



The Concept of the Posthuman: Chain of Being or Conceptual Saltus?

Daryl J. Wennemann
Fontbonne University

dWennemann@fontbonne.edu

Journal of Evolution and Technology - Vol. 26 Issue 2 – July 2016 - pgs 16-30

To the wise man, nothing is foreign or impassable.

Antisthenes¹

There are many divers ways and modes of surpassing: see thou thereto! But only a buffoon thinks: “man can also be overleapt.”

Friedrich Wilhelm Nietzsche²

Abstract

A central task in understanding the theme of the posthuman involves relating it to the concept of the human. For some, there is continuity between the concepts of the human and the posthuman. This approach can be understood in the tradition of the great chain of being. Another approach posits a conceptual, and perhaps ontological, saltus (μετάβασις εἰς ἄλλο γένος). Here, the concept of the posthuman is taken to represent a radical departure from the realm of the human. After considering Lovejoy’s scheme of the great chain of being, Aristotle’s view of a conceptual saltus (μετάβασις εἰς ἄλλο γένος), and their historical significance, I will suggest how we might distinguish various concepts of the posthuman from the human by applying Rudolf Carnap’s approach to defining multiple concepts of space. We can thus create a linguistic convention that will assist in constructing useful conceptions of the human and posthuman – these can clarify the prospects of a posthuman future.

Introduction

The theme of the posthuman is gaining significant traction in the disciplines of anthropology, cultural studies, literary theory, and philosophy. But how are we to conceive of the posthuman? Kevin

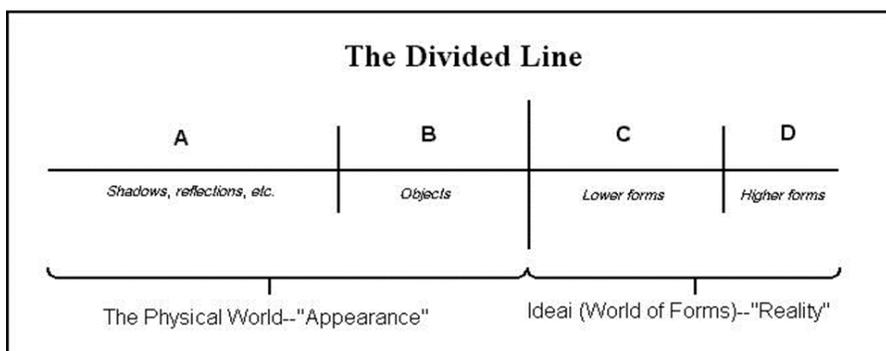
LaGrandeur has remarked that the meaning of the terms “posthuman” and “transhuman” are ambiguous. “As post- and transhumanism have become ever-hotter topics over the past decade or so, their boundaries have become muddled by misappropriations and misunderstandings of what defines them, and especially what distinguishes them from each other” (2015, 49). According to one conception, the meaning of the term “post” in this context implies some continuity between the human and the posthuman, since it is only in relation to the human that we refer to the posthuman. Another approach posits a radical hiatus between the human and the posthuman, supposedly indicated by the prefix “post.” I will explore these two approaches to the posthuman by applying the traditional great chain of being conception of reality and the notion of a saltus, or conceptual leap, that can be traced to Aristotle’s concern with μετάβασις in order to disambiguate differing meanings of the term “post” and so gain some purchase on the theme of posthumanity. As we shall see, Kant’s reflections on the self-conflicting interests of reason, expressed in the laws of homogeneity and specification, may be applied to contemporary theorizing about the posthuman:

This twofold interest manifests itself also among students of nature in the diversity of their ways of thinking. Those who are more especially speculative are, we may almost say, hostile to heterogeneity, and are always on the watch for the unity of the genus; those, on the other hand, who are more especially empirical, are constantly endeavoring to differentiate nature in such manifold fashion as almost to extinguish the hope of ever being able to determine its appearances in accord with universal principles. (Kant 1965, 540, A 655/B683)³

The interest in homogeneity underlies the great chain of being approach to the concept of the posthuman and the interest in specification motivates the conceptual saltus approach.

The great chain of being

The idea of a great chain of being has been a dominant motif in the Western philosophical tradition. Arthur O. Lovejoy traced the idea to the philosophy of Plato. The divided line analogy in Plato’s philosophy appears in *The Republic* (509d–510a). It posits a continuity between various grades of being. The proportion represented on the divided line provides for grades of intelligibility running throughout and across the different grades of being, from images and physical entities of the visible world of becoming (represented by sections A–B of the table below), to mathematical ideas and the forms of various kinds of beings and the virtues. The latter comprise the intelligible world of being (represented by sections C–D of the table):



Such a conception of reality does not allow gaps from one kind or grade of being to another. The philosophical roots of this conception reach back to the ancient Greek philosopher Parmenides. For Parmenides, non-being is not something real and cannot be thought without contradiction, since we can think of non-being only in terms of being. This insight informed the chain of being conception of reality

that Plato developed, such that there must be a continuity in the transition from one kind of being to another. Within this philosophical tradition, therefore, nature abhors an ontological vacuum. According to the *Encyclopaedia Britannica* (2015),

The term [chain of being] denotes three general features of the universe: plenitude, continuity, and gradation. The principle of plenitude states that the universe is “full,” exhibiting the maximal diversity of kinds of existences; everything possible (*i.e.*, not self-contradictory) is actual. The principle of continuity asserts that the universe is composed of an infinite series of forms, each of which shares with its neighbour at least one attribute. According to the principle of linear gradation, this series ranges in hierarchical order from the barest type of existence to the *ens perfectissimum*, or God.

