Transcendent Conformity: The Question of Agency for Postdigital Humans

Introduction

The dynamic co-evolution of humans and technology is increasingly undermining stable and long-held notions of the human condition and the conceptual boundaries which have demarcated human beings as individuals. The disintegration of ontological boundaries brought about by digital, genetic and cybernetic developments require an ongoing normative investigation into the structures, interests and consequences of this process of technogenesis. Two competing schools of thought that engage with the loss of essentialism and stability of the human are transhumanism and critical posthumanism. Critical posthumanism provokes profound critical and ethical consideration of the implications of the unmooring, whereas transhumanism tends to claim a clear and advantageous direction of travel. This chapter will contend that the transhumanist conception of the capacity for human agency to direct this process, especially at an individual level, is naïve. Critical posthumanism valuably emphasises our embeddedness in an environmental context: the nature and pace of the co-evolution of humans and technology does not exist in a vacuum. The broader social, cultural, political, and economic contexts are vital to engaging with the ethical, epistemological and ontological implications. Cognizance of the dynamics of advanced capitalism, the dominant mode of societal organisation, should therefore underpin any such analysis. Transcendent conformity is a notion intended to highlight the competitive and controlling logics of advanced capitalism rendering concepts of 'enhancement', 'uplift' and 'transcendence' in its thrall and limited to its narrowly defined aims.

The chapter will introduce the transhumanist concept of morphological freedom before undermining the efficacy of its framing by introducing a complexity-based posthumanist notion of agency. It will then consider how human embeddedness in a wider complex ecology of techno-capitalist relations undermines simplistic notions of individual self-determination, before analysing how the rendering of humans into data constitutes a further blow to claims of self-actualisation espoused within the transhumanist paradigm.

Transhumanism and Posthumanism

Transhumanism and critical posthumanism are both developing discourses with varied lineages and numerous schisms. As Francesca Ferrando states, transhumanists and posthumanists 'share a common perception of the human as a non-fixed and mutable condition, but they generally do not share the same roots and perspectives' (2013: 2). Transhumanism largely has its roots in Enlightenment humanist rationalism (Bostrum 2005; Hughes 2010) whereas posthumanism has a number of more recent genealogies. Cary Wolfe (2010) identifies the roots of its primary genealogy in the 1960s with Foucault's claim that 'man is an invention of recent date. And one perhaps nearing its end' (2002:

387). This sets posthumanism in direct contrast to transhumanism, as the target of Foucault's 'end of man' concept is the rational humanist ideal that transhumanism identifies as its source. 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: 1). Transhumanism is thus a form of hyper-humanism – the idea that humankind will transcend into an enhanced or uplifted successor species through employing its reason. Critical posthumanism is clearly a countervailing force to such a notion:

> Posthuman critical theory unfolds at the intersection between post-humanism on the one hand and post-anthropocentricism on the other. The former proposes the philosophical critique of the Western Humanist ideal of 'Man' as the allegedly universal measure of all things, whereas the latter rests on the rejection of species hierarchy and human exceptionalism (Braidotti in Braidotti & Hlavajova, (eds.) 2018: 339)

Critical posthumanists tend to reject hierarchical conceptualisations, eschewing the idea of humans at the apex of Earthly species, bringing into question the very concept of 'uplift' and 'enhancement' that is so vital to the transhumanist creed. Transhumanist thinker David Pearce states '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' (IEET 2007). Transhumanism places its faith in the application of human reason to develop the instrumentalist capacities of science and technology in a linear progress towards 'paradise'. Posthumanism questions human reason, problematises linear notions of progress and would dispute any singular Utopian vision. If transhumanism is the belief in instrumental progress leading teleologically to a desired end, posthumanism is the 'questioning both of the inevitability of a successor species and of there being any consensus surrounding the effects of technologies on the future of humanity' (Graham 2002: 11): it is the ethical investigation of 'perpetual becoming' (Miah 2008: 23).

Morphological Freedom

One of the ideas put forward within transhumanist discourse that is intended to champion human agency in the context of technogenesis is 'morphological freedom'. Anders Sandberg, a prominent transhumanist thinker, defines it as 'an extension of one's right to one's body, not just self-ownership but also the right to modify oneself according to one's desires' (in More & Vita-More (eds.) 2013: 56). He conceptualises technologies as methods for increasing diversity through self-actualisation: 'new tools for expressing individuality and uniqueness…We express ourselves through what we transform ourselves into.' (in More & Vita-More (eds.) 2013: 59). These proposals are made in relation to the prospect of humans having access to technologies that may offer radical enhancement

of mental and physical capacities. The converging development of the NBIC suite of technologies (nanotechnology, biotechnology, information technology and cognitive science) is the primary basis for this potentiality. Morphological freedom is designed to emphasise an individual's right to utilise these methods of enhancement. Sandberg conceives of

> a subject that is also the object of its own change. Humans are ends in themselves, but that does not rule out the use of oneself as a tool to achieve oneself. In fact, one of the best ways of preventing humans of being used as means rather than ends is to give them the freedom to change and grow (in More & Vita-More (eds.) 2013: 63)

Such a notion is contingent upon a conceptualisation of the Enlightenment liberal human employing their individual rationality, free from influence, to enable forms of self-determination. It is worth drawing attention here to a tendency in transhumanist thought for avoiding analysis of social context. As transhumanism is often identified as a future state or possibility, the social dynamics at the time of its realisation are undefined. The systemic dynamics at play are simply removed. The focus becomes the liberally conceived individual who has all the possibilities afforded by radical technological leaps forward, and none of the limitations rendered by wider systemic factors such as a social context. This naive conceptualisation is implicit in the proposals of morphological freedom. Critical posthumanism, counters such a notion by emphasising the continuity of organisms and their environment (eg. Hayles 1999). As Shaw (2018) notes, whilst identifying the importance of 'second order' cybernetics to the development of posthuman theory, 'Life…exists in a network of constant exchange' (2018: 41). Processual relationality that undermines distinct delineation of entities, including humans, is thus vital to the critical posthumanist framework.

