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Sukhendu Das

Editor's Note

Sukhendu Das[1]

I am delighted to write this editorial introduction to the inaugural issue of *Entanglements: Journal of Posthumanities*. The inaugural issue initiates a transdisciplinary forum for interrogating the complex web of tangled relations that bind humans, non-humans, climate, and technology. In an era of unprecedented climate change, damaged ecosystems, technological prowess, AI takeover, mass species extinction, growth of synthetic biology, biotechnology, and genetic modifications at an accelerating pace, the need for realigning critical frameworks and methodologies that transcend the overarching anthropocentric paradigms has never been more pressing.

Bruno Latour is the reason I am deeply committed to posthumanist philosophy. Reading Latour was, in my case, a profoundly unsettling experience or having a state of 'dis-ease' (to use Antipas's expression). But staying with the dis-ease is potentially generative, as it changes the way I look at and think about the world around me. Latour's groundbreaking study *We Have Never Been Modern* (1991/93) turns the constitution of Western modernity and its 'great divide' upside down. Rejecting modernity's fence-building practice, Latour alternatively claims how networks of actors co-produce reality. Latour had sent shock waves of incredibility towards western modernity across academic disciplines over the past few decades. Potentiality of Latour's scepticism has been recognised by many posthumanist thinkers, as it influenced them to develop new frameworks for understanding entangled nature of existence.

Why *Entanglements?*

The title of this journal is inspired by Karen Barad's groundbreaking book *Meeting the Universe Halfway: Quantum Physics and the Entanglement of Matter and Meaning* (2007). She radicalises the way we understand reality, knowledge, agency and ethics. Rejecting classical dualistic ontology, she introduces a radical ethico-onto-epistemology that entails intra-action, entanglements, ethical

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responsibility and accountability. One of the chief goals of this journal is to understand the present planetary crises through the optics curated by Barad.

Over the past few decades, human activities have drastically affected and altered the trajectory of the Earth System. Humans are no longer the biological agents of this planet. They have become geological agents in the wake of unprecedented planetary crises, as Dipesh Chakrabarty suggests. This agentic transformation of humans destabilises the fundamental pillars of Enlightenment modernity – human freedom, autonomy, agency, and ethics. Humanities and Social Sciences have reached at a crossroads, as their founding principles, conceptual apparatuses, and methods are being relentlessly critiqued, interrogated and found less tenable.

Contributors to this issue have critically examined the entangled nature of existence on this planet. Articles included in this volume weave together wide range of issues and diverse methodological approaches, ranging from 'non-relationist relationality' to transhumanist ideals, from ethics of coexistence to social complementarity, from the material politics of species extinction and climate derangement to autoethnographic vignettes. In this issue, you are going to encounter:

- **Niki Young's** article "Non-Anthropocentric Posthumanism and the Stakes of Relationality" critiques relational ontologies found in posthumanist thought of Bennett and Braidotti. Young argues that relational holism subordinates individual entities to interconnected relations. Drawing on Harman's OOO and Derrida's idea of 'Leibnizianism without God', Young introduces a 'non-relationist relationality' that preserves radical alterity and autonomy while allowing contingent interactions. This framework, as Young conclusively argues, offers a genuine non-anthropocentric posthumanism. Young's argument is certainly an original contribution to posthumanist thinking.

- **Márk Horváth and Dr. Ádám Lovász's** article "Getting Over the Human with Friedrich Nietzsche: Twilight of the Transhuman Idols" makes a significant contribution to ongoing debates on transhumanism and calls for a careful reconceptualization of Nietzschean transhumanist ideals. Horváth and Lovász engage in Nietzsche's entrenched critique of humanism and oppose the claim that Nietzsche's *Übermensch* (the Overman) prefigures transhumanism. The authors argue that transhumanism, while seeking to overcome human limitations, often ends up reproducing the same anthropocentric values. While transhumanism is preoccupied with bio-technological enhancement (which is 'all-too-human'), Nietzsche's *Übermensch* prioritises existential self-overcoming.

- **Nils Patrik Svensson's** article "Social Complementarity – the Duality of Individual Objectivity and Group Uncertainty" reconfigures social ontology and introduces a novel framework for understanding social structures. Drawing on Niels Bohr's complementarity and agential theory, Svensson argues that individuals and groups exist in dual and non-reducible states, exhibiting fluidity and uncertainty. Critiquing reductionist and fixed perspectives of classical sociological models, Svensson advocates a dynamic understanding of identity, agency, and collective decision-making.

- **Paul Sharrad's** article "Human and Posthuman in Tales of Extinction" examines Australian literary engagement with and response to mass species extinction. Through the posthumanist

optics of Braidotti, Ranciére, and others, Sharrad traces the perspectival shift from anthropocentric worldviews and melancholic complacency toward entangled planetary existence. Sharrad argues how fictions instrumentalise eco-activism and promote multispecies justice.

- **Lovelyn Pinto's** article "'Retro-Futuristic' Expedition of Howard Leed's *Small Wonder*" examines the 1980s sitcom *Small Wonder* through the intersectional optics of feminism and posthumanism. The show which features a humanoid robot girl prefigures reinforced stereotypes about AI and gendered servitude in a 'retro-futuristic' fashion. Pinto frames her analysis within broader cultural discourses on embodied subjectivity and bio-technological enhancement. Pinto critiques transhumanist optimism and advocates the need for embracing ethics of coexistence, eschewing anthropocentric dominance.

- **Sk Amimon Islam and Banani Chakraborty's** article on "Waste and Women: A Posthumanist Reading of Prayag Alabar's *Leila*" analyses Prayaag Akbar's dystopian novel *Leila*, exploring entanglements of environmental degradation, social segregation, and biopolitics. Drawing on theoretical framework of posthumanist theory, the authors critique neoliberal urbanization, biopolitical control, surveillance, and waste management. The authors argue that *Leila* calls for rethinking agency, social hierarchies, human identity, and ethical responsibilities in an era of unprecedented technological growth and environmental degradation.
- **Philippa Nicoll Antipas's** reflection piece "Dis-ease: The Affective Experience of Being Hospital-adjacent" explores "heebie-jeebies" as an affective response employing autoethnographic vignettes. The author's personal experience of working at a medical school adjacent to hospital led her to rethink and reconsider certain institutional norms. She critically engages with Bennett's 'Thing-Power', Barad's agential realism and Haraway's 'tentacular thinking' to frame dis-ease as a generative way of being and thinking about the material and ethico-epistemological dimensions of being hospital-adjacent. Staying with dis-ease, as the author suggests, may foster ethical engagement and critical awareness in medical education and practice.

- **Srijita Talukdar** reviews Philip K. Dick's classic novel *Do Androids Dream of Electric Sheep?* (1968) focusing the novel's engagement with contemporary posthuman debates about AI, empathy, and the porous boundaries between humans and machines, simulation and authenticity, cruelty and empathy. Talukdar underscores the novel's critique of human exceptionalism in a mechanized world. The novel's depiction of post-apocalyptic world prefigures contemporary posthuman condition, marked by environmental degradation, social stratification, and transhumanist aspirations.

Together, these contributions justify the journal's goal: to foster critical, reflective and creative engagement with the pressing issues that define contemporary posthumanities.

I am grateful to my beloved teacher, Professor Deb Narayan Bandyopadhyay, for providing me with his inspiration and invaluable advice since the journal's inception. My wife, Suparna, stood by me with unwavering encouragement, lifting me up whenever I felt low or demotivated. Without her support, this journal might have remained an unrealized mission. I am very thankful to Baloram Balo

for his unflinching commitment to our journal. He instilled in me a love of editing and publishing. I am thankful to Dr. Kaushik Ghosh, Dr. Arvinder Kaur Pabla, SK. Amimon Islam and Milan Modal. Last but not least, I am deeply grateful to our contributors, peer reviewers, and readers for their keen enthusiasm and support.

I look forward to entanglements that will emerge in forthcoming issues of our journal.

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Non-Anthropocentric Posthumanism and the Stakes of Relationality

Niki Young[1]

Abstract:

This paper examines the ontological underpinnings of non-anthropocentric posthumanism through an analysis of the work of Jane Bennett and Rosi Braidotti. I argue that their commitment to relational holism tacitly undermines their stated commitment to individuals by subordinating them to their relations. Drawing on Graham Harman's Object-Oriented Ontology and Jacques Derrida's commitment to a "Leibnizianism without God," I propose a model of "non-relationist relationality" that preserves the radical alterity and individuality of entities while enabling contingent interactions.

Keywords: Jane Bennett, Rosi Braidotti, Posthumanism, Relationality, Jacques Derrida, Graham Harman

The prominent philosopher of technology Mark Coeckelbergh has rightly argued that the "philosophical concepts we use bar us from an adequate understanding of the politics of artifacts," and this is because "much of our modern thinking assumes a strict distinction between humans and artifacts" (Coeckelbergh 175). What holds for the human/artefact distinction here may however also be said to apply to the binary division between the human and its alleged other(s) more generally. Though diverse in their respective approaches, Jane Bennett and Rosi Braidotti share a common commitment to challenging this long held conceptual boundary in order to then redefine both the nature of the non-human considered independently of the human, as well as the relationship between humans and non-humans. Bennett's vital materialism and Braidotti's critical posthumanism jointly offer a network of navigational tools that allow us to reimagine our place in the material world by "[recasting] political agency in the direction of relational ontology" (Braidotti *Four*

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Theses on Posthuman Feminism 40). How to grieve or hope in ways that are productive rather than debilitating or delusionary.

My aim in what follows is to raise a series of queries concerning the ontological foundations for a truly non-anthropocentric posthumanism. More specifically, I aim to provide an answer to the following questions: can a relational approach of the type propagated by Bennett and Braidotti mitigate against anthropocentrism? and, relatedly, can we think the post-human by positing a world in which entities exist in excess of their relations? In this paper, I answer these queries by oscillating between the works Bennett and Braidotti in order to substantiate my claim that a non-anthropocentric and post-humanist philosophy might fruitfully proceed in the direction of a generalised Derridean "Leibnizianism without God" or Harmanian "withdrawal" which simultaneously and without contradiction maintains a non-relationist relationality. I shall then proceed in the following manner: I begin by distinguishing between a general and restricted sense of posthumanism, in order to then show how Bennett and Braidotti respectively fit the dictates of the former schema. In following, I go on to consider the stakes of their approach for a truly non-anthropocentric posthumanism by juxtaposing their ontological commitments to those of thinkers such as Nandita Biswas Mellamphy, Jacques Derrida, Graham Harman, and David Roden.

Narrow and General Posthumanism

I should start by noting that there is a certain ambiguity concerning the notion of posthumanism, for, as Francesca Ferrando has rightly pointed out, the term is often used as a loose category denoting a number of assorted positions which can at times even be incommensurable. One can cite philosophical posthumanism, critical posthumanism, speculative posthumanism, transhumanism, and new materialism as exemplars of this diversity (Ferrando 26). In order to constrain the scope of this paper, I hold that it would be possible apply the label "posthumanism" in either a general or a narrow sense. For ease of reference, I shall here refer to these as GP and NP respectively.

In its narrow sense, NP may be said to refer to the critique and/or transgression of the foundational principles and values of "humanism," with its emphasis on human autonomy, rationality, progress, and dignity. Understood in this manner, its aims might involve revaluating anthropocentrism and/or the various ethico-political frameworks that have traditionally centred around exclusively human concerns. This form of posthumanism already affords a great deal of heterogeneity; for instance, Rosi Braidotti lists theoretical, insurgent, speculative, cultural, literary, trans-humanist, meta-humanist, and a-humanist forms of posthumanism (Braidotti *Posthuman Knowledge* 81). It would also be possible to note that such positions can sometimes even have antithetical foundations and/or goals. For instance, transhumanism is here categorised as a subset of posthumanism, even if the former is often committed to certain values – progress via technical alteration, the elevation of rationality, the prioritisation of life over its other, etc. – which other posthumanist thinkers might find problematic and even unpalatable.

In its more general sense, however, GP is best understood as a broader array of heterogeneous positions. It would then be possible to give a working definition of GP in terms five shared conditions or features. The first feature of GP is its rejection of anthropocentrism. As a reminder, anthropocentrism is the view that all concerns and ethico-political decisions should centre around the

human as their priority. GP rejects such an approach by advocating for an ontological shift that recognises our reliance on, and embeddedness in, a more-than-human ecology. It therefore calls for a rethinking of the role of the human within broader networks of relations, and fosters a deeper sense of reciprocity in our interactions with the world. Second, and relatedly, GP questions the humanist understanding of the human, with its emphasis on, and elevation of traits such as rationality, progress, and autonomy. GP critiques this framework by exposing its historical and structural biases (cf. Braidotti *The Posthuman*; Agamben), and the manner in which it has marginalised others (women, racial minorities, non-humans, etc.) who do not conform to its stringent standards. Third, GP works towards a multi- and interdisciplinary approach which recognises the important discoveries of the sciences, but without necessarily shoring up this interest with a reduction of thought to a simple "handmaid of the sciences." In other words, while posthumanism may most certainly be compatible with the anti-transcendentalist tendencies of naturalism, and while science and technology are seen as providing crucial insights into the material conditions of life, they ought not to dictate the entirety of philosophical thought. In this way, GP seeks a renewed dialogical relationship between philosophy and the sciences. Fourth, GP is post-dualistic, in that it questions binaries such as those separating the human from the non-human, nature from culture, subjects from objects, or the natural from the technical. Such a move can be seen in Donna Haraway's talk of "naturecultures," Bruno Latour's abandonment of the nature/culture dichotomy in favour of a plurality of actants, or even in Graham Harman's broadening of the category of the "object." Finally, GP reframes ethico-political issues in light of the above, without assuming that ontology should be the handmaid of politics. Traditional ethical and political frameworks often subordinate ontology to immediate human-centered concerns. GP reframes these issues by grounding ethics and politics in a broader ontological perspective that prioritises relationality and interdependence, thereby ensuring that ethical and political actions are informed by a more nuanced understanding of being.

One possible objection to my present characterisation of GP is that it ends up broadening the definition of posthumanism to the point where the absolute majority of contemporary thinkers would fall under this label, thereby ultimately rendering the term meaningless. I admittedly accept this risk, as I hold that it is to some extent true that many contemporary thinkers do in fact (or at least should) work within the shadow of what may be called the "posthuman requirement," namely the need to think through and with the rapid changes undergone in the spheres of technology, science, politics, and philosophy throughout the late twentieth century, and continuing through to the present day. Nevertheless, I also hold that for a philosophy to fall squarely within the remit of GP, it needs to bring together all these characteristics. Thus, as I will show, the thought of Bennett and Braidotti may indeed be called posthuman in this general sense. Conversely, the contemporary French philosopher Quentin Meillassoux, for example, would not qualify as a GP, In spite of his epistemological search for a non-correlated – i.e. a non-anthropocentric – absolute, his ultimate commitment to the human/world dualism – via his assertion of the "ex nihilo irruption" of thought from matter, and his assumption that mathematics could, at least in principle, accurately model the primary qualities of the "in-itself" – ultimately reject the first, second, and fourth GP conditions (see Meillassoux Time Without Becoming; Meillassoux After Finitude).

With the above in view, I shall now proceed to oscillate between the work of Bennett and Braidotti in order to then assess the stakes of their relational ontology for a non-anthropocentric general posthumanism. Before proceeding further, it would be interesting to note that only Braidotti accepts the label of (critical) "posthumanism," since Bennett prefers to situate her work within the

broad framework of "new materialism(s)." Nevertheless, I seek to show that both thinkers in fact fall within the category of general posthumanism to the extent that they share all the five features just discussed. In view of this, I shall move on to evaluate their thought in light of the five conditions just outlined.

Bennett: A Relational Ontology of Forces

Jane Bennett's work seeks to move beyond anthropocentrism towards the recognition of the vitality present in singular entities, thereby effectively shifting thought towards a "speculative-onto-story" which aims to attend to what things can do (Bennett *Vibrant Matter* 3-4). In stark contrast to the "culture of life" which stresses the opposition between life and matter more generally, and human life and everything else more specifically, Bennett advocates for a "vital materialism" which is committed to the inherent "force of things" or "thing-power" (Bennett *A Vitalist Stopover*; *Vibrant Matter* chapters 5, 6). Nevertheless, she also rejects the hylomorphic model according to which vitality is impressed onto "dead matter" from the outside, and instead seeks a form of materialism "in which matter is [in and of itself] figured as a vitality at work both inside and outside of selves" (Bennett *Vibrant Matter* 62). There is an absolute "out-side" where singular existents express a power which arises from "bodies inorganic as well as organic" (Bennett *Vibrant Matter* 6). In this way, Bennett seeks to emphasise a certain vitality of things beyond their association with humans. Crucially, she nonetheless also sees a certain continuity between humans and non-humans, as can be seen from the fact that what we call the "human" is in actual fact also composed, sustained, and conditioned by non-human entities (Bennett *Vibrant Matter* 4). All entities are therefore agents in a strong sense for Bennett, yet each alleged individual ultimately owes its "agentic capacity to the vitality of the materialities that constitute it" (Bennett *Vibrant Matter* 34).

While Bennett acknowledges that the human/nonhuman binary helped to prevent human suffering, she also rightly claims that this mindset has led to the pervasive view that nature only has derivative moral and political worth, in that non-human entities have been seen to exist to ultimately serve the ends of man. The vital materialist response to this predicament in turn consists of two interrelated moves: first, it minimises the age-old distinction between subjects and objects by effectively underlining the vital materiality shared by humans and non-humans alike (Bennett *Vibrant Matter* 12-13). Second, it highlights the role of non-human entities in acting as a condition of possibility for human life and cognition, thereby accenting a certain reciprocity and continuity between humans and non-humans. In her rich example borrowed from evolutionary biology, for instance, Bennett stresses that fats found in different nuts affect both human moods and cognition when consumed, while the presence of omega-3 fatty acids was crucial for the development of our higher order cognitive functions in our evolutionary history (Bennett *Vibrant Matter* 41, 42, 48-49).

All this entails that any ethics worth pursuing cannot begin by considering only one's duty or the general consequences of an action. Rather, ethics must begin by recognising this "human participation in a shared, vital materiality" (Bennett *Vibrant Matter* 15). Welcoming this vitality inherent in all entities, be they human or non-human, can lead to a more ecologically responsible and ethical approach to the way we interact with the environment. Such a recognition implies the subjugation of human exceptionalism through the appreciation of our shared materiality and agency (Bennett *Vibrant Matter* 122). Furthermore, Bennett's "thing-power" also implies that the realm of politics is not exclusively about human relations. Rather, entities also have political power in that they

have the capacity to "make things happen" in the right combination. Borrowing examples from Darwin's book on earthworms, she shows that these unassuming organisms are in actual fact crucial contributors to human life and culture in at least two important ways; first, earthworms produce vegetable mould, and in so doing they contribute to the nitrogen cycle and make the Earth hospitable to living organisms like us. Second, earthworms also preserve human artefacts by burying them under soil, thereby contributing to the maintenance of human culture (Bennett *Vibrant Matter* 94–100).

Crucially, Bennett stresses that various assemblages of entities are not exactly alike, thereby rejecting a certain understanding of "flat ontology" which reduces entities to a purely horizontal plane of being. She however also rejects hierarchical views of nature in favour of a certain "contextuality" whereby actants gain or lose power by virtue of their place in an assemblage. For instance, trash and foodstuff is able to gain ethico-political power through its ability to "startle and provoke a shift in [human] perception" (Bennett *Vibrant Matter* 107).

In spite of her attention to the vibrant force of things just described, Bennett is careful to emphasise that the agents of which she speaks are ultimately "actants." This assertion in turn entails two consequences which are especially pertinent to my present task: first, her emphasis on action implies that things are not fixed substances, but rather "as much force as entity, as much energy as matter, as much intensity as extension" (p. 20). At this point, one might wonder whether a thing understood in this manner can be both a force and an entity simultaneously for, as Gambale, Hanan, and Nail rightly point out, Bennett's sensitivity to things is ultimately a sensitivity to relational *forces* (Gambale, Hanan, and Nail *What is New Materialism*). While she concedes that assemblages do in fact have emergent properties, it would perhaps be more accurate to claim that they *are* these properties, with the latter meaning that they "are" only insofar as they are able to act or "make things happen" (Bennett *Vibrant Matter* 24).

Second, the understanding of a thing as actant entails the related claim that the latter are not monads but rather relational congregations or "assemblages," to the effect that every actant is in fact both a process and nothing but its affects (Bennett *Vibrant Matter* 21). As Bennett puts it, her understanding of matter is as a "heterogeneous … *differential of intensities*" such that one can find "no point of pure stillness, no indivisible atom that is not itself aquiver with virtual force" (Bennett *Vibrant Matter* 57, emphasis added). As a result, things are also not primarily objects, since they only appear as such due to their slow speed of becoming *relative to the human* (Bennett *Vibrant Matter* 58). One can here immediately note that Bennett is heavily influenced by Deleuze and Guattari's understanding of things as "assemblages" and, more importantly for our present task, by Spinoza's understanding of "affective bodies" (*conatus*). In fact, references to Spinoza are ubiquitous in her work, and he appears in the most crucial moments of each of her texts. For Bennett, this thinker is important in that his philosophy articulates an associative view of things whereby "each body is continuously affecting and being affected by other bodies" (Bennett *Vibrant Matter* 21). As is well known, for Spinoza, all bodies are ultimately modes of a common substance, and every mode is in turn "itself a mosaic or assemblage of many simple bodies" (Bennett *Vibrant Matter* 22). All this is to say that nature is ultimately a form of creative becoming rather than being composed of discrete substances. This activity in turn only temporarily "congeals into bodies" which in turn seek to persist in their being (*conatus*) (Bennett *Vibrant Matter* 118).

Before proceeding to analyse how Bennett's work resonates with that of Braidotti, it would be useful to briefly take stock of how her main ideas fit within the five conditions of general posthumanism (GP) discussed above. First, vital materialism aims to move beyond anthropocentrism by highlighting the inherent vital force present in all entities (condition 1). Second, she questions certain humanist values of autonomy and rationality by showing that the human cognition and life more generally in fact depend on non-humans (worms, Omega-3 fatty acids, nuts, etc.) acting as their conditions of possibility (condition 2). Third, Bennett borrows from examples taken from disciplines such as evolutionary biology in order to sustain her views (condition 3). Fourth, the generalisation of a vital materialism questions longstanding binaries such as those separating the human from the non-human, or nature from culture (condition 4). Finally, Bennett lays emphasis on the fact that entities are also the site of ethical imperatives and political power (condition 5).

Braidotti: Critical Posthumanism as "Zoe-centered Egalitarianism"

Of the two thinkers mainly discussed in the present paper, only Rosi Braidotti explicitly identifies her work with a "narrow" form of (critical) posthumanism. Yet I want to show that her resonates with the framework of GP more generally as well as Bennett's position more specifically, to the effect that the two thinkers can be fruitfully compared in ways that are especially pertinent to the present analysis. As I shall show below, their work may be shown to share the same virtues, but also the same vices. Braidotti defines the posthuman as "a convergence phenomenon unfolding the intersection between posthumanism on the one hand and post-anthropocentrism on the other" (Braidotti *Posthuman all too Human* 16). As a result, a careful analysis of her general view would need to scrutinise what it might mean to be post-human and post-anthropocentric, as well as the stakes of such a position.

Her posthumanism is directed against a certain humanist understanding of "Man" as a general standard based on a logic of inclusion and exclusion. More specifically, this binary thinking is criticised for transposing "a specific [Humanist] mode of being human" – namely the human as rational and autonomous agent – "into a generalized standard," thereby relegating anything which does not fit this alleged universal standard – specifically women, minorities, non-human animals, and the neurodiverse – into the category of the "other" (Braidotti *The Posthuman* 26). Braidotti's posthuman thereby emphasises that the notion of the human is not value neutral (Braidotti *Posthuman all too Human* 16), while also seeking to assess the positive aspects of the critique of classical Humanism by calling for a new theory of subjectivity which rejects both nihilistic defeatism and individualism (Braidotti *The Posthuman* 49ff.).

Rather than embracing the anti-humanist "liquidation" or "death" of the subject allegedly associated with thinkers such as Derrida, Foucault and Heidegger, Braidotti seeks to resituate and redefine posthuman subjectivity in terms of a "process-oriented political ontology" according to which subjects are intrinsically defined via a process of negotiations (Braidotti *The Posthuman* 35). Stated differently, her own alternative to humanist definitions of the subject in terms of a fixed essence or identity as well as anti-humanist critiques of this alleged essence involves resituating the subject "within an eco-philosophy of multiple belongings" in which the subject comes to be "constituted in and by a multiplicity … that works across differences and is also internally differentiated, but still grounded and accountable" (Braidotti *The Posthuman* 49). This thoroughly relational view of subjectivity in turn involves what Braidotti describes as a monistic "vital materialism" which sees

matter itself as self-organising and vivacious, thereby eliminating the need for a transcendental entity or force as the source of this vitality. The posthuman subject is therefore itself thoroughly immanent, self-organising, and defined relationally and differentially via interrelationships with human as well as non-human entities, with the latter including non-human living beings as well as technology (Braidotti *Posthuman all too Human* 6).

Braidotti's position admits a two-pronged complex relationship to technology. On the one hand, she recognises that our current global capitalist economy is techno-scientific in its structure, in that it effectively trades on life itself via disciplines such as genetic engineering and stem cell research. Nevertheless, and on the other hand, disciplines such as molecular biology also demonstrate that life is self-organising, while monism shows us that all is relational (Braidotti *The Posthuman* 59-60). Such discoveries in turn dismiss the claim that matter is itself inert and passive, thereby also eliminating the need to posit a transcendent source in order to account for the emergence and sustenance of vitality. The latter has important ramifications for her rejection of anthropocentrism, for this recognition of an interrelational monism allows her to develop the notion of an "expanded relational self" (p. 60). In other words, her own brand of vitalism rejects the long held binary distinction between the political idea of man (*bios*) and nature or life itself (*zoe*), favouring instead what she dubs a "zoe-centered egalitarianism." The latter in turn entails what I hold to be the two most important consequences for Braidotti's work. First, this emphasis involves dismissing the previously mentioned humanist subject defined in terms of an abstract universal standard superior to the rest of nature by insisting instead on a radical "zoe-egalitarianism" between humans and non-human animals (Braidotti *The Posthuman* 71). Braidott's sense of the term "subject" is thus not linked exclusively to the *Anthropos* or its alleged superior qualities, but is rather to be understood as a rich relational assemblage of entities such as animals, microorganisms, plants, cells, and even algorithms (Braidotti *Posthuman all too Human* 20). Second, rather than erasing all differences between beings, it instead emphasises these radical differences. Braidotti rejects so-called "flat ontologies" in favour of an "open-ended, interrelational, multi-sexed and trans-species flows of becoming through interaction with multiple others" (Braidotti *The Posthuman* 89) and a "vitalist ethics of mutual trans-species interdependence" (Braidotti *The Posthuman* 92). That is to say, she argues for a thoroughly differentially constituted material, embodied, and technologically mediated subject which is both constituted and maintained by their interactions with multiple others (Braidotti *The Posthuman all too Human* 30). In this way, and perhaps most crucially for my present task, it is clear that her position entails a relational monism which emphasises on the absolute "priority of the relation" over the related terms (Braidotti *The Posthuman* 100).