This view of reality can be seen in the conviction of modern physicists that there must exist elements on the periodic table where there appears to be a gap. It can also be glimpsed in the *scala naturae* conception of Darwinian evolution whereby there must not be missing links in the development of species. Lovejoy opined in 1936 that the concept of the great chain of being had informed not only philosophy but science and poetry. And yet, he found it to be unfamiliar to many, including some well-educated persons:

The title of this book [*The Great Chain of Being*], I find, seems to some not unlearned persons odd, and its subject unfamiliar. Yet the phrase which I have taken for the title was long one of the most famous in the vocabulary of Occidental philosophy, science, and reflective poetry; and the conception which in modern times came to be expressed by this or similar phrases has been one of the half-dozen most potent and persistent presuppositions in Western thought. It was, in fact, until not much more than a century ago, probably the most widely familiar conception of the general *scheme* of things, of the constitutive pattern of the universe; and as such it necessarily predetermined current ideas on many other matters. (Lovejoy 1965, viii; italics in the original)

Now, I believe that the traditional idea of the great chain of being can contribute to our understanding of some conceptions of the posthuman. From this perspective, the posthuman is understood in relation to the human. Even if there is a radical departure from the human, according to this scheme, there is still continuity in development from one kind to the other. There are several examples of this kind of development that can be seen in the literature to date on the concept of the posthuman.

First, we have the attempt to emulate human cognition through the scanning of the human brain and the development of neural models (Sandberg and Bostrom 2008). Here there is a continuity in the functioning of the brain and a computer simulation. Human cognition is given a new non-biological platform for its functioning. The increase in the speed of computerized cognition would make for a posthuman being but the model of cognition would remain human.

Another approach to the posthuman, one considered by Francis Fukuyama in *Our Posthuman Future* (2000), involves the genetic modification of human beings. Again, while there may be a break between the human and the posthuman, there is also discernible continuity inasmuch as we can identify the new posthuman being over against the human.

There is yet another approach to the posthuman that seems to combine a break and a continuity with the human. Chris Hables Gray’s work *Cyborg Citizen* explores the ways in which our own cyborgization can allow us to shape our subjectivity. It is interesting, in this context, that Gray distinguishes between cyborgs and “pure humans” (Gray 2002, 131). He notes that cyborgs are proliferating and redefining many of the most basic political concepts of human existence (2002, 19) and that new cyborg citizens must find ways to protect their rights (2002, 29). He also notes that our only choice is to proliferate

human and posthuman possibilities. In the end, he believes we will be able to live longer and better than ever before, pushing “the species into new, enlightening adventures in inner and outer spaces” (2002, 201). This conception of the posthuman seems to rely upon a continuity in the movement from the human to the posthuman. It is as if every possible niche in the spectrum of our self-cyborgization must be filled. The human imagination spins possible worlds, and contemporary technoscience fills the void between the possible and the actual:

At the core of this web are the cyborg technosciences, which are extremely evocative technologies – evocative not just in terms of what they provoke from us as individuals, but especially in what possible futures they might evoke for our culture as a whole. Dreaming of possible constructions of the impossible leads to real transformations, new types of life, changes in the very way we think of space, time, erotics, art, artificiality, perfection, and life, ourselves. Technoscience is constantly deconstructing the idea of the impossible. (2002, 194)

A central issue in the posthuman age, in my view, is whether our imaginations might have a disciplining function rather than leaving us in what Søren Kierkegaard called “the despair of possibility.” In this regard, Arjun Appadurai has noted as follows:

In fact, it may be more useful to see design as trying to regulate fashion by slowing down the infinite play of combinatorial possibilities, the dizzying vista of new arrangements of bodies, materials, forms, and functions that advertising daily puts before us.

And this might lead us closer to the logic of connecting design and context than the conventional idea that design, being the loyal servant of fashion, simply adds technique to the lust for change that defines fashion. Design certainly involves the imagination, but it is defined by the imagination as a source of discipline and not imagination merely as a source of new possibilities for combination and cohabitation among objects. (Appadurai 2013, 263)

The great chain of being approach to the posthuman may be seen as registering a revolt against the eclipse of the human by the posthuman. From this perspective, posthuman beings represent a loss of humanity even when, and perhaps because, there is a leap in the power available to enhanced human beings. An increase in the quantity of power at our disposal results in a decrease in the qualitative character of human existence. Arthur Kroker expresses this concern in his *Exits to the Posthuman Future*:

If it is the case that the sheer force of technological innovation quickly pushes traditional conceptions of humanism aside to make way for all the emerging signs of the posthuman – drift culture, recombinant technology, figural aesthetics, distributive consciousness – then it is true that something indispensably human, whether articulated by conscious political protest, mobilized by social unrest, or motivated by the persistence of human memory itself, remains as the phantasmagorical essence of the future of technological posthumanism. (Kroker 2014, 4)

Kroker sees the posthuman future as undermining all of the previous “human” markers including a unitary species-logic, private subjectivity, and hierarchical knowledge. This latter marker posits human beings as “the universal value-standard of all events” (Kroker 2014, 5). If there is a leap from the human to the posthuman, the great chain of being mentality senses a continuity within the gap even if it is only the presence of an absence. And so, Kroker argues that the technological society is motivated by the return of the repressed. The shadow of the human haunts the posthuman as a loss.

The leap into the posthuman future

In contradistinction to the motif of the great chain of being, we may posit that of a leap into the posthuman future. Perhaps it is because Western thought has typically conceived of reality as a great chain of being that the notion of a leap from one kind to another has historically been seen as ontologically anomalous and logically illicit. Aristotle identified a flaw in our reasoning that involves making a discontinuous conceptual leap from one kind or genus to another, a *metabasis eis allo genos* (μετάβασις εἰς ἄλλο γένος). Such a saltus renders a demonstration invalid and unscientific by introducing ambiguity into the meaning of the terms we use in an argument.

