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Hello Anthropocene, Goodbye Humanity:
Reframing Transhumanism Through
Postphenomenology

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Abstract: *It seems paradoxical that the name of the new geologic age might be the Anthropocene while converging NBIC technologies are advancing to the point where some transhumanists are predicting that humanity will potentially be evolving into a new post-human species in the next 50-100 years. New technologies, such as 3D printing of body parts and genetic engineering, bring about both exciting and potentially disturbing future scenarios. Transhumanists and bioconservatives bring opposing views to this human enhancement debate. However, they both start from a dualistic point of view, keeping the subject and object separate. The philosophical field of postphenomenology is an effective approach for pragmatically and empirically grounding the human enhancement debate, providing tools such as embodied technological relations, the non-neutrality of technology, enabling and constraining aspects of all technologies, and the false dream of a perfectly transparent technology.*

Keywords: human enhancement debate, postphenomenology, transhumanism, liberal eugenics, posthumanism, philosophy of technology, Anthropocene

[*NOTE: This is the author's copy that was accepted for publication, and it has a slightly different formatting than the published article. There may be a few minor differences in wording than the original as well. However, the pagination is the same as the published document -rsl*]

There is a certain amount of irony in referring to the current geologic age as the Anthropocene. The rhetoric from transhumanists suggests that we are nearing a point with converging technologies where we will be able to greatly transform our species. Though humans have used technology to enhance and modify themselves throughout much of our history (i.e., tattoos, piercings, false teeth, eyeglasses, prosthetic limbs, etc.), recent advances in Nano, Biological, and Informational technologies, as well as the Cognitive sciences, collectively referred to as NBIC, create the ability to eradicate many diseases, dramatically increase the human lifespan, and allow us to choose the genetic make-up of our children, culminating in the possibility of transcending, or evolving, beyond what it means to be human.

For the *transhumanists* (Bostrom; Kurzweil; Moravec; More), the notion of becoming something other-than-human is considered to be a positive development that should be embraced. Transhumanists propose that our survival as humans depends upon advancing ourselves as best we can, and there is no reason we should remain subject to limited and faulty bodies if alternatives exist. Counter to this

argument, the *bioconservatives* (Fukuyama; Habermas; Sandel) feel that transhumanism threatens the very essence of what it means to be human, even going so far as to call it the most dangerous idea in the world (Fukuyama, "Transhumanism"). Bioconservatives strongly advocate for regulations against unrestricted use of NBIC technologies. Both sides are acting in the best interest of their notion of humanity.

This paper will explore the concept of human enhancement through the lens of postphenomenology to analyze how new technologies mediate our lifeworld experience. Personally, I vacillate between excitement and concern over the benefits and drawbacks for the profound capacities promised by these technologies. Typically, technology happens in incremental steps, a gradual progression, albeit with an occasionally disruptive invention such as the printing press coming along. However, NBIC advancements now appear to be following more of a Kurzweilian exponential growth model, making it more difficult to dismiss some of the transhumanist claims (Kurzweil). Take for instance the recent 3D printed human ear experiment, where the printed ear was attached to a mouse and began to develop (Kang et al.). Will we soon get to the point where we can print a repaired version of our heart and then have it implanted into us? Or, will we be able to take a "pill" with nanobots that are programmed to clean the plaque from our veins, transfer minute amounts of chemo directly to cancerous cells, or even potentially repair internal damage? What happens if/when we reach the ultimate transhumanist goal of being able to upload our minds and memories to a computer? Could we then transfer them to a 3D printed version of our younger selves, thereby creating the opportunity for a fresh, biological reset, a kind of technological sip from the metaphorical fountain of youth?

These new human enhancement technologies challenge us to try and make sense of what it means to be human. Postphenomenology, a philosophy based in pragmatism, is well suited to take a grounded look at human enhancement issues. Integrating postphenomenology *into* the human enhancement debate can address shortcomings from both transhumanists and bioconservatives and will improve our ability to understand key issues.