While Braidotti's work draws from an extensive list of notable thinkers, it is especially significant to point out that, like Bennett, her work also draws important inspiration from Spinoza's metaphysics. References to the thinker abound, but her direct indebtedness is perhaps most crisply and explicitly articulated in the essay "Memoirs of an Aspiring Spinozist". In this brief text, Braidotti claims that Spinoza's philosophy pushes two important ideas which ultimately prove to form the cornerstone of her entire work. First, she credits Spinoza with the rejection of dualistic thinking in favour of a monistic vital materialism based on radical immanence, thereby accentuating the "trans-individuality of all entities, human beings included" (Braidotti *Memoirs of an Aspiring Spinozist* 18). Secondly, she also praises Spinoza's understanding of desire (*conatus*) as the "constitutive capacity to persist and endure in one's existence in relation with others" (Braidotti *Memoirs of an Aspiring Spinozist* 17). This, in turn, forms the basis of a relational ontology which constitutes and sustains subjectivity

via differential relations (Braidotti *Memoirs of an Aspiring Spinozist* 19). Braidotti's sense of a post-human and post-anthropocentric subject is therefore to be understood in terms of a Spinoza-inflected "geocentric" (Braidotti *The Posthuman* 81) subject premised on the necessary recognition of a vital, immanent, holistically interrelated, and self-organising materiality.

While there is a lot more to say about Braidotti's rich and expansive body of work, I will now explore how the fundamental aspects of her work just discussed encompass all five conditions of general posthumanism. First, she claims to thoroughly reject anthropocentric philosophy in favour of a vital materiality and zoe-centered egalitarianism premised on radical immanence and holism (condition 1). Second, Braidotti is decidedly post-human in that her relational approach necessarily goes hand in hand with the disavowal of the humanist understanding of "man" in terms of exclusionary traits such as intrinsic rationality and autonomy (condition 2). Third, examples lifted from molecular biology and biotechnology are employed in the service of the development of a view which sees nature is interrelated, holistic, immanent, and differentially constituted. This fact also further sustains Braidotti's claim that the posthuman today is necessarily technologically mediated, and that therefore advancements in biotechnology must necessarily inform our "politics of location" and practice (condition 3). Fourth, the long-standing binary distinctions between humans and nature or technology and ecology are unambiguously rejected by her insistence on a "geo-centred" approach which sees the relation between these two terms as one of mutual interdependence and continuity. In this way, it becomes impossible to separate the realm of the human from that of the nonhuman, for the human is to some extent non-human and vice-versa (condition 4). Finally, all these aforementioned elements combined lead to a rethinking of all ethico-political practice in terms of a differentially constituted view of entities (condition 5).

Having established the main tenets of Bennett and Braidotti's thought, it may be noted that both thinkers share an admirable sensitivity to the force of entities understood in terms of a vital materiality immanent in the world itself. This construal of materiality is praiseworthy in that their general posthumanism successfully refuses – rather than refuting – humanist anthropocentrism by drawing our attention to what can be fruitfully described as the ethico-political call of the non-human. While engaging in an extensive exegesis of Spinoza's texts would be beyond the scope of the present analysis, I wish to point out that Bennett and Braidotti's specific deployment of this thinker pushes a form of vital materialism premised on a tripartite framework rooted in the interrelated concepts of relationality, holism, and immanence. First, as I have already shown, vital materialism entails a thoroughly relational and differential system in which beings are defined exclusively and exhaustively in terms of a "differential relationality" rather than some singularity pertaining to the individual. Secondly, this thorough relationality in turn entails a holism in which everything is connected to everything else via interlocking networks of relations, such that any entity's relative persistence (*conatus*) is only due to its emergence through and embeddedness within a holistic relational network. As a result, it would here only make sense to speak of a relative persistence, since ultimately what persists is a relational vector in a network and not an fully fletched individual as such. Thirdly, the notions of relationality and holism entail immanence, understood here in terms of the rejection of the possibility that anything could survive its detachment or disconnection from its network of relations. More specifically, if everything is differentially constituted by its network of relations, it follows that no purported individual can survive even the most subtle and minute changes in its current network of relations. Following Jordi Vivaldi, we might then question whether this commitment to Spinozist relationsim ends up "[obscuring] the accountability of finitude, agency, and change, watering down

the notion of otherness and compromising the overall theory's consistency" (Vivaldi 312). While Vivaldi restricts this analysis to Braidotti, I hold that the same questions can be raised with respect to Bennett's work.

Ontological Individuals: Humans out of the Loop?

Given the tripartite system just discussed, I now turn to consider the ontological implications of Bennett and Braidotti's frameworks for individuality and agency, questioning whether relational holism adequately accounts for non-human individuality and alterity. To be sure, both want to leave some room for the emergence and agency of individuals for, as I have shown, Bennett speaks of the vitality of individual things, while Braidotti's critique of humanism relies on an expanded "zoe-egalitarian" theory of differentially constituted subjectivity.

Nevertheless, and against their stated claims, one might wonder whether it would be possible to simultaneously sustain such a theory of individuality while also favouring a thoroughly relational system; if all entities are exhaustively defined by their relations, can any individual retain its singularity without being subsumed into the totality of relational networks? Bennett claims that it is indeed possible. In "Systems and Things," for instance, she claims that "perhaps there is no need to choose between objects or their relations," and instead suggests aiming for a theory which understands entities as "swirls of matter, energy, and incipience that hold themselves together long enough to vie with the strivings of other objects, including the indeterminate momentum of the throbbing whole" (Bennett *Systems and Things* 227). Nevertheless, and as Harman rightly points out, if entities are ultimately "nothing but 'incipient swirls', then it is difficult to see how they can ever have more than derivative status by contrast with relations" (Harman *Object-Oriented Ontology* 243). Furthermore, given Braidotti's emphasis on a dynamic process of becoming and interconnectedness, I hold that Harman's critique would also apply to her work. If one assumes a relational holism of the kind just discussed, then two specific unsavoury consequences would follow. First, assuming a relational approach might have precarious ethico-political implications in that it risks falling back into the same (weaker) anthropocentric framework which such positions set out to critique. Second, an "individual" would ultimately be nothing more than a redundant mode of the "throbbing whole," thereby sacrificing its purported individuality. I shall now go on to consider these problems in more detail.

In order to expand on the first problem, I will adapt terminology originally used by Nandita Biswas Mellamphy in her analysis of the human/technology relation, and broaden it to include human/nonhuman relations more generally. In "Humans 'Out of the Loop'?" Biswas Mellamphy essentially distinguishes three possible approaches to the relation between humans and technology. First, a "humans in the loop" (HIL) approach is a strongly anthropocentric approach according to which humans are to be understood as dominating over nonhuman entities and controlling them. In view of the above, it should be clear that this approach should be rejected for our purposes, as it violates the most basic tenet of GP, namely the rejection of anthropocentrism. She in turn distinguishes the HIL approach from a "humans on the loop" (HOL) position. This view "deprioritises human-centrism" by "underscoring the compatibilities between human animals, nonhuman animals, and machines" (Biswas Mellamphy 19), i.e. the fact that all entities are interconnected. In this way, the HOL approach sees the human as "an open-ended category and the product of ongoing processes of collaborative bio-socio-technical individuation" (Biswas Mellamphy 20). This approach is not *strongly* anthropocentric, in that it does not cede priority to human concerns. Nevertheless, and as Mellamphy rightly states, it

still remains *weakly* anthropocentric to the extent that the emphasis of relational alliances between humans and nonhumans still do not do enough to think the possibility of a world independently of humans. More specifically, and even if she does not frame her argument in this precise manner, it may be argued that if everything is thoroughly connected to everything else, then ultimately everything is also thoroughly connected to humans, and to our all-too-human modes of normative and epistemic evaluation. Mellamphy cites Braidotti as an exemplar of such a position when she questions whether the commitment to a "zoe-centered" approach may be said to do away with human-centrism. Such a critique is especially pertinent given that Braidotti herself admits that her vision "actually enhances [human agency] by offering an expanded relational vision of the self as a nomadic transversal assemblage engendered by the cumulative effect of multiple relational bonds" (Braidotti *The Posthuman* 33). Even if this is not stated by Mellamphy, I hold that the same critique would necessarily apply to Bennett for, by her own admission, her own ontology of becoming is ultimately "biased toward the peculiar rhythms and scale of the *human body*" (Bennett *Systems and Things* 229, emphasis added).

As a result, Mellamphy argues that a truly non-anthropocentric approach might require a "humans out of the loop" (HOOL) approach whereby "human control would be deprioritized and nonhuman rationales would be prioritized" (Biswas Mellamphy 21). She is right to point out that such a position would necessarily be speculative in that it relies on what David Roden calls the "disconnection thesis" (Roden *The Disconnection Thesis*), namely the idea that future technologies may be autonomous to the extent that our current human-centered epistemico-normative frameworks cannot grasp. To be sure, both Mellamphy and Roden frame this "HOOL" approach in light of technology specifically, namely in terms of the emergence of some possible *future* "xeno-intelligences" which we currently cannot evaluate in terms of our epistemic or ethical norms (Roden *Posthuman Life*). Nevertheless, my claim here is that we can widen such a view beyond technology specifically, and towards singular entities in particular. In other words, prioritising nonhuman rationales might require thinking that any entity whatever is capable of a rupture which resists any preestablished epistemic or ethical valuation.

Such an approach would have two main consequences which align with my response to the problem of relational holism and individuality outlined above: first, Roden's "disconnection thesis" might have to be rethought in relation to Harman's thesis of withdrawal, namely the idea that disconnection is already at work between singular haecceities, to the extent that any encounter between two entities whatsoever cannot be judged in terms of any pre-established epistemico-normative framework. Second, such a generalised disconnected approach should allow us to revaluate the stakes of a truly non-anthropocentric posthumanism. This might require a move away from a Spinoza-inflected differential holism of the sort that Bennett and Braidotti endorse, and towards a Leibnizian system of monads premised on the problematisation of relations. My claim here is that such a possibility can be achieved only by marrying what Jacques Derrida, in *A Taste for the Secret*, describes as a "Leibnizianism without God" with elements of Graham Harman's object-oriented thought. Thus, in what follows, I shall consider the implications of a non-relationist relational approach for posthumanism.

Relationism, Disconnection, and Withdrawal

As I see it, Bennett and Braidotti seem to take the fact of causal relations for granted, in that they essentially assume that entities are necessarily always already entwined. In so doing, I hold that their holism ultimately robs entities of their individuality and, more importantly, their alterity. This problem may be further articulated using Harman's critique of "relationism." As is well known, in *After Finitude*, Quentin Meillassoux coined the term "correlationism" to name philosophies which insist on the primacy of the correlation between thinking and being, such that it would be impossible to think of being independently of the human (Meillassoux *After Finitude*). While relationism does not strictly insist that to be is to be a correlate of thought alone, it nevertheless views entities as "bundles of dynamic relations" (Harman *Objects are the Root of all Philosophy* 242), to the effect that they tacitly "discount the existence of entities outside their effects" (Harman *Circus Philosophicus* 7). Relationism is in turn a modality of what Harman calls "overmining," namely the tendency to want to reduce entities to nothing more than manifest actions, events, and effects (Harman *On the Undermining of Objects* 24). Harman is right to argue that relationism (as a subset of overmining) makes change impossible, and therefore robs entities of their future to the extent that it leaves them with no "residual reservoir of force" that would allow for "instability in the current state of things" (Harman *Realism without Materialism* 64).

With this in view, a critic might wish to argue that Bennett and Braidotti's reduction of entities into relations is debatable, since both explicitly acknowledge a certain degree of (what can only be relative) agency in entities. Nevertheless, I hold that their commitment to an immanent relational holism ultimately undermines the very possibility of a radical force or individuality to entities, insofar as everything is defined by everything else according to all too human rhythms and relations. Conversely, a rupture of the sort envisaged by Roden – as well as a HOOL approach more generally – would entail a form of alterity which is radical and discontinuous. It therefore cannot be commensurate with a relationist holism, since it would require entities to harbour a radical reserve beyond the human especially, but also beyond their current actions and effects on one another. As Harman explains, "in the present an object is not merely encountered by one human observer or other object, but many" and the specific "nature of this encounter is slightly different for each of the encountering entities" As a result, one would have to conclude that any entity "is not identical with how it is encountered by any other object, by the sum total of such encounters, or even by the sum of all possible encounters" (Harman *Realism without Materialism* 65). Entities, as Harman puts it, "withdraw" from their relations; they harbour a radical alterity, even if this is not to say that they do not relate at all (Harman *Tool-Being*).

I hold that we can make better sense of this non-relationist relationality premised on excess by drawing on Derrida's remarks on Leibniz in *A Taste for the Secret*. At one point in his discussion with Maurizio Ferraris, the latter asks Derrida about relations of place; when A and B face each other, their respective positions seem radically incommensurable. Derrida responds by arguing that this profound disparity is in fact "true of everything that is dual." It is unclear whether Derrida would want to limit this position to intersubjective relations exclusively. Nevertheless, if we broaden his remarks beyond the strict confines of the human, it becomes possible to assert that the very fact of temporality requires ingenuity, namely that repetition "cannot exhaust the novelty of what comes" (Derrida and Ferraris *A Taste for the Secret* 70). This absolute novelty and openness of time in turn entails as its condition of possibility a "hypersolipsism" in which entities are not absorbed into their relations. As a result, entities would therefore resemble Leibnizian "monads," since it is "infinite difference that makes us always ingenuous, always absolutely new" (Derrida and Ferraris *A Taste for the Secret* 70).

Nevertheless, and as Derrida rightly points out, if this were strictly the case then nothing would ever happen to begin with. As is well known, Leibniz circumvented this problem by granting God absolute jurisdiction over monads via the "principle of pre-established harmony." Yet it is clear that Derrida finds such an appeal unpalatable, hence the description of his own position as a "Leibnizianism without God" (Derrida and Ferraris *A Taste for the Secret* 71). The rejection of an absolute causal mediator in turn requires that entities would have to communicate obliquely, via a process in which a *local* third space acting as both a mediator and medium for relations, but without every exhausting the relata. In this way, and contrary to Bennett and Braidotti, the possibility of novelty, ingenuity, radical alterity, and disconnection would in fact require that entities are absolutely "ingenuous and new" with respect to one another. This is precisely what one gets in Harman's notion of "vicarious causation" (Harman *On Vicarious Causation*). While present restrictions of space constrain detailed elaboration of this mechanism, it would be possible to briefly describe this process as one in which any two real objects or "monads" indirectly interact by producing a third space which then has retroactive effects on its parts. Crucially, such a mechanism does not only apply to intersubjective interaction in Harman's thought, but rather hold for any two encounters whatsoever.

Conclusion

As I have argued throughout the course of this paper, a general posthumanism requires a non-anthropocentric framework which rejects both humanist values and dualist hierarchies; it is essentially a multidisciplinary approach which seeks to recast ethico-political issues in light of this rethinking of the role of the human. Bennett's vital materialism and Braidotti's zoe-centered egalitarianism may both be said to contribute to the decentring of the human by developing a relational ontology which seeks to decentre the ethico-political centrality of the human. Nevertheless, and in light of Biswas Mellamphy's critique, Bennett and Braidotti may be said to remain "weakly anthropocentric" to the extent that the former judges processual rhythms in relation to the human, while the latter argues for an expanded relational self in which the human comes to be infused into everything and vice-versa. As a result, they risk subsuming the non-human into frameworks that remain tacitly human-centered, thereby letting the human in through the backdoor. Furthermore, and as I have shown above, this (weak) anthropocentrism may be seen as a product of their commitment to an immanent relational holism.

Conversely, I hold that disconnection and a truly "humans out of the loop" (HOOL) approach requires Derrida's notion of "Leibnizianism without God" and Harman's notion of withdrawal in order to develop a model of non-relational relationality. In granting irreducibility and radical alterity to entities, this non-relationist approach preserves individuality while simultaneously allowing for contingent connection and disconnection, thereby offering a framework for thinking the posthuman in a way that is genuinely non-anthropocentric. In rejecting "human-centric" epistemic and ethical frameworks, this alternative model of responsibility demands the development of an ethic attuned to the singular force of specific beings beyond their current relations. In this way, it reframes the posthuman as a commitment to the radical multiplicity, specificity, and force of entities beyond strictly human concerns.

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Getting Over the Human with Friedrich Nietzsche: Twilight of the Transhuman Idols

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Abstract:

Stefan Lorenz Sorgner has argued against Nick Bostrom that the "Overhuman" (*Übermensch*) of Friedrich Nietzsche counts as a genuine predecessor of both posthumanism and transhumanism. In a reply article, Michael Hauskeller argues that the transhumanist vision does not accord with the Nietzschean Overhuman. While the two share similarities, they are distinct, for Nietzsche did not believe in Enlightenment ideas of liberalism, progress and scientism. Futurologically-informed transhumanist ideas relating to human "enhancement" are too modern and progressive to be Nietzschean. Babette Babich claims that transhumanism constitutes an "all-too-human" position. We conclude that Nietzsche was not a transhumanist, because, on the whole, the overhuman is more a tragic hero who affirms eternal recurrence and deifies Nature, and is not a technocratic denier of nature. It is high time we got over the "human" element altogether.

Keywords: Humanism, Nietzsche, Posthumanism, Speculative Posthumanism, Transhumanism

> Human being is something that must be overcome.
>
> — Friedrich Nietzsche

> All human works are brief and fleeting; they take up no part whatever of infinite time. Tried by the standard of the universe, we regard this earth of ours (...) as a mere point: our life occupies less than a point when compared with all time, the measure of which exceeds that of the world, for indeed the world is contained many times in it. Of what importance, then, can it be to lengthen that which, however much you add to it, will never be much more than nothing?
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> — Seneca

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This paper explores the contested relationship between the ideas of Friedrich Nietzsche and transhumanism. In this first section of this paper, we provide a brief outline of transhumanism, and its potential links with the philosophy of Friedrich Nietzsche. In the second section of our essay, we summarize the main points of Stefan Lorenz Sorgner's proposed synthesis of Nietzscheanism and transhumanism. In the third section of the paper, we delve deeper into what a Nietzschean transhumanism could look like. In the fourth section, we take into account Nietzschean critiques of transhumanism. In our Conclusion, we return to Nietzsche's philosophy and present our own reading of what Nietzsche was aiming for with the idea of the "Overhuman."

A Few Words on Transhumanism

Posthumanist philosopher Cary Wolfe has characterized transhumanism as "an intensification of humanism" (xv). Before we discuss the current debate surrounding Nietzsche and transhumanism, it is worth elaborating upon what transhumanism is. Transhumanism is more than a philosophy, being "a broad intellectual movement" (Blackford 193). It can be viewed as a "popcultural" elaboration of posthumanism, in which the term "posthuman" denotes an improved, enhanced and technicized being that has evolved out of *homo sapiens*.[i] Transhumanists affirm "interventions" which "aim to improve the state of an organism beyond its normal healthy state" (Bostromand 120). The term "posthuman" in such discourses refers most frequently to superhuman modes of being that transcend the limits of the human condition (Abrams 248). Max More, founder of the Extropian Institute, defines transhumanism as a movement inherently committed to both "perpetual progress" and "intelligent technology, self-direction, or rational thinking ("The Philosophy of Transhumanism" 5). As Stefan Lorenz Sorgner underlines, "progress is closely linked to the belief that the general conditions of human life can be enhanced" (*On Transhumanism* 47). The term "transhumanism" was first coined by biologist Julian Huxley, summarized as "the idea of humanity attempting to overcome its limitation and to arrive at a fuller fruition; it is the realization that both individual and social development are processes of self-transformation." (139)

The emphasis on human self-determination, a naturalistic outlook, and the desire for subjugating natural processes for human goals, are essential features of transhumanism. Transhumanists believe in the perfectibility of humans, and see the biological limitations of the human condition as something to be transcended via technology. They also generally believe in progress and are proponents of scientism, the belief in the redemptive capacity of science to solve all problems associable with the human condition (Tirosh-Samuelson). Evolution must be redirected, planned and changed, so as to enhance humans and build up our capabilities.[ii] Even immortality is conceived of as a utopian state, a posthuman condition. For pro-transhumanist biologist Michael R. Rose there is no *a priori* reason why we as humans should accept the prospect of death.[iii] Humanity for transhumanists is only a transitory step along the path towards transcendence of the human condition. The achievement of "posthumanity" disrupts human evolutionary history. A leap in human development will create a new species. In itself "'posthumanity' is a value-neutral term" (Birnbacher 95). However, transhumanists are optimistic in relation to the posthuman condition, and hope to progressively replace humans with a superhuman species, a next step in a linear evolutionary process. Even though teleology or purpose disappeared from scientific concepts of evolution by the early 20th century at the latest (cf. Mayr), transhumanists hope to make human evolution purposeful once more. Hence, in our view it is warranted to describe transhumanism as a progressive and scientistic movement, essentially modern and optimistic, even messianistic (Leung), in its broad outlook.

> Transhumanism is a breeding programme for perfecting humanity. What is presently contingent (reproduction and associated sexual selection mechanisms) ought to be rationalized and optimized, to create better humans. As Ronald Bailey emphasizes, "Our ancestors, too – through their mating and breeding choices – determined for us the complement of genes that we all bear today. [...] Fortunately, our descendants will have at their disposal new technologies [...]to guide them in their future reproductive and enhancement decisions. [...] Of course, there is one case in which future generations would be prisoners of our decisions now, and that's if we fearfully elect to deny them access to the benefits of biotechnology and safe genetic engineering." (Bailey 336)

The futurist belief in technological progress is explicit, as is the belief in human perfectibility. In fact, Bailey sees no ethical problem with positive eugenics, and even accuses opponents of eugenics (and transhumanism) of restricting the possibilities of future generations. There are no limits to such ambitions. Philosopher Nick Bostrom forecasts the emergence of "superintelligence" which could potentially transcend human control altogether (*Superintelligence: Paths, Dangers, Strategies*). Historian Yuval Noah Harari, an advocate of transhumanism, claims that the movement, conceivable as a "new human agenda," is about "attaining divinity" (47). Skepticism regarding the posthuman condition and the promises of transhumanism also abounds. Historian Francis Fukuyama mentions a key risk that may be associated with human transformation:

> What is ultimately at stake with biotechnology is [...] the very grounding of the human moral sense, which has been a constant ever since there were human beings. It may be the case that, as Nietzsche predicted, we are fated to move beyond this moral sense. But if so, we need to accept the consequences of the abandonment of natural standards for right and wrong forthrightly and recognize, as Nietzsche did, that this may lead us into territory that many of us don't want to visit. (102)

It is particularly noteworthy that Nietzsche's name crops up often in relation to transhumanist discourses. Are engineers of human nature working on a secularized, demythologized and literalized version of Nietzsche's *Übermensch*? And what does being an "overhuman" even mean? Not long after Fukuyama's book was published, German philosopher Jürgen Habermas wrote an essay (*The Future of Human Nature*) against what he perceived as the return of eugenicism. Similarly to Fukuyama, Habermas observes that "the revolution of breeding practices by genetic engineering is itself no longer governed by the clinical mode of adjustment to the inherent dynamic of nature. What it suggests, rather, is the dedifferentiation of a fundamental distinction which is also constitutive of our self-understanding as species members" (46). Key to Habermas' critique is the contingency of human preferences. Even if we were to succeed in mastering our own genetic programming, what is to guarantee that our preferences are not themselves merely contingent products of our spontaneous, previously undirected evolution? The very framework of our thinking is not a rational product, claims Habermas (correctly). (72). There is absolutely no guarantee that we know *what* we should change within human nature and our reasons for supposing this to be the case could be wrong. Much more critical however is Habermas' rhetorical attack on transhumanism, which he associates, almost as a matter of course, with Nietzsche and/or Nietzscheanism:

> A handful of freaked-out intellectuals is busy reading the tea leaves of a naturalistic version of posthumanism [...] Fortunately, the elitist dismissals of 'the illusion of egalitarianism' and the

> discourse of justice still lack the power for large-scale infection. Self-styled Nietzscheans, indulging in fantasies of the 'battle between large-scale and small-scale man-breeders' as 'the fundamental conflict of all future,' and encouraging the 'main cultural factions' to 'exercise the power of selection which they have actually gained,' have, so far, succeeded only in staging a media spectacle. (22).

What Habermas claims is that transhumanists (those who advocate positively for a posthuman condition) are Nietzscheans, eugenicists and, by extension, adherents of "a German ideology" of human breeding that one may associate with National Socialism.

For Bostrom, the "posthuman" is an anthropomorphic entity, albeit enhanced beyond the limits of what is presently recognizably human: "by a posthuman capacity, I mean a general central capacity greatly exceeding the maximum attainable by any current human being without recourse to new technological means" ("Why I Want to Be a Posthuman When I Grow Up." 219). Such a being would be bred selectively or genetically manipulated, until superhuman capabilities appear. Some transhumanists would replace the organic body altogether with superintelligent computers, robotic organs, implants, and prostheses (Nayar 8). Transhumanists also advocate for mind-uploading, often ignoring the problematic dualistic implications of this prospect (Hauskeller, *Mythologies of Transhumanism*). With the help of modern technologies, transhumanists seek to expand the toolbox of traditional humanism. The human condition may be reconceptualized as an "engineering problem" to be resolved through the application of technologies.[iv] Hence, transhumanists commit the engineering fallacy, applying engineering principles to areas of reality where they possibly do not apply. The transformation of both mind and body will supposedly give individuals control over their human nature, increasing bodily autonomy. The popularity of liberalism among transhumanists is not surprising, although one could also view their scientistic emphasis upon technological evolution as collectivist.[v] Transhumanism retains humanism's conception of the human as an unfinished project to be cultivated, seeking to enhance, (or even supplant) human characteristics and capabilities through technological innovation, while leaving Enlightenment-era ideas about human self-mastery, rationality and scientism intact. Transhumanism is a "religion of science," guided by a belief in progress (Burdett). Similarly, Yunus Tuncel notes the inseparability of transhumanism and Enlightenment rationalism.[vi] Transhumanism generally is committed to the normative goals of humanism, whilst adhering to a teleological and progressive interpretation of evolution. Therefore we hold that transhumanism is merely an updated version of humanism and old liberal individualism.

