



On Progress and Reason: Stories of Gods, Animals and Humans

Journal:	<i>International Journal of Sociology and Social Policy</i>
Manuscript ID	IJSSP-09-2019-0179.R2
Manuscript Type:	Original Article
Keywords:	transhumanism, Future, capitalism, posthumanism, Adorno

SCHOLARONE™
Manuscripts

Introduction

The ongoing process of technogenesis - the dynamic coevolution of technology and humans - is undermining any stable notions of human nature (for example see Miah, 2008; Herbrechter, 2012; Ferrando, 2019). This article will consider two modes of thought engaging with the questions these developments raise: transhumanism and posthumanism. It will establish the Enlightenment and Rational Humanist origins of much transhumanist thinking (as acknowledged by Bostrum 2008; Hughes, 2010; More & Vita-More eds. 2013) emphasizing the faith transhumanists have in progress based on the application of instrumental reason. In problematising some of the ideas of transhumanism and its adherents it will ask whether posthumanism can offer an effective critique of transhumanism's worst excesses, especially in an advanced capitalist context.

I contend that despite offering an array of potent critique (seen for example in the work of Hayles, 1999; Wolfe, 2010; Braidotti, 2013), aspects of posthumanist theory are open to appropriation and abuse by transhumanists. The paper proposes a novel and original position for posthumanist theory in order to defend it from such appropriation. This involves underpinning posthumanism with an explicit acknowledgement of the duality of reason as comprising instrumental and ethical components (a distinction made explicit by Feenberg, 2019), alongside Theodor Adorno's notion of progress and his minimalistic or negative ethics. This provides posthumanism with a new and more robust grounding upon which to base its critique of transhumanism.

The article will begin by introducing the notions of transhumanism and posthumanism; it will then highlight the Enlightenment heritage of transhumanist thought and draw on posthumanist theory to highlight the dangers of transhumanism in an advanced capitalist context. Finally, it will demonstrate some of the vulnerabilities of posthumanism and outline the suggested underpinning with which to bolster its critique.

Transhumanism and Posthumanism

Transhumanism is not a single cogent idea, but rather a broad church with increasing numbers of schisms. Max More defines transhumanism as 'a class of philosophies that seeks the continued evolution of human life beyond its current human form as a result of science and technology' (More & Vita-More, eds., 2013, p.1). Transhumanists, then, not only acknowledge the possibility of developing a successor species to humankind but actively seek to bring about this man-made evolution. At the heart of the belief system is the idea that only technology offers solutions to the inherent problems of humanity. As David Pearce puts it:

If we want to live in paradise, we will have to engineer it ourselves. If we want eternal life, then we'll need to rewrite our bug-ridden genetic code and become god-like...only hi-tech solutions can ever eradicate suffering from the world. Compassion alone is not enough (IEET, 2007)

The converging development of the NBIC suite of technologies (nanotechnology,

1
2
3 biotechnology, information technology and cognitive science) are the primary basis
4 for transhumanist imaginaries. These give rise to notions such as cognitive
5 enhancements through artificial intelligence and brain-computer interfaces;
6 morphological freedom, radical abundance and decorporealization; life extension and
7 even immortality through cryonics and the digitization of the human mind.
8
9

10 Although the term 'posthuman' is used in transhumanist literature, it usually refers to
11 a technologically enhanced entity derived from the human, but no longer intuitively
12 recognizable as such. 'Posthumanism', however, has an entirely different set of
13 concerns. The 'human' in 'posthumanism' is not usually a reference to 'the human' at
14 all, but rather to 'humanism'. Hence posthumanism refers not to the end of
15 humankind, but rather to the end of the conception of humankind as it is understood
16 in post-Enlightenment humanist discourse, the precursor to much transhumanist
17 thought. The 'liberal human subject' is its primary target, an entity that entirely
18 underplays the relational ontology of 'the human'.
19
20

21 Posthumanism is not a singular and clearly delineated discourse, and it is worth
22 outlining some of its genealogies. Cary Wolfe (2010) places the emergence of the
23 term in contemporary critical discourse in the mid 1990s, though he identifies the
24 roots of its primary genealogy in the 1960s with Foucault's claim that 'man is an
25 invention of recent date. And one perhaps nearing its end' (2006, p.387). This
26 invention of man is 'a social construct linked to formations of power' (Cudworth &
27 Hobden, 2011, p.143). As Rosi Braidotti explains:
28
29

30
31 At the start of it there is He: the classical ideal of 'Man'... 'the measure of
32 all things'... An ideal of bodily perfection which... doubles up as a set of
33 mental, discursive and spiritual values. Together they uphold a specific
34 view of what is human about humanity. Moreover, they assert with
35 unshakable certainty the almost boundless capacity of humans to pursue
36 their individual and collective perfectibility... a doctrine that combines the
37 biological, discursive and moral expansion of human capabilities into an
38 idea of teleologically ordained, rational progress (2013, p.12)
39

40 Foucault's 'end of man' thus draws attention to the unspoken assumptions that at once
41 duplicates and exacerbates European, patriarchal modes of domination. The very
42 definition of the human is a Eurocentric physical ideal of 'Man': white, able-bodied.
43 From its beginning humanism can be seen to measure and exclude, failing to pay heed
44 to a differentiated humanity, neglecting its promise of affirming the dignity and worth
45 of all people. Wolfe explains, 'the philosophical and theoretical frameworks used by
46 humanism to try to make good on those commitments reproduce the very kind of
47 normative subjectivity – a specific concept of the human – that grounds
48 discrimination... in the first place' (2010, p.xvii).
49

50
51 Another facet of posthumanism is less concerned with the enabling of the replication
52 of power differentials between people than with the domination by humans over non-
53 human nature. As Braidotti explains,
54
55

56 Posthuman critical theory unfolds at the intersection between post-
57 humanism on the one hand and post-anthropocentrism on the other... the
58 latter rests on the rejection of species hierarchy and human
59 exceptionalism (in Braidotti, & Hlavajova, eds., 2018, p.339)
60

Posthumanists claim there is an ontological as well as an ethical deficiency in anthropocentric thinking, namely the human failure to recognize themselves as embedded and embodied within nature. Donna Haraway, who does not identify as a posthumanist but has inspired posthumanist thinking, phrases it as ‘the premise that humanity alone is not a spatial and temporal web of interspecies dependencies’ (2008, p.11). This ontological failing leads to the dangerous and destructive use and abuse of nature as merely a resource. It further leads to the unethical abuse of non-human animals due to the human exceptionalism explicit in the ‘the human-centric understanding of the human as the unique animal striving in the world’ (Cudworth & Hobden, 2011, p.146). The long standing human quest for emancipation from nature is enabled by the cognitive dissonance required to separate ourselves, placing the human in a singular, exclusive realm. The illusion also bolsters the instrumental rationality that underlies the humanist and derivative transhumanist mentality. Given these very different intellectual approaches it is no surprise that Wolfe (2010) claims ‘posthumanism is the opposite of transhumanism’ (Wolfe 2010, xv), while Braidotti refers to NBIC as ‘the four horsemen of the posthuman apocalypse’ (2013, p.59). The Enlightenment and humanist origins of transhumanist thought explain much of this antipathy.

The Enlightenment origins of Transhumanism

The potential of science to reconfigure nature features heavily in Enlightenment thought to the extent where transhumanist ideas are sometimes explicitly stated, not as mythological fantasies, but as reasoned expressions of the potentiality of the scientific method. In *New Atlantis* (1626) Francis Bacon envisioned a thriving Utopia dedicated to ‘the knowledge of causes and secret motion of things, and the enlarging of the bounds of human empire, to the effecting of all things possible’ (cited in Alexander, 2003, p12). Marquis de Condorcet asked, ‘Would it be absurd now to suppose that the improvement of the human race should be regarded as capable of unlimited progress? That a time will come when death would result only from extraordinary accidents’ (cited in Bostrum, 2005). Julien Offray de la Mettrie’s book *Machine Man* (1748) had conceptualized the human as a biological machine, whose every facet would ultimately be explicable through comprehending the individual component parts (Bostrum, 2005). Enlightenment thought thus emphasized faith placed not in God but in science and the human capacity for utilising rationality for its own designs: there is a distinct ‘instrumentalism’ in much Enlightenment thought.