BACKGROUND

Before explaining the specific ways that postphenomenology can help ground the human enhancement debate, I will provide some background context, concerning the main actors (in the Latourian sense) involved.

Transhumanism

Though there have been a few historical mentions of the term transhumanism,[1] the official, collective movement began in the 1980s with Max More's Transhuman Doctrine. Then, in 1998, Nick Bostrom and David Pearce founded the World Transhumanist Association, which is now known as Humanity+. Bostrom formally defines transhumanism as the following:

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[1] See Bostrom "Transhumanist FAQ's."
[2] There are many excellent works describing more in-depth the variety of ways

1) The intellectual and cultural movement that affirms the possibility and desirability of fundamentally improving the human condition through applied reason, especially by developing and making widely available technologies to eliminate aging and to greatly enhance human intellectual, physical, and psychological capacities.

2) The study of the ramifications, promises, and potential dangers of technologies that will enable us to overcome fundamental human limitations, and the related study of the ethical matters involved in developing and using such technologies. ("Transhumanist FAQ's" 4)

According to transhumanists, we are in a transitory phase between embodying what has been considered to be human and becoming a superintelligent posthuman, where technology is used to enhance our minds and bodies. More ("Philosophy") stated that though transhumanist roots can be traced back to humanism and the Enlightenment, most transhumanists fall into the philosophic tradition of critical rationalism, which believes they "can give up justification [i.e., to a higher entity such as God] while retaining a respect for objectivity, argumentation, and the systematic use of reason" (6). Transhumanists believe in the right (and ability) for self-improvement. Additionally, transhumanists have a modern, instrumental approach to technology, seeing it as neutral (see the non-neutrality of technology section below).

Bioconservatives

Bioconservatives are critical of transhumanism. They feel that that there is a human essence that transhumanism threatens. They advocate for international oversight to limit the transhumanist ability of to use technology for enhancement purposes that would essentially and irrevocably change human nature. There are various types of bioconservatives, from culturally conservative (Fukuyama, Habermas) to left-leaning environmentalists (McKibben).

Postphenomenology

Postphenomenology was developed by Don Ihde around 1990 and has been successfully used to investigate and better understand how technology mediates human relations with the world. Postphenomenology proposes a balanced way of viewing technology that is non-instrumental and non-deterministic. Postphenomenology grew out of combination of phenomenology and pragmatism. This philosophical approach is rooted in empiricism and breaks from traditional phenomenology by being non-essentialist. Instead, it proposes that technologies are *multistable*, that they are not just one thing, and that there are multiple (though not infinite) ways in which they can be used. Further, any new technology can be understood to have both enabling and constraining aspects (see below). And finally, postphenomenology is *relational* and *amodern*, believing that there is not a fixed self or object, but rather each are constituted in relation to the other (Ihde, *Lifeworld*; Rosenberger & Verbeek).

Posthumanism

Posthumanism is a term used in several different ways. While transhumanism has a generally agreed upon, specific definition, posthumanism remains a fluid concept. It is beyond the scope of this article to explore posthumanism in extensive detail; however, the term will be briefly touched upon, as it often comes up in discussions[2] around transhumanism. Transhumanists use the term very specifically, referring to humanity's next evolutionary step after the *technological singularity* (Kurzweil), when humans either evolve by merging with technology and become superintelligent, or when an artificial intelligence becomes superintelligent and "normal" humanity is eclipsed as the dominant entity on the planet.

The term is also used to more broadly encompass the collective aspects known as critical, cultural, and philosophical posthumanism. Specifically, it is often used as a critical term based on anti-anthropocentrism (removing the human, and specifically the white male, as the center of any methodological approach) and to promote the notion that the coevolution of humans and technology can help deconstruct normative views of what "being human" means (Braidotti; Hayles). It emphasizes the need to blur the boundaries between dualities such as human/nature, human/animal, and human/technology.