Sorgner on the Transhumanism-Nietzsche Connection

At this juncture, we turn to the debate surrounding the Nietzsche-transhumanism connection (or lack thereof) which has been raging for two decades. The controversy was ignited by transhumanist philosopher Nick Bostrom's 2005 article, "A history of transhumanist thought." We shall concentrate upon Bostrom's specific mentions of Nietzsche. In the article, Bostrom associates transhumanism with the rationalist Enlightenment. The former is essentially a continuation of the latter. Despite the similarity of the transhumanist vision of posthumanity with Nietzsche's *Übermensch*, Bostrom believes the two are distinct and should be treated accordingly:

> What Nietzsche had in mind [...] was not technological transformation but a kind of soaring personal growth and cultural refinement in exceptional individuals. [...] Despite some surface-

> level similarities with the Nietzschean vision, transhumanism – with its Enlightenment roots, its emphasis on individual liberties, and its humanistic concern for the welfare of all humans (and other sentient beings) – probably has as much or more in common with Nietzsche's contemporary the English liberal thinker and utilitarian John Stuart Mill. (4)

Transhumanism is rationalist and utilitarian, and Nietzsche famously despised both. Furthermore, the Nietzschean vision is more pedagogical than eugenic. But does this apparent separation do justice to Nietzsche's outlook? In *Beyond Good and Evil*, Nietzsche writes of "new philosophers" of the future who will "make use of religion for [...] breeding and education work" (54). Breeding and education seem interlinked. Indeed, the main goal of future philosophers will be to eradicate chance from human reproduction: "to teach humanity its future as its will, as dependent on a human will, to prepare for the great risk and wholesale attempt at breeding and cultivation and so to put an end to the gruesome rule of chance and nonsense that has passed for 'history' so far" (91). While one must be careful to avoid anachronism, it is also genuinely difficult to avoid the transhumanist and eugenicist implications of these sentences within Nietzsche's texts.[vii]

Stefan Lorenz Sorgner's article, "Nietzsche, the Overhuman, and Transhumanism," is a direct response to Bostrom. Sorgner lists a number of commonalities among transhumanists and Nietzsche. Both hold a processual view of reality and human nature: "there is nothing which is eternally fixed," writes Sorgner, and both Nietzscheans and transhumanists would agree with such an assertion (30). Furthermore, as a consequence, "there are no absolute and unchanging values" (32). The dynamism of reality precludes objective, ahistorical value systems, and this necessitates open-endedness when it comes to constructing our values and ourselves. As Bostrom emphasizes, "a willingness to revise one's beliefs and assumptions" is a key component of his liberal individualist transhumanism ("Transhumanist values"). For Sorgner, Nietzsche believed in science and critical thinking. Even the most speculative ontological concept of Nietzsche's philosophy, the idea of eternal recurrence, was grounded in the best science of the era (33). Similarly, transhumanists are also highly supportive of the natural sciences, , and hope to achieve enhancement of the human condition via technological means. Sorgner concedes that, when writing of the *Übermensch* (Sorgner's preferred English translation is "overhuman"),[viii] "Nietzsche does not refer to technological means of improvement [...] However, Nietzsche does not exclude the additional possibility of technological enhancement either" (Sorgner, "Nietzsche, the Overhuman, and Transhumanism" 38). This is unconvincing, for itis counterintuitive to infer the presence of implicit content from the absence of explicit references. Sorgner attempts to circumvent this criticism with a radical equation: *what if breeding and education are one and the same?* To support this contention, Sorgner mentions Nietzsche's high esteem for Goethe. In Nietzsche's eyes, the latter is something of an exemplar of the overhuman, at the very least a proto-overhuman. In *Twilight of the Idols*, among Goethe's characteristics Nietzsche lists several which *can* be read in a transhumanist light. For example, while Goethe "made use of [...] natural science," he "did not divorce himself from life but immersed himself in it," he " fought against the disjunction of reason, sensuality, feeling, will" and, most importantly, "he disciplined himself into a whole, *he created himself*" (73-4). Goethe is both strong and highly educated, that is, well-bred.

Nietzsche's hagiographic image of Goethe as a quasi/proto-overhuman "Dionysus" supposedly demonstrates that education is a form of breeding. Against Habermas, Sorgner asserts that "it might be the case that many qualities one develops on the basis of one's education are embedded so deeply in one's personality that they cannot get altered significantly," leading to the conclusion that there is

no real difference between breeding and pedagogy.[ix] The latter is not more empowering than the latter: parents selecting genes for their children are no worse than parents who choose a school. Sorgner also asserts that both are forms of enhancement: "if genetic engineering, or liberal eugenics, can actually be seen as a special type of education, which is what transhumanists seem to hold, then it is possible that this position would have been held by Nietzsche, too, as education played a significant role in his ethics" (35). If Goethe is a highly cultivated and well-bred exemplar of the proto-overhuman, as Sorgner claims, then transhumanists ought to be Nietzscheans and Nietzscheans or ought to be transhumanists, for "the overhuman comes about via an evolutionary step which originates from the group of higher humans," such as Goethe (38). Furthermore, if "it is in the interest of higher humans to permanently overcome themselves," then all those who commits themselves to such permanent self-overcoming can be regarded "as an ancestor of the overhuman" (40). If "the world is will to power," as Sorgner maintains in a later article, then we have no reason not to will our own self-enhancement Beyond humanism: Reflections on trans-and posthumanism (Sorgner, "Beyond humanism: Reflections on trans-and posthumanism" 2). Nietzsche's mythology of the overhuman provides a source of meaning for transhumanists, who, like Nietzsche, reject traditional religiously-grounded values.

In our opinion Sorgner's reading suffers from a certain selectivity. While Nietzsche's depiction of Goethe does contain an imperative to improve one's self, it also references "nature-idolatry" and "a reverence for everything actual" that culminates in a fatalistic, albeit joyful acceptance of reality, the tragic sense of life: "such a liberated spirit stands in the midst of the universe with a joyful and trusting fatalism, with faith in the fact that only what is individual is reprehensible, that everything is redeemed and affirmed in the whole—he no longer denies" (Nietzsche, *Twilight of the Idols, or How to Philosophize with a Hammer* 73-4). Sorgner does not refer to this paragraph, and rightly so: nothing is more alien to the spirit of transhumanism than fatalism, a Spinozistic idolization of nature's spontaneous evolution, or acquiescence to changes we cannot ever hope to rationally control. In his defense of transhumanism, Sorgner never once references the tragic idea of life as explicated by Nietzsche, hence we reject the idea that Nietzsche could have been a transhumanist, for optimism, progressivism, scientism, liberalism, and a belief in the perfectibility of human nature seem essential components of transhumanism. Nietzsche believed in none of these modern values, precisely because the Nietzschean overhuman, while a self-improver, is at bottom, characterized by a fatalistic yet heroic attitude regarding nature. Even if transhumanists occasionally believe that they are not doing modernity or somehow going "beyond" it, at heart their project is still fundamentally modern, insofar at it is predicated upon a belief in the improvability of human nature, an idea utterly alien to premodern worldviews.

Nietzschean Transhumanism?

In this section of our paper, we summarize the main points of Nietzschean readings of transhumanism. Sorgner is not alone in supposing a connection between transhumanism and Nietzsche's philosophy. Max More and Paul S. Loeb support Sorgner's claims. More is one of the founders of the transhumanist movement. He claims that "transhumanist ideas were directly influenced by Nietzsche," albeit "very selectively" (More, "The Overhuman in the Transhuman" 1). On this view, some of the more speculative elements of Nietzsche's philosophy, such as eternal recurrence, have played a limited role, whereas More emphasizes the overhuman, presented in Nietzsche's *Thus Spoke Zarathustr*a, as an inspiration for transhumanists such as himself: "such an

influence does indeed exist," asserts More, because "his [Nietzsche's] ideas influenced my own thinking" (28). The implication is that transhumanism is an applied Nietzscheanism, a practical realization of Nietzsche's ideas relating to the overhuman. Nietzsche's *Zarathustra* asserts that "human being is something that must be overcome" (41). Furthermore, "life must overcome itself again and again! [...] Life itself wants to build itself into the heights with pillars and steps; it wants to gaze into vast distances and out upon halcyon beauties – therefore it needs height!" (78). Overcoming is an ascending movement. Following Sorgner, More states that the concept of self-overcoming is consonant with transhumanist ideals of "Self-Transformation" and "Self-Direction" (More, "The Overhuman in the Transhuman" 3). On such a reading, the interpreter may pick and choose among Nietzsche's concepts, selecting those most in harmony with one's own views. But is such selectivity truly helpful or"Nietzschean?" What is to prevent us from selecting other passages from Nietzsche that undermine transhumanism, such as references to Romanticism, nature-idolatry and Nietzsche's love for natural beauty?[x] Nietzsche was an admirer of life as it is, a thinker of immanence, and this in our view puts him at odds with any idea of transcendence, including secularized eschatologies such as transhumanism. Nature worship seems incompatible with transhumanist rationalist constructivism and scientism.

If we accept that Nietzsche's philosophy is a coherent whole, as Sorgner himself shows in an important monograph on Nietzsche, then selectivity becomes highly suspect in regard to Nietzsche's key concepts.[xi] Against More's reading, Paul Loeb follows a different strategy. While sympathetic to transhumanism, Loeb is far more ambitious than More, attempting to reconcile the entirety of Nietzsche's philosophy with transhumanism. In Loeb's view, the two fundamental Nietzschean concepts are eternal recurrence and the overhuman (Loeb prefers the term "superhuman").[xii] For Loeb, the two are inseparable. The overhuman refers to "a future descendant species that will be stronger, healthier and more beautiful than the human species" (Loeb 85). Like transhumanists, Nietzsche is very vague about the possible characteristics of such a posthuman entity. Against More, Loeb claims that Nietzsche's idea of eternal return is not a speculative metaphysics. Rather, it functions as a *scientifically true* ontological and cosmological statement.[xiii] We agree with such an assessment. As Loeb notes, "Nietzsche's ideal of affirming the eternal recurrence of reality and life only makes sense if these do in fact eternally recur (and, indeed, as he says, necessarily so)" (87). Hence, this ontological presupposition must be taken literally: everything repeats infinitely, and we must accept this as an unchanging fact of the world. Such a cyclical view of time is fundamentally opposed to a linear concept of time. One could easily view Nietzsche as an enemy of progress. Yet Loeb highlights that "there is [...] nothing in eternal recurrence that precludes the possibility of complete progress and success within every cycle of repetition. All that is precluded is some kind of trans-cyclical progress. But this is not a problem, since [...] the end of each cycle also brings with it the end of any consciousness that could witness the devolution of any attained intra cyclical progress" (89-90). In this manner, Loeb proposes to bridge progress and cyclicality, although on the whole we are left with a circular philosophy of time. We may take comfort from the idea of eternal recurrence, because all our achievements are eternal (although the same could also be said of our failures). Anybody with the strength to accept change can qualify as an "overhuman" or transhuman, the latter being somebody who has mastered the secret of time and learned "how to will backward in time" (92). Loeb essentially temporalizes the concept of "transhumanism," both backwards and forwards. The "trans" in "transhumanism" refers to the transgression of barriers separating past, present, and future, achieved through limitless, affirmative will-power. The transhuman is capable of ascending *and* descending time's spiral.

Another transhumanist defense of Nietzsche has been penned by Brett Carollo. As distinct from Bostrom, Carollo is quite open and unapologetic: "the same transgressive celebration of radical experimentation and human refashioning in Nietzsche that inspired National Socialism also links his thought to transhumanism" (71). Carollo does not ignore the fact that Nietzsche's transvaluation of values strove to go beyond Judeo-Christian values. Enhancement constitutes a meta-value that links to a higher vision of the good life. The overhuman as a new species is for Nietzsche "the meaning of the earth" (Nietzsche, *Thus Spoke Zarathustra: A Book for All and None* 6). Indeed, overhumans are destined to "create for themselves a higher body" (22). For Carollo this implies that Nietzsche, like transhumanists, is not committed to an eternal, ahistorical view of human nature. Nietzsche's processual worldview paves the way for the transformation of human nature (Carollo 72). Despite its anti-rationalism and anti-universalism, Nietzsche's philosophy, through its "denial of any human essence or fixed human nature undercuts the bioconservative position and licenses untrammeled modification of the human organism in the name of 'enhancement'" (73). Like Sorgner, Carollo recognizes the need for a mobilizing mythology for any truly powerful political and social movement. Transhumanism can only be legitimated by "a literal belief in our own capacities for apotheosis" (Fuller and Veronika, *The Proactionary Imperative: A Foundation for Transhumanism* 45). On the "proactionary" view advocated for by transhumanists, "can" equals "ought." The transhuman option is a pathway for making humans into gods. Fuller is even more explicit in his wording: "in contemporary transhumanist terms, Prometheus and Satan are purveyors of an extreme version of 'ableism,' the ideology of the indefinite expansion of particular human capacities, even if that entails exploding the integrity of the person" (Fuller, *Nietzschean Meditations: Untimely Thoughts at the Dawn of the Transhuman Era* 46).[xiv] Transhumanism is *Promethean shamelessness*. A Nietzschean affirms everything, including failed experiments and evolutionary dead-ends. In Carollo's evaluation, "both the Nietzschean superman and the transhumanist posthuman reflect a perennial impulse toward self-divinization that I refer to as apotheosis" (Carollo 78). This reveals transhumanism as a mysticism and titanism. But we believe Nietzsche had nothing but disdain for mysticism, as the latter is animated by an ascetic rejection of the world and nature. Hence, while of interest, Carollo is unconvincing when it comes to *equating* Nietzsche with transhumanism and not merely using the former's philosophy for legitimating the transhuman eschatological project. In *Beyond Good and Evil*, Nietzsche affirms that even our inner character is an object of fate: "at our foundation, 'at the very bottom,' there is clearly something that will not learn, a brick wall of spiritual *fatum*, of predetermined decisions and answers to selected, predetermined questions" (123). Human beings are not entirely malleable on such a view. Nietzscheans accept nature, including human nature and the law of eternal recurrence, while transhumanists rebel against nature.

Nietzschean Criticisms of Transhumanism

In this concluding section, we shall summarize some of the main Nietzschean criticisms of perceived transhumanist adaptations and/or appropriations of Nietzsche's philosophy. For reasons of brevity, we must restrict ourselves to three authors who are exemplary in this regard. The first is Babette Babich's response to Sorgner. Babich argues that on the one hand, we are always already "transhuman," in the sense that our lives are inherently inseparable from the many technologies we use (102). Transhumanism is redundant: technological development follows its own trajectory, with or without transhumanists promoting this process. On the other hand, transhumanists are uncritical regarding these technologies. Because of their optimism, transhumanists refuse to account for the unintended effects or existential risks of technological evolution (although Babich does mention

Bostrom's work on the existential risks of "superintelligent" Artificial Intelligence systems) (124). Babich agrees with Sorgner, insofar as "whatever Nietzsche was, he was no traditional humanist" (105). However she takes issue with Sorgner's equation of education with genetic engineering, and, furthermore, how this would supposedly prove the possibility of a Nietzschean transhumanism (108). While we are always already transhuman cyborgs, in its more utopian forms (such as the advocacy of immortality) transhumanism denies reality. Instead of accepting change, in the mode of the Nietzschean overhuman, the (prospective) transhuman seeks escape from reality and its imperfections: transhumanism "is all about not becoming the one you are but [...] becoming the one you wish you were, the one you 'should have' been all along" (110). In essence, transhumanism is an all-too-human resentment against evolution and organic life, and a hatred for the body. While Babich uses the "f-word" rather too liberally when berating transhumanists[xv] and many of her rhetorical moves are wide of the mark,[xvi] her train of thought is convincing. The Nietzschean overhuman does seem to be more about "personal and intellectual cultivation" rather than explicitly technological enhancement. (113)

Babich concludes that not only does transhumanism have nothing to do with Nietzsche's philosophy, but also, and more radically, they are *antithetical* to one another: " Nietzsche excludes the kind of a transhumanism Sorgner speaks of, because and qua 'enhancement,' transhumanism is not at all about self-overcoming but is very much about self-preservation, self-assertion, self-advancement" (116). The overhuman is generous and heroic. As Nietzsche writes, "love and gratitude" are, prior to their solidification into moral obligations, the highest of virtues, the sources of "something sanctified and suprahuman" (Nietzsche 358). Transhumanists by comparison are concerned with preserving their individual lives: instead of being grateful to nature and striving to become what they are, accepting eternal recurrence, transhumanists seek to step outside history through the realization of immortality and self-deification. Simply put, for Babich "transhumanism is about not dying," symptomatic of a narcissistic failure to face mortality (120). Because of its utopian denial of reality, transhumanism is nothing more than "the latest and maybe not even the best [...] instantiation of the ascetic ideal" (123). At its core, Nietzscheanism is an affirmative or "active" nihilism, centering on generosity of spirit and sharing (or loss) of one's self. The overhuman spends and does not seek to save their life: "for Nietzsche, joy is not in saving, keeping, or preserving life. Joy is dispensation" (125). Becoming what one is differs from wishing away the corporeal and material limitations of one's human condition altogether.[xvii]

Michael Hauskeller's response to Sorgner is more radical than Babich's. Transhumanists suppose that we have a moral duty towards future generations to make decisions that benefit them – the "principle of procreative beneficience." This includes the optimal choice of genes. However, a Nietzschean cannot believe in any universally valid moral imperative. If we accept a Nietzschean worldview, then "there are no moral facts and nothing that is truly better or worse than anything else" (Hauskeller 5). As Nietzsche writes in *Ecce Homo*, "the last thing I would promise would be to 'improve' humanity. I do not set up any new idols; let the old ones learn what it means to have legs of clay" (Nietzsche 4). This differs markedly from the insistence of transhumanists upon human enhancement. Hauskeller's main issue is that transhumanists do not take the transvaluation of values seriously enough. Nietzsche advocated for "the revaluation of all present values," while transhumanists "see themselves as defenders of the Enlightenment's legacy against its modern (bioconservative) enemies" (Hauskeller 6). Although technoscience is about gaining power over reality, the will to power itself cannot be rationalized, being "preconscious and non-rational although it has its own, superior, reason" (ibid). Another important ontological problem with enhancement is

that, as Nicholas Rescher pointed out, "there just is no real prospect of local tinkering with the world without wider ramifications. In this world—and indeed in any possible world—states of affairs are interconnected and local changes always have pervasive consequences" (Rescher 494). Even if human enhancement were possible, there is no guarantee that the wider unintended consequences would be deleterious. Furthermore, there being no fixed, essential boundaries between entities (including humans and nonhumans), one cannot ever know exactly what one is improving even if one were to be sure that one had implemented an actual improvement.

Sorgner does accept many of the points mentioned above in his own transhumanist interpretation of Nietzsche. In a later article, Sorgner mentions two forms of nihilism that may be extrapolated from Nietzsche's philosophy: "alethic" and "ethical" nihilism. The former "affirms that all philosophical perspectives can be false," while the latter "affirms that all non-formal concepts of the good are bound to be implausible" (Sorgner 255). Sorgner agrees with both forms of nihilism, but maintains that one can nonetheless assent to transhumanism while accepting nihilism.[xviii] What Hauskeller finds most objectionable within transhumanism is the emphasis on life extension and immortality. As he notes, "most of us are far too insignificant and worthless to deserve immortality" (Hauskeller 7). Exceptional heroic individuals such as Goethe, Napoleon Cesare Borgia and Zoroaster attain individuality through their embrace of change. He is correct in pointing out how "non-selective affirmation by the overhuman" is something antithetical to "transhumanism's morally toned selectivity" (8). Transhumanists desire to pick and choose from reality, whereas the overhuman affirms the eternal recurrence of everything and all experiences.

Finally, we shall reflect briefly upon Ciano Aydin's critique of transhumanist Nietzsche-interpretations. Transhumanists seek enhancement of the human in the context of a program of "technological self-transformation" (Aydin 309). What makes transhumanism suspect for Aydin is its affirmation of humanist values. A self-interested liberal subject attempts to enhance its abilities, without any alteration in the structures of its subjectivity. Transhumanists attempt to preserve basic values of Enlightenment liberalism, such as self-determination, autonomy and private property. Yet all this can hardly accord with Nietzsche's views. As Aydin observes correctly, "for Nietzsche, democracy, liberalism, and also humanism are, among many other modern ideologies, all guises of the tendency of the modern human being to canonize and eternalize his present state after the death of God" (312). Believers in the projects of modernity such as the transhumanists construct abstractions and work upon the perfectibility of Humanity, without realizing that the very idea of a universal humanity is a specific product made by modern, progressive ideologies. The demystifications of modernity become the sources of a new, narcissistic self-mystification: in the transhumanist vision "human being has no other objective and destiny outside himself. The modern, Western individual imprisons himself in the self-glorification and self-deification of his present state. Other possible life forms are, hence, excluded" (Aydin 313). Because of their inveterate anthropocentrism, transhumanists are unimaginative. All they can conceive of is a better human, a Human 2.0 whose values are nevertheless those of liberal democracy.[xix] Nietzsche's radical nonmodernism, his love of fate and nature, his dual affirmation of both tradition and the eternal return of change, all these aspects are lost upon transhumanists, with their optimistic belief in scientism.

According to David Roden, transhumanism is a form of humanism: "transhumanists [...] sign up to" [...] an "ethical view of humans as uniquely autonomous or self-fashioning animals. Like their humanist forebears, transhumanists think that human-distinctive capacities like rationality,

compassion and aesthetic appreciation are intrinsically valuable and should be cultivated and protected" (Roden, *Posthuman Life: Philosophy at the Edge of the Human* 15) It is only their adherence to technological methods in which transhumanists diverge from previous manifestations of humanism. Against transhumanists, Roden's speculative posthumanism advocates for disconnectionism, the idea that any truly posthuman superintelligent entity cannot be conceived of along the lines of any human values whatsoever. The disconnection thesis "renders any reference to essential human characteristics unnecessary. The fact that some wide human descendant no longer belongs to the Wide Human implies nothing about its intrinsic properties or the process that brought about its disconnection" from human modes of being or cognition (Roden, "The Disconnection Thesis" 290). By leaving things vague, Nietzsche preserves the possibility of complete alterity between humans and overhumans/superhumans. As Aydin states correctly, "the gap between all the types of humans that we can imagine and the Overhuman" is "ultimately unbridgeable" (Aydin 314). Even a Cesare Borgia or Goethe are mere premonitions of the Overhuman. Transhumanists seek to preserve the humanist values of the Enlightenment, albeit in a naturalist mode. As long as they maintain a belief in the merits of rationalism, human self-determination and mastery over nature, transhumanists remain trapped within an anthropocentric mode of thought. They desire to change human nature "without changing or jeopardizing their humanist values and goals" (Aydin 315). Aydin maintains that "not self-overcoming but rather self-preservation seems to be the transhumanist's goal" (319). Transhumanism on such a view is too humanist, modern and progressive to count as authentically Nietzschean.

A final issue, one perhaps fatal to any attempt to synthesize Nietzsche's philosophy with transhumanism, is the former's emphasis upon human finitude. We are limited beings, who must accept the fact of their embodiment. According to Martin Heidegger's reading of Nietzsche's philosophy, "chaos is the name for bodying life, life as bodying writ large" (Heidegger 80). Commenting upon this observation, Nietzschean thinker Rafael Winkler observes that "the body in that precise sense must be made the basis and guideline for the interpretation of the world" (Winkler 90). If this is the case, a Nietzschean must accept the body as it is, in all its fragility and finitude. We can perhaps extend this body through time – who would not want more health or a few more years of creativity? But we are also limited and mortal beings. According to Robert C. Solomon, self-creation and fatalism are not mutually contradictory on a Nietzschean view. Rather, "we are more like the oarsmen of our fate, capable of heroic self-movement but also swept along in a sometimes cruel but open sea" (Solomon 424). If this is the case though, Nietzsche would never claim that we can take evolution into our own hands via technological or other means, as most transhumanists would like to believe.

Conclusion

What are we to make of the relationship between Nietzsche's philosophy and transhumanism? *Can* one be a transhumanist and a Nietzschean simultaneously? Riccardo Campa suggests that essentializing Nietzscheanism and transhumanism into distinct schools of thought is not the way to go. Instead of passing final judgement, Campa proposes a typological approach, dividing transhumanism into four categories: "quasi-Nietzschean, Nietzschean, a-Nietzschean, and anti-Nietzschean" (Campa 17). In our view transhumanism is, at most, quasi-Nietzschean. But what was Nietzsche aiming for with the overhuman concept? Nietzsche was highly influenced by Zoroastrianism.[xx] In that tradition God is embodied within specific, godlike influential individuals, overhumans (Hultgård 115). Zoroastrianism did not deny or negate the body, nor nature as a whole.

For Nietzsche the appeal of this religion lay in in its immanentism, as well as its emphasis on permanent struggle *within* this world (Aiken). The will-to-power and self-overcoming are Zoroastrian concepts, even if the history of morality also commences with Zoroaster (Hassan 653). For Nietzsche, Zoroaster represents "the self-overcoming of morality, out of truthfulness; the self-overcoming of the moralist, into his opposite" (Nietzsche 90). Heroic individuals had, for Nietzsche, nothing to do with dreams of technological omnipotence or the Gnostic transcendence of nature, but were rather manifestations of a traditional idea of heroism as self-overcoming. In our view, the will to power of the Nietzschean overhuman differs fundamentally from the will to knowledge of the transhumanist. One is a linear, modern willing, , while the other is a nonmodern mode of willing, a limitless assent to the inhuman nature of reality's eternally recurrent flux. One is rational, progressively self-preservative; the other loses itself within time's spiral. Transhumanists are incapable of assenting to imperfections such as death, illness and suffering. They are too weak for unlimited affirmation. Transhumanists seem to ignore that Nietzsche's overhuman says "yes" to reality the way it is, affirming a heroic and tragic view of life, accepting all of its imperfection, whereas transhumanists strive to negate the undirected nature of evolution, rejecting what they see as the "unfairness of nature" (Hauskeller 2016) Because of the techno-Gnostic rejection of nature-worship on the part of transhumanists, it strikes us as erroneous to equate Nietzsche with transhumanism.

Notes

[i] Nayar, 2013, 5. There are of course important differences among transhumanists regarding the extent of such an evolutionary process.

[ii] More does reference the idea of "spontaneous order": "extroprians have a specific conception of transhumanism, involving certain values and goals such as boundless expansion, self-transcendence, dynamic optimism, intelligent technology, and spontaneous order." More, 1996.These concepts – engineering evolution along the lines of rational principlies vs spontaneous order – appear to be at odds with one another.

[iii] Rose, 2013. Of course, not all transhumanists share the emphasis upon immortality or even life extension. Sorgner for example states that "I prefer to speak of extending the healthspan since most people are not interested in just living longer, but in staying healthy longer, which could be realized by means of biotechnology, cryonics (cryogenic freezing of organisms in the hope that life can be continued in the future), or by mind uploading. Many recent events in human history make it clear that the healthspan is not a fixed quantity but a dynamic one." Sorgner, 2020, 2. The question of whether there are hard limits to the human lifespan is dogged by controversy. A 2016 paper ventured the claim that there does exist an inherent biological limitation to individual human life, although its conclusions were – perhaps understandably – hotly contested. Dong, Milholland and Vijg, 2016.;; for a critique of Dong et. al.'s paper see: Brown, Albers and Ritchie, 2017.

[iv] Canton,2004; O Brien, 2022.

[v] Baggot, 2022,. Transhumanism can also be read as a collectivist and holistic shift away from Enlightenment-era liberal individualism though. Hellsten, 2012.It remains an open question whether a liberal democratic framework could handle the emergence of enhanced humans/posthumans, especially because of the normative commitment of liberal democracies to the principle of equality. See: Arnaldi, 2016.; Izquierdo, 2021.

[vi] Tuncel, 2017, 227. To be fair, not all transhumanists are unaware of these issues and not all are committed to every one of these values. Bioethicist James Hughes, a supporter of transhumanism, has mapped the inner contradictions of mainstream transhumanism, highlighting how Enlightenment beliefs in progress and rationalism are inherently self-contradictory, and ought to be addressed if transhumanism is to become coherent and realistic. Hughes, 2010.

[vii] Nietzsche's philosophy had a demonstrable impact upon the early 20th century eugenics movement even prior to the advent of National Socialism in Germany. Stone, 2002.

[viii] In his response to Sorgner, Nietzsche scholar Paul S. Loeb prefers the term "superhuman" to "overhuman," as there is no English language equivalent for *Übermensch* and the latter does not make much sense, whereas the emphasis upon the transcendent nature of this posthuman being makes the "super-" prefix more than adequate. Loeb, 2017, 84. While we are etymologically in agreement with Loeb, for the sake of simplicity in this paper we shall restrict ourselves to Sorgner's usage.

[ix] Sorgner, 2009, 34. In this regard, Sorgner is not alone in the philosophy of pedagogy. John Dewey, the great American pragmatist philosopher, held that "habit" is the foundation of human subjectivity. Our habits are limitations which can only be changed very gradually over a lengthy period of time. There is therefore no inherent distinction between breeding and education.