John K. O'Connor notes that such a flawed demonstration is not just a matter of an invalid syllogism: "[A]lthough it is possible to shift from one genus into another in the course of a syllogism without affecting the formal evaluation of the syllogism, such a transition generally prevents the syllogism from rising to the level of science" (O'Connor 2008, 739). The reason for this lies in Aristotle's conception of a science. Since every science is defined by a genus of being with which it is concerned, to leap from one genus to another is to cross a scientific boundary. Admittedly, it is possible for a science to borrow from a higher genus, as when optics borrows from geometry (O'Connor 2008, 742, n. 19). But, in general, Aristotle was concerned with maintaining scientific boundaries. This required that a scientific demonstration remain exclusively within a single genus of being. Hence, for Aristotle, each science was defined by, and tied to, the genus of its subject matter. For a demonstration to fail to remain within a single genus is for it to commit a *metabasis eis allo genos*. In moving from one genus to another the chain of essential relations is broken, resulting in a failure to demonstrate the conclusion (O'Connor 2008, 741).

If we glance forward to the philosophy of Immanuel Kant, we can see that he was keenly aware of the character of the transitions (*Übergang*) in his thought. The *Groundwork* is divided according to three transitions. The first is a transition from common rational to philosophical moral cognition (4:393)⁴. The second is the transition from popular moral philosophy to metaphysics of morals (4:406). The third is a transition from metaphysics of morals to the critique of pure practical reason (4:446). Kant's *Metaphysical Foundations of Physical Science* may also be seen as providing a transition from the general metaphysics of nature to a special metaphysics of nature (Plaass 1994, x, xi). And at the time of his death, Kant left unfinished a work titled *Transition from the Metaphysical Foundations to Physics* (Plaass 1994, 48–49).⁵

A significant part of Kant's critique of traditional metaphysics involved pointing to illegitimate leaps in thought. And so, *metabasis* had a significant role in his epistemology. Kant recognized that human reason tends to pose questions that we cannot answer. It also has a tendency to go beyond its own limits in seeking the ultimate basis of our experience. For example, in the thesis of the fourth antinomy concerning the cosmological proof for the existence of God, Kant noted that some thinkers have taken the liberty of making a conceptual leap (*metabasis eis allo genos*), moving from the existence of contingent empirical objects to the existence of a necessary being, which he judged to be an illegitimate saltus (Kant 1965, 419, A 461/B 489). Again, in the *Religion*, Kant argued that it is a mistake to transform a schematism of analogy into one of object-determination: "But between the relationship of a schema to its concept and the relationship of this very schema of the concept to the thing itself there is no analogy, but a formidable leap (μετάβασις εἰς ἄλλο γένος) which leads straight into anthropomorphism" (Kant 1996, 107, 6: 65, note). Finally, Kant argued that there is a law of homogeneity that is posited by reason as a heuristic device that makes our experience possible. Accordingly, "all differences of species border upon one another, admitting of no transition from one to another *per saltum*, but only through all the smaller degrees of difference that mediate between them" (Kant 1965, 543, A 659/B 687; italics in the original).

O'Connor argues that the conception of an "incidental, argument-level *metabasis*" can easily be extended to "systemic foundational *metabasis*" (2008, 742, italics in the original). He finds that this was the course of development that informed the philosophy of Franz Brentano and then Edmund Husserl. Brentano's concern was to differentiate the scientific boundaries of psychology and physiology. This may have been a basis for Husserl's later distinction between transcendental phenomenology and descriptive psychology (cf., O'Connor 2008, 743). Brentano was also concerned to avoid equivocation and he considered *metabasis* to be a source of equivocation (2008, 743).

Can a leap across a chasm from one kind to another be legitimate? According to Louis P. Pojman, Kierkegaard conceived of freedom as a leap beyond the realm of natural determination:

In the last analysis freedom as voluntary choice happens in the eternal "Now" which breaks into the normal course of determined action. It is a *metabasis eis allo genos* (something of an altogether other dimension from ordinary events), a mystery which signals divine grace and omnipotence. (Pojman 1990, 49)⁶

Here, in its most profound significance, the *metabasis eis allo genos* implicated in human freedom is not a mere conceptual inference but may bring about a transition from one stage of life to another.

It may be that the transition from the human to the posthuman is a leap of faith of a sort. For those who have faith in the progressive character of technology, the movement to the posthuman holds forth the possibility of an advance and improvement over against the human. Kevin LaGrandeur notes, in this regard, that a posthuman condition is one to which transhumanists aspire. Various technological developments may be seen in this context as bringing about a qualitative leap from one kind to another. The posthuman can thus be understood in terms of a *metabasis eis allo genos*:

Basically, transhumanists believe in improving the human species by using any and every form of emerging technology. Technology is meant in the broad sense here: it includes everything from pharmaceuticals to digital technology, genetic modification to nanotechnology. The posthuman is the state that transhumans aspire to: a state in which our species is both morally and physically improved, and maybe immortal – a species improved to the point where we perhaps become a different (and thus "posthuman") species altogether. (LaGrandeur 2015, 49)

The approach to the posthuman that is conceived in terms of an ontological leap from the human to the posthuman seems to have as its strategy to recognize the ontological gap between diverse kinds of things without falling into the trap of anthropomorphism. The interest of reason expressed in the law of specification motivates this approach. It is remarkable that the kind of insight involved in recognizing the posthuman as requiring a cognitive leap to a new kind of being that is discontinuous with the human would seem to require a peculiarly human form of cognition. According to Jeremy Campbell,

Computers are good at swift, accurate computation and at storing great masses of information. The brain, on the other hand, is not as efficient a number cruncher and its memory is often highly fallible; a basic inexactness is built into its design. The brain's strong point is its flexibility. It is unsurpassed at making shrewd guesses and at grasping the total meaning of information presented to it. (Campbell 1982, 190)

Such cognitive leaps may be a distinguishing mark of the human over against the posthuman, unless and until posthuman beings become capable of it.

