity is constituted by fixated or invariable values, which thus call for “transvaluation,” the proper activity of the overhuman). Nehamas frames this in terms of Nietzsche’s perspectivism and connects the overhuman with an essential awareness of “the fluidity of the personality” (Nehamas, 1985, 158). Kaufmann critically opposes the ideal of the overhuman to the Platonic-Christian ideal of God and the humanist ideal of the human as these are connected by Nietzsche, who argues that the monotheist ideal of a *Normalgott* implies the existence of a *Normalmensch*, “a norm to which all men must conform and a bar to the development of individuality” (Kaufmann, 1950, 308).

Indeed, pervasive throughout all of Nietzsche’s philosophy, from his perspectivism to his theory of the will to power, is a critique of essentialism. The core of essentialism, agreed upon by Nietzsche scholars and analytic philosophers (see Yablo 1998, 417–422) alike is the postulation of non-contextual (atemporal, ahistorical, nonspatial, etc.) “essences” or essential attributes, such that a thing’s essential attributes cannot change without that thing’s identity changing, for example, without its changing type or kind. Essential attributes are of course opposed to “accidental” attributes, which can change without entailing such a shift—for example, being alive is essential to being a person, but having a left leg is not: I can lose my leg without ceasing to be a person, but when I lose my life, I undergo a “category change.” Essentialist thinking is thus at the core of concepts and conceptual schema predicated upon notions of fixed or unchanging identity. Humanism is intrinsically essentialist, which is why Nietzsche can lump it in with Platonism, Christianity, and democracy as ideologies critically opposed by his philosophy, organized by the conception of the overhuman.

What should be clear from all of the above is that the conception of the overhuman is not an achievable ideal,¹⁵ but rather is one that is regulative for critical thought and practical reason. It involves essentially the active and creative challenging of all fixed beliefs, assumptions, and values and a concomitant sensitivity to multiplicity, discontinuity, and difference (in contrast to the dominant grammar of thought, which deals with unities, continuities, and identities¹⁶). Notably, Nietzsche explicitly opposes it to the essentialism of humanism.

Aydin uses Nietzsche’s conception of the overhuman as a critical “tuning fork” to “sound out” the transhumanist ideal of the posthuman, in order to determine whether or not it is merely yet another essentialist “hollow idol” (Aydin, 2017, 314). And as Aydin argues, the fundamental dilemma facing the transhumanist ideal of the enhanced posthuman is that, on the one hand, transhumanists desire a “radical change” in (or from) the human, but, on the other, they do not wish to jeopardize the humanist values and goals that they claim continuity with (Aydin, 2017, 315). For without the essentialist framework of humanism, transhumanists would have no way of securing

unequivocal criteria for what can be considered “enhancement,” “health,” being “better than well,” etc.

The upshot is that the posthuman ideal hews closer to Nietzsche’s conception of the “last humans” than it does to his conception of the “overhuman.” The latter, to use Aydin’s terminology, “promises,” as an “index of transcendence,” “to undermine and overcome every possible invariability and sameness” (Aydin, 2017, 312); whereas the former symbolizes the “human, all-too-human” tendency to resign oneself to a given or presumed invariable identity, and to hypostasize and project that identity upon fields of possible difference. This is precisely the function of the humanist values-framework that transhumanism continues to champion, according to Aydin: it is the hypostatization of current (trans)humanist values and their projection (as univocal and ahistorical) into the future.

This essentialist absolutization of current (trans)humanist values faces a problem that arises again and again with regard to transhumanist theory and discourse, which I will call “the value(s) problem for transhumanism.” The problem is that, contrary to the implications of transhumanist discourse, there is no current consensus on what criteria should be used to determine values such as “enhancement” and “health.” This is the synchronic form of the value(s) problem, and it becomes further attenuated in its diachronic forms, in which values are presumed univocal across time (projected either into the past or the future). For example, if a posthuman is as much smarter than a human being as a human being is smarter than a beetle (Bostrom, 2014, 112)—and transhumanists make such claims about the physical and the emotional as well as the cognitive—then it seems natural to suppose that what constitutes “enhanced” for current humans will qualify as “normal” for posthumans, that what constitutes “normal” for current humans will qualify as “disabled” for posthumans, and so on.

