From *Brave New World* to *Ready Player One*; yesterday's dystopias as tomorrow's utopias

KARAR QASSIM NAJI AL-MAFRAJE

VEILEDER

Michael J. Prince

Universitetet i Agder, [2023]
Fakultet for [Fremmedspråk og Oversetting]
Institutt for [Humaniora og Pedagogikk]

The purpose of this thesis is to investigate the evolution of literary utopias and dystopias in light of what I consider to be the new master narrative of post-humanism. The inspiration for this project has been Yuval Noah Harari's *Homo Deus* (2017), which details some of the challenges and opportunities we might face in the future. This thesis will therefore explore the themes of his work and try to assess how this technological and ideological development changes our perception of an ideal society. I start this project by clarifying utopia and dystopia, before delving into a history of post-humanist ideology up to the present moment. This thesis then attempts a reading of *Brave New World* (1932) by Aldous Huxley and *Ready Player One* (2011) by Ernest Cline. This reading of these two works will be a twofold attempt, where a comparison of traditional liberal humanist readings will be compared to post-humanist understandings. What this hopefully highlights is how post-humanism changes the definitions of what constitutes utopias and dystopias. Finally, I want to compare the two works and hopefully glean new insights about how post-humanism redefines ideal visions and ideal societies and avoiding the dangers of both utopias and dystopias in the post-human age.

Content

Introduction

In this thesis, I want to consider how developments in technology have altered the way we perceive dystopian/utopian literature. The marriage of information technology and biotechnology presents us with some unprecedented challenges, but also with opportunities. Indeed, what is at stake is the very definition of what it means to be human and how different humanity might view itself going forward. But I am also interested in the new lenses that these societal developments have given us in regards to the forerunners and literary cautioners of the previous century. I hope that a renewed understanding of what is utopian or dystopian is gleaned form this project.

I will start this project by clarifying central terms for this thesis, such as: utopia, dystopia and humanism. I also wish to present an account of how the world became post-human, that is, how the seeds were sown for a supposed transcendence, or alteration, of our biology. Here, I trace the roots of post-humanism to two central movements: eugenics and cybernetics. The purpose will be to delineate how the marriage between these two ideologies culminates in the central idea of post-humanism: that biology can either be upgraded or evacuated for a different substrate. Before I delve into this history, I will present a brief outline of the aforementioned challenges and developments of our global contemporary culture. This will be done, primarily, by following the narrative that Yuval Noah Harari presents in *Homo Deus* (2017).

The first of the target literature will Aldous Huxley's *Brave New World* (1932). I want to question whether what Huxley presents as supposedly dystopian features of the "perfect" utopia would still be presented in such a light, or whether we view them in a more positive light. I will also examine the ties between the novel and eugenics, and how, to some degree, Huxley both was terrified and awestruck of the post-human possibilities of the future. His complex relationship to traditional notions of humanism illustrates perfectly the beginning of our story; the gradual introduction of *post-* into human.

I imagine the novel *Ready Player One* (2011) by Ernest Cline will provide a great balancing antidote, being a contemporary and popular novel. It is a novel where the real world is mediated by a grand virtual layer, making the distinction between dystopia and utopia a difficult one. This narrative is especially interesting because of one proposition in particular: what happens if the distinction between real and unreal becomes impossible, and does it matter in a post-human world? Additionally, as will be further examined below, who or what determines what is and what isn't real? Answering these questions only affirms the challenges human agency is facing in the post-human era.

Clarifying utopia/dystopia

First off, it is important to clarify what we mean by terms like utopia and dystopia. Margaret Atwood writes in the introduction for the 2014 version of Brave New World:

> 'Utopia' is sometimes said to mean 'no place', from the Greek 'O Topia'; but others derive it from 'eu' as in 'eugenics', in which case it would mean 'healthy place' or 'good place'. Sir Thomas Moore, in his own sixteenth-century Utopia, may have been punning: utopia is the good place that doesn't exist. (Atwood in Huxley 2014, p.ix-x)

I think that this observation is rather poignant. Utopias exist somewhere between very real hopes for a practical society that covers the needs of all and the impossibility of said society. It is a driving ideal for humanity, but utopian literature also exposes our paradoxical existence; we are only social and fallible animals seeking transcendence. Utopia fails in the face of difference, for it cannot incorporate difference into a single vision for a society.