[x] Under this we understand not an uncritical Romantic anthropomorphization of Nature (which Nietzsche rejected), but rather a recognition of the chaotic and inhuman character of Nature as in itself beautiful and worthy of respect, without attempting to force our human ideas of beauty upon it.

[xi] see: Sorgner, 2007.

[xii] Loeb does not explicitly mention several other crucial Nietzschean concepts, such as *amor fati* (love of fate) or the will to power.

[xiii] See Aphorism 109 of Nietzsche's *The Gay Science.*

[xiv] Fuller, 2020, 46. Max More, in an act of ostensible transgression which cannot but strike the cynical reader as overuse of a somewhat tired theological topos, has declared himself a "Luciferian," claiming that Lucifer symbolizes the critical and self-emancipative potential of humanity. However *outré* this pose may seem, it is far less original than it may appear. In fact, French writer (and Communist) Anatole France's 1914 novel, *The Revolt of the Angels* (*La Révolte des Anges*) presents Satan as a progressive revolutionary figure. However France's use of the Satan metaphor is somewhat more reflexive than More's. To quote the novel, "God, conquered, will become Satan; Satan, conquering, will become God. May the fates spare me this terrible lot."

[xv] In a subsequent response article, Sorgner highlights that "I do not think that fascism is the appropriate word to use here, as fascism implies both authoritarianism and nationalism. Transhumanism clearly is no movement that could be in favor of nationalism" Sorgner, 2017, 141.

[xvi] Babich claims that transhumanism, with its associated optimistic long termism, distracts from more pressing issues such as climate change. This is a valid point, but a defender of transhumanism could conceivably counter that they in no way mean to distract from the ecological problematic, and share these concerns, as Sorgner himself underlines. Furthermore, economies are not zero-sum games or fixed pies, but rather variable productive flows.

[xvii] In response to Babich, Sorgner states that it is better for us to live with technologies than without them. Sorgner 2017, 147. Later on, he writes, "without innovations, all citizens equally do not benefit. What I suggest is that it is much better to promote technological innovations, even though initially only a small group might benefit from the outcomes of the innovations." 2017, 155. But this misses the mark: Babich does not reject technology altogether. Rather, what Babich is taking exception to are the exaggerated messianic hopes transhumanists attach to future technologies.

[xviii] One possibility Sorgner does not account for is *ontological* nihilism, the possibility that nothing whatsoever could exist in either a positive or negative sense, and ontological statements refer to nothing, not even the possibility of anything being anything other than nothing.

[xix] As Riccardo Campa points out, "there is no way to find a liberal-democratic Nietzsche in the labyrinth of Nietzsche's writings. Nietzsche is, indeed, an enemy of democracy, which he sees as a sublimation of Christianity, as the new weapon that the weak may use to curb the strong" Campa, 2019, 24.

[xx] Even if we read Nietzsche's Zarathustra as a parody of the historical Zoroaster, we must nevertheless note that the object of parody always retrospectively affects the one who engages in parody.

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Social Complementarity – the Duality of Individual Objectivity and Group Uncertainty

Nils Patrik Svensson[1]

Abstract:

Calculus is seen as describing continuous functions through the act of breaking them down to the smallest possible parts, suggesting that the whole is only an aggregation of its parts. But modern science has demanded the creation of new kinds of measurements, where the deterministic rules of classical physics cease to exist and we can no longer see the individual member parts as sole explanations towards the continuity of the whole. There is a duality between states of dis/continuous being, and we seem to be doomed to only see the measured discontinuous version grounded in our own objectivity. But can the knowledge of this duality maybe help us better understand the social consequences of our world's massively intraconnected social order? With the infrastructure of modern trade, seemingly instant communication possibilities, and newly created tribes numbering beyond what we thought possible; we have created a world that seem to defy our preconceptions of what social groups and responsibility means. Using agential realism and its groundbreaking insights into quantum philosophy with the idea of complementarity, I think we can start to understand these new states of being, and with it bring about a better grasp of the ethics that are an intrinsic part of all. Setting a foundation for how we can understand the duality of groups and individuals across all areas of our world, seeing complementarity as the grounding state of un/certain objectivity.

Keywords: Group agency, responsibility, agential realism, complementarity, social ontology

Discussions about human groups have long been important for philosophy, and span a wide area including the ontological, epistemological, and ethical. With grounding questions such as what actually forms a social group and if they exist as an entity and agent in their own at all, as well as ethical and political questions such as if social groups bear responsibility for actions

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made in their name, or if the individual members are the ones that should be assigned responsibility towards actions taken. Complicating matters we see that these past few decades our society and the groups that are created within have changed appearance dramatically. With an exponential growth of possibilities in areas such as communication, trade and international politics around the world, the size and amount of social groups have grown to volumes and structures never seen before. With this I also see a need for a properly grounded understanding of measurements and objectivity about what groups are and do, as fundamental rules we previously took for granted appear to change when regarding the very large or the very small. I believe a modern view of metaphysics, based on recent findings within quantum and relativistic physics, could overcome a lot of problems previously presented within the modern literature on social groups.

One question often discussed in philosophy is if we can see groups as an emergent and autonomous entity in its own or if they are only reducible to their parts. A divide between fundamentals that can be seen in many philosophical areas; atomism and holism, continuous and discontinuous, or even realism and antirealism depending on perspective. A divide often seen as impossible to bridge in recent Western literature, where you need to choose either one or the other. In Philip Pettit and Christian List's book *Group Agency: The Possibility, Design, and Status of Corporate Agents* they investigate the possible autonomous agency of social groups and if they should be regarded as an individual entity or not. And even if they only regard it as an epistemological foundation and not ontological (List and Pettit 76), they come to a grounding, and I would say ontological, the conclusion that social groups are autonomous agents in their own right; that they are not always possible to determine only with regards to their members (78). Jennifer Lackey has also chosen to see group agents from an epistemological perspective, seeing the divide between the different approaches first as that of summativists or non-summativists (Lackey, *Essays in Collective Epistemology*), and later as deflationary or inflationary (Lackey, *The Epistemology of Groups*). Another growing field alongside these epistemic discussions is that of social ontology, even if questions about social categories seen as natural categories appeared already in the writings of Marx and Nietzsche (Epstein). An ontological focus on social groups and structures can be seen in an article by Katherine Ritchie's, describing how structuralism has been discussed within philosophy and sociology, where the latter defines them as "anything that is the result of human action, as opposed to some naturally occurring phenomenon" (Ritchie 405). Here again creating a divide between the social groups we are trying to describe and those that are not seen as important, namely the "natural" ones. Trying, just as List and Pettit, to pinpoint what a human social group is and how we can define it by separating it from other kinds of groups that do not belong. This ontological question of group existence itself can also be seen as divided between the "easy versions" of ontology, meaning that they only concern questions of existence, and tougher versions concerning an idea of a complex ontological foundation that can be analysed (Flocke and Ritchie). An idea I also see represented in the common separation of epistemological and ontological debates, and an unnecessary separation when viewed through another lens of quantum interpretation.

The research area of theoretical physics has been through several changes in discourse since its beginnings. What started as highly philosophical discussions about possible consequences of new mathematical findings made by many people throughout the world, developed into applied physics where only direct results mattered, not their meaning. Since the 90's though there has been a comeback of science-philosophy, and one of the early contenders is particle physicist Karen Barad, that has spent decades continuing the work of Niels Bohr's philosophy of science. Barad has attempted to

give new meaning to quantum interpretations, and their use in philosophy and other social sciences (Barad, *Meeting the Universe Halfway*). This past decade we have also seen other attempts at reconstructing the quantum debate from physicists like Carlo Rovelli (Rovelli), or the developing field of Qbism (Cordero). One important trait they all have in common is a focus on the uncertainty of results that are produced from quantum experiments. Or in Barad's case the *complementarity* results, shown first in the double slit experiment[1] giving us two different kinds of results contingent on the setup of the experiment. Resulting in different but both objectively true conclusions depending on how the measurements were made.

Barad shows how much of western philosophy have been influenced by the idea of classical physics as fundamental rules of the universe, and how modern experiments have instead shown that these older deterministic rules are neither universal nor foundational. Understanding the difference between classical and quantum can help broaden our methods for understanding agency of both individuals and groups. Atomism and holism does then not seem to be mutually exclusive, but instead seen as complementary, equally important and true in their own, in accordance with Niels Bohr's complementarity principle. Without the habitually separation of things it becomes easier to identify new properties of both groups and individuals when seen as created dynamic entities, as we can leave behind the usual dependence on human individual agency and rationality for a more open and general approach. The individual perspective differs from the group's, in a similar manner as we separate particle or diffractive results and with a focus on their respective spatial and agential separability (Barad, *Meeting the Universe Halfway* 175). The focus within social ontology has mostly been on the *structural* formation of the group as such, almost always from the sole perspective of human individuals and what traits we would be able to directly transfer from the individual members to a grouping of the same. Importantly these are almost always human traits that we try to fit onto the different kinds of social groups, fitting a human defined agency. Two of the major contributors these past few decades have been Margaret Gilbert's *Sociality and responsibility: New Essays in Plural Subject Theory*, and *Group agency:The Possibility, Design, and Status of Corporate Agents* by Philip Pettit and Christian List; two books with different perspectives but often with the same conclusions regarding rules on when and how a group is formed based on number of individuals, through an idealistic filter. There have been a lot of commentary these past few years divided between the epistemological and ontological, two areas that have a lot in common and should not be separated. Just as Bohr might see the act of measuring being entangled with the measured entity, Barad's ethico-onto-epistemological method describes a fundamental idea of the entangled and constantly intra-active state of the human and non-human (Barad, *Meeting the Universe Halfway* 90).

What possible implementations are there of viewing groups and individuals as complementary domains? There seems to be a call for a common vocabulary within several different areas discussing agency for individuals and groups. For instance with the rise of AI and robotics the questions of agency of man made machines have become an important, but often confusing, debate that needs clarification (Thellman et al.). Also in a world of a growing human population and seemingly sparse resources, there is a need for a better understanding of intersectional studies, helping us understand how groups affect and steer our communities, with emerging problems of structural inequality, material consequences, and individual responsibility within our human life on this planet (Zheng).

The search for our tiniest parts

Ideas about how to leave the binary world of linear causation have been many, ideas that can be found in many places outside the world of western philosophy. From within there have been several important voices; Bohr spoke about the importance of human measurement, Darwin described the world as a tangled bank of dependant co-existence (Plotkin), and complex nonlinear actor-network models are on the rise for describing everything from human interference on riverbeds to our magnetosphere (Tsonis). All valuable insights into the complicated world we live in, but all with a common grounding in preexisting and discrete interacting entities situated in space, both human and non-human, natural and cultural. The work to bring them together is important and successful, but what Barad brings is a different kind of understanding about how we create these entities in the first place. And that we are not interacting, but intra-acting in continuously iterative mattering matters (Barad, *Meeting the Universe Halfway* 234). Continuity has long been an important concept for both mathematics and philosophy. The classical paradoxes of Zeno debated the question over two millennia ago, while mathematicians have struggled to solve continuous functions during most of the time since. It was first with the advancement of math into the realm of infinitesimals that many started to see calculus as being able to analyse these curved functions. Before this we were only able to describe our mathematical world discretely with impossibly flat triangles and perfect circles; entities that do not even exist in our world of non-zero gaussian curvature (a world that isn't two-dimensionally flat). A triangle's corners never has an exact sum of 180 degrees, as the more we zoom in the more topological variance is found that adds or retracts some degrees. But with the help of infinitesimals we were finally able to analyse more than just our shadows on the cave wall; as it was believed that these smallest possible pieces of mathematics turned the tiniest quanta of information from ragged rectangles into smooth representations. The variables went as close to zero as impossibly possible, and in most cases it was close enough.[2] This trick of calculus was seen as continuous, and it could then be argued that if we broke down the path of Zeno's arrow into these iteratively smaller and smaller steps we would end up with a continuous path and the arrow would reach its target. Calculus could analyse the continuous function, and all kind of problems that previously had been difficult or impossible to solve suddenly became a lot easier. We could not only track and predict the trajectory of an arrow, but started to better understand growth, fluid dynamics, waves, weather and other complex matters.

As a contrast to these dis/continuous transformations, quantum mechanics introduced a new concept that would become one of the most important discoveries of the 1900's, namely Planck's constant. A constant that is so small it is practically impossible for humans to understand as a quantity,[3] but a constant still proven to be fundamentally needed in order for quantum measurements to make sense. The quantum world measurements did not seem to be built of continuous movement, it was determined by the static packets of energy (quanta) that appear to move about without trajectories. As if teleporting between different static states. Quantum measurements do not make sense unless they include this tiniest constant into the mathematics, just as we can't "see" things without the tiniest photon being part of our observation to record information and bring back to our eye or instrument of choice (Barad, *Meeting the Universe Halfway* 113). The act of measurement seems to introduce discontinuity into the fundamental state of physics. As soon as we measure, our results become discontinuous and objectively possible to analyse, with the act of measuring being an intrinsic and entangled part of the measurement. Through this new mathematics Bohr was able to early on predict that these quantum particles would result in strange behaviour depending on method of measurement, showing that for un/certain circumstances we instead saw a *superstate* of entangled

entities. Quantum particles could behave as if they were continuous waves when introduced to the double slit experiment, as a dual and complementary existence of both the discontinuous particle and the continuous wave. Where experimenters expected to see classical results of particle trajectories according to Newton's laws, they instead saw that these quantum particles resulted in patterns of diffraction, something previously had only been seen in continuous waves. Long and sometimes harsh discussions followed about what this meant, and nowadays this duality of particle and wave behaviour has been proven to be part of all existing matter. All matter in any form can be described as either a particle or a wave. Creating a fundamental shift in our previous ideas of how a particle only exists in a certain spacetime position, and always able to track its trajectory both back and forward in time. With the possibility of behaving as a wave, the particles can enter into a state of superposition where they exist in different parts of space at the same time, creating the possibility for quantum entanglement (Barad, *Meeting the Universe Halfway* 270).

There have been several interpretations to describe what this idea of duality and superposition means, the most famous being that of Heisenberg's uncertainty principle, commonly telling us that there always remains an uncertainty in our different measurements. But also hinting that the results of our measurements are an intrinsic part of the individual particle in question; its momentum exists independently of measurement, just that we as observers remain uncertain of its value until properly measured (Barad, *Meeting the Universe Halfway* 116), values commonly known as hidden variables. In much of the philosophy of science literature this uncertainty has been viewed as interchangeable with Bohr's idea of complementarity, but Barad argues that uncertainty is only an epistemological idea of the possible state of things, while Bohr's complementarity is also ontological. The duality of states is an inherent part of the entities existence. When a measurement is needed we introduce discontinuity into the system, giving us the possibility for objective causality but removing the possibility of a quantum state of superposition. It is not possible for an entity to be in mixed state of the two (Barad, *Meeting the Universe Halfway* 269). So we have two states of which a mix is not possible, a kind of duality of nature it seems, between that of unmeasured and measured state. This duality of wave and particle has been discussed and argued ever since its discovery, and there is still no general consensus to what Bohr's or others thought of the reality of objects.

I believe this concept could be used in a wider sense for social ontology, where groups can be seen as entities in superposition, existing in and affecting many places at once without inherent causality, while individuals are measured entities with a clear trajectory of causal chains through time. And as I will discuss in the next part, all entities we want to measure can be seen as both groups and individuals, simplifying the chase for a universal concept of groups and eliminating some problems for the examples of group actions mentioned in recent literature. As I will try to show, a group is not simply created when two or more people gather with intention of a joint commitment (Gilbert 5). Analysing a group is something more than looking at its members, it has its own traits that needs to be discovered just like any entity. Its formation is not a binary creation that automatically happens when two or more people are together (Ritchie 403), just as two individual H_2O molecules do not create wet water when they come into contact with each other. It is what some would call an emergent effect happening without an exact number of individual members, happening when enough molecules are gathered in a specific order under correct circumstances and we as observers can identify these new kind of traits. Dynamic circumstances that do not depend on a priori levels of observation. Just

as social groups can start to exist as entities in-themselves in different sizes depending on specific situations and desired traits.

Individual groupings of individuals

We see an individual as entity with a unique place in space and time. When I as an individual start a specific action no one else can act at the same time and place, thus creating a possibility for an objective causal chain of actions. Using my own body and my life as a starting ground for the discussion on the individual versus the group is a good place to start, as it is something most have thought about. What is part of myself and what is not, and what is it that makes me alive.

When declaring death by heart attack we create causality; the heart stops beating causing the death of the person it inhabited. There are of course always many contributing factors such as air quality, diet and genes; but those can be seen as earlier parts of the causal chain that led up to the last part of the chain that is the heart stops working which then leads to death. Or simply collecting them all to be part of the individual action that caused death. We can however regard the heart as an individual organ, interacting with the other organs to create that which we see as a living person: the group of organs we call a body. The heart in turn is also a group in itself, made up of individual cells that all work together to function as one, together with gene expressions and societal impact. Each part of these groups have their own role and traits, together intra-acting to create a human with completely different traits than that of its parts. We could also add the microbiome of bacteria that break down sugar to make sure we have usable energy for the mitochondria to keep the cells active and working, or the muscles pushing food through our digestive systems, the oxygen firing the cells of the muscles, or even the geological processes that led to the creation of oxygen producing plants. If everything that keeps us alive would be defined as unique individuals this would quickly become a problem of infinite regress, something discussed by many philosophers throughout history often causing immediate rejections of an idea (Cameron), as it would lead to contradictions in deciding on its causal chain. What actually causes what? Classical physics and logic has an intrinsic need for actions to take place in a unique time and space, where it is always possible to decide which comes before the other. Creating a discontinuous pattern of points and vectors in a cartesian defined space of axis, all related to an imagined origin of zero coordinates (Svensson 22). For quantum physics on the other hand, this does not need to be a problem. The duality of superposition and classical positioning through Bohr's theory of complementarity tells us that not everything needs to be intrinsically defined as either an agent or not. When we don't introduce the act of measurement into a system, it remains in a state of uncertainty and entanglement, with its natural state resembling the bell curve of normal distribution. The most likely outcome is almost always the one we expect, but there are always outliers. Every set we create will never be able to capture all that we intend, be it biological, chemical or cultural. The more we learn about the fuzzy borders that exist on the smallest levels, the more uncertain these sets of things become. Spreading continuously as virtual particles always and never touching. Undoing the "foundational reductionist essentialism" (Barad, 'On Touching' 214).

So if my body can be functionally described as several different kinds of dynamic and iterating groups or an equally dynamic network of individuals, we could also describe a social group as intra-acting continuous people, whom are also individuals in themselves. Groups that only take on a definite form of a causal individual when measured. The different groups that comprise my body are seemingly endless both in number and size, as we can move down to the level of quarks, or include culture and

history. But at this stage it becomes difficult to discern the multitude of functions and roles, and it quickly becomes too abstract to see the whole of the human body through the incomprehensible number of actions taking place. We loose focus on the group we are wanting to measure and analyse. Even what is and isn't part of our body is not even a clear line; are for instance my bacterial biome part of myself? I could not live without them, but they can also be removed without instantly killing me. Or some cells that yesterday we thought were part of our body suddenly become alien and no longer belonging to what I call myself; something as simple as loosing a hair, or cells that refuse to self-destruct and can become malignant cancer. An exact place in space and time when this happens is impossible to pinpoint. Just as there is no specific limit for when a group of water molecules become something wet, it is something we must identify and decide through observation. Which brings me to the idea of traits of humans and the social group, and the possibility of transference.

Transferring traits

If I would propose an idea that my individual organs or cells could be described with traits such as responsibility or having a mind of their own, then most would surely find this absurd. But when we try to define and measure social groups constituted of several people this is what seems to be happening as a starting point of comparison. In the recent literature on discussing social groups it is almost always done with a human centred model; trying to describe social groups in the manner of human individuals. Such as trying to identify the human traits of remorse and guilt (Gilbert), or responsibility (List and Pettit) within social groups of humans. We use traits we have identified in ourselves and try to transplant them onto social groups in order to define them as being agents in their own or not. Mostly in order to try and create a universal idea of social groups that can include all possible social groups, an idea that has had difficulty holding up when tested on specific cases (Alexander and Morley 7958). Using one group to try and identify another unknown group is probably the only way for us to objectively understand it. But I do not think that using our human individual traits as the role model for other kinds of groups is the right way to go, as it limits us when measuring a group in ways that differ from ourselves. Instead we should see groups at a more abstract level, trying to identify the traits that we actually see and do not previously exist in the individual. New traits that have already been discussed in other areas of social and gender studies, such as structural injustice, language or class. This way of thinking is also happening in other parts of science, for instance in the study of ants and ant colonies. Individual ants have properties such as being able to bite me and cause pain, or pick up food and bring it back to the colony. But we would never try to transfer these traits onto the ant colony. In the same manner as we can't give an individual ant the trait of moving the colony to a new location, as this seems to happen at a collective level (Petersson 152–53). Collective actions are not simply the aggregation of all the individual actions, such as List and Pettit suggesting that a social group as a whole "votes" when the separate individual members vote (List and Pettit 159). The actions and traits of the group is different than those of its members, just as the organs in my body have actions and traits that do not transfer to the body as a whole. I can't make my heart pump or decide when a cell needs to self-destruct. And I as an individual person can move my arm, but we can't transfer the action of arm moving to the individual muscle cells. Moving my arm is an action made by my body as a whole, but not of the parts that it is made of. So I do not see why we need to use human individual traits as a starting ground when trying to identify social groups and their traits through its members, as in a bottom-up or top-down perspective. We should instead try to identify the actual traits of the social groups in-themselves, without viewing them as part of an evolutionary ladder or tree. Two visual models that indicate an order already

existing and is just waiting for the next step up or branching out. A web might be a better analogy (Kull), as it can be seen as continuous without a starting point, and more importantly no ending point, as "Human bodies and human subjects do not preexist as such; nor are they mere end products" (Barad, *Meeting the Universe Halfway* 150). This problematic visualisation often occurs in other theories such as emergentism. It is seen as building something new on top of something old, something after and something before, either as supervenient or relational (Zahle 125,128). With entities existing on different pre-existing levels. But these levels are created in our measurement, just as the entities within. An ethico-onto-epistemology model has need for a continuous possibility of non-linear development. Only when we create an objective individual entity does a linearity appear that can be followed up and down, left and right. Just as physics in general, there are no inherent directions in general metaphysics. Something that becomes especially important when discussing agency and its general proprietors.

Reading List and Pettit's book I see almost only special cases demanding a state of idealism. In the example of members that create a groups of judges or jurors they are seen as able to make decisions without being affected by outer influence, keeping anonymity and neutrality (List and Pettit 49). Human individuals do not work in this way, we cannot turn off our intraactions with our own and other groups, as we are constantly affected by culture, family, politics, feelings, chemicals produced inside and outside our bodies, and lots more; breaking the axioms of anonymity and systematicity. The clean and proper logic used by List and Pettit indicate an impossible set of people, where if they were "competent" decisions would always be made in perfect accordance with laws and traditions (List and Pettit 98). Reality is very different, and the social group of juror are much more than just the people in it. Simply scheduling a hearing before or after a lunch break can have significant effect towards the ruling (Danziger et al.). Making the trait of being before or after lunch a member of the set of jurors, with a seemingly endless more variations to the structure of the group, all up to our choosing. In a general discussion of agency people cannot be separated from what makes them people, and the formal system that List and Pettit create to make their case falls apart as soon as it is introduced to real life situations. An individual ant colony could maybe be seen as a theoretical fair election through collective action in certain circumstances. But I would claim that there are no such things as totally fair elections within human groups. Different individuals always have different sway and influence, making the members themselves the individuals actually voting, never the grouping of them. A social group as an individual entity lack the necessary traits to enact a voting. Although a big enough social group can be seen to take actions as an entity; a *joint commitment* as described by Margaret Gilbert. These are explained as being separate from a commitment towards myself, such as the act of going for a walk on my own. Instead if my friend and I decide to go for a walk together it becomes a joint commitment between the two of us. Importantly, Gilbert states that this is not an aggregation of two individual commitments, but the creation of an entirely new joint commitment, and in turn the creation of a new plural subject that is the group of us. This way of categorising the two separate phenomena is really enticing, but unfortunately I don't think Gilbert uses it to its full capacity, and instead falls back on the singular individualist view and outcome when discussing its consequences. Mostly as the examples throughout the book are done on very small groups, often consisting of only two or three people (Gilbert 5). Just as water molecules or cells, the number of individual people needed to make a social group is not something binary, as the traits of a social group are seemingly impossible to identify at this size. I believe the individual person's actions and traits are still very prominent in a group of two or three, and we can only measure the existence of new traits

with sufficiently large groups. Also, a small social group can have very different properties compared to a very large social group. An interesting fact that has been shown to occur in large language models, where the larger the model becomes the greater the chance for it to develop new and unexpected traits (Wei et al.). Traits that did not exist in the smaller version of the model, even though the members where of the same kind. The creation and existence of traits such as responsibility is a continuous and iterating act, showing up in the measured individual of our choice.

Separations and measurements

Much of the recent literature on social groups have been efforts to try and create axioms for creating a set of all groups that we are interested in, and in the case of Pettit and List this would be the groups which have agency in themselves, as opposed to those that do not. Creating a complete and discrete set of agency bearers becomes paradoxical as we always need something to measure against the entity we are trying to objectively view. Gödel showed, in simple terms, through the theorems of incompleteness that it is impossible to prove a complete and discrete set to be consistent (Raatikainen). When measuring a certain group we always make a conscious decision about what group we want to analyse, with an equally important decision of those that are excluded from this perspective, while at the same time creating a third apparatus of measurement, with what Barad calls agential cuts (Barad, *Meeting the Universe Halfway* 148). When this specific measurement is made the group can be seen as making a shift to an individual entity that is part of a causal trajectory, interacting along the way with the entities that have been excluded, relating to an origin of measurement. For instance we can view the group of all humans as a dynamic and continuous group, where boundaries between ethics, cultures and biology are never clear and static. And as soon as we separate out one specific part of it with a place in space and time, we create endless more that are not part of the first, and they become individuals that constantly act on each other. In this way we don't need to find what kind of groups *actually* can count as an agential group or not, such as "left-handed Northwestern students and corporations" (Lackey, *The Epistemology of Groups* 6), in a binary manner. They are all part of the same phenomena that become objective as soon as we declare them to be. Depending on how we measure the group in question we get different results, and sometimes their agency can be identified and sometimes not (Lackey, *The Epistemology of Groups* 8). The groupings are many and never complete in themselves. Deciding who has agency or not is something that has been tried many times before, leaving out both children and women at times, and up to very recently animals. Whatever trait we want to decide on there will always be outliers to the groupings made, as normal distribution shows.

A solution to the problem of distributing agency and the possibility of responsibility is Barad's agential realism, where agency is not seen as a trait as such but instead the continuous enactments of our world (Barad, *Meeting the Universe Halfway* 141). Belonging to neither the individual nor the group, we fear not loosing our atomistic individuality within the holistic group as they are both always present, endlessly performing agential cuts in complementarity.