Posthuman Agency

Central to the contention of critical posthumanism is that the liberal human subject is a myth. As Jaime del Val potently frames it: 'humanism´s human, as autonomous and superior rational entity, is a chimera that never existed: a colonial, speciest, classist, sexist, racist, heteropatriarcal, phallogocentric project of compulsory abledness' (Del Val 2020). These prejudicial elements reveal the inefficacy of its supremacist faith in its own power of reason. Critical posthumanism seeks to establish that human reason is embedded in a wider ecology of influences, material and ideational that compromise its independence and self-determination. Related schools of thought have also taken aim at the humanist conception of reason, including New Materialism which reacts to the emphasis on discourse and language over material embodiment, or the perceived primacy of culture over nature. Karen Barad complains 'Language matters. Culture matters. There is an important sense in which the only thing that does not seem to matter anymore is matter (2003: 801). By focusing primarily on material

processes, simple individualist notions of agency become untenable, as the individual dissolves into the wider material unfolding of which it is a part. Questions of discourse and culture do not precede but emerge from the material world which is fundamentally interconnected. As Jane Bennett explains, 'an actant never really acts alone…[i]ts efficacy or agency always depends on the collaboration, cooperation, or interactive interference of many bodies and forces' (2010, p.21). Bruno Latour's Actor-network-theory (ANT) takes a similar approach identifying agency as a quality of networked, material being. The strategy behind this stance is to undermine human rationalist exceptionalism and its related domination of nature.

The reductionism inherent in this position comes at a cost. As Erika Cudworth & Steve Hobden argue, 'The flat, non-hierarchical networks of ANT cannot deal with power because it cannot make distinctions between nature and society, or for that matter, between humans, other animals, plants and objects. In theorising power, we need such distinctions (2013: 16-7). Likewise there is a risk of paradox in positions which aim at undermining the value of discourse whilst decidedly engaging in it. As Aleksandra Alacaraz states, 'Discursivity, normativity, agency, and ethics should be transformed and not denied; we cannot develop an ethics without moral agents' (2019: 103). Rather than compromise ethical thinking altogether by eradicating the moral agent, it 'may be somehow loosely and relatively described, not in strict either/or categories, but in the and/and sort' (Alcaraz 2019: 103). This is key to an effective posthumanist conception of agency, as Cudworth & Hobden demonstrate in calling for an account 'that problematises rather than rejects outright, dualist ontologies…a situated and differentiated notion of agency that understands the ability of creatures and things to "make a difference in the world" as a question of situated relations rather than intrinsic capacity alone' (2013: 18). Just as Cudworth & Hobden (2013) draw on complexity thinking to circumnavigate the intractable system-agency question, it can be usefully employed to move us beyond the trap of the reductionist materialist versus idealist dichotomy which arguably undermines the efficacy of New Materialism and ANT.

Katherine Hayles (2017) undertakes important work in offering a way of conceptualising agency that is neither blunted by a flat ontology that struggles to account for power differentials, nor threatens to fall back into the exceptionalist paradigm of the primacy of conscious human reason. By emphasising their capacity for decision-making and interpretation of meaning, cognising agents can be distinguished from underlying material processes. Nevertheless by focusing primarily on *non-conscious* cognition, consciousness is denied the privileged role as the sole rational agent in control of all decision-making. She emphasises 'recent discoveries in neuroscience confirming the existence of nonconscious cognitive processes inaccessible to conscious introspection but nevertheless essential for consciousness to function' (2017: 2). Hayles' framing also highlights the increasing number of technical non-conscious cognizers that mediate our experience. Our cognising capabilities are thus

embedded in wider 'cognitive assemblages' which enable the consideration of how the coevolution of humans and technology are engendering new dynamics. This concept of cognitive assemblages counters the transhumanist tendency to think through technogenesis in humanist, individualist terms. As she states, 'the embodied subject is embedded and immersed in environments that function as distributed cognitive systems…human subjects are no longer contained—or even defined—by the boundaries of their skins' (Hayles 2017: 2). These distributed cognitive systems form part of a 'planetary cognitive ecology' (2017: 3), indicating that cognitive assemblages are interconnected – nested, porous, overlapping systems which aligns with a complexity theory framework.