Naturally, we need a precise definition for dystopia as well. Following Atwood, the transition from utopia to dystopia is in the generosity afforded to difference, as we have stated earlier. She writes "but as most literary utopias had discovered, perfectibility breaks on the rock of dissent. What do you do with people who don't endorse your views or fit in with your

plans?... Forced re-education, exile, and execution are the usual choices on offer, in utopias, for any who oppose the powers that be." (Atwood in Huxley xi)

This is where we must draw the line between utopia and dystopia; an imagined community or society that abides religiously by a certain code of conduct, and every deviance away from this conduct is to be punished. The difference lies in that dystopias provide us with the wrong answers to the right questions, while utopias seek to give us the right answers. Both serve as reflection of our societies by projecting what potential lies ahead in our future based on following one idea to its logical conclusion. What are these right questions? "Where do people live, what do they eat, what do they wear, and what do they do about sex and child-rearing? Who has the power, who does the work, how do citizens relate to nature, and how does the economy function?" (Ibid)

In addition, attenuating to the features that make dystopia distinct from utopia is that "dystopian fiction arises from the fusion of two radically opposed literary genres, naturalism and utopia…Dystopia, which dates as a genre from the first decade of the [20th century], counters utopia's rebuke to naturalism with its own dark reply. Dystopia constructs a model society by extrapolating from the worst, not the best, features of the contemporary world." (Clayton 2016, p. 876) This definition by Jay Clayton also highlights that the plot structure of dystopian fiction is deterministic, in that the heroes of these novels are set on an inescapable path. (Ibid)

Edward James (1994) illustrates the intimate relationship between utopian and science fiction literature by referring to Darko Suvin's highlighting of the main features of science fiction and utopia: estrangement and cognition. Estrangement is the presentation of a narrative, or structure, that is "jarringly different" from the reader's experience. Cognition, the process of acquiring knowledge and reason, is also main differentiating factor of science fiction as a genre.

James writes that cognition is, in fact, "frequently the main subject of sf: the investigation, for instance, of possible social systems or new forms of science". (Ibid, p.108) One might add that the process of estrangement is often achieved through a so-called *novum*; "a deliberately introduced change made to the world as experienced by author and reader, but a change based upon scientific or other logic." (Ibid) In other words, one might say that science fiction is a process of knowing; a process of exploring some fundamentally other historical (or cosmological) timeline and indeed answering what ramifications this otherness would have

for our world. Science fiction, then, is intrinsically optimistic towards what we can and cannot know as a society.

I also wish to define the term humanism in the hopes of avoiding future confusion about my intention here. The central principle of humanism is the fundamental belief in the uniqueness of human beings as the central arbiters of meaning. Yuval Noah Harari calls humanism a religion, or rather an umbrella term for a collection of religions like liberal humanism, evolutionary humanism and social humanism (Harari 2017, p. 289-293). Humanism is both the crisis and the resolution to the death of God and the rigid cosmos, and it is bequeaths upon us the commandment to "create meaning for a meaningless world" (Ibid, p. 259) To put the onus on individual human beings means that they must consult their own feelings and their will to look for what is right and what is wrong. The centrality of the individual's liberty, a free will, and the importance of each human's feelings and need are what characterize so-called liberal humanism.