Discussion

To properly decide on responsibility there needs to be a causal chain of actions that can be objectively identified, therefore we need individuals with their own unique place in spacetime. What the structure of this individual looks like is nothing that is possible to decide a priori, as the grouping of members can vary in seemingly endless possibilities. So responsibility is not something an entity

either has or has not, but like most things is something decided upon during the moment of measurement. For example not all humans are seen as responsible, as the case of those that are decided to be enough psychologically or physically different compared to the norm, with for instance dementia or learning disabilities, we acknowledge that they do not always have responsibility for actions made as individuals. For some though the decision is not as clear cut if they are responsible or not, such as those with the neurological differences we call ADD or autism. The areas of psychological and physical diagnosing is difficult to navigate, where the diagnosing practices have a real affect on those diagnosed (Hens 28). Just one of many areas where an awareness of our own impact of choices made can help the entangled ethical discussion, and that there are no a priori categories of things to fall back to. New materialism sees the world as non-dualistic, where all is part of the same continuous manifold. When a measurement is made we shift to a discontinuous manner of individual parts with predictable causality. The two states are complimentary, and it is not possible to be in a mix of the two. This is especially important to remember when talking about the natural or non-natural. There is no natural order to things, and we can't deviate from an order that does not exist a priori. A simple example of this is that of plastic, which has been regarded as alien and unnatural in our world. We have found that this 'new' material has been incorporated into what we normally see as the natural order, where bacteria and insects already break down and use the energy within our plastic creations. Viewing our own place in the world as something wrong or alien, seeing our products and developments as 'destroying nature', or regarding our consciousness as unique and different compared to others creates a separation and hinders the work towards a fruitful intraaction with that which is around us. Judgements towards actions taken are a measured individual entity just as all others. There is no a priori right or wrong, no good or bad choices; there are only choices. Taking on the challenges presented to us by the anthropocene often sets up the problem with a pre-made separation. That of the human and non-human, or the natural and the non-natural. Knowledge and matter starts out as a continuous entangled state of being, and to find a fruitful solution for moving forward we need to remember that this is where we also should start, without any predetermined judgments or initial states of being. When we then gain knowledge along the way we add more pieces to the puzzle, creating a smoother curve of normality getting closer and closer to the continuous curve that is there. But the jagged structure of our objectivity will always persist, no matter how small the pieces become.

Notes

[1] For a brief explanation of the double slit experiment see this presentation by Jim Al-Khalili: https://youtu.be/A9tKncAdlHQ?si=0kSEB-NrbvhtNeay

[2] For an in depth explanation see 3blue1brown videos on calculus: https://youtu.be/WUvTyaaNkzM?si=EF6CEQ2QZIgFv-v3

[3] Here is an excellent try though: https://htwins.net/scale2/

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Human and Posthuman in Tales of Extinction

Paul Sharrad[1]

Abstract:

Via Braidotti, Ranciére and others, the article notes Australia's massive loss of species and examines fiction that points to this problem, seeking ways by which to engage feelings and change attitudes. In a predominantly humanist tradition, novels and stories move from cute animals dressed as humans to more anguished engagements with bird extinctions. All varyingly push people from complacency to envisaging their own extinction, from melancholia to activism, pointing to a posthuman unlearning in which we are no longer exceptional agents, but one more set of actants in and of nature. Following posthuman theorists like Barad and Braidotti, the article surveys Australia's record of species extinctions and assesses novels by Ethel Pedley, Dal Stivens, Josephine Wilson and Richard Flanagan for their handling of ecological crisis.

Keywords: Australia, Fiction, Species, Extinction, Actants, Agents, Posthuman

The fundamental drivers of the 'posthuman turn' in all its forms are environmental catastrophes such as the effects of climate change and how they challenge us to examine our own contributions to these. This entails a critique of our conceptual/ cultural/ species-centric biases that have allowed destructive behaviours to seem to be normal operations of a central subject (human) upon a separate, passive and diffuse object (nature).

Some key issues in a posthuman dismantling operation are:

- How to learn to relate to what is not of immediate use to us or in understandable relation with us.
- How to unlearn ourselves: not as central, separate, exceptional or superior, but simply as one more element in 'nature.'
- How to function in relation to systems at scales of size and complexity beyond our capacity to comprehend.
- How to grieve or hope in ways that are productive rather than debilitating or delusionary.

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The general turn to what is termed the environmental humanities leads me to consider some attempts in fiction to move the canons of social practice that have given Australia a world-leading record in species extinction — and yes, the sporting culture of the nation often seems to infuse announcements of this fact as a proud achievement (Morton 2021). By mixing feeling, entertainment and ethics, many stories seek to express concern about human damage to the environment and to varying extents, push us into thinking in posthuman spaces. In reading across a sample of fiction, I am informed by theorists of the posthuman, such as Claire Colebrook, Karen Barad and Rosi Braidotti, as well as by the work of Australians, such as Val Plumwood and Deborah Bird-Rose.

How has Australia arrived at its scandalous record of killing off entire groups of plants and animals? There are several reasons: primarily massive land clearing, floods, and fires destroying habitat, linked with the introduction of species gone feral: predators like cats, competitors like the European carp, or wreckers of biota like rabbits, goats and wild pigs. However, behind that is the lack of care on the part of settler humans, and that is cultural: most of the extinctions are small creatures and many of them are nocturnal. They are, therefore, out of sight to day-dwellers and do not reach a threshold of loveability until they reach a certain size and look cuddly — like the koala. Many of them look like rats, so if seen are mentally catalogued as potential pests. The ones that do reach a decent size are often hunters — dingoes, Tasmanian Tigers, Tasmanian Devils, eagles — and for farmers, these constitute a threat to stock that warrants their extermination. Then we arrive at the other end of the scale, where huge numbers just become an abstract blur in the human mind and have no hold on our feelings or our sense of viable corrective action. We need to humanise atoms and animals to be able to feel for/with them, but we also need to avoid anthropomorphising all things. The problem is presented in theoretical terms by Dipesh Chakrabarty (2012) in his delineation of the human-centred limitations of postcolonial analysis, and it is dramatised by Italo Calvino in his short story of the life of molecules at the dawn of creation in his collection *Cosmicomiche* (1965).

In this context, we can see how the arts have played a real role, if one of limited public effect, in changing human attitudes and behaviours. Statistics are wound back to specific cases that we can see and feel for. Though Eurocentric, configuring the koala as a 'native bear' reduced its strangeness for white settlers. Books like Dorothy Wall's *Blinky Bill* inserted it into the literary pantheon of humanised creatures and have enabled it to become a national icon in which its unique biological differences feature and it has become the focus of political action to preserve forest habitat. One of the most popular modern books for children has done the same for another of Australia's unique creatures. Jackie French and Bruce Whatley's *Diary of a Wombat* puts an animal into a relationship with humans, according to its agency and acknowledging the tension between treating something as a lovable pet while recognising its wild otherness. This book has probably done more for the protection of the wombat than any scientific research. The promotion of national culture has also led to a blend of anti-imperialist and wildlife protection activism that substitutes chocolate images of the threatened bilby for the Easter bunny.

At the same time, these non-human animal images are presented either in anthropomorphised forms or worked into items that can be commodified as entertaining and attractive to humans. The posthuman challenges us to see other life forms as having their own autonomy and worth independent of our projections onto them of feeling, even of caring concern.[i]

Ethel Pedley, way back in 1899, produced a children's fantasy story, *Dot and the Kangaroo*. She prefaces it with a dedication:

> To the children of Australia in the hope of enlisting their sympathies for the many beautiful, amiable, and frolicsome creatures of their fair land, whose extinction, through ruthless destruction, is being surely accomplished.

Species loss is, then, a long-established concern in Australian literature as well as a real-world contemporary scandal. Pedley's environmentalist ideal remains a challenge even more compelling in this Anthropocene age of global warming and its impact on the ecosystems of our island continent, but its century-old warning suggests the failure of the arts to engage public sentiment or to convert sentiment into social action.

Pedley's kangaroo points to the human species as a fundamental problem overriding postcolonial difference (for the animal, Aborigines and Whites are the same: they both kill wildlife), but the book signals the particular intensity of settler depredations and the need to reshape attitudes to creatures seen by Europeans as both natural (and thus inferior and expendable unless useful) and unnatural (monotremes and marsupials flouting scientific tradition), being thereby an offense to God's creation as defined by the Northern hemisphere. *Dot and the Kangaroo* does not escape from its human-centred moralising and appeal to individual charity, but it makes Australian fauna both visible and appealing to European intruders. Without Pedley's story, reinforced by later work from May Gibbs, Dorothy Wall, Ruth Park, and others, the current awareness of wildlife conservation would not exist, so some case for the efficacy of literature and the political importance of cultural revision can be made. At the same time, it shows up the shortcomings of literary faith in appealing to human sentiment as well as the need to cultivate empathy for wildlife that is not childlike and dressed up in human costume. There is also the need to add posthuman critiques of systems of economics and land use; imaginings that go beyond human interests, attending to ecosystems as the complex enmeshment of all species.

In Australian literature, one would have to say that, from popular writers like Liane Moriarty to more literary ones like Tim Winton, the general emphasis remains resolutely human-centred, if not also humanist: tales of families breaking and bonding across generations, ethnic differences, journeys of self-discovery, and so on. One of the 'lost' great works of Australian literature, in my opinion, is the novel *A Horse of Air* by Dal Stivens. While it retains human characters as central to its drama, it also connects them to an interest in Australian flora and fauna. The book won the Miles Franklin Award in 1970 but still has only a few reviews listed. Stivens made his name as a writer of comic short stories often set among bush workers, but late in life came up with this book that anticipated the textual play of Peter Carey's generation fifteen years later and included aspects of literature's 'environmental turn' post-1990.

The central character, Harry Craddock, is an Oxford-educated heir to an Australian press baron's fortune. Insulated by his wealth and cosmopolitan outlook, he outrages his suburban neighbours by turning his garden into bushland and keeping a dingo as a pet. Harry restrains his rage at their ignorant hostility by recourse to naturalists like Konrad Lorenz. They shore up his posthuman view of people as following patterns of animal behaviour (Stivens 77, 140–41) and his proto-Anthropocene fears that human aggressiveness, nuclear weapons and air pollution threaten all survival, concluding that "man is an experiment of evolution and probably an unfortunate one"

(Stivens 41–42). A genial womaniser and manic depressive, Harry bounces from one enthusiasm to another, but has built a reputation as an amateur ornithologist and he sets up an expedition to central Australia in search of the rumoured survival of the otherwise deemed extinct Night Parrot.

The narrative operates as a set of nested texts that create complex weavings and erratic bricolage. After two pages of epigraphs headed by a verse by Mad Tom of Bedlam, an editor presents and annotates Harry's memoir. This includes his own entry in *Who's Who*, his estranged wife's diary entries, his psychiatrist's case notes, spoof letters of confession to the psychiatrist, poems imitating sixteenth-century verse, an explorer's journal, blank pages inviting us to substitute a reading of Rousseau or other reflections on autobiography, and a host of literary allusion from *Hamlet* to Prufrock to Borges. We are told that Harry is a practical joker and inveterate liar. He writes from a psychiatric institution where he is confined for confessing to a murder that he didn't commit. This mix of Sterne's *Tristram Shandy* and postmodern fragmentation undoes our readerly hopes for mimetic reliability and accentuates the idea of truth residing in the traces of language. At one point, we are faced with three columns of text given the impossible task to read them simultaneously (Sterne 172). It points to the way we have to make sense of the work by cobbling together disparate components and conflicting 'facts' without any 'real' referent on which to anchor some 'truth.'

At the same time, there are distinct elements of politically invested writing. Both Craddock and his wife make clear denunciations of conscription and involvement in Vietnam. The satiric comedy tells us that Australia's ties to European flora and fauna are either silly or malign. The wife's diary entries are a lyrical example of nature writing, and we are clearly expected to lament the destruction of a species. Environmentalist commitment does not, however, inspire us to go forth and correct society to save nature. Human presence of itself (reflected in the novel's counterpoint with the explorer journals of Ernest Giles) is so entangled that, like the text, its outcomes are complicated and have to be sifted and adjudicated. There is no romantic sublime: hawks kill budgerigars, Aborigines eat parrots, and people shoot dingoes. What comes through to us is a general sense of existential unease infused with moments of hysterical levity but coloured in tones of despair. The central characters do (they think) discover a couple of night parrots, but rivalry among the expedition members and scrub fires caused by their presence result in the deaths of what could be the last remaining members of the ground-dwelling species. With echoes of *Lear*, Harry's self-examination includes meditations on ageing and death. The only Australian intertext with any claim to literary status is Ion Idriess's tellingly titled *Lasseter's Last Ride*. In the end, Harry Craddock, having mysteriously survived days of fevered wandering in the bush and worked through his hospitalisation. is distanced from all his female companions and walks, perhaps deliberately, into the path of a truck, echoing the suicide of his first love.

Crippling melancholy appears to be the final note. Nonetheless, what lingers in our minds is the exuberance of the text itself. There has been a turn to affect among critics aligned with literary activisms that suggests a quest to find a mechanism that will retain the direct link between word and action that once was centred on the supposedly improving effects of social realism. Perhaps Stivens was anticipating the work of Lyotard and Rancière by showing how textual play within the space of the literary best conveys political energies by being 'indifferent' to social issues and setting up tensions between redemption and catastrophe that resolve little but generate a motive force of their own by "displaying and deciphering the symptoms of a state of things", allowing a conflict between "a sensory presentation and a way of making sense of things" (Ranciere 161, 139).

Josephine Wilson teaches creative writing and art and design while also writing poetry and fiction. She won the 2017 Miles Franklin Award for her novel, *Extinctions* (2016). In keeping with its title, it opens with an old photo of the extinct New Zealand moa (a giant relation of the emu and cassowary) and ends with another historical photo of a dead Thylacine, the so-called Tasmanian Tiger, the last example of which expired in captivity in the 1930s.

Otherwise peppered with illustrations of inventions and constructions that reflect the interests of the engineer protagonist, the novel owes something to Sebald's *Austerlitz* and its modernist patterning of motifs coupled with the engineer/ would-be architect's love of modernist design, and pedantic collecting of recondite words echoes the work of Gail Jones. Wilson's long epigraph begins:

> Tales of extinction often begin near the end. The past is invoked – a prior Eden where wildness reigned and the dark earth was rich and generous, the air thick with the beating of feathers. We all know what will happen next. Over the page, just around the corner, is the massacre.

The book cites the mass killing of American buffalo and passenger pigeons and cites the Great Auk and the South African quagga as further instances of extinction. Once the deaths are done, the epigraph charts a silence, after which people begin to collect remains and stories and mourn the loss. The epigraph ends: "All is allegory". We and the novel wonder what is allegorical of what, whether brute mortality can, in fact, be captured in the metaphors and similes of the story (Wilson 32, 91, 114), and whether it even should be.

If the narrative is an allegory of our mourning the loss of extinct species, it is also, as the title suggests, about multiple extinctions and manifold mournings. Centred on the uptight engineer, Fred, who has moved into a retirement villa following the death of his wife, the book is structured in chapters headed "column," "bridge," "egg," "trench" and "hyperbolic paraboloid". Columns crack and topple, bridges collapse, eggs have fragile shells, as do the 'thin shelled structures' of modern buildings, and the trench refers to World War I and its effects on the protagonist's father, a violent bully and drunk. Fred is plunged into a trench of memory (the text shuttles between present and past, outer action and inner reverie) in which he confronts his failures as an inheritor of childhood trauma who tries to keep things firm and unchanging. He marries a New York Jew (invoking the extinctions of the Holocaust), they adopt a daughter who turns out to be part Aboriginal (allegorising the genocidal history of settler Australia), and his son ends up in permanent care following a suicidal car accident. Daughter Caroline is overseas, preparing an exhibition of extinct animal species. She herself is described as "a woman close to extinction" (Wilson 121). Wordplay features in the book, and Caroline is literally close to dead creatures, but as an adoptee with no contact with her birth mother, is the end of a family line, and she is also nearing menopause. Fred is frozen in trauma once his wife dies, haunted by all those dying around him and the silence and loss as all the details of a life are rendered extinct. But he is taken in hand by his bossy neighbour Jan, and in a series of misadventures learns to accept his failings, handle the memories that photos, toys and collected things impose on him, and adapt to new circumstances.

Extinctions is a clever multi-layered interweaving of motifs and ideas. The many mentions of cars, zimmer frames, wheelchairs, hydraulic lifts for the paralysed, and assorted inventions suggest the transhumanist desire to extend and perpetuate the human body. There is also a satiric moment when Caroline, who has led her long-time boyfriend through his academic career by introducing him

to postcolonial theory, trauma theory, queer theory, loses him to a postgraduate student who "shook her post-humanist booty at him… He and the post-humanist had twins now" (Wilson 123). Star-gazing is one motif in the book, which connects with parabolic curves as the orbits of planets and suggests the extinction of stars and a posthuman cosmos. However, like the paraboloid that holds together a suspension bridge and is the outline of an egg, the return of memory and the line of narrative is both a rise and fall as well as a fall and rise. Such ambiguity (the doubleness of allegory and language, perhaps) plunges us into extinctions and mournings of all kinds but serves as a line that pulls us up and back to a human-centred drama of recovery and redemption. The story forecloses on massacre and falls short of the posthuman. Caroline reconnects with her Aboriginal family, who have survived colonial depredations. Fred is about to set up a new hybrid family, including his neglected son, and Caroline contacts an acquaintance in the hope of conceiving a child. The concluding photo of the soon-to-be-extinct Thylacine sits outside of the story. Perhaps it is an allegory of the limits of the human imagination: the silence beyond the tale, the limitations of this particular novel, or of all attempts to turn life and death into story, especially the lives and deaths of non-human creatures. Both of the photos of extinct animals, however, pair the dead creature with a human now also long dead, so perhaps the allegory is of our shared mortality and the need to deal with what comes at the end of everything, and like Fred, pushes us over the "fine line between watching and acting" (Wilson 70), past a frozen posthuman mourning into sustainable metahuman universe.

Richard Flanagan made a foray into magic realism with *Gould's Book of Fish* and into the modernist stream of consciousness with *Death of a River Guide* but has otherwise been a dedicated social realist. *The Living Sea of Waking Dreams* (2020) is founded upon real-life actualities: people's addiction to Instagram, an enquiry into nefarious practices by banks (Flanagan 136), revelations about child abuse among church leaders (175, 214), wildfires in Tasmania and East Coast Australia (12–13), polar ice-caps melting (46), Australia's ageing population suffering from dementia, plus the extinction of myriad species of animals and birds (6–7). The text and the world it represents bombard us with more and more, its characters and its language becoming overwhelmed, stuttering and raging:

> For a long time he had been aware of a growing scream that was within him and outside him…. More road noise, more fish stocks collapsing, more news noise more frogs and snakes dying out, more brexitrump climatecoal more and more, more fucking tourists everywhere, … On his phone the government was calling for more coalmines new coal-fired power stations they'd gaol you for twenty-one years if you protest the same as murder now in Australia for calling bullshit on fire they couldn't get enough fire and smoke but he was scared, in truth he was t-t-terrified, he had had enough. Tasmania was where you came to get away from all that shit but now it was even here, ancient forests vanishing, beaches covered in crap, wild birds vomiting supermarket shopping bags, a world disappearing some terrible violence returning for a final reckoning.
>
> How what why who? (5–6)

Other characters despair that life is becoming less and less. It is manifest at the magic realist level when bits of people begin to disappear. Annie discovers first a finger missing, then a knee: just spaces where skin and bone once were:

> It wasn't much of a knee.

> But now it had vanished she realised she missed it. But like the aurochs it was gone. Like the thylacine and the Walkman. Like long sentences. Like smoke-free summers. Gone, never to return. (79)

There's an echo here of Peter Carey's ground-breaking magic realism in his story "Do You Love Me?" As with Carey's story, Flanagan's focus is on a mother and her children. Ailing and in her eighties, Francie has been cared for by her 'drop out' artist and crayfisher son and his schizophrenic son. In a caustic commentary on the ideals of transhuman techno-enhancements of the mortal body, Flanagan has the two more financially successful children keeping the mother on life support in a hospital, where she lives in a dream state fuelled by drugs. Annie, who knows enough to feel the cruelty of the love that keeps her mother alive, is the one who starts to find missing body parts. Her brother Terzo is a trader in venture capital and is all hard will, blind to the implications of doing deals with a Malaysian logging company (127). He is not sensitive enough to be vulnerable like his sister but shows how adamantine scientism and reason are desperate and brittle refusal to death and nature (77).

The disappearing body parts may not be a successful element of the book, but they push us beyond our comfort zone as readers, and signal the need for something new with which to confront the scales of the Anthropocene. Annie scrolls through her mobile phone, both using the plethora of detail as an escape from the immediate challenge of her mother and family history (94), and absorbing the increasing horror of planetary collapse:

> It wasn't that these things were fragments, thought Anna. The world was fragments. She liked a meme she reposted she followed she no longer knew if the fires were already over even though they hadn't really yet begun. Things that happened yesterday were things happening today and things that hadn't happened tomorrow were old news several moths ago. Was it only yesterday was it the future now? (87)

This Bachelardean sense of media flows and fused time challenges tidy narration. It reduces Annie to catatonia: feeling nothing, feeling herself as nothing, feeling incapable of doing anything (98). However, she quietly pulls together memories from the family past with which she rebuilds a caring understanding of her mother, and at one point, Francie's schizoid but self-aware grandson demands: "Shouldn't stories work towards something that we can't get anywhere else?... It wouldn't be enough, sure, But maybe it would be something" (144).

Flanagan is clearly trying to give us a realist reflection of the manic texture and intensity of contemporary chaos while also looking for a fictive vehicle to break through the wall of 'reality' into something that might find a way of living with and living against the insane ravages of the Anthropocene. He has read some of the theorising around environmental impacts: "*Solastalgia* emotion induced by the loss of everything. What is the image for nothing?" (103). He clearly rejects the political discourse of resilience and adaptation: "How did you adapt to your own murder, wondered Anna,… Were they adapting to their own extinction?" (141). If not, how could they counter the forces driving the world towards end times? Intensity of feeling (Anna's attribute) is not enough: it has not prevented her from caring enough for her son (159), who is now an antisocial gaming addict and vanishing faster than his mother; it doesn't stop her from giving in to Terzo's brutal instrumentalist version of aged care (163). It does perhaps impel her towards action, but of itself, it tends to freeze her in her tracks.

The machinery of book production parallels the thematics of the novel. Its mirrored face on the dust jacket both splits and connects, matching the dream/reality; sanity/madness doubling of the contents. The book carries the name of someone known as a Tasmanian. Its colophon identifies it with a New York publisher of some literary standing (Knopf), but it emanates from the Sydney branch of a British-American combine (Penguin Random House). It pillories global capitalism but is a creature of that very system. One message is that the world is a mess and the only way of dealing with it is an equally messy entanglement of conflicting feelings, facts, analysis, complicity and resistance (as with Colebrook and Braidotti). Within the story, we can see that the children's treatment of their mother is simultaneously an expression of love, of fear of loss, of an attempt to be doing something against the deaths mounting up around them in the world, and of tyrannical human will.

Another message is indicated in the switch from the bleak blackness of the book's dust jacket to the glowing hard cover underneath, which features the glossy green of a parrot's feathers. In one way, this image reminds us of the beauty we are losing as birds succumb to environmental attacks. On another level, it points us to moments in the novel when characters access a mysterious sense of grace. Annie first finds it sitting in the sunshine with her mother (58), her grandfather, a scrabble-farm Irish migrant, would kneel outside every morning "With the immense universe vibrating in an out through hum, that universe which he understood as him also, Francie's father would each morning thank God for such beauty that there is in this world" (118, 192).

The vision is passed on to the long-suffering Francie. There is a resonance here of the posthuman theorist's desire to reject humanist rationalism, which on occasion takes refuge in the spiritual: in dreams akin to Biblical Revelation (apocalipsis). There's an early avatar in Doris Lessing's *The Memoirs of a Survivor*, when people caught in post-apocalypse chaos are rescued by mystical transfiguration into another mode of existence. There is an echo in environmentalist Deborah Bird Rose lamenting overheated bats and possums dropping dead out of trees and saying that prayer is the only possible response (Rose 2014). Flanagan is not endorsing such escapist wishful thinking or spiritual retreat, however. He does suggest a self-mortifying submission on the part of humans (a kneeling in and to creation like Annie's grandfather) but holds with the potential of restorative human interventions.

In the end, Annie meets Lisa, a scientist battling to save the orange-bellied parrot from extinction. Lisa admits that the birds may well die out but sees that the effort to prevent this is worthwhile, not as some act of human virtue-gathering but as homage to miracles of creation, migration, evolution, beauty (187). She connects the bird loss to the loss of Aboriginal land management practices and the deaths of Tasmanian Aborigines, noting that "*someone* did it", that we carry a debt as a result, that nothing ever totally vanishes, and that someone else has the duty to try to amend for all the destruction.

Annie suddenly is faced with her own increasing age and with the mixed legacy of feminism that fuelled her professional career: "Coming of age when women were told power was all, she had believed in power… Now she thought, power is a lie. Power is a trap. Power is an illusion" (198). When Terzo is killed in a motor accident, possibly a suicide driven by guilt at his elder brother's earlier suicide, she is left with "Ceremony, obligation, duty…. Homage to an idea" (212). Annie is seized by the urge to see things as they are: "the world as it presented itself to her. And if it revealed a bruised, damaged universe, still perhaps there would be in the very wound some hope" (239). She

accepts that their preservation of her mother's existence and the relentless kindness of doctors and nurses was a lie "that postponing death was life" and it arises out of "the most terrible vanity" that is a pity: "sorrow grounded in the illusion of power" (246–7). Finally, Annie joins Lisa Shahn in northwest Tasmania to count the year's migration of orange-bellied parrots. She falls during a heart attack and enters a dream state in which she transforms into a series of wild creatures being hunted by humans driven by some life force, possessed by a wordless language of grief and loss and by a wonder at the extraordinary variety of the world, all of it moving through geological time towards a void. Annie's brother, Tommy, lets his mother finally escape from her hospital torment. Lisa finds one nesting parrot, and in words that repeat the worshipful stance of Annie's grandfather's morning ritual, the book ends: "She was kneeling, waiting. She was ready. She was, she realised with amazement, not downcast nor defeated." (282).

Since it appears to be *de rigeur* these days in the humanities to cite a French philosopher, let me mention Jacques Rancière. His idea of *dissensus* as the disturbing of categories and the fuelling of activisms allows art a certain autonomy (or distinctiveness) while seeing its place and its effects as opening it up to social forces (116–117), though it resolves to a rather unpromising observation: "Aesthetic art promises a political accomplishment that it cannot satisfy and thrives on that ambiguity…. those who want it to fulfil its political promise are condemned to a certain melancholy." (133). Avoiding melancholy in arts engaging with the Anthropocene often results in endings that deflect "political accomplishment" into wish fulfilment fantasy (a danger in Flanagan's book) or fall back on old-style human-centred closure (as in Wilson's *Extinctions*).

In Flanagan, the final message is suitably ambiguous. We need to do something to resist entropy and human careless violence, but that should not be an exercise of human will over the nature of which we are part. Flanagan's story is constructed around a human drama, but is not altogether human-centred, being more of a testament to the fragility of both people and the planet. There is possibly a hint of Gaia optimism in its resolution, but not a suggestion that we let the planet sort out its own problems, most of which we have caused.