But then, from the perspective of a transcendental posthumanism, the difficulty arises as to whether a radically alien posthuman being could be cognized. Could we recognize a posthuman person as a person

if the character of its existence lay outside and beyond any categories of personhood available to us? Does such an approach exhibit a fascination with the strange, the alien, that which is foreign and unknown? There is a human need for mystery that this approach might satisfy. But, then again, the strangeness of this approach might just indicate that we are on the right track in our attempt to comprehend the posthuman. Jeremy Campbell notes that in one of Dorothy L. Sayers' novels, the character Lord Peter Whimsey finds that the reason for a certain satisfaction in some new evidence in a murder he is investigating

is that it adds the final touch of utter and impenetrable obscurity to the problem which the inspector and I have undertaken to solve. It reduces it to the complete quintessence of incomprehensible nonsense. Therefore, by the second law of thermo-dynamics, which lays down that we are hourly and momentarily progressing to a state of more and more randomness, we receive positive assurance that we are moving happily and securely in the right direction. (Sayers 1932, 236; cited in Campbell 1982, 52)

If, in his treatment of the human, Albert Camus found it necessary to focus on the strangeness of existence (Camus 1993), perhaps it is to be expected that the development of a posthuman existence would be strange to us. Camus held that human existence is absurd since we live in a world that does not meet our needs. Rebellion is a response to this condition that expresses “hope for a new creation. Man is the only creature who refuses to be what he is. The problem is to know whether this refusal can only lead to the destruction of himself and of others...” (Camus 1993, 11). Part of the challenge of the movement toward the posthuman, from the perspective of Camus' philosophy, is whether this new creation will overcome the absurdity of existence or whether the refusal to be ourselves will lead to our self-destruction. Or, will posthuman beings not feel the need to rebel?

In *Posthuman Life*, David Roden provides an account of the posthuman that seems to break the bounds of sense in that it attempts to conceive of an utterly alien being that lies beyond our ability to cognize. Roden posits a sort of ontological rupture that he designates as a “disconnection” from the human in order to give the prefix “post” its most fundamental meaning (Roden 2015, 8 et passim). According to his conception, a breach in continuity between the human and the posthuman is necessary to adequately grasp the posthuman. But it is not a difference between kinds of being, in his view, but a difference between individuals. Still, a philosophical consideration of the posthuman would thus seem to require a *metabasis*.

Interestingly, the Greek term “genos” (γένος) can have the meaning “offspring, even a single descendant, a child” (Liddell and Scott 1889). And so, Roden's account may be said to involve a *metabasis eis allo genos*, if the image of the posthuman as the offspring of the human does not imply too close a tie between them. Since a leap must be from somewhere to a place beyond a gap, we can see Roden's leap to the posthuman as proceeding from the human. Roden acknowledges this in a recent interview: “This being said, I acknowledge that my characterization of the posthuman is human-relative. The disconnection thesis describes the posthuman in terms of the capacity of posthumans cut free from the Wide Human” (Bakker 2015, 167).

Carnapian construction

In a previous work, *Posthuman Personhood* (2013), I introduced a linguistic convention in order to disambiguate different meanings of the term “human.” Following the lead of Rudolf Carnap, I used superscripts to designate biological humanity with the term “human^B” and moral humanity with the term “human^M”. The term “human^M” refers to the class of persons (in the moral sense), as opposed to genetically human beings or humans^B. Note again LaGrandeur's distinction between these two dimensions of the human, “The posthuman is the state that transhumans aspire to: a state in which our

species is both morally and physically improved...” (LaGrandeur 2015, 49). We should consider the possibility that our species could be physically “improved” but not morally improved. It may also be possible that the species could be morally improved without being physically improved.

In a more recent work, “Posthumanisms: A Carnapian Experiment” (2015), I sought to disambiguate the term “post” so as to distinguish different senses of the term “posthuman.” We can thus conceptualize a hypo posthumanism and a hyper posthumanism, designated by the terms “post_ohuman^B” and “post^Rhuman^B” respectively.⁹

Carnap held that our received folk language is so shot through with ambiguity that it must be altered to render it amenable for philosophical work. He promoted a principle of tolerance that allows for each of us to create our own language in order to clearly express our thought. What he considered imperative was that each person specify just what language s/he uses. Consider Carnap’s treatment of the concept of space. In *Carnap’s Construction of the World: The Aufbau and the Emergence of Logical Empiricism*, Alan W. Richardson substitutes the English term “space” for the German term “raum.” Richardson explains that Carnap recognized a distinction between formal space, designated by the letter S, intuitive space, designated by the term S’, and physical space, designated by S”. He further recognized a distinction between topological, projective, and metrical space, designated by the letters t, p, and m, respectively. Each of these could have a dimensional variant designated by numbers or the letter n: “Thus, for example, S’4t designates four-dimensional topological intuitive space, and Snp designates projective formal space of arbitrarily many dimensions” (Richardson 1998, 141). Part of Carnap’s argument was that philosophical disputes over the concept of space could generally be resolved by using terms that distinguish these different concepts. It is plain that to simply speak of space would be impossibly ambiguous.