Notwithstanding its non-linear, multifaceted development and varied lineage, transhumanism, with its stated aims of self-directed evolution through technologically enlightened human enhancement, can be seen to have its roots in this tradition. Integral to its creed is a hyper-humanism that anoints humankind as a higher, or special kind of beast, imbued as it is with the power of reason, most potently and purely realized in scientific pursuits. It relies on an absolute faith in human rationality to bring about intended consequences, and its normative position is fundamentally instrumentalist: reason should be used to shape nature towards the ends determined by human rationality and desires. Transhumanist thinker Nick Bostrum makes explicit the link between rational humanism and transhumanist thought:

rational humanism...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. Transhumanism has roots in rational humanism (2005, p.3)

Rational humanism contained within it the potentiality for the mutual respect between all humans as agents of rationality but also the potential sanctification of human self importance and dominance over nature. That is, the species hierarchy and human exceptionalism with which posthumanists take issue.

Furthermore, there is an extent to which the Enlightenment began to idealize a specific version of humanity – one that was supposedly enlightened enough to fully believe in their own capacity for rationalism. Kant claimed that,

Enlightenment is man's emergence from his self-imposed immaturity. Immaturity is the inability to use one's understanding without guidance from another. This immaturity is self-imposed when its cause lies not in lack of understanding, but in lack of resolve and courage to use it without guidance from another. Sapere Aude! Have courage to use your own understanding! (1997, p.11)

Thus instrumentalism is coupled with an implicit privileging of certain ways of being human. The idea of striving and perfectability underpins this thinking further leading to a hierarchical conceptualisation of humanity where those who display the ideals of rationalism (European, masculine, educated) are at the apex. As posthumanists argue, such a hierarchical perspective undermines the universality of respect humanism purports to bestow on all of humanity.

Darwin's *Origin of Species* (1859) further undermined religious mythology with its contradictory explanation of the genesis of humankind, but also challenged the perception of humans as uniquely distinct from the rest of the animal world. This was a potential blow to rational humanism, with its glorified envisioning of the status of humankind. However, it also aided a conception of humanity as a temporary state in a possibly endless evolutionary process. The Enlightenment concept of progress could be interpreted teleologically, as a definitive and necessary trajectory of history: the natural process of evolution. Furthermore, if humans are part of the natural world, that very canvas upon which Enlightenment rationality was instrumentalizing so effectively, then the capacities of humans too could potentially be enhanced through the scientific method. The ideas in Offray de la Mettrie's *Machine Man* were thus deemed more plausible.

Science was increasingly heralded above all other cultural forms of knowledge and thinking. In *The Martyrdom of Man* (1872) Winwood Reade claimed 'it is Science alone which can ameliorate the condition of the human race' (2004, p.178). Reade's book introduced explicitly many of the ideas that transhumanists still promulgate to this day. Christopher Coenen argues that he 'developed the blueprint for the ideological nucleus of modern transhumanism by creating a specific set of visions of and a narrative about the future of humankind' (2014, p.41). Amongst these are space colonization; the promise of a new human corporality; the idea of humanity functioning as a hive mind; immortality; and the conviction that humanity will come to rule the universe as a God-like post-human entity. Reade, writing before the 20th Century, could easily be confused with many modern transhumanist prophets when he says:

1
2
3 These bodies which now we wear belong to the lower animals; our minds
4 have already outgrown them; already we look upon them with contempt.
5 A time will come when Science will transform them by means which we
6 cannot conjecture...they will labour together in a Sacred Cause: the
7 extinction of disease and sin, the perfection of genius and love, the
8 invention of immortality, the exploration of the infinite, and the conquest
9 of creation (Reade, 2004, p.179)

10
11 Reade's vision is also based on a teleological notion of progress, buoyed by the ever-
12 expanding breadth of human understanding due to the accumulation of rationally
13 construed knowledge. Posthumanists would reject such a teleological conceptualisation
14 and critique this simplistic view of human reason and the false binary dichotomies of
15 humanist thought especially the mind/body Cartesian dualism which Reade expresses
16 here.
17

18
19 Despite these well-founded criticisms, significant technological developments of the
20 twentieth and twenty first century have made Reade's ideas radically more imaginable
21 and urgent. F.M. Esfandiary is an important cultural influence on the modern
22 incarnation of transhumanism. He changed his name to FM-2030 in the belief that
23 immortality would then be possible and he might celebrate his 100th birthday in the
24 year 2030. Alas, he died in 2000 and was cryonically frozen. Additionally, Esfandiary
25 saw names as part of a modern collectivist mentality, while he himself was a radical
26 libertarian. His thinking fetishizes science and an almost Randian rugged
27 individualism which informs and characterises the libertarian strain of transhumanist
28 culture. This ideology is anathema to posthumanists who emphasise the relational
29 ontology of humans and nature at large, undermining the very notion of an individual,
30 let alone its cultural glorification. Esfandiary identified the revolutionaries of the time
31 as 'the geneticists, biologists, physicists, cryonologists, biotechnologists, nuclear
32 scientists, cosmologists' (cited in Bostrum, 2015, p.13). He dismissed the 'old order'
33 and placed himself and other 'upwingers' in contradistinction to those who held
34 traditional family values and religious convictions. Esfandiary influenced Natasha
35 Vita-More (real name Nancie Clark) and Max More (real name Max O'Connor) who
36 have since become a prominent transhumanist couple and co-edited *The*
37 *Transhumanist Reader* (2013). Max More, along with Tom Morrow (real name Tom
38 Bell), founded the Extropy journal in 1988 and later the Extropy Institute (1992-
39 2007). Extropy is the conceptual inverse of entropy (which relates to the second law
40 of thermodynamics and indicates a general decline into disorder). Thus Extropians
41 seek to fundamentally undermine the laws of physics with the use of human
42 rationality. Extropianism played a key role in bringing together numerous disparate
43 groups through e-mails, blogs and chatrooms that were gaining interest in
44 technologies, science fiction, futurist themes and transhumanist ideas.
45
46
47
48
49

50
51 The World Transhumanist Association (later becoming Humanity+) was founded in
52 1998 by Nick Bostrom and David Pearce. Bostrom claims the aim 'was to develop a
53 more mature academically respectable form of transhumanism, freed from the
54 "cultishness" [of Extropians]' (2005, p.15) and more clearly following the
55 Enlightenment heritage. The WTA established a Transhumanist Declaration, FAQ,
56 and later, a constitution (Bostrom, 2005). In 2004 Bostrom founded the Institute for
57 Ethics and Emerging Technologies along with James Hughes which aimed to
58 'promote the ethical use of technology to expand human capacities' (cited in Bostrom,
59 2005, p.16). Hughes (2004) has advocated a democratic version of transhumanism. At
60

1
2
3 the same time transhumanism as a movement has spread and diversified, taking on
4 various new forms as investigated in Mark O'Connell's *To Be a Machine* (2017).
5 Political parties have emerged in many countries, most famously with Zoltan Istvan's
6 2016 US Presidential campaign which involved travelling the country in a bus shaped
7 like a casket called the "Immortality Bus" (O'Connell, 2017). Biohacking has become
8 increasingly popular, with the makeshift, do-it-yourself spirit inherent to the
9 sometimes dangerous body morphologies.
10