Whilst Hayles does not dismiss the existence or cognising capacity of consciousness, she is aware of its role in the myopia which produces the notion of the 'human self [a]s the primary actor, and technologies mere prostheses added on later' (Hayles 2017: 106). Here she cites Damasio's insight that 'consciousness . . . constrains the world of the imagination to be first and foremost about the individual, about an individual organism, about the self in the broad sense of the term' (in Hayles 2017: 106). Consciousness, by its singular perspectival nature, biases an onto-epistemology towards an overly independent sense of self, often accompanied by an inflated sense of importance. This is an affliction that bedevils much transhumanist thought, and can be recognised in the naïve framing of morphological freedom. Alternative and profoundly important philosophical implications can be drawn from this decentering of consciousness:

> assumptions taken for granted in traditional Western cultures are undermined and
> even negated when the primacy of higher consciousness becomes questionable,
> including its association with authenticity, its ability to give (human) life meaning,
> its identification with rational actor economic theory, its entwinement with the
> development of sophisticated technologies, and the perceived superiority it bestows
> on humans (Hayles 2017: 87)

Our embeddedness within natural and technological systems fundamentally undermines any sense of independence from this complex ecology in which we are bound. Hayles (2017) draws attention to the complex systemic interconnection of transport systems, water and sanitation facilities, electric grids, banking systems and agricultural and medical production - all of which depend on computational systems undertaking cognitive tasks as a dependency for most human cognition. Indeed, the collapse of these systems would likely result in carnage and mass death. The fallacy of the liberal human becomes increasingly evident, and therefore, as we design these systems, we design ourselves as they become fundamental to our survival. The transhumanist obsession with identifying the individual human body as the locus of transhumanist progress is seriously limited. The arbitrariness of identifying the conscious aspect of human reason as, not only the centre, but the totality of agential functioning, becomes clear. With it the idea that human consciousness is capable of some kind of

independent self-definition and actualisation, unencumbered by its interconnection with multiple other agential entities, becomes manifestly untenable.

Technosystem

Hayles' global complex ecology can be fruitfully conjoined with Andrew Feenberg's notion of the 'technosystem' (2017) and his critical constructivist analysis. Feenberg defines the technosystem as 'the field of technically rational disciplines and operations associated with markets, administrations, and technologies' (Feenberg 2017: x). The interconnectedness of these three systems is evident as markets and administrations cannot be conceived of without technologies and likewise technological development is mediated by market and administrative processes. The technosystem can be understood as a cognitive assemblage: a macro-actor on a grand scale. Its workings mediate the agency of the multiple nested systems of which it is comprised. Feenberg (2017) does not explicitly relate his analysis to complexity thinking, nor does he engage with the radical aims of transhumanism. However, a complexity framework enables us to conceptually move between 'systems' that can be nominally identified as they exhibit elements of internal consistency that render them recognisable as systems. All systems are ultimately interconnected and so any identification is nominal, and has the potential to break down or alter over time. The relevance of this to Feenberg's conception is evident when he recognises that the 'technosystem resembles a palimpset: multiple layers of influence coming from different regions of society and responding to different, even opposed, logics inscribe a shared object or institution' (2017: 26). Furthermore, an understanding of modernity as characterised by an all-pervasive technical rationality that functions as an important mediator of the decision making of cognizers, both conscious and non-conscious, is profoundly relevant to the process of technogenesis. It is one of the most pertinent factors of the fitness landscape which constrains the possibilities of 'morphological freedom' for individuals.

Integral to Feenberg's notion of the technosystem is that it functions as the grounding of modernity and draws upon a technical, 'scientific' and instrumental rationality.

> The new scientific a priori has three essential features – formalization, quantification, and instrumentalization. Science does not address experience in its immediacy but transforms everything it encounters in quantities subject to formal laws. Things have no essence but are composed of functional units awaiting transformation and recombination. This stance eliminates purpose and hence also potentiality from the world. This is the basis of the value-neutrality of science, its indifference to the good and the beautiful in the interests of the true (Feenberg 2017: 125)

This points to a duality: the truth of science versus the potential for alternative values derived from our human (or posthuman) experience. It is not that experience necessarily contradicts science or represents the untrue. Rather, 'Values…correspond to realities science may not yet understand, indeed may never understand, but which are surely real' (Feenberg 2017: 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. Despite this, science often claims a privileged position in the hierarchy of reason due to its apparent value-neutrality as 'an absolute spectator on existence' (Feenberg 2017: 12). However, the central failing of this world view is that the 'modern ideal of knowledge is subsumption under formal rules, but instrumental rationality can provide no criteria for the appropriate choice of this rule' (Feenberg 2017: 130). The truths unveiled by science bring about a continuous technical progress leading to ever more potent means, but do not in themselves effectively determine moral ends.

Both Hayles and Feenberg recognise human values as a necessary component which are increasingly under threat from the complex global cognitive ecology. When Feenberg states his concern about the 'threat to human agency posed by the technosystem' (2017: 38) he is asking whether humans are sufficiently empowered to resist instrumentalising rationality. In line with Lukacs' notion of reification, the technosystem, 'imposes a rational culture that privileges technical manipulation over all other relations to reality. It narrows human understanding and lives to conform with the requirements of the economic system' (Feenberg 2017: 42). Meanwhile Hayles argues that humans are,

> able to envision and evaluate ethical and moral consequences in the context of human sociality and world horizons…we need a framework in which human cognition is recognized for its uniquely valuable potential, without insisting that human cognition is the whole of cognition or that it is unaffected by the technical cognizers that interpenetrate it (2017: 136)

It is an incredibly complex feat to actualise the successful and intentional implementation of alternative values in social reality when mediated through the increasingly potent instrumentalising force of the technical paradigm. Both would also acknowledge that human values cannot be universally agreed and are always contextually bound. However, a first step is to recognise the instrumental underpinnings of capitalist aims, its purported ethical neutrality ('Markets don't wag fingers' (Sandel 2012: 14)), and how this exacerbates those instrumentalising tendencies of technological development. The agency of humans to promote alternative views of what technogenesis should constitute is compromised by the ubiquitous instrumentalism of modernity.