It is this branch of humanism that will be our primary focus when we talk about humanism henceforth in this thesis. It is precisely because liberal humanism dominates our economic, political and social lives as the central meaning-making apparatus. As we have mentioned, earlier, one purpose of this thesis is to look at possible redefinitions and renegotiations of what it means to be human and what meaning is in collision with a post-human world. Varieties of social humanism, exemplified by what Douglas Rushkoff provides in *Team Human* (2019), will be looked at as such possible alternatives. For now, unless otherwise stated, humanism will refer to liberal humanism and its focus on free will and the individual as the creator of meaning.

The challenges of our (post-human) future

Yuval Noah Harari writes in *Homo Deus* (2017) that "in the twenty-first century, humans are likely to make a serious bid for immortality. Struggling against old age and death will merely carry on the time-honored fight against famine and disease, and manifest the supreme value of contemporary culture: the worth of human life." (Harari 2017, p. 24)

While this is a grand claim to make, there is little doubt that Harari's assertion is shared by many people in the scientific community. He explains further by adding:

> yet because old age and death are the outcome of nothing but particular problems, there is no point at which doctors and scientist are going to stop and declare: "Thus

> far, and not another step. We have overcome tuberculosis and cancer, but we won't lift a finger to fight Alzheimer's. People can go on dying from that." (Ibid, p. 27)

This will be incredibly good news for some people, while for others it is nothing short of their worst nightmare. The problem with pondering the repercussions of such a tremendous overthrow of what human civilization has been for millennia is that they are too distant and too many. Everything is therefore at stake, from the work environment to family relations. Another important issue is the universality of such a change in human physiology. Put simply: does every human on our planet have the right to live a-mortally or will this be an exclusive service for those that can afford it?

As we understand more about our biology, we will use this information to ensure that more human beings become happier. After all, global happiness is one of the pillars of the humanist project that is the dominating cultural framework in the world today. As Harari puts it:

> If science is right and our happiness is determined by our biochemical system, then the only way to ensure lasting contentment is by rigging this system. Forget economic growth, social reforms and political revolutions: in order to raise global happiness levels we need to manipulate human biochemistry. (Harari 2017, p. 45)

One might question whether a global civilization should have such a short-sighted commitment. Nevertheless, if each of us scrutinizes him-/herself thoroughly, we would find that most of our daily routines are built around maximizing pleasant bodily sensations and avoiding unpleasant ones. The ancient theme of short term bliss versus long term fulfillment is one that is heavily focused on in both Huxley's and Cline's novels, and it is interesting to see the different answers they have come up with. For now, suffice it to say that increasing human happiness will definitely be one of the main priorities of the global agenda in the 21st century.

Combining these two vast projects will result in an upgrade of human biochemistry and ultimately, a possible conscious manipulation of the evolutionary process. "If we ever have the power to engineer death and pain out of our system, that same power will probably be sufficient to engineer our system in any manner we like…" (Ibid, pp. 49-50) In other words, why should there be any point in which we stop this manipulation of our bodies and societies as we gain more, and better, technologies and knowledge?

There are three manners in which we will engineer humanity into possible gods or abolish the idea of intelligent life being a realm solely for humans: biological engineering, cyborg engineering and the engineering of non-organic life. (Ibid, pp. 50) We have already discussed the first possibility above. Cyborg engineering is "merging the organic body with non-organic devices such as bionic hands, artificial eyes, or millions of nano-robots that will navigate the bloodstream, diagnose problems and repair damage." (Ibid, pp. 50-51) The engineering of non-organic life can be represented by "neural networks [being] replaced by intelligent software, which could surf both the virtual and non-virtual worlds, free from the limitations of organic chemistry." (Ibid, pp. 52)

So the alternatives are either we change our biochemistry so as to become gods, or we incorporate non-organic devices that enhance our abilities to the level of gods, or we create (most likely) non-conscious intelligence that becomes our god. The catch, though, is that these technologies are running parallel and will have a definitive impact on each other. Breakthroughs in one of these fields are very likely to lead to breakthroughs in others. This means that this is not a scenario where it's either one or the other, but most probably all three scenarios challenging us simultaneously.