11
12 Another important strain of libertarian transhumanist development is amongst the
13 billionaires of Silicon Valley. Coenen (2014) points out this is in contradistinction to
14 the 'outsider' position taken by earlier transhumanists, and arguably even by later
15 Extropian thinkers such as Esfandiary and More. O'Connell (2018b) suggests 'the
16 Silicon Valley cult of eternal youth and transformative technology that it feeds off'
17 combines with 'our current cultural anxieties – climate catastrophe, decline of
18 transatlantic political orders, resurgent nuclear terror' (2018a) in a strange brew of
19 paranoid survivalism and utopian fantasy. These are the fault lines upon which
20 advanced capitalism and transhumanism most clearly meet.
21
22

23 **The myriad dangers of transhumanism**

24
25 While the breadth of transhumanist positions are too plentiful to cover here, it is
26 worth introducing some specific visions of human enhancement and identifying
27 problematic aspects of these imaginaries. Given its rootedness in humanism, it is
28 perhaps surprising to find a deeply misanthropic strain of thought in many
29 transhumanist positions. There are numerous manifestations of this misanthropy, from
30 functionalist interpretations of consciousness that downplay or even deny its
31 existence, through to an equating of the human to a machine, or a mere 'information
32 processor'. Furthermore, by analyzing humanity's failings and limitations, it
33 emphasizes the need for improvement. For example, Marvin Minsky argues that,
34
35

36
37 we are unlikely to last very long – on either cosmic or human scales of
38 time. In the next hundred or thousand years, we are liable to destroy
39 ourselves, yet we alone are responsible not only for our species' survival
40 but for the continuation of intelligence on this planet and quite possibly in
41 the universe (cited in Garreau, 2005, p.123).
42

43
44 Julian Savulescu (2009) also cites species survival as a primary justification for
45 human enhancement, arguing that we face a 'Bermuda Triangle of Extinction': radical
46 technological power, liberal democracy and human moral nature, the triumvirate
47 which threatens a potential cocktail of destruction. Savulescu sees an 'urgent
48 imperative to enhance the moral character of humanity' (Persson & Savulescu, 2008,
49 p.1) exactly because radical technological potentialities are inevitable. Savulescu's
50 idea that morality is a potential locus for the application of instrumental reason is
51 symptomatic of a failing of much transhumanist thought: the idea that
52 instrumentalism in itself can solve moral problems. Savulescu ignores the fact that our
53 moral dispositions derive from social contexts, and that moral good cannot be
54 universally agreed. A lack of awareness of the roots of social problems may well
55 result in biological solutions that exacerbate rather than ameliorate such issues. Social
56 and biological reality are intricately connected and co-evolve, as the posthumanist
57 relational ontology acknowledges. Whilst the failings of humankind to deal with
58 global problems are increasingly manifest, deep social as well as biological
59
60

1 understandings are required. Moral dispositions are neither self-constituted (merely
 2 biological) nor all determining. Responsibility for the definition and dissemination of
 3 moral enhancements would likely reside in current power structures, and advanced
 4 capitalist logics, which may bear much of the culpability for these failings in the first
 5 place.
 6
 7
 8
 9

10 The contestability of morality can be highlighted by the ideas of Fuller & Lipinska in
 11 *The Proactionary Imperative* (2014). At the heart of their belief system is the idea that
 12 we are obliged to pursue technoscientific progress endlessly to reach our god-like
 13 destiny or infinite power: to serve God by becoming God. This conception of
 14 humanity's metaphysical condition is an ideological extension of the 'proactionary
 15 principle' which they identify as 'the 18th century enlightenment idea of progress on
 16 overdrive' (2014, p.9). Posthumanists advocate its inverse, the precautionary principle
 17 (eg.Ferrando, 2019). The implications of such a mantra are stark:
 18
 19

20
 21 replacing the natural with the artificial is so key to proactionary
 22 strategy...some proactionaries speak nowadays of 'black sky thinking'
 23 that would have us concede - at least as a serious possibility if not a
 24 likelihood - the long-term environmental degradation of the Earth and
 25 begin to focus our attention on space colonization (2014, pp.99-100)
 26

27 It is not just the Earth itself that would be allowed to fall victim to Fuller & Lipinska's
 28 transhumanist super-experiment, but any person that may represent grist for the mill.
 29 They state that 'a proactionary world would not merely tolerate risk-taking but
 30 outright encourage it, as people are provided with legal incentives to speculate with
 31 their bio economic assets. Living riskily would amount to an entrepreneurship of the
 32 self' (2014, p.132). The horrors that ensue from this globalized market of human
 33 experimentation are conceived of as mere learning experiences as proactionaries 'seek
 34 large long-term benefits for survivors of a revolutionary regime that would permit
 35 many harms along the way' (2014, p.101). Progress on overdrive will thus require
 36 sacrifices. At the heart of this thinking is the removal of basic rights for 'Humanity
 37 1.0', Fuller's term for modern, non-augmented human beings, and the replacement of
 38 it by duties towards the future augmented transhuman entity, 'Humanity 2.0'.
 39
 40

41 The duties that constitute future humans' rights embrace the belief that the very code
 42 of our being should be monetized: 'Conceptualise our genetic material as property
 43 that one is entitled, and perhaps even obliged, to dispose of as inherited capital'
 44 (Fuller & Lipinska, 2014, p.32). The neoliberal preoccupation with privatization
 45 should thus extend to human bodies. Indeed, the life-time of debt that is the lived
 46 reality of most citizens in developed advanced capitalist nations, takes a further step
 47 as you are born into debt: 'Simply by virtue of being allowed to live, you are invested
 48 with Capital on which a return is expected' (2014, p107). Their technoscientific
 49 super-project of Humanity 2.0 utilises the ideology of market-fundamentalism in its
 50 quest for perpetual progress and maximum productivity. Fuller & Lipinska
 51 unabashedly embrace the eugenic nature of their ideology: transhumanism 'owes its
 52 very existence to eugenics, whose spirit it continues to promote under the slightly
 53 more politically correct rubric of "human enhancement"' (2014, p.64). It is worth
 54 reflecting on the contestability of morality and Savulescu's simplistic notion of 'moral
 55 upgrade'. For Fuller & Lipinska this would simply mean making humans more
 56 amenable to whatever facilitates the greatest efficiency in realizing our teleological,
 57 transcendent trajectory.
 58
 59
 60

Fuller & Lipinska (2014) acknowledge that their own non-conformist faiths play a vital role in underpinning their transhumanist fervour. Whilst James Hughes (2010) notes that most transhumanists are mainly secular and atheist, the most outlandish transhumanist fantasies offer a secular basis for displaced eschatological desires. Ray Kurzweil's imaginary 2099 is comprised of machine-based humans. The wetware of flesh and blood is replaced by nanobot swarms that afford them infinite plasticity, or no materiality at all. Virtual reality is an alternative locus for minds (or 'patterns') which no longer have the neurons and synapses of brains, but electronic and photonic equivalents. Nature too becomes endlessly abundant. Whatever can be imagined can be made manifest. As Charles Thorpe explains: 'Kurzweil's fantasy...denies limits by imaginatively escaping from the constraints of Earth as the relevant environment...the rejection of spatial limits (of Earth) and temporal limits (via radical life extension) is achieved through decorporealization' (2016, p.79). However, to believe in this requires certain metaphysical leaps of faith. Katherine Hayles, in her seminal text *How We Become Posthuman*, brings us back to Earth quite literally by rightly asserting,

In the face of such a powerful dream, it can be a shock to remember that for information to exist, it must always be instantiated in a medium...The point is not only that abstracting information from a material base is an imaginary act but also, and more fundamentally, that conceiving of information as a thing separate from the medium instantiating it is a prior imaginary act that constructs a holistic phenomenon as an information/matter duality (1999, p.13)

Kurzweil's (1990, 2005) dream is not science, it is religion. Here, religion plays a different role than it does for Fuller & Lipinska. Whereas for them it is the justification for an irrational faith in progress, for Kurzweil it is almost a rhetorical device, promising the spiritual (and material) benefits of religious salvation. The irony of this technological salvation is it cannot make these promises without retreating into religious myths from which science seeks to liberate us.