Competition, War and Profit

Competitive dynamics manifest themselves very naturally within scientific, instrumental rationality. The proposed objectivity of this form of reason, along with its quantifying techniques and formalising methods tend to identify or create hierarchies and transparent, positivist judgements. The dynamism of instrumental rationality is reliant on such competition. It is fundamental to producing its evident forms of progress. The liberal humanist framing underestimates the relevance of these competitive social dynamics by emphasising the choice of the individual and downplaying their contextually-bound positioning. However, a highly competitive social environment does not lend itself to pluralistic ways of being, instead demanding efficient behaviour as determined by the requirements of socio-economic and related forms of competition. As Lukacs' elucidated with his analysis of reification, the relationship to oneself becomes 'thing like': we are what is expected or needed of us in specific circumstances. Given certain economic and social competitive structures, the decision not to participate in technological enhancements could potentially render someone socially and economically moribund (perhaps evolutionarily so). Everyone (who has access) is effectively forced to participate, to keep up. Given the concepts of enhancement, uplift and transcendence are redolent of liberation, the implication here is indicative rather of an imprisoning imperative on action. We have to transcend in order to conform (and survive). There may be a drive to conform to various manifestations of enhancement in perpetuity, which only makes us more efficient at carrying out the activities demanded of us by the instrumental systemic logics in which we are enmeshed. The end point may be an entirely non-human, though very efficient, technological entity derived from humanity that does not necessarily serve a purpose that a modern-day human would value in any way. Instrumentalism and perceived systemic utility become the architect of enhancement.

In their transhumanist tract, *The Proactionary Imperative*, Fuller & Lipinska (2014) advocate 'a kind of participatory eugenics' (2014: 128) which they name hedgenetics (a neologism based on hedge funds and genetics). They suggest, 'proactionaries would re-invent the welfare state as a vehicle for fostering securitised risk taking' (2014: 42) and 'the proactionary state would operate like a venture capitalist writ large' (2014: 42). By minimising the tolerance of the fitness landscape for pluralistic ways of being, they encourage maximum utility towards the process of transhumanism. The welfare state is designed to encourage people to undertake huge risks in order to enable mass experimentation pushing scientific knowledge forward. Society at large is effectively conceived of as a laboratory, and humans (or at least the existing unenhanced humans of 'Humanity 1.0') are the instrumentalised objects of investigation. There is no focus here on the experiential quality of peoples' lives, which are to be sacrificed for the rights of god-like future humans ('Humanity 2.0'). This is an extreme transhumanist vision – but it emphasises experiential versus instrumentalist-based notions of technogenesis. When individuals are embedded in an unforgiving fitness landscape where they are

forced to take extreme risks, they will, as they effectively have no choice. Maximising instrumentalism is essentially the sole value of this vision. Fuller & Lipinska frame it as serving God by becoming God – but such a God would be defined only by their omnipotence, as no other intrinsic value is evident.

By recognising our embeddedness within complex processual systems and thus our fundamental relationality, posthumanist agency offers a more nuanced and realistic framing of the limitations of the human capacity for self-determination. It also encourages us to look at systems beyond the human level. Two areas of the technosystem which are worth deep consideration are profit and war, as instrumental progress in these areas are perhaps deemed to have more utility than any other. As Chris Hables-Gray explains,

> Science and technology in the 21st Century are mainly shaped by market (profit)
> and military priorities. The sooner new discoveries and inventions can be utilised,
> the greater their advantage, so incredible resources are poured into those new areas
> of research that promise maximum returns financially and in military utility (in
> Lippert-Rasmussen (ed.) 2012: 33)

Indeed, the technologies which transhumanists tend to identify as proffering hope for significant human enhancement potentiality often first manifest themselves in these military and market contexts. This point is made succinctly by Ben Goetzel (2019) when he considers the current purposes of AI: it is mainly used for selling, spying, killing and gambling. Hayles (2017) too identifies aspects of profit and war-making as exemplars or test cases for thinking through distributed agency in cognitive assemblages. She considers at length the development of autonomous weapons, and high frequency trading (HFT).

Hayles (2017) rightly sees HFTs as constituting a new form of vampiric capitalism that is speculative in nature and contributes nothing to the real economy. She provides a thorough and insightful analysis of HFTs in the context of cognitive assemblages, and two particular aspects are worth highlighting here. The first is the fact that the cognitive capacities of the computational paradigm offer certain instrumental benefits over human cognition. Notable amongst these is speed. Hayles explains, 'HFT has introduced a temporal gap between human and technical cognition that creates a realm of autonomy for technical agency' (2017: 142). This shifts certain tasks into the computational realm, which may previously have had human oversight. The ultrafast machine ecology of HFTs has led to an increasing number of ultrafast black swan events. This is attributed to the limited strategies of algorithms having to compete at sufficient speed for the purposes of chasing profits. Algorithms attempting to outperform each other produce swarm-like behaviours: 'their interactions resemble the kinds of moves and counter-moves typical of propaganda (psyops) warfare: feints, dodges,

misinformation, and camouflage' (Hayles 2017: 163). The impacts are manifold: 'The predominance of dueling algorithms has created a machine-machine ecology…creating regions of technical autonomy that can and do lead to catastrophic failures' (Hayles 2017: 142-3). This highlights the second point, that machine ontology can create a fragile ecology as it can lead to instrumentalisation towards excessively narrow goals. In this case the already pathological narrowness of the profit motive is exacerbated. The durability and sustainability of the complex ecology of the financial system may be undermined by this one small aspect of technical superiority. Note it is the 'enhancement' machines offer in this realm that makes them integral to the assemblage, and yet the outcomes seem only to bring downsides for most of humanity.