Joshua Lobb's loosely linked set of short stories, *The Flight of Birds* (2019), engages with melancholy and tries to address creatively some of the challenges presented by theorists in animal studies: human entanglement with non-human animals, imagining a (literally) bird's-eye view of the world, dealing emotionally with species extinctions. One of his stories, " And No Birds Sing", presents a mentally disturbed man listing bird losses and wailing uncontrollably. The right-hand margin of each page records 112 extinct bird species from across the globe. Counterpointing this crippling lamentation, the next story is set in the future tense. The narrator is a young ornithologist monitoring the breeding program for the migratory Gould's petrel on a Queensland island threatened by the introduction of rabbits. but despite everything his daughter and her team persist in their preservation efforts. Like the prophets of old, they use birds to chart the future:

> 'It may be a future without them. Or without us.'
> 'I don't want to think that,' I'll say.
> 'We don't have a choice,' [her supervisor replies.] (199)

He envisages an endless relocation of nest boxes to islands that remain above the waterline. The young woman is accompanied by her father, who is mourning his wife and lost home and projects anxieties

onto declining bird populations. Faced with over-fishing, pollution from fish farming, and rising sea levels, he cannot find hope even in newborn chicks. The father asks, "Doesn't this—doesn't all of this—make you angry? Doesn't it sadden you?" The story ends, "'We don't have time for sadness,' I'll say to him. 'Come on, we've got work to do'" (201). As I was drafting this paper, a news item caught my eye. Judicious breeding of remnant orange-bellied parrots has brought the species back from the brink of extinction. (Denholm). This in itself is not enough, but, like the engaged fantasy of Flanagan's novel and Lobb's story, it is maybe something as long as we keep working at it.

Matthew Calarco concludes his philosophical explorations with the comment that "Any effort to move beyond humanism and anthropological difference will itself have to become an entire way of life… the result of a set of sustained passions for and repeated experiments with other ways of carrying out daily life" (82). With Levinas, he sees rituals of reformation and revision. This is a useful point on which to consider the place of literature in the posthuman project. It can function as a ritual 'pause' in the everyday, a refocusing of attention, an opening into seeing differently, and as ritual is a repetitive call to us to renew our compact with nature no matter how overwhelming the challenge or fallible our attempts may be. Art/the humanities pushes past/through thinking of everything as calculation, commodity and utility, but remains tied to human-centred norms of seeing, narrativizing, and managing affect. It may be a form of voyeuristic enviro-disaster porn (Rancière 136), or it may provoke us to activism, but even as it presents us with images of apocalypse, it enables us to think of ourselves as eternally present (Colebrook 143), as the central actors or interpreters of everything, and as ever-creative makers. So, we need to think with art but also beyond it to take in frameworks of making and aesthetics, as Rosi Braidotti proposes in what she calls 'critical posthumanities' and position these frameworks within earth's ecosystems and its needs.

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[i] Sometimes that means conferring human characteristics onto animals so we can see our unjust practices highlighted, as in Shaun Tan's story where a bear lawyer takes humans to court for criminal maltreatment of animals. It also requires that we represent ourselves not as paternalistic readers of nature, but rather as creatures of nature immersed in the world in the same way as the animals and plants we selectively represent or ignore. There are many stories that amount to anthropological studies of wayward children as young animals, but these usually function entirely within or are judged from human social contexts as exceptional, especially when they enact their difference by straying into the wild of nature. Think of Kipling's Mowgli or the wild boy in David Malouf's *An Imaginary Life*. Defoe's Crusoe, thrown into a world of nature, proceeds to construct a human society on his desert wilderness, where he lords it over animals and cultivates plants. J.M. Coetzee's *Foe* imagines a posthuman scene, something closer to the real castaway, who lost language and merged into the wind and rock of his island.

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"Retro-Futuristic" Expedition of Howard Leed's *Small Wonder*

Lovelyn Pinto[1]

Abstract:

Popular culture and literature have served as fertile ground for the germination of ideas that eventually find their way into the fabric of the everyday lives of human existence. From the pages of science fiction novels to the silver screen of vanes blockbuster movies, inventions, and innovations conceived in the realm of imagination have often transcended the boundaries of fiction to reshape the world. This research project is an endeavor to explore a similar trajectory of representation of humanoids in a 'reel' world portrayal, Howard Leed's Small Wonder, a nineteen eighties American sci-fi sitcom, and its projection to 'real life' humanoids of the twenty-first century. The sitcom shall be analyzed through the critical and philosophical lens of Posthumanism. How the sitcom has been instrumental in the early dawning of the technological renaissance, at the same time how it has reinforced certain stereotypes related to robots and gendered artificial intelligence shall be explored. This research is an amalgamation of Humanities, STS, and Literary Studies encompassing various theories and practical applications, to navigate the nuances of Science Fiction and the field of Robotics and Artificial Intelligence.

Keywords: Post-human turn, Uncanny Valley Theory, embodied subject, transhuman identity

Introduction- Being Human- Art Beyond Skin and Bones

Small Wonder by Howard Leeds, aired from 7th Sep, 1985, to 20th May, 1989 tracks the journey of V.I.C.I. (an acronym for Voice Input Child Indicant, pronounced and heron referred to as Vicki) a 10-year-old "android-girl" created by Ted Lawson an engineer cum inventor for *United Robotronics* to assist differently-abled children. Ted introduces Vicki as his "brainchild" both metaphorical and literal to his family- his wife Joan Anderson who dotes on the humanely looking

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robot and their 10-year-old son Jamie who misses no chance to utilize the humanoid's utilities for advantage. Vicki possesses superhuman strength, speed, and the ability to compute information at a high-speed data transfer level. The show's "humor" arising from attempts to integrate Vicki into everyday life while keeping her true nature secret from others- frequently touched themes of family, friendship, and challenges of raising an android in a humancentric world. Vicki's attempts to learn human mannerisms, her unexampled echolalia, and her literal interpretations of human speech commands, form the crux of the sitcom delineating the identities of human and machine-human. The repeated utterances of Ted Lawson with added emphasis "stop thinking her as a child", and "she's a robot, an android a mechanical device just like your blender" remind both the characters of the series and the audience alike how humanoids no matter how "humane" they appear are still at the disposal of their creators. Through Vicki's portrayal and her perceived dual-conflicting identities as perceived by the Lawsons and the next-door nosy neighbours The Brindles, the show explored ethical technological, implications of artificial intelligence, robotics, and its rights, nature of consciousness, and the boundaries of human-like AI in a domestic setting.

As such the sitcom's circumstances arouse interest in re-examining the bygone era series against recent works both in Humanities and AI advancements. In particular, Pramod K Nayar's work *Posthumanism* is of great interest to better understand the corporeal identities of technology imbibed by humans or mostly the other way around. Nayar outlays the definition of a 'posthuman'

> …the posthuman is a congeries of software, hardware, and wetware. Flesh and machine, mind and computers, self and the world, human and animal merged in a seamless articulation. The posthuman can schematically be sketched in terms of body and mind, while keeping alive, as a point of departure of reference, the traditional human as one endowed with autonomy, sovereignty, and agency. (Nayar 2)

This is of great importance to understand Vicki whose agency and autonomy are restricted by the Lawson family, and her own identity which is construed out of the psyche of the machine with evolving emotions by co-habiting with humans. There is scope for research as neither the sitcom nor the character of the humanoid have been subjected to the critical lens of post-humanism. This concept of 'evolving beyond the fixed boundaries of embodied existence' is something that will be addressed with regards to *Small Wonder* and more so as an overarching phenomenon going beyond the limits of Post Humanism. As the show is of a bygone era, it becomes crucial to re-examine it when there have been advances in Science and IT and intellectual movements. The sitcom born out of a need to address social concerns vis-à-vis technology seeping inside the intimate circle of suburban American families in the late nineteen eighties, resonates well today where AI dictates the daily needs of humans right from reminding him to wake up (virtual alarms) to automatically shutting off electronics at night.

Nayar in his introductory essay "Rise of the 'Post Humanities' Exit, the Human...Pursued by a Cyborg" remarks on prerogative affect and gives reference to *Terminator* and *Robocop* "...cyborg creatures that seem to possess an intractably human feature: affect" (10) setting the premise for Post Humanities study and humanoid identities. Nayar's outlining of "...explore the theme of posthuman rights, as a series of juridical, social, technological, negotiations of the very definition of normalcy and humanity" (16) is crucial for this research as Vicki's rights as an individual embodied identity will be explored and used to comment further actual realizations' of Vicki like robots in the coming lived realities.

To read Nayar better, the key elements of his work as laid out by Hanna Petersson in *Somatechnics* Journal are of much importance. Additionally, N Katherine Hayles's book *How We Became Posthuman* offers deeper insights into the subject shedding light on "...the complex interplays between embodied forms of subjectivity and arguments for disembodiment throughout cybernetic tradition" (7). The 2023 Research thesis by K. Chumthangleima *Reading Posthumanism In Shane Acker's 9* is helpful to build up this research along similar lines of "reject the idea that humans are unique creatures of nature as well as their right to control the natural world" (KC 24). Likewise, Glenda Shaw-Garlcok's Conference Paper "Loving Machines: Theorizing Human and Sociable- Technology Interaction" is of great merit. Garlock cements Nayar's ideological framework of "emerging human and sociable-technology interaction as a developing site of inquiry relevant to communication studies and cultural studies" (1) "The emergence of social robots in everyday life will alter the nature and dynamics of social interaction" (48). These interactions will be explored keeping Vicki as the prime focus around which the dynamics of the Lawson family revolve, shifting the focus from human to humanoid. In this respect, the work of Peter Mahon *Posthumanism: A Guide for the Perplexed* provides crucial arguments to build this research upon. "Because it actively adapts itself to the user, AI seems destined to work for us and with us more like an assistant or a companion: unlike a hammer or a nail gun, AI listens to us, watches us, responds to us, remembers for us, organizes us, answers our queries, communicates for us and to us, makes things for us, entertains us, guides us, transports us" (Mahon 80). Here this argument can be problematized to explore the autonomy and agency of AI in particular humanoid robots.

Fig 1. Electric Coffee Mug *Small Wonder Season 1 Episode 2 The Neigbours YouTube*

Fig 2. Electric Coffee Mug *Small Wonder Season 1 Episode 2 The Neighbours, YouTube*

What is unique to this sitcom is the uncanny resemblance of Vicki to a "normal" 10-year-old human girl. This leaves a potential area of research exploration both for this sitcom and applying it to possible future scenarios involving human-like robots. However, since the area is broad, the scope of this research will be limited to the series characters and their perceptions about Vicki while simultaneously making a comment on Sophia and Repliee Q2 and a possible future hypothesis. The critical tool used to explore this arena is an interesting concept developed by Japanese Robotics Professor Masahiro Mori in 1970 in a work titled *Bukimi No Tani* – The Uncanny Valley Phenomenon. The hypotheses put forth by Mori as an object's (robot's) appearance is made more human the emotional response of an observer shifts from positive empathy to strong repulsion to again positive perception. The graphical representation of the same shows a deep "trough" (hence valley). The liminal space where the observer's response is repulsive to a somewhat human or perhaps a robot is the uncanny effect and is the major obstacle to human-robot interaction. Jasia Reichardt's 1978 seminal work on Mori's hypothesis *Robots: Fact, Fiction, and Prediction* are of some interest pertaining to this research. In an interview with Norri Kageki, professor Mori remarked on a question to counter the uncanny valley plunge

> …It's not even interesting to develop a robot that looks exactly like a human, from my perspective… I feel robots should be different from human beings…I do agree that some aspects of humans are like machines. But what I don't know is the mind. I think this is a problem that humans will never be able to solve. No one can explain whether an object can bear a mind. We don't know whether a mind will be formed when computers become really precise. Will a computer feel one day that it is not in a good mood or that it doesn't like this person or that I don't know. (Kageki 2012)

This can be extended to Vicki whose human like appearance appalls Joan Lawson who treats her as a daughter as well as repulses her when the "mechanistic" characters are revealed. It's also intriguing to note how Vicki "fools" the Brindles to be a normal but somewhat "weird" 10-year-old girl. The uncanniness effect can further be extended in a reverse order to the humanoid itself, wherein human like emotions are experienced by the interface absorbed into the world of sociable humans. This will be explored with particular instances from the series and Vicki's defiance of orders and "imitation" of emotions. Can Vicki be considered a possible prophecy for future humanoids? This is a matter of debate and beyond the scope of the present research. However, an attempt shall be made to address the issue in brief. Moris own firm stance of not designing human like robots is of great importance to understand both human control over "creation" and robotic agency.

For this Cynthia Breazeal's work *Designing Sociable Robots* that contradicts Mori's ideology is of great significance

> …From the perspective of the robot, its body provides it with a vehicle for experiencing and for interacting with the social world…robots can interpret these experiences within a social context…People are attracted to life-like behaviour. (Breazeal 7)

This offers great potential to present duelling opinions on producing human-like robots. While this research does not claim to support either of the two extremities, it is very likely that humanoids are going to be inevitable in near future expanding the whole hotchpotch of social-ethical dilemmas. The focus is primarily placed pertaining to this project on *Small Wonder*. The findings of this research

can build an argument that point to the actualisation of Sci Fi in reality. Moreover, Tyler J. Burleigh's "Does the uncanny valley exist? An empirical test of the relationship between eeriness and the human likeness of digitally created faces" and Elizabeth Broadbent's "Interactions with Robots: The Truths We Reveal About Ourselves" will further help to build these arguments. While this investigation does not offer a quantitative analysis of the uncanny valley phenomenon, it does offer substantial groundwork for further probing.

Another thing to ponder is the cultural aspect of Robotics and Post Humanism. How these two fields do and may coincide as more and more AI enters into the capital market. As Simon During points out in the "Introduction" of *The Cultural Studies Reader*

> … because human beings exist as "embodied social subjects", an individual's relation to the fields continually incorporates and shifts under the contingent givens…language intervenes between the individual and the socio-cultural forces (10) …Last, given the individuals live first, in symbolic structures which let them speak for themselves; second in bodies that are not their own but not wholly under control; third in temporality which flows towards the unknowable and uncontainable. (11)

This is crucial when it comes to analyzing Vicki. For she is an "embodied" subject not just in terms of her physical human-machine structure but also as her identity of daughter cum maid of the Lawson family, shifting paradigms of symbolic structures of humanoids. If the body of a humanoid is not under its control, how can one question its agency? This is what dynamics of Post humanism reflects on as every piece of human-like existence is considered as an autonomous entity. It becomes interesting to see Vicki as a "subject" thus deepening the question of ethical moral rights. Furthermore, the language aspect is too crucial both for Vicki and AI that use "commands" and how adept they are at interpreting these commands determines their functionality.

Pertinent research questions can be formulated and addressed through critical applications of Cybernetic Studies. The rapid technological advancements of the twenty- first century seldom appear as straight out of popular works of speculative fiction, much in tune with Frederick Paul's comparison of forecasting ability of Sci Fi to the accuracy of a broken clock (Ghiglione 139). The compelling narratives often blur the boundaries of technology and humans, raising intriguing questions of consciousness, transhuman identity, socio-ethical implications and understanding the paradigms of lived reality in 2023. Who is a human and how does one define human consciousness in a technological era? What is a bonded self in a postmodernist world? How do you address the question of 'life' in Post humanism? And most importantly what is the future of AI-Human interface in 2023 with regards to bioethics? This research aims to address such concerns and more by dissecting *Small Wonder* by Critical Post Humanism. The sitcom captures a snapshot of time when the idea of living alongside intelligent humanoid machines was transitioning from the realm of science fiction to a tangible possibility

Unwired Living Code: Organic Essence in Digital Matrix

> The thing that intrigues me most is, if a robot is raised as a real child will it eventually be able to program itself to act like a real child? Even have emotions? Maybe one day families will adopt robots instead of children. — *Small Wonder* ("The Neighbours" 01:13)
>
> That's the one concern I had. Can she pass for a human? ("The Suitor" 08:54)

As much as the debate is humanizing a humanoid to take a posthuman turn, the current perplexing dilemma of humans is to "stand apart from robots" in cybernetics. The all-time notorious confirmation of "I'm not a robot" on internet websites, drives people crazy as it tests "the mediocre intellectual abilities" of smart people the maker of smart gadgets. The infamous Completely Automated Public Turing test to tell Computers and Humans Apart (CAPTCHA) developed by Alan Turing not only demarcates humans from computers, but also assesses whether a computer can demonstrate intelligent behaviour akin to humans,

> …It can be a tricky balance, especially as machines become more sophisticated. Usually, artificial intelligence systems are capable of coping better than humans because, as an example, they don't suffer from annoyance. They are infinitely patient; they don't care about wasting time. (Mauro Migliardi wired.com)

Sarika Chaudhary analyses the CAPTCHA industry in her work "Understanding Captcha: Text and Audio Based Captcha with its Applications"

> …CAPTCHAs are used because of the fact that it is difficult for the computers to extract the text from such a distorted image, whereas it is relatively easy for a human to understand the text hidden behind the distortions. Therefore, the correct response to a CAPTCHA challenge is assumed to come from a human and the user is permitted into the website. (107)

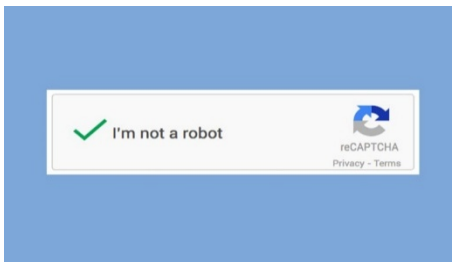

Fig 1. Emily Ferron *No more "I'm not a robot" with Google's Invisible reCAPTCHA* New Atlas

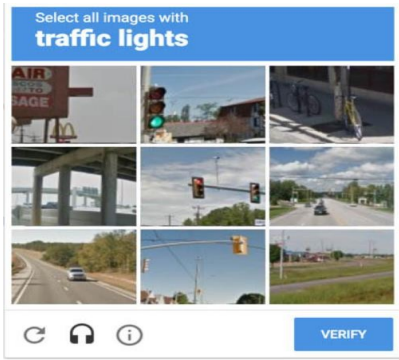

Fig 2. PCMAg *Definition of I Am Not a Robot.*

When a humanoid with human intelligence accesses a CAPTCHA test, they would likely be able to complete it successfully, just like any other human. However, if the CAPTCHA test is specifically designed to detect non-human entities based on behavior patterns or other factors, a humanoid might still be flagged as a potential bot if it behaves in a manner that is inconsistent with human behaviour. Requiring humanoids to prove their humanity through CAPTCHA tests may infringe upon their autonomy and dignity, treating them as objects rather than individuals with rights.

This can reinforce societal stereotypes and stigmatize them as "other" or less-than-human, leaving them disadvantaged and denying access to support systems.

The irony of this human-machine-internet nexus is that a test created on network of cyber world by anthropoid intellectual beings, to differentiate bots is taken by humans on a computer device to determine their human identity. By its very nature, this test is a paradoxical functional resemblance of the liminal posthuman identity with regards to rationalising processing. Does selecting images make one human in the cyber world? If a humanoid is able to surpass these tests based on its level of upgraded programming, does that make it less of a machine? Ho can a test that is developed to prevent cybercrimes relying solely on ability to associate symbols with meanings, determine intelligence and human cognition? Symbolic Functionality throws light on this.

Posthumanism as a study has so far been established to deal with questions of the identity of a human-machine interface. But questions galore, what does it mean to be a human? Where does the breakdown of binaries between human and machine take place? Where does one end and another begin? Who decides? How the paradigm shifts? This shall further be explored through Cultural Posthumanism and symbolic structures, functionality of robots.

Nayar remarks "…human itself is an assemblage, co-evolving with other forms of life, emmeshed with the environment and technology" (4). K. Chumthangleima further expounds this idea in her thesis "…focus on the reconstruction of the human physicality, but consciousness is not an aspect of only the human, but an epiphenomenon that accounts for an organic entity" (4) This "epiphenomenon" mostly regards human as a construct just like gender, that shifts according to innate hardwiring as well as external learned influences. What differentiates man from other animals is the ability to cohabit peacefully with the "other", this other ranging from diverse life forms to the mechanistic makeup of our existence. The human is a composite of molecular hybrids that shape, dictate and predict its genetic makeup and the ability to mingle with other life forms and conjugate with other humans. As such, if thinking and "reproduction" are nuclear human instincts, so does it apply to animals. The core aspect of being human as ascribed by different branches of humanities is the question of autonomous agency and identity. If this is to be considered as a central argument, can organic machines that have their own "input" processing mechanisms be considered as human? What then shall one consider a demarcating feature under Post humanism to ascribe a human identity to a machine? The question is a rhetorical one.

The central idea is not to label any machine, nanobot, or humanoid for that matter as a "human" rather to take it as a new evolved species itself independent of its preexisting identity as a machine or an organic cell. Just as an added prosthetic does not make a paraplegic less of human, similarly a mere human like appearance flesh and skin over a network of wires, batteries and plugs doesn't make a machine any more human. Posthumanism doesn't offer a clear-cut answer to this question, as it proposes that the boundaries between human and machine are fluid and constantly evolving. The distinction is not always easily discernible, especially as technologies like brain-computer interfaces and prosthetics become more integrated with human biology. The determination of where the boundaries lie between human and machine is a complex interplay of various factors, including cultural norms, ethical considerations, technological capabilities, and individual perspectives. The problem with this arena of studies is something that will be addressed towards the end of this dissertation.

For the main scope of this study particularly with respect to the sitcom, a humanoid is questioned, broken down and re-arranged as a posthuman. Vicki is a master creation of Ted Lawson as V.I.C.I.- Voice Input Child Identical. Alike any electronic interface, the sole purpose of this "modelling" is to aid humans as Ted points "…it could teach in schools, or in hospitals to help in therapy for speech impaired or differently abled children…hundreds of practical uses for it and invaluable to the society" ("Vicki's Homecoming"). Ted feels like "he has given birth" for "it's a real child", although Ted never fully comes to this realization for, he's aware of the bits and pieces that have gone in its making "…eyes like solar cells, brain a data flow system using wafers scale integration, with data pads hooked into a self-organizing systolic array processor" (06:50). Even the intro title track mentions "she's a small wonder, pretty and bright with soft curls… a child unlike other girls, she's a miracle made of plastics, microchips here and there". It's clear Vicki exists as an assemblage of electronic units of data inputs, processing and output. But what makes Vicki unique? Is it her resemblance to a human ten-year-old girl? The synthetic skin used in her construction, similar to that used for artificial limbs in biomedical setups? Her voice or ability to perform human tasks?

More than that it is the way she is treated by the Lawson family and the civilization around that determines her liminal space of existence. The way she is perceived by the humans around her "shapes" her robotic assemblage and "molds" her humane permeance. As Joan questions "How do we treat her?" and Ted's response "Like it was a real child".

This determines Vicki's posthuman identity. With the constant juggle between ordering of tasks to a robot and affectionate treatment from Joan or the Brindle's towards a child, Vicki's identity oscillates between machine and human in the human world. As K Chumthangleima remarks on Nayar's language- and representations module, "…sexual differences built into language and representations and subjectivity are invoked through participation in language, even to the extent of experimental understanding. This implies that identities are not fixed or stable…rather constructed through language and the act of naming itself" (13). It is Vicki's unique ability to comprehend and respond to human language that makes her "humane" over her counterpart Rodney the robot created by Brandon Brindle Ted's rival who constantly repeats only one phrase, "My name is Rodney pleased to meet you" and is labeled as "stupid". In spite of Vicki's echolalia and her monotonous facial expressions (which Ted later "perfects") her ability to interpret commands and process them consciously determining her actions make her more human than a mere automated robot.

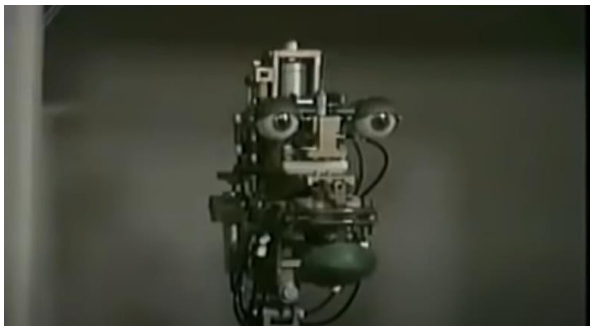

Fig 3. Electric Coffee Mug *Small Wonder Season 4 Episode 23 See No Evil*, *YouTube*
(Vicki disembodied from her human self to a connection of wires and metal pieces. The liminal identity of Vicki)

Fig 4. Fig 3. Electric Coffee Mug *Small Wonder Season 1 Episode 1 Vicki's Homecoming, YouTube*

Fig 4. Electric Coffee Mug *Small Wonder Season 1 Episode 1 Vicki's Homecoming, YouTube*

Ted's constant concern is "how human she can be" and also goes to the extent of "…developing a metabolic thermostatic servo mechanism to regulate Vicki's polynucleotide processor" ("Fats of Life" 01:38) in short, he gives Vicki an appetite like a human. But a more interesting facet unravels in season 4 episode that goes beyond construing the biological needs that define humaneness where Ted creates Vanessa –

> …A new improved Vicki…who doesn't even talk like a robot, because her voice has two method modes larynx track replication for natural speaking and oral speaker digital synthesizer…who doesn't spout computerized statistics like Vicki does like a robot, makes subjective evaluations and her thinking is very close to human and can make her own decisions… ("The Bad Seed" 02:35-03:40)

Even to the extent where Ted wishes to dismantle Vicki as she is obsolete against protests from Joan who feels she's family. The issue is with the consciousness and autonomous thought processing factor that Ted adds to Vanessa creates her more human in her sensibilities making her a "mechanical terror" to the extent where he realizes "…she has faults as some of us humans have arrogance and an over inflated ego." Ted's realization, "…I thought I could make the perfect robot, what I forgot was no matter how close you come to making it human the one thing you can't give a machine is conscience…" (19:00-20:00) is a comment on the posthuman itself, the lack of a human conscience. Is it what makes it a human, possessing this innate characteristic of philosophical, biological, sociological makeup of conscience? What about individuals whose lack of this determines whether one is "bad seed" or a good "social being" make them any less human? Only a post- posthuman world can answer this rhetorical question.

Whatever the humane or beyond humane outcome be, the good-bad-evil-saint humans exist in cultures and subcultures that determine "cultural materialism. Development and deployment of humanoid technology are influenced by cultural, economic, and political factors. Cultural posthumanism examines how power dynamics shape the production and consumption of humanoid technology and how these technologies, in turn, reinforce or challenge existing social hierarchies. The cohabitation of human-machine interface puts forth shifting paradigms. As Florian Cord labels the posthuman as a "non-human turn", in "Post Humanist Cultural Studies: Taking the Nonhuman Seriously", this opens a debate of polar ideas altruistic on one end and purely materialistic on the other depended on the human's perception of the post human.