I want to add that my focus on these three paradigms is due to their technological nature and I'm concerned here with how these technological developments are going to impact our societies. In this light, I'm interested in how, in Huxley's case, the aforementioned literature has given us indications to these kinds of developments, or in Cline's case, what kind of contemporary reactions we are seeing today to these paradigm shifts. Other than that, I'm also interested in the myriad ways in which the technology and ideology of post-humanism will provide cultural shifts, and that by their very dramatic nature they can either prove to be dystopian or utopian.

Eugenics, cybernetics and the roots of post-humanism

J.B.S. Haldane writes what might be considered a central piece of eugenic writing in *Daedalus, or, Science and the Future* (1923). Here he writes of the figure of Daedalus as a metaphor for the scientific worker. Indeed, he calls Daedalus "the first modern man." (Haldane, 1923) Why? Because Daedalus created the Minotaur, the beast that is half man, half bull and which murdered Zeus' son Minos without any significant punishment. Daedalus is the figure of the god-killer that represents the modern man of the 20th (and possibly the 21st) century. While dedicating significant space to the other natural sciences, it is primarily

biology that he envisions as the most influential science of the future. The biologist, according to Haldane, is the modern Daedalus. His duty is to create the Minotaur of the future – a child of *ectogenesis*.

Ectogenesis is Haldane's original proposal preceding modern *in vitro fertilization* (or IVF) in that the project is to grow a human infant outside the womb. It is to be grown in an artificial environment until it could be "born." This whole process is introduced by Haldane as a satirical future myth and read retrospectively "by a rather stupid undergraduate member of this university to his supervisor during his first term 150 years hence." (Ibid) In other words, it is written as a piece of academic prose set in a distant future, and this grants Haldane satirical liberties towards anyone that might be skeptical about such an undertaking.

Most of the notable fictional opposition comes from non-Western religious practices as noted by phrases such as "Hindu opposition" or "fetwa [Islamic decree issued by a cleric] of the Khalif," but also from the Catholic Church. (Ibid) The anti-religious hostility or the racial implications of otherness should not be ignored, as they represented tendencies of the eugenicist movement's intelligentsia. The former might be seen as understandable and rather harmless considering the animosity interwoven in the science-religion dialectic, while the latter would be rather problematic for most of us in the 21st century. Haldane realizes how abhorrent and Minotauresque ectogenesis might have seemed to his contemporaries, and so he cleverly assuages their fears by the hindsight of his fictional narrative. He writes as his fictional essayist of the future:

> as we know ectogenesis is now universal, and in this country less than 30 per cent of children are now born of woman. The effect on human psychology and social life of the separation of sexual love and reproduction which was begun in the 19th century and completed in the 20th is by no means wholly satisfactory. The old family life had certainly a good deal to commend it, and although nowadays we bring on lactation in women by injection of placentin as a routine, and thus conserve much of what was best in the former instinctive cycle, we must admit that in certain respects our great grandparents had the advantage of us. On the other hand it is generally admitted that the effects of selection have more than counterbalanced these evils. The small proportion of men and women who are selected as ancestors for the next generation are so undoubtedly superior to the average that the advance in each generation in any single respect, from the increased output of first-class music to the decreased

> convictions for theft, is very startling. *Had it not been for ectogenesis there can be little doubt that civilisation would have collapsed within a measurable time owing to the greater fertility of the less desirable members of the population in almost all countries*. (Ibid, added emphasis)

The last sentence of this paragraph is highlighted precisely because it sums up neatly the fears of the eugenicists. What was at stake was the literal degradation of the "stock" of humanity, or rather specifically "the white race", and that the fate of civilization depended on preventing this supposed catastrophe. Of course, it is rather easy to be hostile towards these ideas from a postwar hindsight and the consequences of these racial ideas taken to their extreme conclusion.