The value(s) problem for transhumanism could be simply captured in slogan form as follows: “Context matters.” Values such as health, enhancement, and so on differ in differing contexts—synchronically, for example, across differing cultural and religious communities, as well as diachronically or over time.

Aydin adds a further dimension to the diachronic form of the value(s) problem when he notes that it is not only historical context that “norms” conceptions such as “enhancement,” “health,” and so on. Technologies, including (even especially) the kinds of biotransformative technologies that transhumanism focuses on and encourages the use of, also norm these conceptions. In other words, not only do we have good reason to refrain from presuming identity between current human values and future posthuman values (or between the criteria used to determine those values)—simply because of the demonstrable lack of consensus historically and in the present time—but we should be doubly cautious in this regard, given that the very “enhancement”

technologies recommended by transhumanism will inevitably norm the conception of “enhancement” itself over the time of their use.

Aydin provides three compelling examples of how transhumanist discourse on enhancement is self-undermining thanks to its neglect of the dependence of values on context (historical, technological, material, etc.). The way this works is that transhumanists will make connections between fixed (trans)humanist values, capacities that can contribute to realizing those values, and enhancement technologies that could improve those capacities. For example, transhumanists consider nootropics as a human enhancement technology, because nootropics increase (*inter alia*) IQ; giving more people the opportunity to increase their IQ leads to (*inter alia*) more equality; and equality is a preferred (trans)humanist value. Similarly, they would consider a brain implant for extra information storage that improves (*inter alia*) memory to be an enhancement technology, given that improving memory can improve (*inter alia*) rational thinking, which is a (trans)humanist preferred value.

And yet, matters are by no means so simple. As Aydin says, it is not just that transhumanists “reduce the human being to characteristics (faster, stronger, smarter) that they find ideal in the current era and scope;” it is that what counts as “normal” and “healthy” is “redefined in terms of what technologies are able to measure, diagnose, and treat” (Aydin, 2017, 317, 318). Thus, for example, a brain implant for extra information is not a neutral technology, but rather norms particular conceptions of “memory,” “rationality,” and so on: memory is understood in terms of “processing and retrieving information,” such that improving rationality becomes a matter of increasing processing speed and retrieving greater amounts of information more efficiently. In other words, a computational theory of mind underlies this conception of cognitive enhancement, a theory of mind that emerged from human development of and engagement with computing technology (moreover, a historically conditioned view that arose only in the 1940s and 1950s). Aydin carries out the same analysis with regard to his other examples—the way genetic engineering norms conceptions of logical competence and autonomy and the way that nootropics norm conceptions of intelligence.

The conclusion to Aydin’s study is very similar to Levin’s: the continuity, claimed by transhumanists, between the source’s (ancient philosophers for Levin, Nietzsche for Aydin) conceptions and their own, turns out to be lacking; moreover, when properly understood (e.g., in proper context), the source’s conceptions both oppose the transhumanists’ conceptions and provide a critical perspective that illuminates the problems in the latter. In this case, the upshot of Aydin’s analysis is that Nietzsche’s conception of the overhuman does not coincide or even align with transhumanist conceptions of the posthuman, and moreover, that the former exposes the essentialist character of the latter. Aydin concludes that the transhumanist ideal of the posthuman is closer to Nietzsche’s conception of the “last humans” than it is to his conception of the overhuman, in that the transhumanists’ posthuman

has each of the three hallmarks of essentialism in the history of philosophy—namely invariability, uniformity, and independence.

V. GERMLINE ENGINEERING

When it comes to technologies that have the potential to modify the human organism and species radically, genetic engineering is typically near or at the top of the list. Since 2012, the increasing success of the genetic engineering technique known as CRISPR has led to widely-shared concerns about the possibility of technological ability in this area far outpacing ethical reflection and regulatory policy. In 2015 Chinese scientists used CRISPR to modify human embryos for the first time, and in October 2016 Chinese oncologists injected a person with cells containing CRISPR-edited genes for the first time, in an attempt to combat the patient's aggressive lung cancer (Cryanoski, 2016, 1). As a result of such advances, in 2015 a group of leading biologists called for a global moratorium on the use of CRISPR to make heritable changes in a person's genome (Wade, 2015, 1).