The creation of a machine-machine ecology, could have even more significant implications in the context of war. Given the potential of autonomous weapons to become destabilising in their plenitude and devastating effect, it is unsurprising that there has been wide-ranging demand that development of this technology is curtailed. In a letter signed by numerous high-profile figures, its signatories state, 'The key question for humanity today is whether to start a global AI arms race or to prevent it from starting. If any major military power pushes ahead with AI weapon development, a global armaments race is virtually inevitable' (in Walsh 2017: 174). An arms race is considered inevitable in this scenario because of something fundamental to the development of technologies which helps explain theories espousing the autonomy of technological progress and the enframing of the technological mindset. The instrumental power yielded by this technology shifts the fitness landscape so that those who do not have access to this power are strategically incapacitated. Those who have the capacity to do so are thus almost forced to keep up. This is a high risk, high reward situation and competitive logics tend to result in a race to the bottom in terms of instrumental capabilities at the expense of other potential values.

John Gray's prognosis of the implications of technological development in the quest for immortal life highlights the intractability of the problem of developing radical technologies with potential for human enhancement: they have other applications. Gray states,

> The end-result of scientific enquiry is to return humankind to its own intractable
> existence…Instead of enabling death to be overcome, it produces ever more
> powerful technologies of mass destruction. None of this is the fault of science…The
> growth of knowledge enlarges what humans can do. It cannot retrieve them from
> being what they are (2011: 235)

His notion that humans are, by nature, normatively deficient represents a dubious essentialism. The competitive logics of our current social systems exacerbate the normative challenges we face. Warfare is an instructive case as it simultaneously exemplifies our moral failings as a social species on a grand

scale, and offers concrete and easily imagined disasters as a consequence of our increasing instrumental powers. The hyper-instrumentalisation of war and profit-making through an increasingly potent machine-machine ecology, again undermines the possibilities for alternative values effectively influencing technogenesis.

Posthuman Data

Just as human agency is compromised by the demands of the superstructure of the 'technosystem', it is compromised by systems at a more granular level. Life is broken down into its constituent parts driven by contemporary capitalism's trajectory to formalising, quantifying and controlling as much as possible. Braidotti recognises a post-anthropocentricism inherent to this process:

> 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-anthropocentricism on the part of
> market forces which happily trade on Life itself (2013: 59).

The result is a translation of bio-into-info. This is part of a broader process in which data forms the ultimate commodity. By abstracting people into data they are transcoded from individuals (human subjects with bodies and theoretical rights) to dividuals (following Deleuze), that is, the 'subject digitized' (Franklin in Cheney-Lippold 2017: 172). The relational ontology of posthumanism, that recognises our interconnection as 'materially embedded subjects-in-process circulating within webs of relation with forces, entities and encounters' (Braidotti & Hlavajova 2018: 8), here turns into something much more sinister.

> Because a single piece of data means nothing on its own, the fetishized autonomy of
> the liberal subject would starve without the other. Patterns are made from a
> population, not one person. How algorithms interpret us necessarily connects us to
> the lives of others. This sentiment, in all its humanistic beauty, is also regulating. It
> controls life on the basis of what "we" do' (Cheney-Lippold 2017: 199)

The transmogrification of human subjects into data as a formative process in the creation of a new social reality, and the parallel loss of agency this entails, fundamentally emphasises the posthuman condition.

Herbechter understands posthumanism as 'benevolent or "strategic" misanthropy' (Herbrechter 2013: 15). The quantification of life as capital constitutes a nightmarish form of posthuman existence: 'Sensors quantify, alienate, and extract conceptions of self, reducing life as seen by capital to what can be recorded and exchanged as digital data…the sum total of data produced by an individual marks

them into an abstracted bucket' (Thatcher et al. 2015: 17). This is not a promising monster or the rebellious cyborg, rejecting conformity, but rather a literal information flow: a capital-defined abstracted entity that is at once processual, reductive and manipulable, 'a digital commodity that may be continually bought and sold in order to call forth an orderly, predictable stream of consumption' (Thatcher et al. 2015: 17). Through this reorientation, life is established as an ever-intensifying process of data extraction and heuristic interpretation leading to a recreation of the social world directed towards wealth extraction. It is an entirely amoral and instrumental orientation. It is also self-perpetuating. Much as the despoiling of nature through techno-capitalist social relations is increasingly evident, enabling capital to direct the process of technogenesis will leave most human life despoiled by that process too. Thus, whilst critical posthumanism offers a rich and perceptive critique of transhumanism, it also offers discursive concepts which can be co-opted for strategic and, in this case, malevolent misanthropy.

Surveillance Capitalism

Shoshana Zuboff (2017) relates the tale of how the instrumentalist mindset and the reductive quest for profit developed into the logics of 'surveillance capitalism'. She cites B.F. Skinner's radical behaviourism as a conceptual precursor to the process. Skinner defines behaviour as 'what an organism is doing – or more accurately what it is observed by another organism to be doing' (in Zuboff 2017: 366). His attempt at establishing an objective science of human behavior thus requires a shifting of the frame from the internal workings of consciousness to the outer traces of behaviour. There is also a significant power shift – the observed, is objectified and by their very being creates information; the observer selects aspects of this, their 'operant behaviour', which becomes data. The data is the source of new knowledge: the science of radical behaviourism, which itself produces the knowledge of how to control people and societies. Skinner calls for the 'minimum of interaction between subject and scientist' (in Zuboff 2017: 370); indeed the less the subject is aware of the process, the purer the data, the closer the scientist comes to laboratory conditions. This brings to mind Foucault's panopticon in which an individual 'is seen, but he does not see; he is the object of information, never a subject in communication' (in Kaplan, (ed.) 2009: 264). Surveillance capitalism constitutes a commensurate process as 'Instrumentarian power bends the new digital apparatus – continuous, autonomous, omnipresent, sensate, computational, actuating, networked, internet-enabled…The result is a panvasive means of behavioural modification' (Zuboff 2017: 375). The quest of analysing behavioural data to create knowledge products of control is the ultimate goal of this process.