Let us return to the idea of ectogenesis. The purpose of this experiment is summed up in the phrase "if reproduction is once completely separated from sexual love mankind will be free in an altogether new sense." (Ibid) What this disembodied freedom means exactly we are not told. It seems that Haldane, and the other notable eugenicists in this discussion, sought control rather than freedom. One only needs to ask questions such as who is desirable and who isn't? Who sets the parameters? The principle of ectogenesis allows control over the development of humanity as a species, but not specified by whom this control should be exerted. The rationale comes from an eagerness to supposedly organize society scientifically. It would even be fair to say that the eugenicists were highly utopian in their vision of the neutrality of these processes, as applications of scientific methods distinct from power relations.

In *What Dare I Think?* (1933), Julian Huxley embarks on a journey to develop what he calls scientific humanism. In many ways, one should commend Huxley's attempt to balance between the potential "power of control" of science and a humanistic philosophy that rejects the supernaturalisms of dogmatic religion but reaffirms the value of humans as "the highest product of evolution." (Huxley 1933, p. 7 and p.124) Unfortunately, on closer inspection, the balancing act fails. Eugenic ideas are combined with mysticism and materialism to create a philosophy that both seeks to improve the so-called stock of humanity, while at the same time arguing for a secular sanctity of humanity. In many ways, this is representative of all the aforementioned eugenicists. Their mission seems incompatible with their personal beliefs and psychological makeup.

The benefit of the doubt should be given to Huxley, even though his writing is filled with racial assumptions and a disdain for the so-called masses. Huxley thinks that he, and

likeminded eugenicists, should be allowed to steer humanity in what is supposedly a both more humane and more scientific reorganization of society. *What Dare I Think?* is written with a self-assured pseudo-scientific neutrality. Huxley describes his purpose as trying to illustrate how biological knowledge "can be translated into practical control" of humans as a species and that this prospect of altering our biology is inevitable. The task at hand, as Huxley sees it, is to take control of this project and prevent it from being "piecemeal and haphazard." (Ibid, p. 72) Control is a duty here, and it is the duty of every individual to realize that their procreation and their fundamental natural state as individuals of the human species is not, in fact, a liberty. Indeed, Huxley writes:

> [Controlling the quantity of the population] would be an impossible interference with individual liberty, an unwarranted tampering with a sacred function! The answer to this is simple – cease looking at the problem from inside the narrow circle of ordinary ideas of your time; get outside yourself into the spaciousness of history and the liberty of pure reasonableness, and you will see that neither objection has any necessary validity. Things are sacred because we think them sacred; and, in any case, sanctity is no argument against deliberate political control… As for liberty, what greater infringement of personal liberty can there be than conscription of individual men for war? And if over- or under-population is a danger to the national fabric, why not conscription of reproduction for peace? (Ibid, p. 85-86)

Huxley pooh-poohs autonomy and human dignity because he asserts that there is no consistency in the application of these principles. Therefore, if one is willing to sacrifice oneself in war then why not forfeit one's reproductive rights? Never mind that framing this as an ultimatum is unethical and that a third option is simply to reject both these ways one can be sacrificed "for the greater good." Implicit within this language is that the power of decision should be left to supposedly capable men like Huxley.

One of the most controversial ideas in this book, in hindsight, is the idea that the state should be allowed to regulate over-population by disallowing poor families from reproduction in order not to "increase the load to be carried." (Ibid, p. 87) This should be done by cutting economic relief, sending the husband away from his wife to labor camps, and sterilization in the worst cases. (Ibid, p. 88)

It is also remarkable that the language used here is that of duty and honor. Huxley is exasperated, and rightly so, with the enormous infringement of liberty that conscription for

war is, while at the same time commanding obedience in the most private and intimate relationship between a husband and a wife. One only needs “the spaciousness of history” and “pure reasonableness” to realize that. Instead of treading these delicate waters with the care of a ballerina, Huxley assumes the role of a militaristic patriarch, ordering people to renounce their reproductive rights as a duty to the mythical nation, and ridiculing anyone who dare question this authority as, by default, unreasonable and too confined within the ideas of their time.