The official transhumanist position on the use of this sort of technology was adopted over a decade ago by the World Transhumanist Association or WTA (now known as Humanity+). As James Hughes, executive director and co-founder (with Nick Bostrom) of the technoprogressive nonprofit think tank IEET (Institute for Ethics and Emerging Technologies), says:

The WTA/H+ statement embraces the desirability and inevitability of germline and enhancing gene therapies, while also calling for public financing of research and a regulatory process to ensure their safety . . . [T]he transhumanist (and technoprogressive) position is that any effort to ban research leading to such therapies, or the use of such therapies once they have been proved safe and effective, would be a violation of the rights to procreative liberty and bodily autonomy. (Hughes, 2015)

In this issue, Ioana Petre considers the moral justifiability of germline engineering from the perspective of future humans. She objects to uncontrolledly heritable germline manipulations by employing phylogenetic arguments concerned with the “unknown distant implications” (for future humans) of such procedures (Petre, 2017, 329). Interestingly, to this end, she employs a form of what I have above called the value(s) problem for transhumanism.

Specifically, Petre notes, first, that we cannot know what traits will be valued by the future humans who result from germline manipulations by current humans. She notes that although we can make some educated guesses (such as “assuming that a good state of health will still represent a benefit”—though one wonders whether future humans', not to mention future posthumans', criteria for “health” or “good health” might not diverge from currently predominant conceptions), these do not go very far (Petre, 2017, 329). For example, most current humans uncontroversially take (increased) intelligence to be a good, yet this does not rule out that, for example, future

humans might prefer the bliss of ignorance to the burden of intelligence (one thinks here, of course, of *Brave New World*).

Moreover, as Petre notes, it is difficult to anticipate which traits—of those naturally selected so far and generally considered negative—might, in a different evolutionary context or setting, constitute advantages rather than disadvantages. For example, there are diseases due to genetic mutations that can have not only negative but also positive effects: Petre cites Bostrom and Sanderg on the phenomenon of heterozygote advantage and the possibility that selecting to promote heterozygosity for certain diseases, for example, Type 1 Gaucher's Disease,¹⁷ could constitute viable forms of enhancement (in this case, of cognition).

Petre argues that the heterogeneity of the human gene pool is valuable not only because it can promote heterozygous traits but also because the uniformization of human genomes has important consequences for reproduction. Specifically, as the gene pool loses diversity, human sexual reproduction will move closer to forms of asexual reproduction, shuffling and recombining the same versions of genes as in cloning. However, risks not found in sexual reproduction attend this kind of asexual reproduction, including the production of offspring with much lower resistance to pathogens.

Given that the debate over germline engineering is well-established, the most significant contribution of Petre's article is probably less the position just adumbrated than the discussion of potential objections to it, of which Petre considers six. Ultimately, Petre's position is not absolutist—she does not argue for a ban on germline engineering simpliciter. Her concern is less with germline modifications as such than it is with germline modifications that would be indiscriminately heritable. Petre acknowledges that if the heritability of engineered modifications to the germline can be controlled, for example, by inserting an artificial chromosome designed to be non-inheritable after a certain generation, then there would be no successful ground for opposing these modifications.

VI. CONCLUSION: THE VALUE(S) PROBLEM FOR TRANSHUMANISM

I will close by more systematically framing what I have referred to as the value(s) problem for transhumanism. Fundamentally, the value(s) problem concerns the problems attending the assumption that certain values (e.g., "health," "enhancement," "normal") can be fixed or treated as fixed across contexts. It takes either a synchronic or a diachronic form.¹⁸

The synchronic form, more acute in today's secular pluralistic world than ever before perhaps, is quite familiar: differing (political, cultural, religious, etc.) communities share different and often incompatible values; there is no univocal consensus across communities, not only with regard to value-judgments about controversial normative issues, but even with regard to orienting values and basic normative principles.