POSTPHENOMENOLOGICAL REFRAMING OF TRANSHUMANISM

Currently, the human enhancement debate is framed primarily as transhumanists versus bioconservatives around the NBIC technological convergence idea. Postphenomenology can reframe the human enhancement debate, identifying the fundamental flaws to the transhumanist approach and demonstrating that a more realistic and empirically grounded understanding of human enhancement is possible. Sharon (2014) pointed out that both the transhumanists and bioconservatives share the idea of the human "as an autonomous, unique and fixed entity, that is separate from its environment in a distinct way" (3), believing that there remains a clear subject/object duality.

Postphenomenology can move the discussion away from what feels like utopian[3] versus dystopian views to pave the way toward a new transhuman framework. The ideas of *technologically embodied relations*, *non-neutrality of technology, enabling/ constraining, and transparency* are the tools most beneficial to creating a new discursive framework for transhumanism.

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[2] There are many excellent works describing more in-depth the variety of ways transhumanism and posthumanism are used (see Braidotti; Clark; Coeckelbergh; Hansell; Hayles; Roden; Sharon).

[3] Transhumanists such as Max More argue that they are not interested in a final utopia; rather, More created the principles of *extropy*, a state of perpetual improvement rather than a final, perfect end (More, 2003). However, broadly generalizing, transhumanists tend to focus on an instrumental, or neutral, role of technology, and typically feel that any downsides can be generally fixed with more technology.

Interestingly, the relation between postphenomenology and transhumanism has been somewhat ambiguous. On the one hand, Don Ihde has written a couple of papers (*I Don't Want to be a Cyborg*; *Of Which Human are We Post*?), which clearly indicate his disagreement with the transhumanist movement. Meanwhile, Peter-Paul Verbeek has offered a new postphenomenological understanding of some transhumanist ideas with his publication, *Cyborg Intentionality*. Sharon (2014) also demonstrated how postphenomenology can help frame the debate with her adaptation of some of Ihde's work in support of her mediated posthumanist theory.

Technologically Embodied Relations

The concept of the subject/object duality can feel compellingly correct, especially as new technologies are thrust upon us and we are constantly obliged to decide which technologies to adopt (Van Den Eede, "Where is the Human?"). It is easy to see these technologies as utilitarian objects, useful as entertainment or for something practical. Their usefulness is often that which is foregrounded in marketing, but they have other effects that remain hidden and are mostly only discussed in academic arenas. Current philosophers of technology, as well as social theorists (Braidotti; Ferrando; Haraway; Hayles; Ihde, *Lifeworld*; Latour; Sharon; Verbeek, *What things Do*; Van Den Eede, "Extending") have shown that there is a dynamic interwovenness between both subject and object, which refutes the modern idea of their separation (Sharon 3). Postphenomenologists state that technologies mediate and co-constitute both the subject and the world.

Ihde describes four types of human-technology relations.[4] His *embodiment relation* is the most pertinent to the human enhancement debate. Ihde describes embodied technologies as having varying degrees of transparency while acting as extensions of our bodies. For instance, wearing a pair of glasses typically is a mostly transparent experience. We see *through* the technology rather than being focused *on* the technology. This relation changes how we experience the world. The glasses change and clarify the world we see, becoming an extension of ourselves. Often, a person might forget that they are even wearing glasses, as the technology recedes into the background of awareness. The glasses become less transparent if they are dirty, don't fit correctly, or are broken. Embodied human enhancement technologies such as artificial joints and certain prosthetics can also become close to being transparently embodied once the person becomes accustomed to the technology. However, Ihde points out that they are never as good as the original body part that they replace, often needing to be replaced more frequently than the original.