Despite this, Kurzweil confidently declares that 'intelligence' will conquer the universe: 'The law of accelerating returns will continue until...the entire universe will become saturated with our intelligence. This is the destiny of the universe' (Kurzweil, 2005, p 29). For Hans Moravec, modern humans don not matter because they are

going to be left behind, like the second stage of a rocket. Unhappy lives, horrible deaths, and failed projects have been part of the history of life on Earth ever since there was life; what really matters in the long run is what's left over (cited in Thorpe, 2016, p.109)

Moravec explicitly links this 'progress' to prior colonial pursuits. Colonialism, genocide, ecological devastation are all just part of the natural history of progress: civilising forces in the grand march towards our intelligent designs colonizing the universe. These intents are colonialist in nature, and are supported by religious myths promising eternal salvation: a disturbingly familiar story used to justify expansionist aims and domination.

Christopher Coenen argues this colonialist strain has a distinct lineage in transhumanist thought. He points out that Winwoode Reade's ideas 'reflected the

1
2
3 imperialist context of his life and activities...providing a grand narrative in which all
4 past human endeavours and British imperialism in particular were presented as steps
5 towards a grandiose future' (2014, p.41) He concludes, 'the genesis of transhumanism
6 has been influenced by the notion of an "empire"'(Coenen, 2014, p.41). Furthermore,
7 Coenen traces a history of transhumanism as an articulation of displaced
8 eschatological desires. Thus transhumanist ideas were part of a wider cultural shift
9 which drew upon the awesome scope of nature as inspiration for a sense of the
10 sublime. Coenen states:

11
12
13 [d]uring the nineteenth century, gradualist geology, Darwinianism and
14 cosmology expanded the time horizons of modernity in both directions.
15 The distant past and the far future became subjects of inquiry and
16 speculation. The awe-inspiring timescales and vastness of the universe
17 created a new urgency of the mathematical sublime (2014, p.39)
18

19
20 This was an attempt to dignify humanity in a way that makes us integral to the 'new
21 insights into the immenseness of timescales and vastness of space' (Coenen, 2014,
22 p.39). Technoscience is sanctified as the methodology for the realization of a new
23 human self assertion required after Darwin's strike against human narcissism.
24 Replacing eschatological fantasies with colonialist aspirations is deeply embedded in
25 the cultural history of transhumanist thought. Genocide scholar Louise Wise
26 recognizes a "homology" between colonialism and genocide' (2015, p.260). This is
27 an alarming warning given these hyper-colonial pretensions, exacerbated by the
28 potential inequalities that may be enabled by human enhancement technologies in an
29 advanced capitalist context.
30

31 32 **Posthumanist Limitations**

33
34 For Francesca Ferrando (2019) anthropocentrism and technocentrism underpin the
35 triumphalist claims of transhumanism which 'would generate, sustain and justify
36 social inequalities, political discriminations, and legal violence' (2019, p.34).
37 Furthermore, 'the prospect of (some) humans redesigning the global ecosystem...is
38 rooted in a hyperbolic form of humanistic exceptionalism, and absolutism' (2019,
39 p34). However, the ongoing re-definition of the human is at stake for both ideologies,
40 and bio-technological developments are a central concern for each, thus they 'share a
41 common perception of the human as a non-fixed and mutable condition, but they
42 generally do not share the same roots and perspectives' (Ferrando, 2013, p.2). For
43 transhumanists the mutability represents the possibility for enhancement, opening up
44 a teleological narrative of evolution towards an upgraded posthuman entity. For
45 posthumanists, it represents a fracturing of the liberal human subject and an
46 undermining of its hegemonic principles. Despite this, Sorgner & Ranisch (2014)
47 suggest posthumanism and transhumanism may actually have much in common and
48 that their apparent opposition may simply be down to a difference of style. While this
49 is a clear misrepresentation, there are commonalities which may offer transhumanists
50 opportunities to exploit posthumanist conceptualisations for their own ends.
51
52

53
54
55 Ferrando (2019) identifies post-dualism as a defining feature of posthumanism: the
56 disruption and undermining of false binary dichotomies deemed to be steeped in
57 humanist thought such as human/non-human, nature/culture, self/other, mind/body,
58 organic/technological. Some transhumanists draw on this post-dualist disruption to
59 question rights discourse where it becomes an impediment to instrumental progress.
60

1
2
3 The organic/technological and human/non-human in particular are binary dichotomies
4 that transhumanists often endeavour to erode. Whilst some posthumanists question
5 the implicit species hierarchy of the human/non-human binary dichotomy to draw
6 attention to our subjugation of animals, some transhumanists employ the same
7 methodology to underplay the difference between humans and machines. The issue is
8 potentially exacerbated by the 'post-centralizing' aspect of posthumanist discourse
9 which 'challenges biocentrism, sentiocentrism, vitalism, and the concept of life itself,
10 blurring the boundaries between the animate and the inanimate, in a quantum
11 approach to the physics of existence' (Ferrando, 2019, p.5). By denying the
12 importance of sentience, life and animism it is hard establish an ethical bedrock with
13 which to counter inhuman aims. At times the posthumanist urge to undermine
14 difference renders it uncomfortably close to the 'blissed-out technoidiocy' (Haraway,
15 2006, p.146) of transhumanist fantasies. Braidotti claims,