Transhumanist aims also share the desire for control, certainty and limitlessness, and thus find a co-conspirator in the market. The extraction imperative, which drives the demand for ever more

expansive and granular data through competition for surveillance revenues, is central to improving the quality of prediction products. The demand for predictability moves ever closer to a demand for certainty, and the surest way to attain this is to 'intervene at its source and shape it' (Zuboff 2017: 200). This is where the imperative to control becomes explicit. Thus we see the development of tools which Zuboff labels 'economies of scope', namely those which provide a depth dimension to the knowledge surveillance capitalists are able to gain access to, which are 'aimed at your personality, moods, and emotions, your lies and vulnerabilities. Every level of intimacy would have to be automatically captured and flattened into a tidal flow of data points for the factory conveyor belts that proceed toward manufactured certainty' (Zuboff 2017: 199). This intimate knowledge still needs to be coupled with tools that exploit it, Zuboff's 'economies of action'. As she explains,

> In order to achieve these economies, machine processes are configured to intervene in the state of play in the real world and real people and things. These interventions are designed to enhance certainty by doing things: they nudge, tune, hurt, manipulate, and modify behaviour in specific directions by executing actions as subtle as inserting a specific phrase into your Facebook newsfeed, timing the appearance of a buy button on your phone, or shutting down your car engine when an insurance payment is late (2017: 200)

Whilst nudging and manipulation fall short of control, the trajectory is clear. The potency of prediction products increases exponentially, fueled by an ever-expanding array of data sources. This is provided by the tools that aid in a culture of 'quantifying the self' such as fitness monitors, but also increasingly by the wider environment through the internet of things.

Surveillance capitalism is not just about condensing information into data, but turning that data into tools which construct the social world. This relies upon the control of individuals in a way that undermines their ability to have a political and agential voice in shaping the new social reality that is constructed. Absolute knowledge aims at absolute certainty, but the certainty is simply 'societal optimisation for the sake of market objectives' (Zuboff 2017: 399). The asymmetry of knowledge is a prerequisite for the concentration of power that underpins the logic of surveillance capitalism: 'ubiquitous computing is not just a knowing machine; it is an actuating machine designed to produce more certainty *about us* and *for them*' (Zuboff 2017: 201). The unprecedented inequality of access to the division of learning 'drifts into pathology and injustice' (Zuboff 2017: 185). Such pathology represents an 'audacious, implacable web' (Zuboff 2017: 338-9) due to the increasing ubiquity of tools of data extraction. The very production of the kind of knowledge required for a social world governed by algorithm is premised on the sources of that knowledge being unaware of what is extracted from them, and excluded from the possibility of accessing and learning from that knowledge – a deeply ossified social structure. It is a privileged and demarcated realm that is directed towards the

eventual automation of human desires and actions. This is a form of technogenesis that entirely undermines the concept of morphological freedom.

Heuristics, Colonialism and Totalitarianism

The process by which data is created is fundamentally heuristic. As Cheney-Lippold points out, raw data is an oxymoron. The production of data, at its genesis, is encased in a web of pre-existing meanings, in which data "are not given; they are made"' (2017: 54). David M. Berry argues that 'for computer scientists it is the translation of the continuum into the discrete that marks the condition of possibility for computationality' (in Cheney-Lippold 2017: 48) Usefulness is predicated on the basis of capitalist relations, and interests are necessarily pitted against each other: 'What these algorithms do "unlock" is the ability to make your life useful on terms productive for algorithms' authors' (Lippold-Cheney 2017: 253). But the abstraction of data, the perceived efficacy of algorithms, cover up complex ethical questions of social relations. As Theodore Porter states 'numbers turn people into objects to be manipulated' (in Lippold-Cheney 2017: 53). The manipulation of numbers appears far less controversial than the manipulation of people. But if 'we are data', they can amount to the same thing.

> Any measurable type is necessarily incomplete, much like any attempt to represent the world in abstraction. Accordingly, a measurable type's aim is instead directed toward operability and efficiency, not representative exactness…This reindexing of categorical meaning away from the human centred complexities of narrative, context, and history and toward measurable datafied elements within a closed set…casts the measurable type as a discursively contained, and empirically defineable, vessel of meaning (Lippold-Cheney 2017: 48)

Data seems to have a rarified air. In the tradition of positivism, it denies its own social construction and assumes a sense of scientific neutrality that belies the interest-based and technically delimited way in which it reindexes 'categorical meaning'. This gets to the heart of the heuristic/instrumental relation: on the one hand it is not directly representational and on the other it is itself productive. The inextricability of instrumental rationality from the implicit values it embeds in the social world is evident.