Likewise, disputes over the character of the posthuman may be traced to the diverse meanings given to the term “posthuman.” The possibility of adequately conceptualizing the posthuman is hopeless if the term is used with divergent meanings so that readers seeing it have widely divergent ideas of what is being discussed. John Locke made a similar observation in *An Essay Concerning Human Understanding* (1689): “The chief End of Language in Communication being to be understood, Words serve not well for that end, neither in civil, nor in philosophical Discourse, when any Word does not excite in the Hearer, the same Idea which it stands for in the Mind of the Speaker” (Locke 1975, bk III, ch. 4. IX, ¶ 4, 476–77).

My hope is that my terminological conventions might clarify some of the ambiguity surrounding the use of the term “posthuman,” whether it is conceived according to the model of the great chain of being or a conceptual saltus. The central Carnapian insight here is that disambiguating the term “posthuman” can clarify philosophical disputes surrounding the issue of the posthuman. It also serves to illustrate that the area of the posthuman is not a unified field of study. There are, rather, diverse approaches. Some scholars seek a continuity of the human and posthuman in order to maintain a grasp on the posthuman reality. Others see a rupture with the human, posing both a thrilling possibility and a threat.

For some, including Francis Fukuyama and Arthur Kroker, our posthuman^B future holds the possibility of a loss of personal existence through the genetic manipulation of human^B beings. This scenario depicts a hypo-posthuman^B condition. It represents a decline in human^B existence that could result from the increase in speed and power associated with various technological developments, perhaps because of unintended effects of genetic manipulation. We could designate this sense of a posthuman^B condition by the term “post_ohuman^B” or “p_oh^B.” And since there is a decline in the possibility of a moral dimension associated with this condition, there is also a damaging of the human^M condition. The post_ohuman^B may thus be correlated with a post_ohuman^{M-} (p_oh^{M-}) order. Such a being could be conceived as post_ohuman^B/post_ohuman^{M-} (p_oh^{B/M-}).

The technological enhancements that are often associated with transhumanism may also be conceived as leading to a hyper-posthuman^B condition. On this approach, human^B beings might be altered pharmacologically or through cyber technologies (implants, prostheses) or genetic engineering to produce a possibly more rational, empathetic, and thus more morally advanced human^M being. It is also possible that computers or robots might be produced that are not human^B but morally superior in some ways to human^B beings (Wallach 2008). This hyper-posthuman^B condition can be designated by the term “post^Rhuman^B” or “p^Rh^B”. Because such a hyper-posthuman^B condition also results in an improvement in the ability of posthuman^B beings to carry out a personal existence, it would be designated “post^Rhuman^{M+}” or “p^Rh^{M+}”.

While the complex classification p^Rh^{B/M+} applies in this case, since a morally hyper-posthuman being (p^Rh^{M+}) can only be associated with a hyper-posthuman^B being (p^Rh^B), we can refer to a morally hyper-posthuman being (p^Rh^{M+}) and it is then implied that it is hyper-posthuman^B (p^Rh^B). The term “posthuman” has such a positive connotation for Rosi Braidotti:

[T]o be posthuman does not mean to be indifferent to the humans, or to be de-humanized. On the contrary, it rather implies a new way of combining ethical values with the well-being of an enlarged sense of community, which includes one’s territorial or environmental inter-connections. (Braidotti 2013, 190)

However, a hyper-posthuman^B condition might also produce a posthuman^B being that possesses increased intelligence, etc., while lacking a moral sense or possessing a distorted moral sense (a moral monster like *Star Trek’s* Khan Noonien Singh). This is the concern that Wendell Wallach and others, such as Nick Bostrom, have explored with respect to the possibility of creating moral machines. Superintelligence does not necessarily correlate with a superior personal existence (Bostrom 2014). Depending on the circumstances, a hyper-posthuman^B condition might have a positive or negative moral valuation. Accordingly, I propose to designate a hyper-posthuman^B condition that could “lead to a very rapid extinction of all humans, or something even more hellish” (Roden 2012) as “post^Rhuman^{M-}” or “p^Rh^{M-}”. And so, we can see that a post^Rhuman^B condition might be correlated with a moral advance or decline, whereas a post_ohuman^B condition must necessarily represent a moral decline.

Thus, any discussion of a hypo-posthuman moral being (post_ohuman^{M-}) must be qualified as to whether it is biologically hypo-posthuman (p_oh^B) or biologically hyper-posthuman^B (post^Rh^B). A biologically hyper-posthuman moral being may thus be designated p^Rh^{B/M+} or p^Rh^B/p_o^{M-}. (It is embarrassing that scientists should employ a complex language to describe the physical world whereas philosophers are content to speak of “the posthuman.”)

There is, finally, a posthuman^B condition that would represent a state in which posthuman^B persons are equal to human^B persons in their ability to exercise a personal existence (such a posthuman^B person might, perhaps, be a robot that cannot be distinguished from a human^B being (posthuman^B) or a human^B being who has been altered pharmacologically to improve mood or memory but remains within the range of human^B performance (post^Rhuman^B)).¹⁰ I designate this possibility by the term “posthuman^{B/M=}” or “post^Rhuman^{M=}”. It would be posthuman^M in the sense that it is a post-anthro^Bpocene person. A morally posthuman person (posthuman^{M=+}) is thus a subclass of moral humanity (human^M), along with human^B beings. It is not a post-person in the sense of having surpassed personhood. By way of analogy, if the term “aviation” were taken to include all forms of flight, we could distinguish between “avian aviation” and “post-avian aviation” in the case of artificially powered flight. And so, a posthuman^B human^M would be a person that exercises a personal existence in a way different from the way in which a human^B human^M being does. The mode of cognition of a computer need not be the same as that of a human^B being, and nor does an airplane have to flap its wings to fly. Thus, “The ‘imitation game’ of the Turing

Test has misdirected the ambitions of AI, just as a concern with feathers and flapping misdirected early efforts at flight” (Ford 2016).