16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65
66
67
68
69
70
71
72
73
74
75
76
77
78
79
80
81
82
83
84
85
86
87
88
89
90
91
92
93
94
95
96
97
98
99
100
101
102
103
104
105
106
107
108
109
110
111
112
113
114
115
116
117
118
119
120
121
122
123
124
125
126
127
128
129
130
131
132
133
134
135
136
137
138
139
140
141
142
143
144
145
146
147
148
149
150
151
152
153
154
155
156
157
158
159
160
161
162
163
164
165
166
167
168
169
170
171
172
173
174
175
176
177
178
179
180
181
182
183
184
185
186
187
188
189
190
191
192
193
194
195
196
197
198
199
200
201
202
203
204
205
206
207
208
209
210
211
212
213
214
215
216
217
218
219
220
221
222
223
224
225
226
227
228
229
230
231
232
233
234
235
236
237
238
239
240
241
242
243
244
245
246
247
248
249
250
251
252
253
254
255
256
257
258
259
260
261
262
263
264
265
266
267
268
269
270
271
272
273
274
275
276
277
278
279
280
281
282
283
284
285
286
287
288
289
290
291
292
293
294
295
296
297
298
299
300
301
302
303
304
305
306
307
308
309
310
311
312
313
314
315
316
317
318
319
320
321
322
323
324
325
326
327
328
329
330
331
332
333
334
335
336
337
338
339
340
341
342
343
344
345
346
347
348
349
350
351
352
353
354
355
356
357
358
359
360
361
362
363
364
365
366
367
368
369
370
371
372
373
374
375
376
377
378
379
380
381
382
383
384
385
386
387
388
389
390
391
392
393
394
395
396
397
398
399
400
401
402
403
404
405
406
407
408
409
410
411
412
413
414
415
416
417
418
419
420
421
422
423
424
425
426
427
428
429
430
431
432
433
434
435
436
437
438
439
440
441
442
443
444
445
446
447
448
449
450
451
452
453
454
455
456
457
458
459
460
461
462
463
464
465
466
467
468
469
470
471
472
473
474
475
476
477
478
479
480
481
482
483
484
485
486
487
488
489
490
491
492
493
494
495
496
497
498
499
500
501
502
503
504
505
506
507
508
509
510
511
512
513
514
515
516
517
518
519
520
521
522
523
524
525
526
527
528
529
530
531
532
533
534
535
536
537
538
539
540
541
542
543
544
545
546
547
548
549
550
551
552
553
554
555
556
557
558
559
560
561
562
563
564
565
566
567
568
569
570
571
572
573
574
575
576
577
578
579
580
581
582
583
584
585
586
587
588
589
590
591
592
593
594
595
596
597
598
599
600
601
602
603
604
605
606
607
608
609
610
611
612
613
614
615
616
617
618
619
620
621
622
623
624
625
626
627
628
629
630
631
632
633
634
635
636
637
638
639
640
641
642
643
644
645
646
647
648
649
650
651
652
653
654
655
656
657
658
659
660
661
662
663
664
665
666
667
668
669
670
671
672
673
674
675
676
677
678
679
680
681
682
683
684
685
686
687
688
689
690
691
692
693
694
695
696
697
698
699
700
701
702
703
704
705
706
707
708
709
710
711
712
713
714
715
716
717
718
719
720
721
722
723
724
725
726
727
728
729
730
731
732
733
734
735
736
737
738
739
740
741
742
743
744
745
746
747
748
749
750
751
752
753
754
755
756
757
758
759
760
761
762
763
764
765
766
767
768
769
770
771
772
773
774
775
776
777
778
779
780
781
782
783
784
785
786
787
788
789
790
791
792
793
794
795
796
797
798
799
800
801
802
803
804
805
806
807
808
809
810
811
812
813
814
815
816
817
818
819
820
821
822
823
824
825
826
827
828
829
830
831
832
833
834
835
836
837
838
839
840
841
842
843
844
845
846
847
848
849
850
851
852
853
854
855
856
857
858
859
860
861
862
863
864
865
866
867
868
869
870
871
872
873
874
875
876
877
878
879
880
881
882
883
884
885
886
887
888
889
890
891
892
893
894
895
896
897
898
899
900
901
902
903
904
905
906
907
908
909
910
911
912
913
914
915
916
917
918
919
920
921
922
923
924
925
926
927
928
929
930
931
932
933
934
935
936
937
938
939
940
941
942
943
944
945
946
947
948
949
950
951
952
953
954
955
956
957
958
959
960
961
962
963
964
965
966
967
968
969
970
971
972
973
974
975
976
977
978
979
980
981
982
983
984
985
986
987
988
989
990
991
992
993
994
995
996
997
998
999
1000

What we humans truly yearn for is to disappear by merging into this generative flow of becoming, the precondition for which is the loss, disappearance and disruption of the atomized, individual self...the moment of ascetic dissolution of the subject...its merging with the web of non-human forces...the cosmos as a whole (2013, p.136)

This sounds worryingly similar to a post-singularity, digitally connected, hive mind consciousness that some transhumanists dream of. It seems to celebrate a poetic suicide which is reminiscent of the self-defeating transhumanist project of digital immortalism. It is worth noting that some posthumanists utilize the notion of complexity theory which deals with difference more effectively than post-dualism. The theory acknowledges the possibility of delineating categories or 'systems'. Such systems are porous and nested thus recognizing the interconnectedness of all matter and thus also undermining binary dichotomies. As Erika Cudworth and Steve Hobden point out

An adequate understanding of social natures and the hybrid constitution of the social/natural/technological must be cognizant to the detail and specificity of the political, social and psychological differences between species, the social and political constitution of human power and the important differences between living and non-living matter (2017, p.14)

Elsewhere they emphasize the point: 'there are important boundaries that distinguish humans and non-human animals from machines' (Cudworth & Hobden, 2011, p.141). Recognition of such boundaries are vital if posthumanism is to offer an effective critique of transhumanist aims.

Meanwhile Ferrando sees posthumanism as a philosophy of mediation leading her to argue that 'Transhumanism offers a deep and visionary reflection on technology, which should be cherished' (2019, p.38). This mediation is coupled with a self-contradictory denial of the hierarchy of truth claims including Posthumanist thought itself. Thus no modes of thinking are fully dismissed but 'are recognized as functional acts of the philosophical drama, and, more in general, as contributors to the historical formation of the notion of the human' (Ferrando, 2019, p.52). Such a position renders posthumanism impotent. Its ethical investigations, are simply part of a drama but no more valid than fascism, capitalism, transhumanism or any other -ism. Ethical leakiness can be further highlighted by questioning the terms 'post-anthropocentrism' and 'post-humanism'. The former raises the question from what

perspective can we view things if not an anthropocentric one. Ferrando acknowledges that posthumanism is 'aware of its epistemic limitations (as theorized by and for humans)' (2019, p.2). Nevertheless she argues posthumanism accesses 'an epistemological standpoint through the feminist policies of situating the self, and acknowledging the self as plural and relational' (2019, p.23) and 'accessing nonhuman perspectives means taking into consideration the existence of other species' (2019, p.152). Anthropocentrism then, is something we can be conscious of, and mitigate against, though not transcend completely. Anthropos can be de-centred but for now at least, not escaped.

Indeed escaping anthropos in an advanced capitalist context may be deeply undesirable. As Braidotti explains:

advanced capitalism both invests and profits from the scientific and economic control and the commodification of all that lives. This context produces a paradoxical and rather opportunistic form of post-anthropocentrism on the part of market forces which happily trade on Life itself (2013, p.59)

Likewise Shoshana Zuboff (2017) expertly highlights the dangers of a related form of post-anthropocentrism inherent to the logics of 'surveillance capitalism' which turns the human lifeworld into an information mine from which value is extracted. Data is 'fabricated into prediction products that anticipate what you will do now, soon and later...it is no longer enough to automate information flows about us; the goal now is to automate us' (Zuboff, 2017, p.8). In the face of such dystopian forms of post-anthropocentrism it not possible to defend such a goal without more specificity as to the type of anthropocentrism being objected to. Where human agency is subordinate to the interests of profit-driven, automated extraction, post-anthropocentrism of this kind has already gone too far.

Whilst highly critical of the discriminatory aspects of humanism, posthumanists often confess to misgivings about the denouncement of humanism in its entirety: 'Complicitous with genocides and crimes on the one hand, supportive of enormous hopes and aspirations to freedom on the other, Humanism somehow defeats linear criticism. This Protean quality is partly responsible for its longevity' (Braidotti, 2013, p.16). Wolfe (2010), too, suggests there is much to be admired in humanism and its rejection 'tout court' would be erroneous. It is clear that posthumanism, if it is to function as an effective and radical critique of transhumanism in the age of advanced capitalism, requires some additional specificity and a firmer base for its normative claims.

The Rational Critique of Reason

The transhumanist belief in the positive outcomes of human enhancement is based upon a faith in the human capability for the successful application of reason. As transhumanist James Hughes acknowledges, 'Most transhumanists argue the Enlightenment case for Reason without awareness of its self-undermining nature' (Hughes, 2010, p.624). A broad range of theoretical traditions have thoroughly undermined simplistic conceptualizations of reason. Ranisch & Sorgner correctly identify many of these with posthumanism including: 'postmodern and continental philosophy, science and technology studies, cultural studies, literary theory and

criticism, poststructuralism, feminism, critical theory and postcolonial studies' (2014, p.14). Furthermore in recognizing posthumanism's polymorphous lineage they note Stefan Herbrechter (2013) identifies Nietzsche, while Neil Badmington (2000) suggests Marx and Freud as the main precursors of the movement. Each points to a different aspect of the fracturing of a conceptualization of pure human reason. Nietzsche emphasizes the perspectival nature of truth, which galvanized 'the great emancipatory movements of postmodernity... fueled by the resurgent "others"' (Braidotti, 2013, p.37). Freud showed the capricious nature of the human mind and that its workings and desires determines that it can never be capable of adhering to a pure scientific rationality comprised as it is with its own complex curiosity. Marx demonstrated that rationality is constructed in the more-than-human world of social and economic relations. Capitalism bears its own reasoning force:

The rationality of capitalism is both social and instrumental in the sense that it is inseparable from biased institutional decisions even as it aims at technical control. It is formalized in technical disciplines that describe functional relations and in some cases codify institutional practice. Modernity is characterized by the hegemony of this type of rationality. (Feenberg, 2017, p.113)

Mathematics and science form the model for this type of instrumental rationality, but social functions are in reality messier than these formalized methodologies. This points towards a certain duality, namely the strictly rational fact-based world, and the world informed by experience and values.