Thatcher, O'Sullivan and Mahmoodi (2015) and Couldry & Mejias (2018; 2019) have employed the term 'data colonialism' in analysing these practices: 'Data colonialism combines the predatory extractive practices of historical colonialism with the abstract quantification methods of computing' (Couldry & Mejias 2018: 1).The asymmetry of power relations between those who provide data and the corporate institutions that collect and own the data are reflective of prior capitalist methods of primitive accumulation (Harvey 2007; Thatcher et al 2017) and privatisation and colonisation of

space and time. Heidegger warned that technology's enframing turns nature into a 'standing reserve' and that humans too would also be consumed in this process. The colonial nature of extracting this new manifestation of value from human behaviour in the form of data is bolstered by the supporting logics of advanced capitalism which entails a 'corporeal corkscrewing inwards' (Beller in Thatcher et al. 2015: 10). Zuboff's rhetoric captures the pathological vampirism: 'forget the cliché that if it's free, "You are the product". You are not the product; you are the abandoned carcass. The product derives from the surplus that is ripped from your life' (2017: 377). This extraction, or ripping, must be normalised and rationalised to enable the colonial practice it represents.

Chris Anderson's belief that big data would bring about an end to theory is symptomatic of a mindset which no longer asks the question, why. He states,

> Forget taxonomy, ontology, and psychology. Who knows why people do what they do? The point is they do it, and we can track and measure it with unprecedented fidelity. With enough data, the numbers speak for themselves. The big target here isn't advertising, though. It's science (Anderson 2008)

Anderson is suggesting that big data will give us answers for everything as long as we ask the meaning of nothing. The utopia of certainty is a fantastical realm where divisions, different viewpoints, clashes of interest, political debates are all dispatched from reality. In other words where the human social world is no longer sullied by the contestable, perspectival, messy experience of the human. There is no need for 'theory' in this fantasy, because everything is *known*, though nothing may be understood. In order to create such a totalising state, it is not only the human that must be colonised, but the wider environment too. Fuller & Lipinska's reference to black sky thinking is apt to bring such a vision to an apotheosis. They state, 'replacing the natural with the artificial is so key to proactionary strategy…some proactionaries speak nowadays of "black sky thinking" that would have us concede - at least as a serious possibility if not a likelihood - the long-term environmental degradation of the Earth' (2014: 99-100). If it is to become fully malleable and tame, the Earth too must go through the process of heuristic interpretation and adaption to the demands of certainty. In the same way as capitalism has a growth fetish, dataism has an extraction fetish. These two processes complement or perhaps more accurately exacerbate each other.

Capitalism conceptualises limitlessness as a logical presupposition for its proposed endless growth, whereas dataism has totality in mind. In order to reach Anderson's proposed 'n = all world' (in Cheney-Lippold 2017: 147) whereby there is no longer space for theory, everything must be datafied. However, as Zuboff notes,

> On the trail of totality, surveillance capitalists enlarge the scope from the virtual to the real world. The reality business renders all people, things, and processes as computational objects in an endless queue of equivalents without equality…the pursuit of totality necessarily leads to the annexation of society, social relations, and key societal processes as a fresh terrain for rendition, calculation, modification, and prediction (2017: 399)

The phrase 'equivalents without equality' is something of a refrain for Zuboff. It draws attention to the asymmetry of these social relations, where most people constitute the resource from which value is extracted. But also implicit in this is the heuristic, interest-laden process by which reality is reconstituted into computational objects. What it seeks to create is *a* totality – a reality entirely mediated, controlled and defined by the interpretation of data; but the data itself can never reflect the totality of the physical world, or the complexity of human social reality. The process is self-referential and endless, there is 'no limit to the appropriation, since what is appropriated is what is increasingly constructed to be ready for appropriation' (Couldry & Mejias 2017: 8-9). Instrumentalism is at the heart of such a construction. Action takes precedence over meaning. A homeostatic world without theory is one in which there is no politics. If interests digress then they can be reconstituted to cohere. Along with theory, ethics is expelled from this notional imaginary. There is no need to ask 'why' when 'what' is guaranteed. As Zuboff argues, humans suffer the havoc reaped by 'the remote and abstracted contempt of impenetrably complex systems and the interests that author them, carrying individuals on a fast-moving current to the fulfilment of others' ends' (2017: 376-7). In this system, humans have come to share the same destiny as the rest of nature under capitalist relations: a resource, abstracted and banal.

The Cambridge Analytica scandal suggests there is already a potency to the dark arts of political manipulation using data, but the efficacy is disputed. Such is the novelty and nature of this and similar scandals that little is truly known about their actual effect. The complex socio-political environment: the global pandemic, the apparent disintegration of the neoliberal consensus, economic instability, the geo-political machinations from the fading power of the US to the rising power of China, the undermining of trust between major powers and the return of nationalism, and the technical undermining of 'facts' caused by deep fakes, filter bubbles, and feedback loops in the new media landscape all create a pervasive sense of uncertainty. Nevertheless, the uncertainty is in part due to the nascent and experimental attempts of the digital realm to interpret, influence and control humans. As the technical achievements improve, bolstered by the acquisition of 'ever-more-predictive sources of behavioral surplus: our voices, personalities, and emotions' (Zuboff 2017: 8), we may well see confluence rise, concentrations of power and an increasing regulation of authoritarian certainty. Whether in its early agitated state, or mature soporific one, the move towards totality, driven by power, profit and the urge to control constitutes a new enclosing of the technical world upon human freedom. In focusing on the individual, and advocating for instrumental progress over all other values,

transhumanism represents a continuation and intensification of advanced capitalist logics that undergird the subversion of human agency and enclosing of other potential forms of technogenesis. Marcuse claimed that, 'when technics becomes the universal form of material production it circumscribes an entire culture; it projects a historical totality – a world' (Marcuse in Feenberg 2017: 42). This expresses the convergence of human and technical reality into one entity through the total domination of the latter.