The clear disdain for the lower societal strata is indicative of British class antagonisms, which I do not have the space to dissect here. It is nonetheless noteworthy. Huxley has a proclivity to shame and blame, no doubt shared by other eugenicists, those below him in the social ladder. The static condition of these people is attributed to poor choices and stupidity, rather than viewing the starting point of the success race as unequal. The other side of this coin is that, while the quantitative challenge to the economy is significant, it is not nearly as significant as to the quality of the population. It is curious that the quantitative control of the population is not even seen as a eugenic measure by Huxley. Indeed, this is such a trifle matter that it is only when one considers the quality of the population that one is truly a eugenicist, according to Huxley. (Ibid, p. 92)

Huxley takes on the role of oracle-scientist when he writes dystopically that:

> if the human race is to bring about its own collapse, it will be because it has counteracted the effects of natural selection without attempting to put anything in its place, has allowed harmful mutations to accumulate instead of weeding them out or prevented them from appearing, and in fine has neglected eugenic measures. (Ibid, p. 115-116,)

In other words, if you do not take Huxley’s words as law then you are allowing the collapse of humanity. What is not considered are the faces and stories, the actual humans, that are these so-called “harmful mutations” that need to be “weeded out.” Huxley’s scientific humanism is simply a humanism for the few select. This is the explicit purpose of eugenics; to choose the survival of the supposedly superior over the inferior. But what are these mutations and how does Huxley’s selection process look like?

One list of these qualities, handicaps, and biological mutations that Huxley examines as unwanted goes like this:

> poor general tone, hyper-sensibility, precocious obesity, premature ageing, growth which while stunted or over-lanky can hardly be called abnormal, undue shortness of arms and legs, unreflective energy and impetuosity that can hardly be maniac but are always leading its possessor into awkward situations, placidity that oversteps the mark and becomes downright and cowlike dullness… Would it not be admirable if we were in a position to remedy such flaws? Would it not be convenient if we were able to adjust our temperament – within reason – to our circumstances? (Ibid, p. 62-63)

This is the supposedly abhorrent type of abnormality that Huxley wishes to alter. What is noteworthy is the fact that most of these "mutations" are oddly unspecific. What is "poor general tone" or "hyper-sensibility"? What are the parameters for measuring the so-called "cowlike dullness"? A language of duty and honor is invitingly offered to engage the reader in this project yet again, with words like "admirable", "remedy" and "adjust." One might ask what the logical conclusion is to this proposition.

What Julian Huxley either fails to mention, or conveniently leaves out, is who has the physical power to regulate these "mutations," and how is this process to be decided? What one seeks to do with establishing which character traits one seeks as desirable is defining, in the strictest sense of the word, what a human is.

One answer to what Huxley hopes to achieve by our guiding of the evolutionary process is provided when he writes "there is the possibility that we may be able to bring children up without the deformation of fear, the friction and waste engendered by repression, the abnormal preoccupation with sex, which have in the past hindered free use of the energy of human minds." (Ibid, p. 70)

While there are definitely genetic components influencing these energies, it should be obvious that some of these traits are culturally conditioned. More importantly, these conflicts have driven humans to some of their most spectacular achievements. It is only by overcoming fear that human beings display the most admirable form of bravery. Our so-called "preoccupation with sex" has been a driving force for, among other things, marvelous works of art. These energies are not harmful, but they need to be realized for what they are: productive polarities. Indeed, it is only by realizing the interconnectivity of the forces of the universe, even the ones that we deem "negative," that one can realize how well-balanced the system is. To take hold of evolution in a god-like utopian obsession might take humanity down some unwanted roads, and I hope I will illustrate some of these pitfalls throughout this thesis.