For Feenberg this duality takes on various forms: cause and culture, fact and belief, lay and expert, technical rationality and democratic intervention, but he most often expresses it as science versus experience. The duality is central to the ontological, epistemological and ethical basis of human reason and the construction of the human life-world. It is important to note these pairings are not dialectic binaries as they are perpetually intertwined when manifest in social reality. Nevertheless,

Science criticizes and transcends lived experience. It separates itself from our experience through rigorous critique. Its discoveries are not just an improved representation of nature similar in kind to the representations found in everyday life. The nature we encounter in our experience of the world is left behind as a cultural or psychological residue. The scientific idea of nature involves a systematic negation of experience; appearance and reality stand opposed (Feenberg, 2017, p.13)

Science often fundamentally contradicts experience and its appeal to neutrality often results in its claims being privileged in the hierarchy of reason because it is seen as 'an absolute spectator on existence' (2017, p.12). But Feenberg rightly understands this as a serious error. Importantly he states, 'Values... correspond to realities science may not yet understand, indeed may never understand, but which are surely real' (2017, p.14). Science cannot explain effectively much of what appears to matter to humans, and it certainly cannot be relied upon to determine exactly how humans should live. In part this is because science, as a human pursuit, is always limited:

knowing is made both possible and limited by time, place, body, culture, prejudices, and all other contingencies that operate in the search for truth... these limits show up in the flaws of technological designs, which may be biased to privilege the interests of a given social group or may

1
2
3 contain unsuspected dangers for those who use them (Feenberg, 2017,
4 p.5)
5

6 The damage that instrumental rationality has wrought evinces the danger inherent in
7 venerating scientific facts and technological progress without deeper ethical
8 reflection: 'Scientism, the claim that only science is true, meets its limits in the harm
9 that accompanies "development" around the globe' (Feenberg, 2017, p14).
10

11
12 Facts can only tell us so much: they can direct means, but not in themselves
13 effectively determine moral ends. As Ian Angus explains,
14

15
16 The waning belief in overall human progress...is rooted in the realization
17 that technical ends (towards which a genuine progress of means does
18 occur) cannot be rescued from conflict and mutual destruction by the
19 same mode of thought that contributed to the accumulation of means
20 (1984, p.13)
21

22 The growing body of knowledge of science and technology which constitutes this
23 progress towards furthering technical ends also represents an increasingly potent
24 technical means. Because this form of progress is palpable, it is self-justifying.
25 However, technical progress does not ensure moral progress, as was powerfully
26 demonstrated by the two World Wars of the 20th Century. Modernity has yet to fully
27 come to terms with this central failing of Enlightenment thought. As well as lacking
28 the requisite grasp of human meaning, instrumental rationality becomes self defeating
29 when the ends to which it is applied involves the instrumentalisation and domination
30 of nature, a theme integral to most posthumanist thought. Feenberg calls for the
31 inclusion of explicitly ethical reason based on values that are exogenous to pure
32 scientific rationality: 'Values are the facts of the future. Values are not the opposite of
33 facts, nor are they mere subjective desires with no basis in reality. Our world was
34 shaped by the values that presided over its creation' (2017, p.8). Facts and values,
35 science and experience, these realms of reason are intricately interlinked, they co-
36 produce each other and both are present throughout the social world. Neither can be
37 privileged in the final reckoning. Some posthumanists may feel that these values,
38 derived from human experience, must be anthropocentric. However, they may take
39 into account nonhuman perspectives and the existence of other species. As Ferrando
40 states, 'It means hearing their messages, which may not be verbal or intellectual but
41 they are still very clear' (2019, p.152). Progress cannot come about by simply
42 decentering human values – this could strengthen the implicit values of instrumental
43 rationality. Instead it must contest which values constitute progress.
44
45
46
47

48 **Adorno, progress and negative ethics**

49
50 Conceptualizing a normative basis for a definition of progress is a vital task. Amy
51 Allen states, 'For contemporary critical theory, progress is...understood in contingent
52 rather than necessary, disaggregated rather than total, and postmetaphysical rather
53 than metaphysical terms' (2016, p.9). Contingent indicates it is not determined, and
54 where it does occur it is a conditional, perhaps fortuitous and temporary event. Its'
55 disaggregated nature points towards the fact that there are multiple manifestations of
56 progress, for example cultural, economic, technological and socio-political; progress
57 in one area does not necessitate progress in others and progress and regress can occur
58 simultaneously. It is postmetaphysical in that 'the end toward which progress aims is
59
60

1
2
3 understood in a deflationary, fallibilistic, and de-transcendentalized way' (Allen,
4 2016, p.9). Transhumanist ideologies often fail to understand progress in this way.
5 There is frequently a teleology that belies the contingency that should be recognized
6 as inherent to the nature of progress. Acknowledgement of desegregation is
7 underplayed in order to focus on instrumental rationality and technical progress with a
8 misguided assumption that moral progress must follow, or that morality itself is an
9 irrational pursuit that should be replaced by aims of power. The transhumanist
10 transcendental grand-narrative of humanity 'self-evolving' that replaces their
11 displaced eschatological desires contains a metaphysical overtone. Still, we require a
12 notion of progress to have any hope of achieving it, and the notion must have a
13 normative grounding. Otherwise, as Feenberg has argued, instrumental rationality will
14 always hold sway and progress will remain synonymous with power, and thus
15 oppression.
16
17
18

19 A central concern of Theodor Adorno is the realization that any notion of progress is
20 bound up with the potential for crimes being committed in its name. For Adorno, the
21 central aporia or contradiction inherent in Enlightenment thinking is the entanglement
22 of knowledge and power. Domination is a natural impact of rationality, and
23 rationalizing the resultant domination becomes an inherent part of Enlightenment
24 thought. All knowledge including moral reasoning contains the seeds and potential for
25 barbarity. Adorno, along with Horkheimer in *The Dialectic of Enlightenment*, is in no
26 doubt that this is where Enlightenment thinking had led to in his lifetime:
27 'Enlightenment, understood in the widest sense as the advance of thought, has always
28 aimed at liberating human beings from fear and installing them as masters. Yet the
29 wholly enlightened earth is radiant with triumphant calamity' (2002, p.1). Despite
30 this, they also recognize that without reason there is no hope of progress:
31
32
33

34 freedom in society is inseparable from enlightenment thinking. We
35 believe we have perceived with equal clarity, however, that the very
36 concept of that thinking...already contains the germ of the regression
37 which is taking place everywhere today (2002, p.xvi)
38

39 We are thus dependent on continuing our commitment to the path of Enlightenment.
40

41 However, they recognize that progress is always bound up with regress and that both
42 coexist simultaneously, highlighting the disaggregated nature of the term. Thus they
43 seek to 'prepare a positive concept of enlightenment which liberates it from its
44 entanglement in blind domination' (2002, p.xviii). What is required is that reason
45 becomes self-aware by reflecting upon its own regressive moment and so
46 Enlightenment 'is faced with the challenge of transcending itself' (Adorno, 2006,
47 p.169-170). Reason, then, still has a very important function, but at the heart of such
48 thought must lie humility. Indeed, the metanarrative of progress as historical fact is a
49 concept which Adorno claims is synonymous with an 'affirmative mentality' which
50 'is incapable of looking horror in the face and thereby perpetuates it' (2006, p.7). It is
51 fundamentally imbued with an imperial, colonizing force.
52
53