References

Alcaraz, A., (2019), *Cyborg Persons or Selves,* Wydziale Malarstwa, Szczecin

Anderson (2008), "The End of Theory: The Data Deluge Makes the Scientific Method Obsolete" in *Wired*, available at: https://www.wired.com/2008/06/pb-theory/ (Accessed 20th August, 2020)

Barad, K., (2003) "Posthumanist Performativity: Towards an Understanding of How Matter Comes to Matter" In Signs: Journal of Women in Culture and Society, Vol.28, No.3, The University of Chicago, pp. 801-31

Bennett, J., (2010) *Vibrant Matter: A Political Ecology of Things,* Duke University Press: Durham.

Bostrom, N. (2005), "A history of transhumanist thought", *Journal of Evolution and Technology*, Vol. 14 No. 1, pp. 1-25.

Braidotti, R. and Hlavajova, M. (eds.), (2018), *Posthuman Glossary,* London: Bloomsbury.

Braidotti, R. (2013), *The Posthuman,* Cambridge: Polity Press.

Cheney-Lippold, J. (2017), *We Are Data*, New York: New York University Press

Couldry, N. and Mejias, U., (2018) "Data colonialism: rethinking big data's relation to the contemporary subject". *Television and New Media.*

Couldry, N. & Mejias, U. (2019), *The Costs of Connection: How Data is Colonizing Human Life and Appropriating It for Capitalism,* Palo Alto: Stanford University Press

Cudworth, E. and Hobden, S. (2013), *Of Parts and Wholes: International Relations beyond the Human.* Millennium: Journal of International Studies, 41 (3), pp. 430-450.

Del Val, J., (2020), *Metahumanist Manifesto: its genealogy, evolution and relevance 10 years after*, available at: *https://metabody.eu/wp-content/uploads/2020/07/METAHUMANIST-MANIFESTO-INTRODUCTION-Jaime-del-Val-1-1-1-final-web.pdf (*Accessed 20th August, 2020)

Feenberg, A. (2017), *Technosystem,* Cambridge, MA: Harvard University Press.

Ferrando, F. (2013), "Posthumanism, Transhumanism, Antihumanism, Metahumanism, and New Materialisms in 'Existenz'", Vol. 8 No. 2, Fall 2013.

Ferrando, F. (2019), *Philosophical Posthumanism,* London: Bloomsbury.

Foucault, M. (2002), [1966], *The Order of Things: An Archaeology of the Human Science*, Routledge, London.

Fuller, S. and Lipinska, V. (2014), *The Proactionary Imperative, A Foundation for Transhumanism,* Basingstoke: Palgrave Macmillan.

Goetzel, B., (2019), *Human Level AI* at Transvision 2019 Conference, Available at: https://www.youtube.com/watch?v=IWgPKw1n1DQ (accessed 20th August 2020).

Graham, E.L. (2002), *Representations of the Post/Human,* New Brunswick: Rutgers University Press.

Gray, J. (2011), *The Immortality Commission*, London: Granta Books.

Hayles, K. (1999) *How We Became Posthuman*, London: University of Chicago Press

Hayles, K. (2017), *Unthought, The Power of the Cognitive Unconscious*, Chicago: Chicago University Press.

Herbrechter, S. (2013), *Posthumanism,* London: Bloomsbury.

Hughes, J. (2010), "Contradictions from the enlightenment roots of transhumanism", In: *Journal of Medicine and Philosophy*, Vol. 35 No. 6, pp. 622-640.

IEET, "Origins and theory of the world transhumanist association", available at: https://ieet.org/index.php/IEET2/more/bostrom20071226 (accessed 22nd August 2020).

Kaplan, D., (ed.), (2009), *Readings in the Philosophy of Technology,* Plymouth: Rowman & Littlefield.

Latour (+ in text) Latour B. & Woolgar, S., (1986) *Laboratory Life, The Construction of Scientific Facts*, Princeton, NJ: Princeton University Press???

Lipper-Radmussen, K., Thomsen, M. R., Wamberg, J., (eds.) (2012) *The Posthuman Condition,* Aarhus: Aarhus University Press Lukacs

Miah, A. (2008), "A critical history of posthumanism", in Gordijn, B. and Chadwick, R. (Eds.), *Medical Enhancement and Posthumanity,* Springer, New York, pp. 71-94.

More, M. and Vita-More, N. (eds.), (2013), *The Transhumanist Reader: Classical and Contemporary Essays on the Science, Technology, and Philosophy of the Human Future,* Chichester: Wiley-Blackwell.

Sandel, M., (2009) *What Money Can't Buy: The Moral Limits of Markets,* London: Penguin.

Shaw, D., (2018) *Posthuman Urbanism*, London: Rowman & Littlefield

Thatcher, Jim, David O'Sullivan and Dillon Mahmoudi. "Data Colonialism Through Accumulation by Dispossession: New Metaphors for Daily Data". *Environment and Planning D: Society and* Space 34, no. 6 (2017): 990-1006.

Walsh, T., (2017), *Android Dreams,* London: Hurst & Company

Wolfe, C. (2010), *What Is Posthumanism?*, Minneapolis: University of Minnesota Press.

Zuboff, S. (2017), *Surveillence Capitalism,* London: Profile.