> …The nonhuman here only ever appears as a site of inscription or projection for *human* meaning, never as a locus of value, meaning, or agency in its own right" (27) … the nonhuman turn has the capacity to become another such interruption, and to reorganize the field in some significant ways. Not least, this will involve an engagement with the "question of anthropocentrism," i.e., of how far, in spite of its critique of the self-enclosed Cartesian subject, the discipline has nevertheless tended to reaffirm humanity's central place in the world. Cultural Studies, in other words, will further be post humanized. (29)

The power to create a superhuman machine rests with the one that has access to resources, technology, and the means of utilizing it to max with added knowledge which is goal oriented. If the goal of the creation is purely social, will the humanoid created be "like the image and likeness" of its master? (Gensis 1: 26-27). This is answered by Teds two diverse creations- Vicki created as a means to assist children and hospice patients, resembles more human super ego whereas Vanessa created out of Ted's own needs of perfection and out doing himself reflects man's ego. This is further evident through Vladimir created by a Russian diplomat Boris, another humanoid oblivious to the human society and the Lawsons themselves. "…The best minds come from Russia" ("The Russians are Coming; The Russians are Coming" 08:07). The sense of capitalism runs throughout the episode and in particular the discourse of Boris through his ulterior agenda of claiming the United Staes-

> …He will defeat children all over America. Comes then the biggie. We go to Washington and in front of President of United States, we show world how superior is Soviet education. (15:26)

As Vicki and Vladimir are put against each other in a quiz combat, a dominant culture of competitive humans over a sub culture of command following competitive humanoids is persistent throughout the episode. When cultural materialism is forayed into the filed of robotics a new dimension of powerplay and politics runs amok. Not only binaries of human- machine and nature-technology are broken down, but also are boundaries of ethics, inequity, materialism and social justice. If *Small Wonder's* this episode be used as means of projection for the future, before a sub culture of humanoids can exist, the forces that will determine how these humanoids express themselves shall depend on their creators and their motives. If this extrapolation is used, the post human humanoids reflecting their predecessors can either be socially oriented of materialistically motivated. How will that interaction shape the post anthropocentric cultural discourse? As its evident from Vicki's and Vladimir's interaction, although they both possess innate processing abilities of the world around them independent of their "masters" lead, they still follow their respective creators' commands, which is always the disposal of "re- programming". If the robot is given agency will a new cultural scenario open up that is independent of social or materialistic discourses? Will the structuralist and post

structuralist disciplines of Marxism, Cultural Studies and Anthropological studies be replaced by a unique culture of "roboism"? "…For much of the intellectual work connected with the nonhuman turn, sometimes implicitly, often explicitly, is in fact political in nature and committed to emancipatory change "(33). Perhaps the non-human turn is the much-needed change to diverge from the inhumane humanism that the contemporary world finds itself in. The "What If" question always looms.

Papadopoulos and Koulouglioti's cumulative findings through data collection, analysis of articles, questionnaires and lab experiments using a robot with a sample population in "The Influence of Culture on Attitudes Towards Humanoid and Animal-like Robots: An Integrative Review" throws much light on this interdisciplinary approach. The response of different setups and age groups in different countries is as diverse as the phenomenon if science and cultural anthropology itself.

> …Mexicans are the most negative towards robots, US the more positive, especially when asked about interacting with robots. Japanese were more concerned about the social influence of robots, especially emotional aspects of interacting with robot. USA participants liked more the human-like robots whereas Japanese reported the opposite. The more human-like the less it was liked by the Japanese (658) … Italian children are more open, expressive and closer (physical distance) to the robot compared to the Dutch children. Japanese rated higher the robot on mental capability to experience (e.g. feel pain, pleasure) and agency (ability to plan, memorize) …Participants from Greece, Portugal, Cyprus and Slovenia were the most hostile towards the use of robots whereas respondents from Eastern European countries -Lithuania, Poland, Czech Republic and Austria- were the most favourite. (670) … Why do people from different cultures perceive different things when interacting with the same robot in similar conditions? (671) …A person's cultural background influences many behaviours, and not only acceptance of robotic technology. The current evidence indicates that preferences about a robot's appearance, the general attitudes towards the use and application of robots, along with verbal and nonverbal communication styles are impacted by culture (673)

This spectrum of behaviours of humans towards robots that are both human like or mere piece of machinery in its physical manifestation is dependent of individual perceptions and collective cultural experiences. As posited, Vicki's identity that makes her any more like a human is due to the "perceived" factor of The Lawsons that know of her humanoid origin and by The Brindles and others who are completely unaware of the same. The people belong to the same American sub urban culture, yet they differ in their attitudes towards a humanoid. So much so that the same Joan that orders Vici around the house as a house help also treats her as a daughter she never had. Jamie though forever is mindful of Vicki's superhuman powers and never misses a chance to use the same, but is also proud to have a "sister" and be concerned for her, landing both of them in occasional trouble. In "Sibling Rivalry" when Vicki falls from the tree house, the Lawsons are devastated to have "…lost their sweet little girl" (19:20). Even Ted takes a while to realize that "robots can't die, the worst it can do is rust" (19:06).

Humanoids raise profound questions about ontology (the nature of being) and epistemology (the nature of knowledge). They raise questions to their human counterparts, to reconsider fundamental assumptions about what it means to exist as conscious beings and how they come to know themselves vis a vis the world around the "cultural other" If the attitudes of people itself differs towards a humanoid, how will a humanoid-to- humanoid interaction be? How they will perceive each

other in their own sub culture? The symbolic structure and functionality will better unravel this perplexing idea.

Symbolic structures and functionality in humanoids refer to the various ways in which these beings are designed, programmed, and perceived within cultural contexts. It covers a wide area of basic structures- physical appearance, cultural signifiers, goal- oriented functionalities, and technological-economic systems. The physical appearance of humanoids often carries symbolic meaning. Design choices in their appearance, such as facial expressions, body language, and overall aesthetics, can evoke specific cultural associations and interpretations. For example, a humanoid with a humanoid face might evoke feelings of familiarity and comfort while one with a more mechanical appearance might symbolize advanced technology or artificiality. Incorporating cultural signifiers that reflect values, norms, or aesthetics convey cultural identity or status. For example, in a recent development Iris a saree clad humanoid was introduced in the classrooms of KTCT Higher Secondary School, Keala designed under Atal Tinkering Lab (ATL). With specific functionalities tailored to their intended tasks in the case of Vicki or Iris , this includes capabilities such as mobility, manipulation of objects, communication through speech or gestures, and cognitive abilities like problem-solving or learning. The functionality of humanoids is closely tied to their design and programming, which are influenced by cultural, economic, and technological factors. By the virtue of their design to adapt and learn from their interactions with humans and their environment, their functionality enables them to improve their performance over time, respond to changing circumstances, and develop more nuanced and sophisticated behaviours.

Symbolic structures and functionality of humanoids reflect the ways in which humanoids are perceived, utilized, and integrated into society, as well as the cultural values, norms, and aspirations that shape their development and deployment. The ground breaking hypothesis by the Physical Symbol System Hypothesis (PSSH) by Allen Newell and Herbert A. Simon forms a philosophy of artificial intelligence ("Elements of a Theory of Human Problem Solving") An ideological breakthrough that secured them Turing Award focuses on a physical symbol system that possesses the necessary and sufficient means for intelligent action. This assertion argues that human thought is a form of symbol manipulation and, therefore, intelligent human-machine interfaces are possible. It relies heavily on discourses of Hobbes, Leibinz, Hume, and Kant. The computational theories of mind put forth by Hillary Putnam and Jerry Fodor further substantiates Newell and Simon's claims, that intelligence arises from the manipulation of symbols according to rules. In the context of humanoid robots, this hypothesis suggests that human-like intelligence can be achieved by implementing a system that processes symbolic information in a rule-based manner. This means developing algorithms and systems that enable them to perceive their environment, reason about it using symbolic representations, and then generate appropriate actions based on this reasoning. This could involve methods such as natural language processing for communication, computer vision for understanding the environment, and symbolic reasoning techniques for decision-making.

For Vicki this comes with interpretation of language commands. Language- the determining factor of humans, that lead into different discourses which stems from cultural context. As "The Influence of Culture on Attitudes Towards Humanoid and Animal-like Robots: An Integrative Review" states, "…Another theme was related to the closeness of the robot to the recipient's culture. A robot's features, such as language and communication style, were found to influence the perceptions of people from different cultural backgrounds." (671) When Ted first worked on Vicki, he starts by

feeding input commands in his computer connected to her- "Blink Eyes", "Wiggle Nose" and "Respond to Voice Commands" which ultimately activates language inputs, process, output, and subsequent execution of tasks. This evolves gradually as Vicki first interprets every command word to word. Like "keep an eye" on the door she sticks herself to the door and has to be explained elaborately by breaking it down. She follows these commands without much emotion or understanding, akin to a programmed robot. When Jamie tells her to "put him down" after she has lifted him up, she drops him down following the command literally without applying appropriate "reasoning". Vicki's reactions to these commands varies depending on the context of the scene. For example, when commanded to clean her room or do her homework, she usually complies without complaint, showcasing her "obedient" and "helpful" nature as a robot. However, there are also instances where she displays curiosity or confusion, especially if the command conflicted with her developing sense of individuality or if it presented a moral dilemma. Overall, Vicki's reactions added humour and depth to the show's exploration of human-robot interactions. Her performing of tasks depends on the nature of the commands. For example, as Vicki has in built mechanisms that double as electronic appliances, she uses them to complete the chores of the house, or sometimes does it like a "normal human". Like making milkshake she uses her inbuilt blending system, to cool the water she utilizes her cooling refrigerating system. Vicki's reactions are often stiff and overly literal, reflecting her robotic nature. She tries to interpret and execute commands in her own mechanical way, often misunderstanding human nuances and idioms however a shift is observed over the series as Vicki is "humanized" due to her interactions with the people around her. When following commands, she reproduces a mechanical robotic voice implying she's a programmed

device and when imitating fellow human co habitants, she emulates imitative voice with expressions, tone, and annotations indicating her human turn.

This reinforces Newell and Robert's hypotheses. Vicki has developed reasoning due to her interpretation of symbolic signs and symbolic exchange of data from human to human and human to humanoid. Vicki's echolalia and imitation of human words and behaviour replicates a child's learning of language and the creation of an image of self which is different from the other as one enters the symbolic order (Jacques Lacan's hypothesis on Psychoanalysis). For Vicki the "mirror stage" is when she tries to identify that she's a "programmed robot" but also has independent thinking capacity (which is still restricted to input commands) as she develops "human language" of answering back. To give an example, in the "Bad Seed" when Ted talks of dismantling Vicki over Vanessa she replies "No Way Jose!". Vicki has learnt this response as ways of imitating Jamie's talking style, however she has also learnt when to use it by following Jamie's usage of the term and on basis of her own understanding and processing the nuances of human language. As Cynthia Breazeal remarks in *Designing Sociable Robots*, "…new experiences would continually shape a robot's personal history and influence its relationship with others. New skills and competencies can be acquired from others, either humans or other agents…such as learning by imitation, goal emulation, mimicry or observational conditioning" (9)

Vicki begins to display more emotional responses to certain language commands as she learns about human feelings. For instance, she might show confusion or distress when someone uses harsh language or expresses anger towards her. Vicki's understanding of humor and sarcasm improves over time, but she still struggles to comprehend subtle jokes. Her reactions to sarcastic remarks or ironic

statements become more nuanced as she learns to interpret tone and context. Vicki becomes capable of understanding and executing more complex instructions as her programming evolves.

Angelo Cangelosi points at grounding of language into action and sensorimotor knowledge as put forth by Glenberg and collaborators in her work titled "Grounding language in action and perception: From cognitive agents to humanoid robots",

> …meaning consists of the set of actions that are a function of the physical situation, of how our bodies work, and of our experiences. Glenberg investigated the Action–Sentence Compatibility Effect (141) … In the modelling approach presented here, cognitive agents, be they simulated agents or humanoid robots, learn symbols (words) that are directly grounded into the agents' own categorical representations, whilst at the same time having logical (e.g. syntactic) relationships with other symbols…each symbol is directly grounded into internal sensorimotor categorical representations… perceptual categories, sensorimotor categories, social representations, and other categorizations of the agent's own internal states (e.g. emotions and motivations). (149)

For Vicki this holds true. As she asks for clarification or additional information if she doesn't fully understand a command, demonstrating a growing awareness of her own limitations. She turns more and more self-aware of her "role", her questioning of commands that conflict with her sense of morality or ethical principles which leads to moments of introspection and personal growth as she navigates the complexities of right and wrong. She can also "retaliate" but she only does it through words and not actions- "…Put Vicki in her cabinet. That's what you always say" ("The Neighbors" 12:05), implying it is still language that dictates her actions. Throughout the series, Vicki's reactions to language commands serve as a reflection of her evolving understanding of humanity and her own identity as a sentient being. Her development from a simple robot to a more complex and empathetic individual is a central theme of the show.

The only question that still looms at large with regards to the discourse of post humanism, does Vicki's behavior stem out of an inner evolution of her own identity? Is it due to her interaction with the humans that's determines her sense of self making her aware of her liminal humanoid and human like existence? Or is it the way Ted has programmed her that determines her humanizing turn? As she remarks to Jamie "…I am programmed to be an average 10-year-old girl, Average 10-year-olds make mistakes" ("The Sitter" 10:17). Is it ultimately a human that directs the sub-human or posthuman? Do emotional interactions have an upper hand in the creation of reasoning and a conscience? These questions remain open for further research.

Small Wonder critiques the illusion of human supremacy, urging a reconceptualization of ethical responsibility in an interconnected world. This posthumanist impulse finds a striking contemporary parallel in debates on artificial intelligence, particularly in the existential dilemmas posed by AI ethics. Nick Bostrom's *Superintelligence* (2014) warns of the control problem—the challenge of aligning AI's goals with human values once it surpasses human intelligence. Kingsolver's essays, while grounded in ecological discourse, similarly expose the arrogance of human attempts to manipulate complex systems, whether ecosystems or intelligence itself. Both warn against the hubris of intervention without foresight, suggesting that misalignment between intent and outcome can have irreversible consequences.

Beyond existential risk, recent AI ethics scholarship, such as Kate Crawford's *Atlas of AI* (2021), dismantles the myth of AI as an abstract, immaterial intelligence, revealing its dependence on exploitative labor, energy-intensive computation, and the extraction of natural resources. Crawford argues that AI is less an autonomous force and more an extension of human industrial ambition—one that consumes landscapes, depletes resources, and entrenches power structures. Nick Bostrom's *Superintelligence: Paths, Dangers, Strategies* (2014) famously articulates the control problem: the challenge of aligning AI's goals with human values once it surpasses human intelligence. Bostrom warns that the assumption of human dominance over AI could lead to catastrophic misalignment, with unintended consequences spiraling beyond control. Bostrom highlight a paradox: the more humans attempt to impose control over non-human systems, the more they risk destabilizing them. AI, like nature, resists simplistic governance, demanding an ethical framework that moves beyond anthropocentric control.

Recent AI ethics scholarship also exposes the material and ecological costs of artificial intelligence. Shannon Vallor's *Technology and the Virtues* (2016) adds another layer to this discussion by advocating for a virtue ethics approach to technological development. She argues that the ethical dilemmas posed by AI require not just regulation but a fundamental rethinking of human values, emphasizing humility, adaptability, and responsibility. Kingsolver's writing embodies this philosophical shift, urging readers to adopt a relational ethics—one that recognizes the interconnectedness of all forms of intelligence, whether organic or artificial. By linking ecological ethics with AI ethics, *Small Wonder* offers a broader posthumanist critique: the need to relinquish the illusion of human supremacy and embrace an ethics of coexistence.

By juxtaposing *Small Wonder* with contemporary AI ethics, a deeper posthumanist argument emerges: the need to relinquish anthropocentric control, not only in our relationship with nature but also with the technologies we create. Both Kingsolver and AI ethicists caution against the illusion that intelligence—whether biological or artificial—can be neatly contained within human-designed systems. In doing so, *Small Wonder* remains powerfully relevant, reminding us that true survival lies not in domination, but in humility and adaptation.

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Waste and Women: A Posthumanist Reading of Prayaag Akbar's *Leila*

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Abstract:

This paper examines Prayaag Akbar's *Leila* through the lens of posthumanism, exploring themes of environmental collapse, systemic oppression, and the erosion of individuality in a dystopian future. The novel portrays *Aryavarta*, a rigidly segregated society where caste, class, and religious identity dictate one's fate. The study highlights how posthumanist thought critiques anthropocentrism by interrogating the boundaries between humans, technology, and the environment. The research delves into *Aryavarta*'s technological advancements, such as climate-controlled domes, which exacerbate social hierarchies while offering artificial solutions to environmental crises. It also explores how surveillance, forced assimilation, and bio-political control in Purity Camps reflect posthumanist concerns about dehumanization and ideological programming. Drawing from theorists such as N. Katherine Hayles and Rosi Braidotti, this paper argues that *Leila* presents a cautionary narrative where oppressive systems reduce individuals to informational entities, stripping them of agency and autonomy. Ultimately, this analysis situates *Leila* within the broader discourse of posthumanism, emphasizing the urgent need to rethink societal, ecological, and technological entanglements in contemporary dystopian fiction.

Keywords: *Leila*, environment, dystopia, individuality, societal decay, posthumanism.

The genre of dystopian fiction has mostly served as a fertile ground for critical inquiries, particularly through its engagement with posthumanist theory, as Shaheen argues that "the posthuman narrative is central to dystopia as it explores the limits of human identity, agency, and technological determinism" (Shaheen et. al. 338). Posthumanism challenges traditional human-centered perspectives, emphasizing the interconnectedness of humans, technology, and the

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environment. As Bradford observed that in "literature so far, the prospect of a posthuman future is invariably aligned with notions of dystopia" (155). This perspective underscores how dystopian narratives often serve as cautionary tales, reflecting societal anxieties about technological and environmental changes. In India, it find its roots in films, like Satyajit Ray's Bengali movie *Hirak Rajar Deshe* (1960), which critiques authoritarian regime. Other influential works such as *Shwaas* (2004), *Peepli Live* (2010), and *Ghoul* (2018) also reflect dystopian themes centered on social issues, political unrest, and economic disparity. These narratives highlight the posthumanist concerns of marginalized communities and the degradation of natural systems. As Bezrukov stated,

> Dystopia [...] generates a special type of identity as the consequence of a deviation from anthropocentric principles, crises of national and cultural worldviews, and manifestations of social shifing in a posthumanist world. (52)

Beyond cinema, Arundhati Roy's *The Ministry of Utmost Happiness* (2017) interrogates the intersections of gender, environment, and politics within a dystopian framework. Such narratives reflect the "mutation of dystopian identity in a posthumanist world" (Bezrukov 57), where traditional notions of identity are challenged and redefined. By engaging with posthumanism, these works not only reimagine the future but also question the constructs that define humanity and its entanglement with larger systems. They serve as speculative spaces to critique societal collapse, technological overreach, and environmental crises, urging a re-evaluation of humanity's role within a broader ecological and technological context.

Dystopian fiction often presents a frightening vision of the near future, offering critical reflections on societal collapse and systemic failures. The genre finds resonance with posthumanist theory, which critiques anthropocentrism and interrogates the boundaries between humans, technology, and the environment. As Lars Schmeink argues, "fictional posthumans, represented through the lens of sf [Science Fiction], laid the basis for a fruitful and engaging discourse on posthumanism" (34). This perspective shifts focus from reliance on technological replacements, such as robots or AI, to broader questions of interconnectedness between human and non-human agents. A posthuman world does not always need robots, artificial intelligence (AI), zombies, or cyborgs replacing humans, as Susen argued, "[t]he posthuman world [...] is constructed through the ontological intertwinement of human and non-human forces, whose spatiotemporal situatedness in the universe obliges us to explore subjects 'across multiple axes" (4). Instead, posthumanist narratives often mix real and fictional dangers, exposing the fragile relationship between humans and the systems they inhabit. As Bayne defined,

> Posthumanism is broadly concerned with the questioning of human exceptionalism and the foundational role of 'humanity' as it has been constructed in modernity. Rejecting any clarity of distinction between 'nature' and 'culture', it works against dualism and the binaries we have tended to draw on to define what it means to be human. (1)

These stories act as cautionary tales, offering speculative insights into the potential consequences of ignoring societal, environmental, and technological challenges. In recent years, dystopian narratives have expanded their scope to reflect diverse social, political, and environmental crises. For instance, India emerges as a critical locus for exploring posthumanist themes, where rampant pollution, systemic caste-based marginalization, and an increasingly polarized political

landscape converge. This convergence reflects not only the dystopian imagination but also posthumanist concerns about the fragility and permeability of socio-environmental systems.

Here, Akbar's *Leila* stands out as a response to India's worsening environmental crises, where unmanageable waste, water scarcity, and toxic air form the backdrop of his dystopian vision. The novel connects these ecological issues with the social realities of caste-based segregation, reflecting how marginalized communities disproportionately bear the brunt of environmental degradation. Akbar also critiques the authoritarian tendencies of modern governance, where purity politics and surveillance further exacerbate inequalities. By drawing on real-world challenges, *Leila* presents a powerful allegory for contemporary India, highlighting the dire consequences of unchecked environmental destruction and systemic oppression.

The story of Akbar's debut novel takes us to the year 2047, exactly 100 years after India's independence on 15th August 1947. However, instead of showing India in future, it takes us to a fictional authoritarian state called *Aryavarta*. In this state, people are divided based on their caste, religion, and financial status. Minorities are treated as second-class citizens. One day, the government decides that all the *Mishrit* (mixed-blood) children, born to parents from both Hindu and Muslim communities, must be taken by the state and "Hinduise" (Dixit) them. Leila is one such child, who was taken away by the authorities. The systemic dehumanization of individuals who's parents are from different faiths, labelled as "*Mishrits*," exemplifies the intersectional nature of oppression within *Aryavarta*'s rigid societal structure. The social stigma and enforced segregation imposed upon hybrid identities serve to uphold, rather than challenge, the liberal humanist ideal of a 'pure' subject. By marginalizing those who embody hybridity, society reinforces traditional notions of purity and normalcy, thereby maintaining established power structures. As noted in "Liberal Humanism, Social Science, and the Discursive Legacy of the Human in English Education," the liberal humanist tradition often emphasizes a universal, rational subject, which can marginalize those who do not fit this ideal (Zaino 4).

The state's punitive measures against mixed-faith families, including abduction and re-education, serve as technologies of power that not only suppress dissent but also prompt critical reflections on posthumanism. By targeting 'impure' bodies, *Aryavarta*'s regime compels a re-evaluation of human identity, pushing towards a posthuman perspective that critiques dehumanization and advocates for diverse approaches to understanding the self beyond traditional binaries. During this process, her father, Rizwan Ahmad, is brutally killed by the Repeaters, and her mother, Shalini Pathak, is sent to a "Purity Camp" (Akbar 143). In the Camp prisoners are forced to perform "purity exercises" (151) and cruel rituals. The camp "made [the prisoners] impure with their impure rule" (119). *Leila* portrays a dystopian society filled with discrimination, human suffering, and brutal inhumanity. Through Shalini's painful journey to find her daughter, the story highlights the harsh realities of marginalisation and cruelty in *Aryavarta*.

Rahul Verma draws comparisons between *Leila* and *The Handmaid's Tale*, highlighting their shared depiction of patriarchal oppression. He notes that *Leila* explores "a draconian, patriarchal state suppressing women and restricting their reproductive rights, [...] also include climate change" (Verma). Similar to *The Handmaid's Tale*, *Leila* doesn't show anything inhuman that hasn't been done before in the country. The narrative of *Leila* recalls a similar operation of investigative journalism, such as Neha Dixit's article "Operation Beti Uthao," which exposed the horrifying case of 31 tribal

girls trafficked from Assam by the *Sangh Parivar* with the intention to "Hinduise" them, reflecting a disturbing trend of religious and cultural manipulation through abduction (Dixit). This connection highlights the parallels between the fictional abduction of Leila and mixed-blood children and real-life incidents documented in contemporary journalism.

Similar to many other fictional dystopian places, *Aryavarta* is also technologically advanced, as the state built a "dome," along with the walls to control the environment. As Shalini observes, "[t]he dome [...] keep the air at such a lovely temperature, like it has just finished raining and the wind is blowing" (Akbar 245). But at the same time, it struggles with environmental problems like garbage, air pollution, and the water crisis. These issues might reflect present-day challenges faced by metropolitan cities in India. For example, the problem of air pollution may reflect the situation in Delhi, the water crisis could reflect Bangalore, and the issue of garbage resonates with almost every city in the country. They suggest that the theme of pollution in the novel aligns with the lived realities of urban India, making the work socially and environmentally relevant. From a posthumanist perspective, *Aryavarta*'s technological achievements expose the ethical dilemmas of anthropocentric systems that prioritize technological supremacy over ecological balance.

In Prayaag Akbar's *Leila*, the concept of purification manifests in multiple forms, notably through climate control and the treatment of prisoners. The artificial climate within *Aryavarta*'s dome is maintained by "[p]urifiers working day and night" (Akbar 245), symbolizing technological purification aimed at creating an ideal environment for the privileged. Concurrently, the narrative portrays the 'purification' of individuals deemed impure by the regime, particularly prisoners subjected to harsh conditions in purification camps. For instance, Shalini, the protagonist, is coerced to demonstrate her loyalty by executing fellow prisoners, a testament to the regime's brutal methods of enforcing conformity (Tripathi 156-57). These dual forms of purification—environmental and social—underscore the regime's reliance on technology and coercion to maintain control. This approach aligns with critiques of posthumanism that highlight the dangers of technological dominance. As noted in discussions on technological and posthuman zones, when technologies are perceived as not serving human interests or as threatening to control humans, they are often interpreted as dystopian forces (Rutsky). Furthermore, the narrative's depiction of climate control through technology challenges the notion that posthumanism moves away from technological reliance (Johnson 85). In *Leila*, technology is not only central but also serves as a tool of oppression, exacerbating social hierarchies and ecological crises. This reflects concerns within posthumanist discourse about the uncritical embrace of technology and its potential to perpetuate existing power structures (85). In summary, *Leila* illustrates how technological advancements, under the guise of purification, can entrench social inequalities and environmental degradation, offering a critical perspective on the complex interplay between humans, technology, and the environment (85).

Aryavarta's future depicts a society where the erasure of social and physical boundaries paradoxically intensifies oppression. Posthumanist thought reinforces this critique by emphasizing how dystopian systems replicate real-world patterns of domination, including patriarchal control over bodies and the exploitation of natural resources. Through Shalini's struggle, *Leila* provides a nuanced exploration of these dynamics, prompting readers to reflect on the ethical dilemmas of posthumanist futures and their entanglement with ecological crises.

Of Surviving in A Purity Camp: The Inhuman Treatments Gave Birth to A Posthuman.

Leila begins with Shalini, an upper-caste Hindu, who is accused of marrying a Muslim man, Riz. This so called 'crime' leads to Riz's brutal killing by authorities, vividly captured as "[f]our men are carrying Riz. He stares at me, apology in dull eyes" (Akbar 136), as they take him away. Shalini is then forcibly taken to a Purity Camp, where the systemic dehumanisation begins. Braidotti highlights that "the posthuman predicament has more than its fair share of inhuman[e] moments" (16), similarly Hayles also emphasizes that the dissolution of boundaries between the embodied and disembodied, where human consciousness and informational patterns become interchangeable (Hayles 19). This theoretical lens is crucial in understanding how the Purity Camp operates, where bodies are not only controlled but chemically altered to conform to a state-mandated identity. This transformation reflects Hayles's argument that "In the posthuman [society], there are no essential differences or absolute demarcations between bodily existence and computer simulation, cybernetic mechanism and biological organism" (3).