To illustrate these distinctions further, I would first like to posit a partial posthuman condition (designated by the term “PPosthuman^B”) which can be seen to represent a state between that of the human^B and the posthuman^B. Max More has remarked, in this regard, that we have taken the first steps in producing posthuman beings:

Clearly we have already taken our first steps along the road to posthumanity ... We have achieved two of the three alchemists’ dreams: We have transmuted the elements and learned to fly. Immortality is next ... Humanity must not stagnate: to halt our burgeoning move forward, upward, outward, would be a betrayal of the dynamic inherent in life and consciousness. Let us progress on into a posthuman stage that we can barely glimpse. (More 1994)

If we recognize a partial posthuman^B condition, as a chain of being mentality would tend to do, transhumanism may be taken to seek the equivalent of a partial hyper-posthuman^B being (PPost^Rhuman^B) that corresponds to a partial hyper-posthuman^M condition with a positive moral valence (PPost^Rhuman^{M+}) or pp^Rh^{B/M+}. Such a positive connotation to the term “PPost^Rhuman^{B/M+}” (or sometimes “transhuman”) is typical of transhumanist theorizing. Partial posthuman^B possibilities may be illustrated as:

$$\begin{aligned}
 \text{PPosthuman}^B &= \text{PPosthuman}^{M=} \\
 \text{PPost}_0\text{human}^B &= \text{PPost}_0\text{human}^{M-} \\
 \text{PPost}^R\text{human}^B &= \text{PPost}^R\text{human}^{M=} \\
 \text{PPost}^R\text{human}^B &= \text{PPost}^R\text{human}^{M-} \text{ or } \text{PPost}^R\text{human}^{M+} \text{ (= Transhuman)} \\
 &\quad (\text{pp}^R\text{h}^{B/M+})
 \end{aligned}$$

We may also posit an end-state model of the posthuman^B that relates transhumanism to the posthuman^B in terms of its goal. Such a target state is what Amitai Etzioni designated, in *The Active Society*, as a “future-system” model. According to Etzioni, “The active society is a future-system for the analysis of post-modern history” (1968, 572 n). Here the transhuman (or the state of transition postulated by transhumanists) may be seen as leading to either a hypo-posthuman^B condition, a hyper-posthuman^B condition, or a posthuman^B condition. A transhumanism that results in a hypo-posthuman^B condition or a posthuman^B one, is a failed transhumanism since transhumanists seek an improved human^B condition both physically and morally. The Carnapian approach to concept construction illustrates the variations that are possible in our conception of the posthuman^B:

$$\begin{aligned}
 \text{Human}^B - \text{PPosthuman}^B / \text{PPost}^R\text{human}^B &= \text{Posthuman}^{M=} / \text{Post}^R\text{human}^{M=} \\
 \text{Human}^B - \text{PPost}_0\text{human}^B &= \text{Post}_0\text{human}^{M-} \\
 \text{Human}^B - \text{PPost}^R\text{human}^B &= \text{Post}^R\text{human}^{M-} \\
 \text{Human}^B - \text{PPost}^R\text{human}^B &= \text{Post}^R\text{human}^{M+}
 \end{aligned}$$

Posthuman prospects

There are multiple paths to the posthuman^B, one of which holds forth the possibility of an improvement of the human^B species, both biologically and morally. This is what attracts us to the technologies implicated in the transhumanist movement. The allure of emerging technologies is the allure of the possibilities they symbolize. Kierkegaard famously analyzed the role of possibility in human^B experience and its relation to despair; in addition to the despair of possibility, he identified a despair of necessity. Responding to Kierkegaard's work, Jacques Ellul found both of these forms of despair to be present in the elaboration of the technological system. As Ellul remarked, quoting Kierkegaard from *Sickness unto Death*,

When technology makes everything possible, then it becomes itself the absolute necessity. Necessity which was once the mother of invention, has created an inventive process which is the mother of a new necessity. "The loss of possibility signifies: either that everything has become necessary ... or that everything has become trivial." In fact, with modern technology, both happen at once. (Ellul 1984, 95)

Will our attempt to enhance the cognitive capacity of human^B beings lead only to the loss of our ability to make decisions that are ours, either because the genetic basis of human^M identity has been undermined (as Francis Fukuyama fears) or because we have given over our decisions to a superintelligence that is beyond our control (as Nick Bostrom worries)? Politically, the emerging technologies giving rise to the posthuman^B would seem to call for the kind of democratic planning that Karl Mannheim endorsed, an idea James Hughes (2004) has updated for the twenty-first century in terms of a democratic transhumanism. However, if the technologies that can enhance human^B beings can also be used to mold them so as to manage public opinion, the approach of democratic planning may be what Ellul called a "political illusion" (1972). Hans Jonas' treatment of ethics in a technological age provides what is perhaps the most honest assessment of our existential condition as we face the posthuman^B age:

[I]t must be admitted now that this same uncertainty of all long-term projections becomes a grievous weakness when they have to serve as prognoses by which to mold behavior – that is in the practical-political application of whatever principles were apprehended with the help of the heuristic casuistry. ... Being so much in the dark, why not trust our luck including that of posterity? But in this way, all the gains of our hypothetical heuristics are kept from timely application by the inconclusiveness of the prognostics, and the finest principles must lie fallow until it is, perhaps, too late. (Jonas 1985, 30)

Do we even have principles that lie fallow? Our condition is all the worse if we do not have orienting principles to guide us in our technological self-alteration from human^B to posthuman^B. And if the movement toward the posthuman^B is self-defeating, in that the attempt to physically improve human^B beings undermines the possibility of genuine moral improvement, then it seems that our existential condition (as vulnerable, temporal beings, having imperfect knowledge of the implications of technological developments) is the only source of orientation we can rely upon to be able to stand still for a moment, so as to avoid the whirl of change of emergent technologies. Western philosophy is rooted in an attempt to find a place to stand so we could move the world. As we set out to explore the vast ocean of the posthuman^B we seem to need what John P. Doyle called a "philosophical Finisterre." Doyle explains, "Finisterre is a cape in northern Spain at the westernmost point of the Spanish mainland. It marks an end of Europe; beyond Finisterre there is only the ocean" (2012, 215).