The diachronic form may either be past-directed or future-directed. In its past-directed form, it involves the projection of current values and orientations into the past, as when transhumanists assert a continuity of normative vision with ancient philosophers, without probing whether perceived similarities go deeper than a merely surface-level resemblance (which dissolves upon proper historical contextualization). In its future-directed form, as we have seen with Vukov et al., it involves the assumption that current values are predictive of future values (e.g., that “good health” will still be valued by future posthumans—indeed, that “good health” in such future mouths will still mean something recognizably close to what we mean by that phrase now).

As we have seen, Aydin introduces a further kink into the future-directed, diachronic form of the value(s) problem for transhumanism: technologies norm conceptions and discourses about the human, enhancement of the human, and so on. Not only should we be hesitant to assume that we can predict what future humans and/or posthumans will value in general, if only because of the demonstrated lack of current consensus combined with the changing of values over the course of prior history. Rather, because of the nature of transhumanist discourse in particular (with its focus on transformative technologies, which are not neutral but which norm), we must also recognize that the very employment of the technologies advocated as unequivocally “enhancing” by transhumanists will doubtless transform the very criteria or standards used to determine what counts as “health,” “fitness,” etc., in the first place. There is thus a kind of double-level inability that attends the project of confidently predicting future bioethical values.

Now I would like to introduce a kink into the synchronic form of the value(s) problem. I take my inspiration here from Levin’s discussion of contrast-dependency with regard to aspiration. Specifically, my point is to observe that values can synchronically conflict or be incompatible in at least two ways, namely *externally* and *internally*. An external conflict between two values is a conflict between values that *need* not be incompatible. To take a toy (purposefully oversimplified) example: perhaps A values human life over autonomy, whereas B values autonomy over human life; thus, on the issue of abortion, A thinks that the value of the fetus’s life trumps that of the mother’s autonomy, whereas B thinks that the value of the mother’s autonomy trumps that of the fetus’s life. Here, the conflict between human life and autonomy is external: it is not due to the nature of the values but rather to the circumstances of the particular case that they are (for A and for B both) opposed. Obviously, human life and autonomy are in no way “in themselves” incompatible—quite the contrary.

But consider another type of conflict between values, for example, between beauty and equality. Is it possible—that is, is it conceptually coherent—to maximize both beauty and equality simultaneously? Can the beautiful exist if everything is equally beautiful, for example can human beauty still exist if

everyone is equally beautiful? Or does beauty require, as a necessary condition of its possible existence, inequality in the form of a background against which to stand out? Science and speculative fiction writer Ted Chiang has literarily articulated this *internal* values-conflict between beauty and equality in a short story titled “Liking What You See: A Documentary”.

The story consists of short reports from various individuals, for example, students and administrators and activists, connected to the recent deployment of a technology known as “calli,” a “programmable pharmaceutical called neurostat” which induces an agnosia by essentially “simulating a specific brain lesion”—in this case, “calliagnosia,” the inability to see human beauty or attractiveness in faces (Chiang, 2002, 244). The reports cover many and divergent viewpoints, from enthusiastic technoprogressivism to cautionary bioconservatism to indifference. Those who take a favorable view of the technology—which has already been deployed, for example, in certain private schools, at the time of the story—see it as a technological solution to “lookism,” and thus a promotion of the (trans)humanist value of equality.

As “Maria deSouza, third-year student, President of the Students for Equality Everywhere (SEE)” says:

The deeper societal problem is lookism. For decades people’ve been willing to talk about racism and sexism, but they’re still reluctant to talk about lookism. Yet this prejudice against unattractive people is incredibly pervasive. People do it without even being taught by anyone, which is bad enough, but instead of combating this tendency, modern society actively reinforces it.

Educating people, raising their awareness about this issue, all of that is essential, but it’s not enough. That’s where technology comes in. Think of calliagnosia as a kind of assisted maturity. It lets you do what you know you should: ignore the surface, so you can look deeper.