54
55 Rationality must problematize itself, participate in active self-criticality and be
56 radically open to alternative views. Allen states, 'Adorno and Foucault encourage
57 critical theorists to enter into intercultural dialogue with subaltern subjects without
58 presuming that we already know what the outcome of that dialogue should be' (2016,
59 p. 202). But as Adorno realizes, this leads to a 'contradictory situation. We need to
60

hold fast to moral norms, to self-criticism, to the question of right and wrong, and at the same time to a sense of the fallibility of the authority that has the confidence to undertake such self-criticism' (2000, p.169). An awareness of the fallibility of reason is thus an epistemic stance, but also a normative one. Respecting the 'other' becomes integral to preventing reason from its calamitous potentiality, summarized by Adorno's 'heterodox and even heretical view...progress occurs where it comes to an end' (2006, p.153). Modesty, or perhaps more aptly humility, is vital to a just form of Enlightenment reason. Such a notion bolsters Feenberg's claim that 'The critique of hubris is the basis for an ethic and a politics of technology' (2017, p.1). The excessive self-certainty of hubris is built upon a lack of epistemic understanding. This chimes with the posthumanist recognition of the agency of the more-than human. Critiquing hubris is a demand for the recognition of complexity, an understanding of the limited power of human reason, agency and importance. Humility demands the uncovering of reason's genealogy and problematization of it (Allen, 2016) or in Adorno's terms, 'breaking the spell of what has come to be second nature for us' (in Allen, 2016, p.205).

A further aspect of Adorno's thought can be drawn upon to provide an ethical underpinning to posthumanist perspectives. It is particularly useful as a normative guide to engaging with radical technologies with transhumanist potential. Adorno recognizes that any moral position is contingent on its historical and social positioning; there is no 'standpoint removed by however tiny a distance from the circle of being' (cited in Freyenhagen, 2012, p.177). Additionally, were Adorno to advocate positive principles that are not context dependent they would be insufficiently self-critical to answer the Enlightenment aporia central to his work. Most crucially, the certainty of such principles contain within them inherent authoritarianism as they claim to be valid in all contexts and therefore deny the radical openness to other viewpoints required by Adorno's demand for modesty. But failure to supply such transcendent normative principles could leave him open to a charge of relativism, the very charge some posthumanists face. However, Adorno understands that it is more appropriate to identify what is morally wrong than to claim an objective foundation of normative values that transcend context, for

We may not know what absolute good is or the absolute norm, we may not even know what man is or the human or humanity—but what the inhuman is we know very well indeed. I would say that the place of moral philosophy today lies...in the concrete denunciation of the inhuman (2000, p.175).

Adorno's insight is built on a minimal and negativistic ethics of progress (eg. Freyenhagen, 2012): the categorical imperative that there should be no repeat of Auschwitz. Adorno states:

if there were no impending catastrophe on the horizon...it will not provide a timeless, absolute definition of progress, but it will give the idea a concrete form. For progress today really does mean simply the prevention and avoidance of total catastrophe (2006, p.143)

The prime framework responsible for barbarism and the potential for catastrophe for Adorno is advanced capitalism, the logics of which determine that 'nationalism, war, racism and even genocide are not accidental features of the modern world, but are engendered by the social and conceptual structures characteristic of it' (Freyenhagen,

2012, p.180). The potential implications of radical technologies arising in the context of advanced capitalism makes this moral imperative for the 'avoidance of total catastrophe' all the more urgent and real.

Conclusion

As Adorno recognizes, the Enlightenment project cannot be altogether abandoned. Absolutist critiques of humanism and Enlightenment rationality depend on definitions that limits their conceptualization to their historical failings rather than their stated aims. One of the central tenets of humanism includes the affirmation of the dignity and worth of all people and 'a commitment to the search for truth and morality through human means in support of human interests' (cited in Wolfe, 2010, p.xi). An acknowledgement of our interdependence with non-human others should surely form part of human truth and morality. This does not contradict a humanist creed, though it can absolutely be found to oppose humanism as it has been most usually manifest. From this perspective, it could be said that posthumanism is a refining of humanist or Enlightenment values, indeed a demand for it to live up to its own principles more completely. If it situates itself outside humanist or Enlightenment thought altogether posthumanism runs the risk of self-aggrandizement of the exact kind Adorno warns against.

Both posthumanists and transhumanists envisage the uncoupling of human nature from a solid grounding. But for posthumanists, this

generates an imperative to interrogate more deeply the values and interests that underpin any representation of the 'posthuman condition'. What is at stake, supremely, in the debate about the implications of digital, genetic, cybernetic and biomedical technologies is precisely what (and who) will define authoritative notions of normative, exemplary, desirable humanity into the twenty-first century (Graham, 2002, p.11)

Echoes of this sentiment can be found in Andy Miah's (2008) analysis. For him, posthumanism is 'the study of the collapse of ontological boundaries...of how moral landscapes might be transformed by this occurrence' (2008, p.21). He further suggests that it requires ongoing ethical re-redefinitions of how bodies matter. The 'human' then in posthumanism and transhumanism lacks essentialism and stability. But whereas the 'post' demands a deep ethical consideration of the implications of the unmooring, the 'trans' tends to claim a clear and advantageous direction of travel. Emphasis on the dual aspects of rationality emphasize the importance of the ethical posthumanist enquiry, whilst undermining the spurious transhumanist assumption of progress based purely on instrumental rationality.

Evincing the ethical dimension of posthumanist critical thinkers, Braidotti & Hlavajova claim posthumanists 'are bonded by the compassionate acknowledgement of their interdependence with multiple, human and non-human others' (2018, p.341). Compassion is a concept that is notably less present in transhumanist literature. Furthermore, within posthumanism, the idea of the 'inhuman'

denounces the inhumane, unjust practices of our times. More specifically it stresses the violent and even murderous structure of contemporary geo-political and social relations, also known as 'necro-politics'. These include increasing economic polarization and the 'expulsion' of people

from homes and homelands in an upsurge of global 'neo-colonial' power relations. (Braidotti & Hlavajova, 2018, p.4)

This accords well with Adorno's minimalistic and negative ethics. Adorno may be considered a proto-posthumanist as convincingly argued by Hobden (2014). His insights, coupled with the explicit duality of ethical and instrumental reason, bolster posthumanism's countervailing narrative to advanced capitalist techno-triumphalism. Every step of the development of radical technologies demands an equivalent ethical coevolution of our social world. The ethics cannot be based on universal claims, but must recognize the entanglement of knowledge and power and thus the domination and barbarism that unchecked instrumental rationality implies. It must be focused therefore on redressing this process of domination that leads to inhuman outcomes. This should not be limited to the inhuman treatment of human 'others', but of nature at large emphasizing a compassionate attitude that recognizes our interconnectedness. This constitutes a novel refining of the posthumanist position and enables its more effective critique of transhumanist thought.