What, then, is the ideal human according to Huxley? It is the rational, sane, competent, and intelligent agent, capable of tackling every challenge with calm and ease. What is implicit in this definition is the annihilation of our passions. The same destructive forces that drive us to rape, murder and pillage could be used to create, restore, and heal. What makes us human is the intrinsic complexity of our mind-states, and our ability to navigate these. Like so many other eugenicists, and many post-humanists, Huxley's focus is on the intelligent capabilities of humans. Intelligence is seen as the ultimate virtue. What is underestimated is the fact that intelligence is, by no means, a guarantee for morality. Even if one grants Huxley, and all others who share this religious commitment to the ideal of the rational agent, that such an alteration would eliminate some of our destructive tendencies, these rational agents would not be human.

What I mean by that, specifically, is that being human is a fallible paradoxical project where the dialectics between opposites are exactly what makes way for meaning. One cannot experience happiness without a true experience of sadness. The engineering of emotional states, such as a constant baseline of chemical happiness, would be the equivalent of a never-ending drug experience. It would be in opposition to the state of nature that embraces the cycles of life.

What Dare I Think? must be commended for its attempt at providing practical solutions to the perceived problems of eugenics. One of the central ideas of this work is the idea that science provides humans with the power of control, and it is certainly up to humanity to decide what we do with this power. The power is, nonetheless, there. Huxley's vision for what we should do with it is to biologically select rational, (almost) non-sexual, and no doubt, *white* people as the progenitors of the rest of the "stock."

What is noteworthy is how eugenicists sought to use science as an instrument in shaping our biology. Whether we like it or not, they were some of the first to envision how humanity as a species could be molded and that nothing about our biology should be accepted at face value. This is the heritage that post-humanists, and our global society, needs to recognize if we are to understand the beginnings of our obsession with altering our biology.

I wish to present another example of eugenics and its connections to the project of biological upgrading, namely Bertrand Russell's *The Scientific Outlook* (2009, first published 1931). There are two main purposes for this segment. First and foremost, I wish to present the argument that post-humanism is, in many respects, a eugenic renaissance. The ways these

movements are connected is their focus on scientific knowledge as practical and applicable power, and how they both wish to use this power to alter, modify, or upgrade human beings. The second purpose, as I will illustrate below, is a contextualization of *Brave New World*.

To regard Russell's *The Scientific Outlook* as simply an endorsement of eugenics would be unfair. His writing is a synthesis between a personal lamentation of a lost future humanism and a technician working to logically conclude his argument. There is sincerity when he states that he is "prophesying a certain future, not advocating it." (Russell 2009, p. 164) Most of the book concerns itself with outlining a historical account of science and establishing practical scientific guidelines. Russell is a gatekeeper of a true scientific method. The last part of the book is what is most valuable for this thesis.

Here, in the part he calls "The Scientific Society", he is speculating about a future organized by a so-called scientific outlook. The scientific society is defined by Russell as: "one which employs the best scientific technique in production, in education, and in propaganda… No society can be regarded as fully scientific unless it has been created deliberately with a certain structure in order to fulfill certain purposes." (Ibid, p. 149)

Russell conjectures a seemingly inevitable future in which society is organized by scientific principles. What he envisions is a totalitarian World State not unlike those envisioned by Aldous Huxley or George Orwell. Indeed, the World State that Russell imagines shares abundant similarities with the one portrayed by Huxley in *Brave New World*. There is a stratification of society, where the ruling class is divided from the ruled masses in every way possible. Their educations are different, their social and political lives are different and the expectations towards their behavior and thought are also different.

While there is an ominous tone to Russell's writing, highlighted by his dismay at the inevitability of this prospect, there are also some things that are not necessarily envisioned as negative developments. Most importantly is the exploration of eugenics and the accompanying structures of child development in this future scientific society.

Russell's attitude towards the eugenics of his envisioned future society is surprisingly positive, considering that there is general skepticism towards the rest of this supposed development. Like Julian Huxley, he visualizes state control over reproduction as a measure to counteract overpopulation, and to ensure control over the quality of the population.