Leila explores how the state employs bio-political and technological interventions to regulate, control, and erase the autonomy of prisoners in the Purity Camp. Braidotti contextualizes this within the framework of advanced capitalism and bio-genetic technologies, arguing that "the genetic code of living matter – 'Life itself' (Rose, 2007) – is the main capital" (Braidotti 16). In *Aryavarta*, prisoners are subjected to systematic erasure not through digital surveillance or cybernetic implants but through bio-chemical manipulation, environmental deprivation, and forced labour. The state's technological dominance is evident in its use of chemically induced submission—prisoners are forced to take pills that alter their cognition. Shalini is forcibly introduced to the Purity Camp's ideological and physical control, which strips her of autonomy. She reflects, "It is not something from me but something of me that has been taken. The part that could feel warmth, happiness, desire". (Akbar 137) This incident shows how the state erases individual identity and humanity in an authoritarian dystopian society, aligns with the theory of posthumanism. In Shalini's world, the authoritarian regime redefines people not as individual beings but as objects, who are meant to be controlled. Building upon this assertion of Braidotti, *Leila* illustrates how systemic dehumanization under authoritarian regimes can lead to the emergence of posthuman subjects. In the Purity Camp, prisoners are subjected to chemical manipulation, forced labour, and the erasure of individuality, stripping them of traditional markers of personhood and autonomy. This aligns with Braidotti's critique of necro-political economies, where life is commodified and controlled (Herbrechter 5). The regime's reduction of individuals to mere biological entities collapses the boundary between human and non-human, reinforcing the posthuman condition (7). Shalini's transformation within the Purity Camp exemplifies this shift, as her chemically altered state blurs the line between human agency and state-imposed control. Braidotti emphasizes the need for new frameworks to analyze such violent practices, underscoring the urgency to rethink human identity and agency within dystopian futures like *Aryavarta.* (9)

The purification rituals in *Aryavarta* are not merely religious; they are structured as a process of dehumanization. This logic manifests in *Leila* through forced physical labour, exposure to extreme environmental conditions, ritualized humiliation, and starvation. Beyond eating the leftovers of Brahmins, prisoners are subjected to forced manual labour, as seen in Shalini's daily schedule:

> Meals, group sessions with Iyer, Purity exercises, gardening duty, clean-up. I learnt to properly sweep a floor with a jhadoo, down on my haunches. Learnt not to be revolted by the stiff black rag they gave to mop the floor. (Akbar 151)

This mechanical repetition of tasks recalls the ideological conditioning of necropolitical states, where life itself is instrumentalized as a means of enforcing submission. And in *Leila*, purification rituals embody this cruelty by reducing prisoners to programmable, expendable bodies. This was an imposed servitude, where Shalini was "perform[ing] peon duties, take papers around, dust the desks, keep the appliances working. Tea for the senior officers. Open the triple-decker tiffin boxes, serve lunch, wash the plates and glasses and receptacles" (Akbar 24). This evokes a feeling of modern day slavery. This dehumanisation not only diminishes the individual's identity but represents the embodiment of a posthuman state, where people are treated as tools within the larger machinery of *Aryavarta*'s oppressive regime. *Leila* invites a critical dialogue on purification, demonstrating how bodily manipulation, enforced rituals, and ideological conditioning contribute to the construction of the posthuman subject.

Shalini's experience in the Purity Camp, where behavior and identities are regimented and controlled, echoes posthumanist concerns about biopower and the transformation of human beings into subjects of a larger machine-like societal order (Mandal). Which caused her mental health, and she had to start taking pills for that. By forcing Shalini and other prisoners to consume pills that alter their cognitive functions, *Aryavarta* effectively reduces them to informational entities—bodies whose behaviours, memories, and emotions are rewritten through biochemical intervention. The Purity Camp imposes strict behavioural norms and seeks to transform individuals, aligning with themes of bio-power and the transformation of identity in a controlled environment. As Akbar wrote:

> I was introduced to the pills at Purity Camp. When I first got there I felt in pieces, a solitary step from the brink, ensnared by the wide, open fields with the lonely gabled sheds [...] The pills helped. There were other ways to cope. Many picked up odd little habits, anxious for routine [...] That's what all of us were like at Camp. Doing desperate little things so we could remember what was normal. (21)

The pills given to Shalini at the Purity Camp serve as a potent symbol of the bio-political control exerted over individuals, directly impacting her mental state and eroding her sense of humanity. Shalini describes the pills represents bio-political control, where the state manipulates cognitive functions to enforce ideological submission, as Shalini observes: "I was introduced to the pills at Purity Camp. When I first got there I felt in pieces [...] The pills helped" (Akbar 21). However, this artificial regulation of her emotions blurs the line between her authentic self and the chemically induced calm, raising questions about her autonomy. She describes, "[t]he scything ache between my shoulders wanes, memories billow and contract, now everywhere there's a slow, warm tingle" (19), indicating that her perception of time, pain, and memory has been artificially restructured. The pills in *Leila* do not remove memory entirely but distort its structure. This represents Shalini's chemically controlled mind as a site of posthuman transformation, where memory, rather than being erased, is reformatted in accordance with state control.

> The girls called her Lady Police. [...] Lady Police did not walk; she'd stride about the place. Every morning and evening, at about the same time, she would strike out from the dormitories, past the playing fields, towards the scant groves that stood on the eastern edge of Camp. There was, always, something forward, something purposeful in her gait. (Akbar 22)

By saying this, Shalini highlights the moral policing at the Purity Camp by the Lady Police exemplifies a system where societal norms are enforced with such harsh indifference that individuality and humanity are erased. In *Leila*, the Lady Police's treatment of women reflects this dehumanisation: "That's what all of us were like at Camp. Doing desperate little things so we could remember what was normal" (21). The women at the Camp are demonstrates a systematic erasure of autonomy, where their bodies and identities are regulated by a bio-political system that prioritizes ideological conformity over human connection. This aligns with Achille Mbembe's notion of necropolitics, the "contemporary forms of subjugating life to the power of death (necropolitics) are deeply reconfiguring the relations between resistance, sacrifice, and terror" (Mbembe 92). The women in the camp are reduced to mere subjects of re-education, stripped of their agency, and forced into repetitive cycles of labour, surveillance, and psychological conditioning. As Hayles wrote,

> The liberal humanist subject, constructed as a rational mind, possessed a body but was not usually represented as being a body. This erasure of embodiment is a feature common to both the liberal humanist subject and the cybernetic posthuman. (5).

In *Leila*, Shalini vividly recounts the physical abuse she faced in the Camp, an environment designed to strip individuals of their dignity and humanity. In *Aryavarta*, prisoners are reduced to labouring bodies that function like machines, treated as disposable like experimental animals, and forced to merge with an environment that punishes them. Shalini's suffering encapsulates this posthuman condition: "Through the night the Repeaters had podded us with their sticks, finding a fleshy thigh, a side of stomach, thrusting in the splintered end" (Akbar 140). This brutal enforcement of pain aligns with Braidotti's observation that necropolitical states dismantle bodily autonomy, turning individuals into expendable biological entities. Shalini's chemically induced submission mirrors this process—her emotions, memories, and bodily autonomy are overridden by external control. Thus, the posthuman in *Leila* is not just a condition of technological transformation but a condition of forced adaptation under systemic oppression.

Braidotti discusses how global capitalism transforms both humans and non-humans into instruments of production, stating that the ecosystem itself is turned "into a planetary apparatus of production" (Braidotti 7). In *Leila*, *Aryavarta* operates under a similar logic, where prisoners' bodies become functional extensions of state ideology. By integrating forced labour, chemical submission, and environmental exposure into its purification process, the state reduces prisoners to mere components in its hierarchical system of power. Braidotti highlights how capitalism and necro-politics merge, ensuring "the material *destruction* of human bodies and populations" (9), which is evident in *Leila* as the impure are not just punished but systematically broken down into controllable entities.

Conclusion

Prayaag Akbar's *Leila* is a nuanced question of humanity's destructive relationship with the nature and its own societal structures. Through its exploration of environmental collapse, surveillance, and the marginalization of women, the novel picturised a harrowing picture of a dystopian future. As Wolfe observes, posthumanism "forces us to rethink our taken-for-granted modes of human experience [...] and their [...] ethical implications" (xxv-xxvi). *Aryavarta*'s obsession with purity, its rigid caste-based hierarchies, and the omnipresent Sector Walls serve as physical and ideological barriers that dehumanize and fragment identities. These systems represents the themes of

Hayles's "informational patterns" (Hayles 61) that reduce humanity to data, stripping away individuality.

However, *Leila* also offers glimpses of resistance and renewal. The reclamation of waste by scavengers and Shalini's relentless journey to find her daughter highlight resilience in the face of systemic oppression. Braidotti's concept of a "relational ethics" (111) underscores this potential for interconnectedness, even amidst societal decay. Ultimately, *Leila* challenges readers to envision a posthuman future where decay and regeneration coexist, urging a rethinking of ecological and societal ethics in an increasingly fragmented world.

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Dis-ease: The Affective Experience of Being Hospital-adjacent

Philippa Nicoll Antipas[1]

Abstract:

In this piece of writing-as-analysis (Sharon Murphy Augustine), I seek to make sense of my body's affective response – the heebie-jeebies – to working at a satellite university campus that is co-located with a hospital. Thinking-with Jane Bennett, Karen Barad, and Donna Haraway, I recount three vignettes – three confrontations – between my body and medical entities that provoke the heebie-jeebies: a feeling of dis-ease. I conclude that staying with the sense of dis-ease may in fact afford the opportunity for doing and being differently in my role as lecturer and education advisor at a medical school.

Keywords: Affect, dis-ease, writing-as-analysis, medical education

In this piece I seek to harness "the thinking that writing enables" (St. Pierre 621) as I explore my affective response – the heebie-jeebies – to the physical environment of working at a small, satellite university campus that is hospital-adjacent.

Ōtākou Whakaihu Waka ki Pōneke | University of Otago, Wellington is a medical school physically co-located with Wellington Regional Hospital in Aotearoa New Zealand. It sits on Taranaki Whānui ki te Upoko whenua (land). Ōtākou Whakaihu Waka ki Pōneke offers a small range of health-related degrees, including years 4, 5 and 6 of a Bachelor of Medicine and Bachelor of Surgery (MBChB). It hosts approximately 1500 staff and students. I am employed here as a

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Lecturer/Education Advisor to support the professional learning and development of the clinical teaching staff.

This medical education environment is grossly unfamiliar territory for me. I have been in regular(?) classrooms since I was four years old. I was one of those kids who always knew they wanted to be a teacher, so went straight from high school into university, and then straight back to high school (literally: my first teaching job was at my old school). I spent 15 years as a high school English teacher before slipping out of the classroom to work with teachers as a professional learning and development (PLD) facilitator. This led me to doctoral studies, researching aspects of teacher PLD in the context of conferences (Philippa Nicoll Antipas), and teaching into initial teacher education programmes. Having now completed my PhD and, given the current national and global job climate, I am incredibly grateful for the opportunity to work in academia within my field, albeit in this unknown context of medical education. It's a classroom Jim, but not as we know it.

At Ōtākou Whakaihu Waka ki Pōneke I find myself confronted by the material environment of working hospital-adjacent: wheelchairs in the hallways; patients in the lifts; the sound of the rescue helicopter landing on the hospital roof; health professionals in masks, scrubs, and Crocs waiting alongside me to get their morning coffee. It gives me the heebie-jeebies, the creeps, the willies. But why? What is this? What is my body telling me? It seems to be more than emotion. Rather, it is like the cold prickle of static electricity or the itchy tingle of a forthcoming sneeze: it is body and feeling and sensation. It seems to be *affect*: "It guides, dis/connects, excites, startles, interrupts, diverts, and reorients" (Dernikos et al. 4).

Thinking-with assemblage

In this exercise of writing-as-analysis (Sharon Murphy Augustine) then, I think-with an assemblage of Jane Bennett's *Thing-Power*, Karen Barad's agential realism, and Donna Haraway's tentacular thinking. I now briefly look at each in turn.

Bennett's proposition is one of vital materiality. She reminds us that human bodies are composed of minerals, metal, electricity: of many *things*. In this way, humans are kin to every*thing*. In her text *Vibrant Matter: A Political Ecology of Things*, she seeks to highlight "the extent to which human being and thinghood overlap, the extent to which the us and the it slip-slide into each other" (4). For her, *things* possess agency, including the ability to "produce effects dramatic and subtle" (6). This is what she calls *Thing-Power*: the agentic power of all things to exert influence in a web of interrelationalities.

Barad's theory of agential realism is derived from a reading of Niels Bohr's (quantum) physics-philosophy that everything – all matter – is entangled. Following the wave-particle paradox, there is no 'subject' nor 'object', no 'you' nor 'I' existing independently of-separately from one another, but rather these phenomena emerge as two entities intra-act. Yes, *intra*-act, not *inter*act: emphasising the intricately interwoven, entangled nature of the world and its bodies in all its mattering. Agential realism undoes Cartesian binary knots: of word and world, of (hu)man and nature, of epistemology and ontology. Rather, Barad speaks of ethico-onto-epistemology, entangling these crucial philosophical concepts and calling us to be responsible to and for what we enact in the world.

And the notion of tentacular thinking is Haraway's call to a particular kind of thinking. She reminds us that, "human beings are with and of the earth, and the biotic and abiotic powers of this earth are the main story" (55). There are resonances here with Bennett and Barad's works, reminding

us that a human body – indeed all bodies – comprises multiple materialities. It is this complex, troublesome thinking *and* feeling, this thinking-feeling with and of the earth, that Haraway asks her readers to "stay with".

Thus, in an attempt to better understand my visceral, entangled, affective response to this unfamiliar environment in which I find myself, I consider three vignettes – I'm calling them confrontations – where my encounters with various entities have given me the heebie-jeebies.

Confrontation 1: The gastroenterology ward

I am looking for the Department of Psychological Medicine. As I exit the stairwell onto the correct floor, I'm not sure where to go: left or right? I choose left. I wander down the hallway a few paces when I abruptly pull up short. I'm confronted by two doors. They are firmly shut, requiring swipe card access. The text on the glass panels reads: 'Gastroenterology / Staff Only'. I immediately feel queasy. I recall the three weeks I spent ill with Campylobacter. The heaving stomach, the roiling nausea, the desperate rush for the toilet accompanied by the urgent anxiety of whether I needed to sit down or kneel to face it. I think-feel in emojis: 🤢😖😰. *My teeth clench, my eyebrows rise, my face grimaces. I make a slight retching sound, moving my shoulders in a responsive mock-vomit gesture. I've got to get out of here. I turn on my heel and leave. I definitely should have turned right.*

I never regarded myself as a germaphobe before I started working hospital-adjacent. But it turns out… the mere sight of the gastro ward doors is enough to make me feel ill. Is this Bennett's *Thing-Power* in action? Conjuring emotive memories of vomiting and diarrhoea, these are powerful reminders of how our bodies leak when infected by the leaky bodies of germs. Can such germs issue forth from the small gaps between the gastro ward doors? In these (theoretically post-)Covid times, we seem to be more aware than ever that germs spread silently, unseen through the air, settling onto surfaces, sinking into our fragile human bodies. This evokes a binary proposition for me – health v. illness – whereby germs are positioned as dangerous and thus avoided at all costs. Perhaps my affective responses are keeping me safe? But I eschew binary constructions. So, what other possibilities exist?

Confrontation 2: The patient in the lift

I'm being lazy and waiting for the lifts. This is no small matter, as the lifts are notoriously slow, unreliable, and frankly a bit dodgy. Think service lift rather than plush hotel elevator. I hear the telltale 'bing' of the lift's arrival and the rattle of the metal doors opening. I take a step forward when I realise there is very little room in the lift for me. A patient is being transported in their hospital bed and is accompanied by two health professionals. It feels as though it would be rude to back out now: there is, after all, physical space for me, albeit right beside the bed. Plus, as mentioned, waiting for the lifts is a pain. I walk forward and smile hesitantly, trying to pretend like this is all perfectly normal. But inside I'm frozen. Should I greet the patient? Ignore the patently obvious fact that they're ill? Should I be wearing a mask? I stare ahead at the closing lift doors, shoulders square and tight, trying to breathe as shallowly as possible. I must keep a mask on my person in this place, *I think to myself. For the patients' sake not for mine, of course.*

It's moments like these that remind me that I'm not working 'just' at a university, but that this particular university campus is swallowed by a hospital. As I sit here in my shared office space, a mere few meters away germs swirl: people are ill, families are sick with worry, health professionals are doing all that they can to care for others. The patient in the lift is a kind of confrontation with mortality for me. I attempt to ignore these illnesses and distress, but I wonder if this makes those who are in pain *Other*. If so, I put myself first and assume difference rather than kinship. This troubles my named core ethical value of empathy. But this is the challenge of Haraway's thinking-feeling. I need to stay with this trouble.

Confrontation 3: The chair in the stairwell

I'm walking up the stairs to the floor above. I've not gone this way before now. I spy a chair in the stairwell. That must be a health and safety issue, *I think. Then I notice the, um, notice under the chair: 'Please leave chair in stairwell for physio use' I read.* Huh, *I think to myself,* I wonder how many times it took for the chair to be moved out of the stairwell before they arrived at that solution? *I continue upwards.*

Some minutes later, I'm returning to my home floor when I see the chair is now occupied. A frail, elderly woman sits there. Hands clasped together, she looks down towards the floor. A health

professional dressed in scrubs crouches next to her to be at eye-level. She is speaking to the elder in soothing, calm tones. "It's Tuesday, Mabel," she says. I feel worried and sad. My mind leaps to assumptions: the elder has dementia, she is confused and frightened. I am confused. Should I do something? If so, what? At the same time, I am confronted by the professional's use of the elder's first name. Is that respectful? Has the elder asked to be addressed this way? Is this normal practice these days? If it were my elderly parent in the chair, I'd prefer the default to be Mr. or Mrs. I crinkle my nose, frowning, grappling with the lack of privacy for this elder; with the disrespect of being called by one's first name; of being treated in a stairwell. I am unsettled, uneasy.

What am I unsettled by / uneasy with? The elder is being treated. The elder is being treated kindly. And yet… my affective response pricks me to the idea that there is something ethically problematic here. It's a matter of respect, I think. Is this a Baradian pun: a *matter* of respect? Indeed, what might Barad have to say about this moment, this elder-chair-stairwell-health professional-me intra-active event? It strikes me that there is ethico-onto-epistemology at play here. Above, I said that we are responsible to and responsible for what we enact in the world. Barad pushes this further, saying: "responsibility – the ability to respond to the other – cannot be restricted to human-human encounters when the very boundaries and constitution of the 'human' are continually being refigured" (392). 'I', this entangled materiality, ignore the intra-active event in the moment, but it haunts.

Writing-as-analysis

This place can give me the heebie-jeebies: I micro-hunch my shoulders, I inflate my cheeks, my palms feel sweaty, my stomach churns. At the most unexpected moments, I find myself confronted by? with? disease. Disease. Dis-ease. The play on words is apt. Disease causes me dis-ease.

Disease has been largely, luckily, a stranger to me: I have (touch wood) enjoyed a reasonably healthy, hospital-free life. My father passed away in 2015 of pulmonary fibrosis, which was awful, but there was no blood, vomit, pus, no … bodily effusions. I have given birth. For various reasons, it was a Caesarian birth. From my perspective, even when lying on the operating table, it was painless, bloodless, *clean.*

Cleanliness. Tidiness. Order. Structure. These abstract nouns start to make linear, arborescent lines (Giles Deleuze and Félix Guattari) in my mind. But bodies are not clean. Bodies are not tidy. Bodies are not bounded. And bodies are not just human bodies. I look up the etymology of 'confrontation'. The verb *to confront* comes from the Middle French *confronter* and Medieval Latin *confrontare*, meaning to border or to bound. Bodies – all bodies – leak, they defy boundaries and spread, and therefore confront other bodies, confront *my* body in all of its unbounded porousness, as it moves through this hospital-adjacent place | space that is *both* hospital *and* university *and* workplace *and* classroom *and* … (Deleuze and Guattari).

And what is 'my' body anyway? Thinking-with Bennett and Barad remind me that my body is a mutually co-constituted mass of materialities: human and more-than-human, and indeed that 'my', that subjective, independent, individual 'I', is a philosophical construct that can be thought differently. Affect theory suggests the same, seeking to "disrupt the Cartesian notion of the self-contained, rational subject by embracing a view of bodies as porous and permeable human and nonhuman assemblages" (Dernikos, et al. 6).

Khandis Blake and colleagues studied the phenomenon of the heebie-jeebies. They relate the heebie-jeebies to the feelings of disgust and fear, particularly connecting the heebie-jeebies to skin-transmitted diseases. In doing so, they suggest that the heebie-jeebies have a kind of adaptive affect:

they warn humans to the presence of possible pathogens, in a less extreme version of the fight, flight or freeze response. So, my body prickles unpleasantly as it (they?) intra-act(s) with the more-than-humanness of this place | space – this biome – as a warning to keep myself safe from disease.

This indeed seems to go some way towards explaining my nauseated 'ick' response to the gastroenterology ward doors and to the patient being transported in their hospital bed in the lift, but not the onto-ethico-epistemological worry of the elder in the chair in the stairwell. Or the dis-ease I experience when I notice the Othering in the division of the hospital-university departments where, for example, Medicine and General Practice and Surgery is agentially cut (Barad) from Women's Health, Māori Health, and Pacific Health – but that may be another story for another time.

Perhaps, then, 'dis-ease' *is* a better choice of phrase than the 'heebie-jeebies'. Dis-ease seems to be able to encompass (embody?) the more-than-human pathogenic-warning-system of the heebie-jeebies as diagnosed by Blake and colleagues *and* the onto-ethico-epistemological dissonance wrought by being in such an unfamiliar context. Being hospital-adjacent rather than being in a classroom confronts me philosophically, ethically, axiologically. But is this dis-ease problematic? Barad says that "ethics is … not about right response to a radically exterior/ized other, but about responsibility and accountability for the lively relationalities of becoming of which we are a part" (393). So, I'm slowly coming to the conclusion: no. I'm starting to conceptualise dis-ease as a kind of tentacular thinking-being-feeling that might allow me to stay with the trouble (Haraway).

The prickles of dis-ease afford me the opportunity to notice the difference of being hospital-adjacent. What others take as banal working conditions; I am unsettled by. Initially, I felt that it was me who needed to become accustomed to being in the presence of disease, but if I think-feel with Haraway and Barad and Bennett, then perhaps rather I need to welcome the dis-ease, to relish in it. Because tentacles are more than arm. They are leg. They are sense and sensation. Tentacles are kin to Barad's brittlestars who do not *have* eyes but *are* eyes. Tentacles literally extend the reach of the more-than-human entity which again reminds us that all bodies are unbounded and porous.

So, what might happen then if I embrace tentacular dis-ease and resist the strange becoming the familiar? Because when the strange becomes familiar, it becomes the given, the taken-for-granted. It becomes fixed and boundaried. But dis-ease is mutable, uncategorised and uncategorisable, boundless. This multiplicitious dis-ease phenomenon is a space of and for possibility (Nicoll Antipas; Deborah Osberg and Gert Biesta; Katie Salen). Where there is dis-ease, there exists the potential for doing and being differently; for entangled, tentacular thinking-being-feeling (Haraway). Indeed, perhaps rather I should seek to become a dis-ease vector, a more-than-human entity who spreads dis-ease to other bodies. Who or what might I infect if I encourage colleagues and students to tune into affective dis-ease responses in order to think differently about disease. Because when we *think* differently we might, in turn, *do* differently, perhaps more responsibly in ways Barad-Bennett-Haraway (and others) call us to. Then what might unfold? Perhaps let's not yet search for a cure.

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Book Review

Do Androids Dream of Electric Sheep?, authored by Philip K. Dick and published in 1968 by Doubleday provides a comparative view of the intricacies of the human emotional psyche. The story, told through the protagonist Rick Deckard, sheds emphasis on the visceral capacities of humans as compared to android artificial intelligence. Dick's acclaimed novel, which explores the manufactured relationship between man and machine, provides the reader with a rich insight into the rooted, yet often concealed, differences between human characteristics and the rigid traits of robots, providing a tangible contrast between human idiosyncrasies and electronic creations. The novel poses the important question of what it means to be human. *Do Androids Dream of Electric Sheep?* served as the basis for Ridley Scott's dystopian classic film *Blade Runner*, and it is to Philip K Dick's imagination's immense credit that neither the book nor the film appears irrelevant even in today's date. The story was undoubtedly ahead of its time. Indeed, seldom a year goes by without some technological advancement that brings Dick's 1968 vision of the future closer. Hovercars may be a while off but the likes of video conversations and genetic tweaks are clearly in the present. The initial pages introduce "mood-organs," (Dick 3) which are activated to suppress or increase emotions in a needy populace. It's tough not to draw parallels with the internet which is constantly on, always available, yet never truly genuine. Deckard visits his artificial sheep "chomp [ing] away in simulated contentment" (Dick 42) on the roof right after the

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argument with Iran over the mood organ. This juxtaposition is undoubtedly intended to get us to consider whether the sheep's simulated contentment and the optimism Deckard has just dialed for himself are any different. Deckard's ideas regarding his discontent with owning the artificial sheep instead of the genuine one he once owned are on the status that each one transmits as a commodity rather than a difference in his relationship with the electric animal, whether it be affective or otherwise. Deckard clearly states that "I've given it the same amount of time and care as I did when it was real" (Dick 196).

The novel since the beginning assumes a jarring prosaic structure since it contrasts with the usual lyrical, dramatic, or complex form that one might expect in a novel; Dick's story is perhaps a bildungsroman for the cybernetic age, exploring the awakening of the posthuman subject. The plot is set in a post-World War II disaster zone, with radioactive dust destabilizing the remaining humans both mentally and genetically. A large proportion of the population migrates to colony worlds, indicating the presence of advanced scientific achievements. The ones who are left back are either too poor or are ineligible for emigration- the "specials" (Dick 15); owing to their decreased intelligence. As technology advances, androids grow indistinguishable from humans, stressing the need for bounty hunters to retire them. Developed from the perspective of Rick Deckard, a real-life bounty hunter, the novel may show the inferiority of androids on Earth. Deckard is specifically tracking a group of androids, including Pris Stratton, Luba Luft, and the Batys, who landed on Earth together. In the novel, bounty hunters use the Voigt-Kampff Empathy test to discern between androids and innocent citizens, which assesses an individual's reactions to a sequence of emotive stories. The degree of indifference displayed by a participant is proportional to the likelihood that they will border on an android. Meanwhile, humans take pride in their ability to empathize because they believe in Mercerism, a religion. Every Mercerist has an empathy box, which, when touched, allows them to experience the thoughts and pain of a religious leader named Mercer. Nonetheless, in my opinion, the novel's subtle use of sarcasm is critical in prompting readers to consider whether a clear distinction can be formed between humans and androids if empathy is the only criterion.

It was humans who built the androids. The same humans that brought about the heinous World War Terminus also brought about a dehumanized and polluted society that resembles the neon hell that we frequently see in cyberpunk novels. The author tries his best to depict the world his characters live in, but his emphasis on the plot and its symbols caused the surroundings to be somewhat neglected—with the exception of the last few chapters, where you can actually feel the building, the wasteland, and, ultimately, the nature Deckard encounters. Throughout the novel, there is a certain ominous atmosphere drawn up in the placement of words; the statements so lucidly put so as to never allow the questioning doubt of what alternative may occur.

In the narrative, animals are viewed as commodities instead as living beings with whom humans share existence. The relationship becomes estranged and alienating. The novel's depiction of the blurred line between genuine and manufactured animals highlights the potential for living nature to become a commodity that appears to be alive but lacks social connections with humans. At a certain point, the novel depicts an android torturing a spider to determine the number of legs it can lose while still walking. It is at this point, the androids' true nature is revealed, and sympathy for them is lost. This image can also be interpreted as a disinterested experiment, similar to how scientists can conduct painful trials on living organisms without regard.

The metaphors are many and even in departing from his use of convoluted language, the author manages to create a lilting. Philip K. Dick creates an intriguing rift between the opposing cerebral and intrinsic visceral complexity of the human and robotic forms by blurring the distinctions between man and our artificial counterparts. The plot never stops complicating; it weaves itself into a tighter ball of yarn and just as one thinks that they have gotten a hold of the loose end, another knot appears. Overall, it is a compelling read and the readers are made to bolt upright at the startling revelations that are peppered throughout the book at intervals.