We think it’s time to bring calls into the mainstream. (Chiang, 2002, 238)

The benefits of this technologically-induced blindness to facial beauty are real: “Saybrook [a school which requires its students use calli] has a higher than normal number of students with facial abnormalities, like bone cancer, burns, congenial conditions. Their parents moved here to keep them from being ostracized by other kids, and it works” (Chiang, 2002, 242). And in good transhumanist vein, the use of the technology is constrained by personal autonomy—at least for the time being:

Some people also ask about enforcement. We don’t plan on doing anything like that. It’s true, there’s software that’s pretty good at guessing if a person has calli or not, by analyzing eye-gaze patterns. But it requires a lot of data, and the campus security cams don’t zoom in close enough. Everyone would have to wear personal cams, and share the data. It’s possible, but that’s not what we’re after. We think that once people try calli, they’ll see the benefits themselves. (Chiang, 2002, 246)

Others express the viewpoint of traditional humanism, such as this third-year student at a calli-optional-but-encouraged college campus: “Of course it’s wrong to judge people by their appearance, but this ‘blindness’ isn’t the answer. Education is” (Chiang, 2002, 247). And yet others, such as this professor of comparative literature, critique the administration of calli (which only really works if everyone wears it) as a form of biopolitics: “This is just the latest example of political correctness run amok. The people advocating calli are well-intentioned, but what they’re doing is infantilizing us. The very notion that beauty is something we need to be protected from is insulting. Next thing you know, a student organization will insist we all adopt music agnosia, so we don’t feel bad about ourselves when we hear gifted singers or musicians” (Chiang, 2002, 259).

Chiang’s story does not end with a moral lesson or normative resolution of the values-conflict. This is in line with the form of the story, which dispassionately presents multiple and conflicting viewpoints on the issue. The reason for both this literary form and the lack of final resolution is that the values-conflict between beauty and equality, playing out over the calli technology, is internal rather than external: both cannot be simultaneously maximized; at best, they can be balanced. Different people and cultures will prefer various balances that emphasize one value at the expense of the other. But transhumanists, with their goal of “having it all,” do not wish to balance values that internally conflict or acknowledge the need to—as with the calli advocates in the story, merely educating people about “lookism” is “not enough.”

Transhumanists would use technology, or allow and encourage individuals to use technology, to make everyone equally beautiful—but this utopian transcendence of the contrastive nature of beauty and equality vis-a-vis each other is conceptually incoherent, as Ted Chiang’s story convincingly demonstrates.

Thus one of the major conclusions of this paper, as of the papers in this issue, is that we should be suspicious of the unbridled optimism transhumanists exhibit with regard to the posthuman and the kinds of uses of technology that it would take to get there. Often the declaration of the radical nature of the transformations optimistically envisioned by transhumanists is embedded within a discursive framework of reassurances of continuity, for example, with past human traditions, with the human as such, and so on. As we have seen, these reassurances frequently depend upon claims and arguments that dissolve upon scholarly examination.

In conclusion, due especially to (1) the recent cultural and political rise of transhumanist ideology, and (2) the imminence of breakthroughs in the kinds of biotransformative technologies advocated by transhumanists, it is crucial that transhumanism be taken seriously, its claims evaluated rigorously, and the philosophical and ethical issues connected to it explored thoroughly—before it is too late, before such considerations become moot.

Technological enhancement of the human seems inevitable, but rushing blindly into a brave new posthuman world is surely not—and if we do not wish to enter this future blindly, poised to be surprised by unexpected and possibly even dystopian outcomes, but rather wish to go forward armed by forethought and critical reflection, *now* is the time to engage in that process.

NOTES

1. N.B.: I do not mean the term “biotransformative” in the technical sense this term has in chemistry; I am simply using it as a substitute for “enhancement technologies,” since it is precisely the value-ladenness of “enhancement” that I will problematize in what follows. Whether the changes produced in the human organism by such a technology’s use are seen as “enhancement” or “impairment,” they will be describable (more neutrally) as “modification” or “transformation.” Biotransformative technologies focused on by transhumanists include genetic engineering, brain-machine interfaces, molecular manufacturing and nano-engineering, artificial intelligence, cryonics, cloning, nootropics, “mind-uploading,” and more.

2. Founding figure of transhumanism Max More has characterized transhumanism as “a class of philosophies that seek to guide us towards a posthuman condition” (More, 1990, 1). “By thoughtfully, carefully, and yet boldly applying technology to ourselves, we can become something no longer accurately described as human—we can become posthuman” (More, 2013, 4).