Non-Neutrality of Technology

Ihde makes it clear that even embodied technologies, which come close

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[4] The four types are embodiment, hermeneutic, alterity, and background.

to being transparent, are not neutral. According to Ihde there is a technofantasy about technology, where

> I want the transformation that the technology allows, but I want it in such a way that I am basically unaware of its presence. I want it in such a way that it becomes me. Such a desire both secretly rejects what technologies are and overlooks the transformational effects, which are necessarily tied to human-technology relations. This illusory desire belongs equally to pro- and anti-technology interpretations of technology.... In that sense, all technologies in use are non-neutral. (Ihde, *Lifeworld* 75-76)

Ihde has referred to transhumanism as hype and technofantasy, equating it to magic in the sense that new human enhancing technologies are often portrayed without "ambiguous or unintended or contingent consequences" ("Of Which Human" 127). However, Ihde is not rejecting human enhancement out of some romantic, Heideggerian or theologically bound reason, but rather worries "about unintended consequences, unpredictability, and the introduction of disruptions into an ever-growing and more complex system" (132). Ihde's point is that we cannot simply add technology to our lives without experiencing a transformative change in the process. We are different because of the technology, and the technology is different because of us. There is always a lack of complete embodiment, and he demonstrates this when he discusses his own phenomenological experience of being a cyborg with an artificial knee and his experience wearing hearing aids. Neither substitution is as effective as the original equipment he came with at birth ("Aging").

Enabling-Constraining

Postphenomenology emphasizes that all new technologies will be both enabling and constraining to various degrees. For example, a telescope allows us to see objects as if they were closer to us, but it also removes the objects from their immediate context, constraining our ability to see them in relation to their surroundings. This postphenomenological idea can be brought to human enhancement technologies by suggesting that we should look beyond the hype of the enhancing aspect and look to see what is constrained and/or reduced by the new technology.

One problem with many of the transhumanist ideas is that the technology they discuss has yet to be created. Therefore, for the empirically grounded postphenomenology, it is difficult to go to the *thing itself* and analyze the impact. We can, however, manage our expectations of the future effect of human enhancing technologies and use the enabling-constraining idea whenever new technologies are brought forth.

Transparent Technology

It is easier to see the benefits and drawbacks from enhancing technologies such as hearing aids (they allow one to hear better, but they have issues in noisy rooms and are not that good at filtering out background noise), but what about

new enhancement technologies that seem like they could actually be transparent? An example of a seemingly transparent technology is genetic modification. Biotechnology such as CRISPR[5] (Mulvihill et al.) makes it possible to not only modify a person's genetic code, but to also allow the possibility for germline editing, which would cause those changes to be passed down to future generations.[6] This technology is quite invisible to the person and can thus be considered fundamentally transparent.

However, enabling and constraining issues remain aspects of this technology. Replacing one gene with another may remove the previous functionality that we are aware of, but some of the functionality may not be known currently. The complexity of genetic and epigenetic systems and the details of how they manifest the human being is far beyond our current comprehension. Additionally, the designer's fallacy states that many technologies are not used in the way they were originally designed. With genetic manipulation, it could be many years before the effects of removing and splicing in new genes are revealed. Though many of the effects can be positive (i.e., for removing genetic defect), there will still be constraining effects, some of which might not be discovered right away.

CONCLUSION

New technologies such as 3D printing of body parts and genetic engineering bring about both exciting and potentially disturbing scenarios and repercussions for the future. Transhumanists and bioconservatives bring opposing views to this human enhancement debate. However, both parties start from a dualistic point of view, keeping the subject and object separate. The philosophical field of postphenomenology is a beneficial approach, which pragmatically and empirically grounds the human enhancement debate, providing tools such as embodied technological relations, the non-neutrality of technology, enabling and constraining aspects of all technologies, and the false dream of a perfectly transparent technology.

Beyond effects to the individual, it is necessary to discuss the broader, more sweeping changes these technologies will bring to society. Genetic modification is not a magic panacea without consequences. Additionally, choices that are introduced with each new technology force parents to make decisions involving financial, ethical, and moral issues.[7] Though genetic modification to remove a hereditary disease may be an easier modification to accept on a societal level, there remain questions regarding this kind of decision.

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[5] CRISPR is a gene editing technology that can cut out and replace a specific genetic sequence and is currently being used in trials.

[6] This brings up serious societal issues that will not be explored in this paper, but are discussed in the scholarship on liberal eugenics.

[7] See Verbeek (Moralizing) for a deeper dialogue on the morality of technology.

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