References

- Adorno, T., (2006) *History and Freedom: Lectures, 1964-5*, Cambridge: Polity
- Adorno, T., (2000) *Problems of Moral Philosophy*, Cambridge: Polity
- Adorno, T., & Horkheimer, M., (2002) *Dialectic of Enlightenment*, Stanford: Stanford University Press
- Alexander, B., (2003) *Rapture*, New York: Basic Books
- Allen, A., (2016) *The End of Progress*, New York: Columbia University Press
- Angus, I. (1984) *Technique and Enlightenment: Limits of Instrumental Reason*, Lanham, MD: University Press of America
- Bacon, F (2017) *New Atlantis*, London: Independently Published
- Badmington, N., (ed.) (2000): *Posthumanism*, New York: Palgrave
- Bostrom, N. (2005): A History of Transhumanist Thought. In: *Journal of Evolution and Technology* 14(1), 1-25
- Braidotti, R. (2013): *The Posthuman*. Cambridge: Polity Press.
- Braidotti, R., & Hlavajova, M., (eds) (2018) *Posthuman Glossary*, London: Bloomsbury
- Coenen, C., (2014) *Transhumanism and its Genesis: The Shaping of Human Enhancement Discourse by Visions of the Future*, in 'Humana Mente Journal', Vol.26, p.35-58
- Cudworth, E., & Hobden S., (2011) *Posthuman International Relations*, London: Zed Books
- Cudworth, E. & Hobden, S., (2017) *The Emancipatory Project of Posthumanism*, Oxon: Routledge
- Darwin, C. (2009), *The Origin of the Species*, London: Penguin
- Feenberg, A. (2017) *Technosystem*, Cambridge, MA: Harvard University Press
- Ferrando, F., (2013) *Posthumanism, Transhumanism, Antihumanism, Metahumanism, and New Materialisms* in 'Existenz', Volume 8, No 2, Fall 2013, available at: <https://existenz.us/volumes/Vol.8-2Ferrando.pdf> (Accessed 24th April, 2019)
- Ferrando, F., (2019) *Philosophical Posthumanism*, London: Bloomsbury
- Foucault, M. (2002 [1966]) *The Order of Things: An Archaeology of the Human Science*. London et al.: Routledge.

- 1
2
3 Freyenhaegn, F., (2012) 'Adorno's Critique of Late Capitalism: Negative,
4 Explanatory and Practical' in de Boer, K. & Sonderegger, R., (2012) *Conceptions of*
5 *Critique in Modern and Contemporary Philosophy*, Basingstoke: Palgrave Macmillan
6 Fuller, S. & Lipinska, V. (2014) *The Proactionary Imperative, A Foundation for*
7 *Transhumanism*, Basingstoke: Palgrave Macmillan
8 Garreau, J. (2005) *Radical Evolution*, New York: Broadway Books
9 Gane, N./ Haraway, D. (2006): When We Have Never Been Human, What Is to Be
10 Done? Interview with Donna Haraway. In: *Theory, Culture & Society* 23(7-8), 135-
11 158.
12 Graham, E.L. (2002): *Representations of the Post/Human*. New Brunswick: Rutgers
13 University Press.
14 Haraway, D. (2008) *When Species Meet*, Minnesota: University of Minnesota Press
15 Hobden, S., (2014) *Being "a Good Animal": Adorno, Posthumanism and*
16 *International Relations* Available at:
17 [https://repository.uel.ac.uk/download/1fd6ad54528a3feb5e3aa8dec90a2ee6e31e44e97](https://repository.uel.ac.uk/download/1fd6ad54528a3feb5e3aa8dec90a2ee6e31e44e975812c9af224b36fe61717e4/301996/Altvs403%2520Steven%2520Hobden%2520FINAL.pdf)
18 [5812c9af224b36fe61717e4/301996/Altvs403%2520Steven%2520Hobden%2520FIN](https://repository.uel.ac.uk/download/1fd6ad54528a3feb5e3aa8dec90a2ee6e31e44e975812c9af224b36fe61717e4/301996/Altvs403%2520Steven%2520Hobden%2520FINAL.pdf)
19 [AL.pdf](https://repository.uel.ac.uk/download/1fd6ad54528a3feb5e3aa8dec90a2ee6e31e44e975812c9af224b36fe61717e4/301996/Altvs403%2520Steven%2520Hobden%2520FINAL.pdf) (Accessed 10th August 2019)
20
21 Hayles, K., (1999) *How We Became Posthuman*, London: University of Chicago
22 Press
23
24 Herbrechter, S. (2013): *Posthumanism*, London: Bloomsbury.
25 Hughes, J. (2004), *Citizen Cyborg*, Cambridge, MA: Westview Press
26 Hughes, J. (2010): Contradictions from the Enlightenment Roots of Transhumanism.
27 In: *Journal of Medicine and Philosophy* 35(6), 622-640.
28 IEET, *Origins and Theory of the World Transhumanist Association*, Available at:
29 <https://ieet.org/index.php/IEET2/more/bostrom20071226> (Accessed 10th August,
30 2019)
31
32 Kant, I., (1997) *Practical Philosophy*, Cambridge: Cambridge University Press
33 Kurzweil, R. (1990): *The Age of Intelligent Machines* Cambridge(MA): MIT Press.
34 Kurzweil, R. (2005) *The Singularity Is Near*, London: Gerald Duckworth & Co Ltd
35 Miah, A. (2008): A Critical History of Posthumanism. In: Gordijn, B./ Chadwick, R.
36 (Eds.): *Medical Enhancement and Posthumanity*. New York: Springer, 71-94.
37 More, M. & Vita-More, N. (eds.) (2013): *The Transhumanist Reader: Classical and*
38 *Contemporary Essays on the Science, Technology, and Philosophy of the Human*
39 *Future*. Chichester: Wiley-Blackwell.
40
41 O'Connell, M., (2017) *To Be a Machine*, London: Granta
42 O'Connell, M., (2018a) 'Why Silicon Valley billionaires are prepping for the
43 apocalypse in New Zealand' in *The Guardian*, Available at:
44 [https://www.theguardian.com/news/2018/feb/15/why-silicon-valley-billionaires-are-](https://www.theguardian.com/news/2018/feb/15/why-silicon-valley-billionaires-are-prepping-for-the-apocalypse-in-new-zealand)
45 [prepping-for-the-apocalypse-in-new-zealand](https://www.theguardian.com/news/2018/feb/15/why-silicon-valley-billionaires-are-prepping-for-the-apocalypse-in-new-zealand) (Accessed 27th June, 2019)
46
47 O'Connell, M., (2018b), 'Mark O'Connell: five books to understand transhumanism'
48 in *The Guardian*, Available at:
49 [https://www.theguardian.com/books/2018/may/10/mark-oconnell-five-books-to-](https://www.theguardian.com/books/2018/may/10/mark-oconnell-five-books-to-understand-transhumanism)
50 [understand-transhumanism](https://www.theguardian.com/books/2018/may/10/mark-oconnell-five-books-to-understand-transhumanism) (Accessed 27th June, 2019)
51
52 Persson, I., & Savulescu, J. (2008), *The Perils of Cognitive Enhancement and the*
53 *Urgent Imperative to Enhance the Moral Character of Humanity*, Available at:
54 [http://www.bep.ox.ac.uk/__data/assets/pdf_file/0003/9390/Finalsubmittedcorrected09](http://www.bep.ox.ac.uk/__data/assets/pdf_file/0003/9390/Finalsubmittedcorrected09april_08.pdf)
55 [april_08.pdf](http://www.bep.ox.ac.uk/__data/assets/pdf_file/0003/9390/Finalsubmittedcorrected09april_08.pdf) (Accessed 21st May, 2017)
56
57 Reade, W., (2004) *Martyrdom of Man*, Hawaii: University Press of the Pacific
58 Ranisch and Sorgner, S., (2014) *Post- and Transhumanism, An Introduction*,
59 Frankfurt: Peter Lang
60

- 1
2
3 Savulescu, J. (2009) *Genetically enhance humanity or face extinction*, Available at:
4 <https://www.youtube.com/watch?v=PkW3rEQ0ab8> (Accessed 21st March, 2017)
5
6 Thorpe, C., (2016) *Necroculture*, New York: Palgrave MacMillan
7
8 Wise, L., (2015) *Social Death in Sudan: Towards an Ecology of A Genocide*, King's
9 College London, University of London
10
11 Wolfe, C. (2010): *What is Posthumanism?* Minneapolis: University of Minnesota
12 Press.
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
- Zuboff, S., (2017) *Surveillance Capitalism*, London: Profile