3. Though this loose way of speaking is regrettable, the most that can be done here is to alert the reader to the existence of the distinctions that are being glossed over. In fact, there were at least three humanisms prior to the modern secular humanism, which latter we might associate, for example, with such institutions as the First Humanist Society of New York, which was founded in 1929 by Charles Francis Potter and which included on its advisory board such luminaries as Albert Einstein, Thomas Mann, and John Dewey (as well as Julian Huxley, brother of Aldous and later first Director of UNESCO, who is often, if erroneously, cited as the coiner of the term “transhumanism”):

The first humanism in the late 15th and the 16th centuries claimed a basis for human unity over against the emerging Christian religious divisions of the time. At the same time, it reaffirmed classical Greek and Roman pagan ideals of *paideia*, *philantropia*, and *humanitas*. The second humanism at the end of the 18th and beginning of the 19th centuries continued Enlightenment themes in promising a cultivation proper to humans as such. The third humanism and so-called New Humanism . . . surfaced at the end of the 19th and beginning of the 20th centuries . . . The humanities were invoked to place the new sciences and technologies within the context of immanent human values and to provide a moral unity for an increasingly secular culture. (Engelhardt, 2000, 25).

Bostrom claims ideological continuity with both Renaissance humanism and Enlightenment rationalism, as well as with the narrower category that he identifies as “rationalist humanism,” in which he says transhumanism “has roots” (Bostrom, 2005, 3). According to Bostrom, “The heritage from the [humanism of the] Renaissance combines with the influence of” the Enlightenment, from Roger Bacon to “Isaac Newton, Thomas Hobbes, John Locke, Immanuel Kant, the Marquis de Condorcet, and others to form the basis for rational humanism, which emphasizes empirical science and critical reason – rather than revelation and religious authority – as ways of learning about the natural world and our place within it and of providing a grounding for morality” (Bostrom, 2005, 2–3). It is unclear whether Bostrom’s use of the phrase “rationalist humanism” is meant to be stipulative, or whether it is in fact an allusion to Aleksander Solzhenitsyn’s 1978 Harvard Commence Address (intentional or not, the referent would seem to be the same):

I refer to the prevailing Western view of the world which was first born during the Renaissance and found its political expression from the period of the Enlightenment. It became the basis for government and social science and could be defined as rationalistic humanism or humanistic autonomy: the proclaimed and enforced autonomy of man from any higher force above him. It could also be called anthropocentricity, with man seen as the center of everything that exists. (Solzhenitsyn, 1978, 25)

In any case, a result of this general imprecision of language use is that the term “humanism” comes to operate as shorthand for modern secular humanism *qua* having its roots in Enlightenment rationalism and Renaissance and other humanisms. Thus, for example, the ultimate Enlightenment value, autonomy, comes to be spoken of as a “humanistic value,” as even I have done, when just a bit more historical sensitivity would dictate a distinction between Enlightenment and humanistic values, not to mention between the various humanisms. A true critical treatment would have to go even further—it would have to challenge not only the assumption that blurs the line between the Enlightenment and humanism, but the assumption that the two are broadly compatible in terms of views, values, and so on. Michel Foucault, for instance, wrote that he was “inclined to see Enlightenment and humanism in a state of tension rather than identity” (Foucault, 1984, 47). Such, however, is beyond the scope of this paper, much less this footnote. In the context of this paper as in the context of transhumanist discourse, “humanist” will have to remain vague and cover a lot of semantic territory, though the reader should be aware of the complexities thereby covered over.

4. Transhumanism has achieved a significant cultural presence in recent years; the continuing spread of democratizing information and networking technologies like the internet has played a large role here. Transhumanism has achieved an important online presence through its official and quasi-official institutions, as well as through more popular dissemination.

One of the most important transhumanist institutions is Humanity+ (formerly the World Transhumanist Association), a 501(c)3 international nonprofit membership organization that publishes a magazine, holds conferences, and hosts “h+pedia” (“a dynamic social network for Humanity+ members and other transhumanists throughout the world”) and “H+SN” (the “Humanity+ Student Network”). Humanity+ also publishes books, conducts interviews, and organizes media and press representation. IEET, the Institute for Ethics and Emerging Technologies, is another nonprofit think tank, founded by Nick Bostrom and James Hughes; it publishes the technoprogressive journal JET (*Journal of Evolution and Technology*), organizes grants and funding for IEET Fellows, holds conferences, and so on. The websites for Humanity+ (which includes the official Transhumanist FAQ and Transhumanist Declaration) and IEET both offer significant resources, including free articles, for those interested in learning about or becoming involved in transhumanism.