Doyle used Finisterre (the end of the earth) as an image of the farthest point of philosophical speculation he found the European philosophers of the seventeenth century had reached. For us, a philosophical Finisterre is a jump off point into the vast ocean of possibility, a foothold for philosophy at the edge of the

human, to use Roden's phrase. How might we respond to Jonas' attitude of resignation regarding philosophical ethics in a technological age beyond a mere leap of faith?

[H]ere is where I come to a standstill, where we all come to a standstill. For the very same movement which put us in possession of the powers that have now to be regulated by norms – the movement of modern knowledge called science – has by a necessary complementarity eroded the foundations from which norms could be derived; it has destroyed the very idea of norm as such. ... Now we shiver in the nakedness of a nihilism in which near-omnipotence is paired with near-emptiness, greatest capacity with knowing least for what ends to use it. (Jonas 1985, 22–23)

Notes

1. See Diogenes Laertius 1925, 12. I have altered Hicks's English translation, replacing the term "impracticable" with the term "impassable." Compare David Roden (2015, 177–78): "The moral of this tale is that differences in phenomenology can be significant obstructions to our understanding without being impassable barriers."

2. I have altered the translation slightly (see Nietzsche 1917, 221).

3. Compare Pierre Bourdieu 1977, 230–31, n. 110:

The principle of this antinomy [of otherness and identity] was indicated by Kant in the Appendix to the Transcendental Dialectic: depending on the interests which inspire it, "reason" obeys either the "principle of specification" which leads it to seek and accentuate differences, or the "principle of aggregation" or "homogeneity," which leads it to observe similarities, and, through an illusion which characterizes it, "reason" situates the principle of these judgments not in itself but in the *nature* of its object. (Italics in original)

4. I have supplied the volume and page numbers for the Royal Prussian Academy of Sciences edition of Kant's works.

5. Compare Plaass 1994, 311: "There [in the *Opus Postumum*] it is also frequently said that the *MF* would have a natural tendency towards 'transition' or 'progression to physics' (eg., *Altpreußische Monatsschrift*, XIX, 126; XXI, 143)."

6. Compare Nason 2014, 6: "The movement of resignation, for de Silentio, is an act he and every other human agent can do. 'I *can* make the mighty trampoline leap whereby I cross over into infinity; my back is like a tightrope dancer's, twisted in my childhood, and therefore it is easy for me.'"

7. Compare Roden 2015, 6:

Some philosophers claim that there are features of human moral life and human subjectivity that are not just local to certain gregarious primates but are necessary conditions of agency and subjectivity everywhere. This "transcendental approach" to philosophy does not imply that posthumans are impossible but that – contrary to expectations – they might not be all that different from us. Thus a theory of posthumanity should consider both empirical and transcendental constraints on posthuman possibility.

8. Again compare Roden:

In that case, the possibility of posthumans implies that the future of life and mind might not only be stranger than we imagine, but stranger than we can currently conceive ... Does this mean that talk of “posthumans” is self-vitiating nonsense? (2015, 6)

9. The following is developed from Wennemann 2015.

10. I am indebted to Rebecca Foushée for pointing out this possibility.

References

Appadurai, Arjun. 2013. *The future as cultural fact: Essays on the global condition*. London and Brooklyn, NY: Verso.

Bakker, R. Scott. 2015. Interview with David Roden. *Figure / Ground*, June 6. <http://figureground.org/interview-with-david-roden/> (accessed July 5, 2016).

Bostrom, Nick. 2014. *Superintelligence: Paths, dangers, strategies*. Oxford: Oxford University Press.

Bourdieu, Pierre. 1977. *Outline of a theory of practice*. New York: Cambridge University Press.

Braidotti, Rosi. 2013. *The posthuman*. Cambridge, UK, and Malden, MA: Polity Press.

Campbell, Jeremy. 1982. *Grammatical man: Information, entropy, language and life*. New York: Simon & Schuster.

Camus, Albert. 1993. *The Stranger*. Trans. Matthew Ward. New York: Knopf. (Orig. pub. in French 1942.)

Diogenes Laertius. 1925. *Lives of eminent philosophers in ten books*. Vol. 2 (bks 6–10). Trans. R.D. Hicks. Loeb Classical Library ed. Cambridge, MA: Harvard University Press. (Life of Antisthenes available online at http://www.loebclassics.com/view/diogenes_laertius-lives-eminent-philosophers-book-vi-chapter-1-antisthenes/1925/pb_LCL185.3.xml?rkey=3aQs90&result=79 (accessed July 5, 2016).) (Orig. pub. 3rd century CE.)

Doyle, John P. 2012. Supertranscendental nothing. In *On the borders of being and knowing: Late Scholastic Theory of Supertranscendental Being*, ed. Victor M. Sala, 215–41. Leuven: Leuven University Press. (Orig. pub. as: Supertranscendental nothing: A philosophical Finisterre. *Medioevo* 24 (1998): 1–30.)