Both transhumanist discourse and discourse about transhumanism extend well beyond the confines of the academy. Transhumanism’s significant penetration of popular culture, which has largely occurred online, is surely due to a number of factors, which may include: the close association between transhumanist themes and science fiction, as well as a demographic overlap between the transhumanist and sci-fi communities; frequent allusions to transhumanism and transhumanist theories by tech celebrities like billionaire Elon Musk and science celebrities like Stephen Hawking; purposeful activism and campaigning by transhumanists; and so on. In any case, transhumanism has its own Subreddit and it is frequently discussed in popular online publications (especially tech publications) such as *Techcrunch*, *Gizmodo*, and *Wired*, as well as more traditional mainstream publications like *Newsweek*, *The Telegraph*, *The New York Times*, etc. See Reddit Transhuman [On-line]. Available: <https://www.reddit.com/r/Transhuman/> (accessed: March 15, 2017).

5. There are now such transhumanist parties on every inhabited continent: North America (TP-NA), South America (TP-SA), Northern Asia-Pacific (TP-NAP), South Asia-Pacific (TP-SAP), Europe (TP-EU), and the Middle East and Africa (TP-SAP). See Benedikter and Siepmann (2016) for a current survey of the state of transhumanist politics around the world.

6. To see how transhumanists themselves frame this debate, see The Institute for Ethics and Emerging Technologies, [On-line]. Available: <https://ieet.org/index.php/IEET2/biopolitics> (accessed: March 15, 2017).

7. “Transhumanists reject speciesism, the (human racist) view that moral status is strongly tied to membership in a particular biological species, in our case *Homo sapiens*. What exactly does determine moral status is a matter of debate. Factors such as being a person, being sentient, having the capacity for autonomous moral choice, or perhaps even being a member of the same community as the evaluator, are among the criteria that may combine to determine the degree of somebody’s moral status . . . But transhumanists argue that species-identity should be de-emphasized in this context. Transhumanists insist that all beings that can experience pain have some moral status, and that posthuman persons could have at least the same level of moral status as humans have in their current form.” (Transhumanist FAQ, 2016)

8. See McNamee and Edwards (2006), an article primarily critical of transhumanism, where the authors discuss what can be said in favor of transhumanism: “[I]n the spirit of work in ethics that makes use of a technical idea of personhood, the view that moral status is independent of membership of a particular species (or indeed any biological species), transhumanism presents a way in which moral status can be shown to be bound to intellectual capacity rather than to human embodiment as such or human

vulnerability in the capacity of embodiment” (McNamee and Edwards, 2006, 514). See also *Foundations of Bioethics*: “Because the fabric of authoritative cooperation among moral strangers depends on agreement, moral agents may not be used without their permission. This moral concern, it must be stressed, focuses *not on humans but on persons*. That an entity belongs to a particular species is not important in general secular moral terms unless that membership results in that entity’s being in fact a competent moral agent” (Engelhardt, 1996, 138).

9. Different versions of the Lockean account of personhood are formed by selecting different advanced cognitive capacities for *F*. For example, here is Locke’s original version: “[W]e must consider what *Person* stands for; which, I think, is a thinking intelligent Being, that has reason and reflection, and can consider it self as it self, the same thinking thing in different times and places” (Locke, 1975, II.XXVII §9). Engelhardt offers a similar account in his *Foundations of Bioethics*: “[N]ot all persons need be humans. What distinguishes persons is their capacity to be self-conscious, rational, and concerned with worthiness of blame and praise . . . [S]uch entities . . . must be self-conscious . . . They need to be *rational* beings. That rationality must include . . . a *minimal moral sense*” (Engelhardt, 1996, 138–139).

10. In other words, for transhumanists, the ideal of the posthuman—with its cognitive, physical, and emotional capacities that so far exceed what current humans are capable of—is not a “regulative” ideal, that is, an ideal that is not actually achievable but which serves as a kind of liminal goal that guides conduct (one might think of the ideal of Christ for Christians—all Christians strive to *approximate* this ideal in their lives, i.e., the ideal of being Christlike or without sin, but none think that they can actually achieve it in earthly life). In contrast, transhumanists believe that they *can* achieve their ideal, that they can each as individuals become posthumans by means of technology.

11. This quote by Stock has a very troubled history in scholarly literature. With a few words changed (the result being: “it is time for us to acknowledge our growing powers and begin to take responsibility for them. We have little choice in this, for we have begun to play god in so many of life’s intimate realms that we probably could not turn back if we tried”), it has been cited in multiple published works (books as well as articles) as coming from Stock’s (1993) *Metaman: The Merging of Humans and Machines into a Global Superorganism*. Most often it is cited as coming from the introduction (no page number), sometimes simply the book is cited, and, in one case, pages later in the book were cited. In fact, that (difficult to acquire) book has no introduction, only a preface, in which the quote is not to be found—nor is it to be found in the later pages mentioned. I have been unable to isolate the original error, but its proliferation through lazy scholarship is easy to track for those so inclined.

12. The Abolitionist Project [On-line]. Available: www.abolitionist.com (accessed March 15, 2017).

13. Considering the contrast-pair of, say, pleasure and pain, this problem can take multiple forms—for example, theoretical/conceptual and empirical: on the one hand, can someone who has never experienced pain experience pleasure, or the same kind or intensity of pleasure, as someone who has experienced pain? Or, on the other hand, is it possible via technological means to indefinitely increase the intensity of pleasure without that pleasure overturning into its opposite, that is, pain (questions about diminishing returns would also fall under the empirical category)?

14. Instead of appealing to impersonal, contextless values that hold across individuals and over time (because individuals share the same unchanging form of practical reason, from which these values are derived), the eternal return forces its thinker *as* this individual to question his or her values *as* this individual’s or “mine” and at *this* point in time and in *this* specific context. The question is not whether I can affirm that my maxim can be decontextualized and universalized, that is, willed by all others without contradiction or self-undermining, but whether I as this singular individual could affirm this maxim holistically or as embedded in this specific context, knowing that I would have to repeat the experience eternally.

15. It should be further apparent that one could not become an “overhuman” via technological enhancement from the fact that Nietzsche said that only “scholarly oxen” could construe this conception Darwinistically (Kaufmann, 1950, 313). Notably, in the text where he says this, he also explicitly opposes the overhuman “to ‘modern’ men, to ‘good’ men, to Christians and other nihilists” (Kaufmann, 1950, 313).

16. To see how this ideal of the overhuman as font of perpetual critique plays out in Nietzsche’s method of “genealogy,” see Michel Foucault’s “Nietzsche, Genealogy, History” (Foucault, 1984, 139–164), an essay that was itself very influential for contemporary continental philosophy.

17. Type 1 Gaucher’s disease is the non-neuronopathic (not affecting the CNS) form of Gaucher’s disease, a sphingolipidosic genetic disorder (sphingolipidoses are a class of lipid storage disorders relating to sphingolipid or glycosylceramide metabolism). Type 1 is the most common form of the disease; it has a frequency of 1 in 50,000 to 100,000 people in the general population, whereas in the Ashkenazi Jewish population its frequency is 1 in 500 to 1,000 people. Most studies on the subject have

found that Ashkenazi Jews score higher in terms of verbal and mathematical (but not spatial) intelligence on IQ tests than other populations. In recent decades there has been debate as to whether this might be explained in terms of the high rates of certain genetic diseases like Type 1 Gaucher's in this population, in that the way these diseases affect sphingolipid storage has the secondary effect of reducing inhibitions to neural growth of axons and dendrites. See Cochran, Hardy, and Harpending (2006).

18. Historians, and in particular scholars in the history of medical ethics, already have a name for the value(s) problem insofar as it infects historical scholarship—"presentism": "historian Darrel Amundsen . . . warns against two vices: presentism and essentialism. He defines the latter [vices] as 'the tendency to see ideas . . . as free-floating in time and space . . . without reference to any temporal context other than the present, and . . . idea[s] . . . as essentially the same everywhere and at all times'" (Baker and McCullough, 2009, 5).

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