Editors of Encyclopædia Britannica. 2015. Great chain of being. <http://www.britannica.com/topic/Great-Chain-of-Being> (accessed July 5, 2016).

Ellul, Jacques. 1972. *The political illusion*. New York: Vintage.

Ellul, Jacques. 1984. The latest developments in technology and the philosophy of the absurd. In *Research in philosophy & technology*, vol. 7, ed. Paul T. Durbin, 77–97. Greenwich, CN: JAI Press.

Etzioni, Amitai. 1968. *The active society: A theory of societal and political processes*. New York: Free Press.

Ford, Kenneth. 2016. Cognitive systems seminar series: On computational wings? Institute for People and Technology (Georgia Tech).
<http://ipat.gatech.edu/hg/item/477961> (accessed July 5, 2016).

Fukuyama, Francis. 2000. *Our posthuman future: Consequences of the biotechnology revolution*. New York: Farrar, Strauss and Giroux.

Gray, Chris Hables. 2002. *Cyborg citizen: Politics in the posthuman age*. New York: Routledge.

Hughes, James. 2004. *Citizen cyborg: Why democratic societies must respond to the redesigned human of the future*. Cambridge, MA: Basic Books.

Jonas, Hans. 1985. *The imperative of responsibility: In search of an ethics for the technological age*. Chicago: University of Chicago Press.

Kant, Immanuel. 1965. *Critique of pure reason*. Trans. Norman Kemp Smith. New York: St. Martin's Press. (2nd ed. orig. pub. 1781/1787.)

Kant, Immanuel. 1996. *Religion within the boundaries of mere reason*, trans. George Di Giovanni. In *The Cambridge Edition of the Works of Immanuel Kant, Religion and Rational Theology*, trans. and ed. Allen W. Wood and George Di Giovanni. New York, Cambridge University Press. (Orig. pub. 1793.)

Kroker, Arthur. 2014. *Exits to the posthuman future*. Cambridge, UK, and Malden, MA: Polity Press.

LaGrandeur, Kevin. 2015. Book review: Robert Ranisch and Stefan Lorenz Sorgner, ed., *Post- and Transhumanism: An Introduction*. *Journal of Evolution and Technology* 25(1) (June 2015): 49–52. Available online at <http://jetpress.org/v25.1/lagrandeur.htm> (accessed July 1, 2016).

Liddell, Henry George, and Robert Scott. 1889. *An Intermediate Greek-English Lexicon*. Available online at <http://perseus.uchicago.edu/cgi-bin/philologic/navigate.pl?MiddleLiddell.2> (accessed July 6, 2016).

Locke, John. 1975. *An essay concerning human understanding*. Ed. Peter H. Nidditch. New York: Oxford University Press. (Orig. pub. 1689.)

Lovejoy, Arthur O. 1965. *The great chain of being: A study of the history of an idea*. New York: Harper & Row. (Orig. pub. 1936.)

More, Max. 1994. On becoming posthuman. Available online at <http://eserver.org/courses/spring98/76101R/readings/becoming.html> (accessed July 6, 2016).

Nason, Shannon M. 2014. Movement/motion. In *Kierkegaard's concepts Tome IV: Individual to novel*, ed. Steven Emmanuel, William McDonald, and Jon Stewart, 205–212. Aldershot, UK: Ashgate. An online version available at: http://myweb.lmu.edu/snason/Research_and_Writing_files/Movement%20KRSRR.pdf (accessed July 6, 2016).

Nietzsche, Friedrich, 1917, *Thus Spake Zarathustra*. Trans. Thomas Common. New York: Modern Library. Available online at <https://archive.org/details/thusspokezarathu00nietuoft> (accessed July 6, 2016).

O'Connor, John K. 2008. Precedents in Aristotle and Brentano for Husserl's concern with metabasis. *Review of Metaphysics* 61 (4) (June): 737–57.

Plaass, Peter. 1994. *Kant's theory of natural science*. Trans., with introd. and commentary, Alfred E. and Maria G. Miller. Dordrecht: Kluwer.

Pojman, Louis P. 1990. Kierkegaard on faith and freedom. *Philosophy of Religion* 27: 41–61.

Available online at

<http://www.sorenkierkegaard.nl/artikelen/Engels/134.%20Kierkegaard%20on%20faith%20and%20freedom.pdf> (accessed July 5, 2016).

Richardson, Alan W. 1998. *Carnap's construction of the world: The Aufbau and the emergence of logical empiricism*. Cambridge and New York: Cambridge University Press.

Roden, David. 2012. Humanism, transhumanism and posthumanism. Website for enemyindustry: philosophy at the edge of the human. (Posted June 12.)

<http://enemyindustry.net/blog/?p=3348> (accessed July 6, 2016).

Roden, David. 2015. *Posthuman Life: Philosophy at the edge of the human*. New York, Routledge.

Sandberg, A., and N. Bostrom, N. 2008. *Whole brain emulation: A roadmap*. Technical Report #2008-3, Oxford: Future of Humanity Institute (Oxford University).

<http://www.fhi.ox.ac.uk/brain-emulation-roadmap-report.pdf> (accessed July 6, 2016).

Sayers, Dorothy L. 1932. *Have his carcase*. New York: Avon Books.

Wennemann, Daryl J. 2013. *Posthuman personhood*. Lanham, MD: University Press of America.

Wennemann, Daryl. 2015. Posthumanisms: A Carnapian experiment. Ethical Technology blog. Institute for Ethics and Emerging Technologies. (Posted March 19.)

<http://ieet.org/index.php/IEET/more/wennemann20150319> (accessed July 5, 2016).