He even goes so far as to speculate that children over the proscribed limit will be subjected to infanticide, which "…would be less cruel than the present method, which is to kill them by war or starvation." (Ibid, p. 164) Again, like other proponents of eugenics, there is an evident disdain for the so-called masses and their endless need for procreation. This is further demonstrated by the fact that children should be raised by competent women (naturally) instead of their own parents. The inevitability of eugenics is also necessitated as the preventative measure to hinder the slow death of the white, scientific nations. The apocalyptic quality of this fear is a rational product of Russell's time, but the racial quality of this project should still be underlined.

While Russell seems to have a positive outlook on the prospect of state-controlled eugenics, he is tentative when considering the prospect of tampering with the embryo. Although he envisions this as a powerful tool to improve upon the human design, it is clear that this tool would only be used by the ruling classes to ensure their superiority and to solidify their power. There are other aspects of this society which we would consider unacceptable trespasses on individual liberties, such as the enforced chemical castration of anyone who is not considered eligible to procreate. Then again, that selection process is the goal of the eugenic process. The state should decide the optimal number of human beings at any given time, according to the carefully calculated statistic process. It is a matter of fact that "reproduction will be regarded as a matter which concerns the State, and will not be left to the free choice of the persons concerned." (Ibid, p. 189)

So what does Russell mean when he imagines this eugenic process? He writes:

> if the simultaneous regulation of quantity and quality is taken seriously in the future, we may expect that in each generation some 25 per cent of women and some 5 per cent of men will be selected to be the parents of the next generation, while the remainder of the population will be sterilized, which will in no way interfere with their sexual pleasures, but will merely render those pleasures destitute of social importance. (Ibid, p. 189)

Much like Haldane and Julian Huxley, this is seen as the chance to improve upon humanity as a species, especially by saving the declining birth-rates of the white race. As far as eugenics go, there is never any doubt that this is the correct, most scientific method to control both the quality and the quantity of the population. Ensuring that it be so is the obligation of the state. Russell envisions that these scientific people of the future will abandon the centrality of the

parent-child-relationship in favor of the supposedly more scientific method of communal childrearing. The overarching tendency of this scientific method of government is for more centralization in the hands of a specialized knowledge-elite.

There is, then, a constant dialectic between the needs of the society and the respect for the individual. Clearly, Russell shows a good measure of respect for the latter. He writes that in such a world as the one he envisages "there may be pleasure, there will not be joy." (Ibid, p. 192) He is also afraid of the potential use of drugs and chemicals by the governing class of the future to make the rest of the population endure whatever they wish them to endure. The last pages of *The Scientific Outlook* are spent lamenting the loss of love and wisdom in such a future society. He spends some time differentiating between a love impulse and a power impulse. He explains the difference in the following manner:

> We may seek knowledge of an object because we love the object or because we wish to have power over it. The former impulse leads to the kind of knowledge that is contemplative, the latter to the kind that is practical. In the development of science the power impulse has increasingly prevailed over the love impulse. (Ibid, p. 196)

While Russell maintains a clear skepticism throughout his account of this future society, there are also aspects, such as the eugenic selection process, that he imagines as beneficial. He ultimately sees the scientific outlook, in the form of the power impulse, as a ruthless dogma that will threaten everything that has been deemed sacred. It is interesting that a work fully dedicated to instilling the value of science should end by warning of the potential misuse of science. What is at stake, as I have mentioned, is the annihilation of meaning. Russell is poignant when he points out the inherent power trap within the eugenic system. This conflict is neatly summed up in the following:

> The scientific society in its pure form, which is what we have been trying to depict, is incompatible with the pursuit of truth, with love, with art, with spontaneous delight, with every ideal that men have hitherto cherished, with the sole exception of ascetic renunciation… What is dangerous is power wielded for the sake of power, not power wielded for the sake of genuine good. The leaders of the modern world are drunk with power: the fact that they can do something that no one previously thought it possible to do is to them a sufficient reason for doing it. (Ibid, p. 198-199)

This conflict, which can be observed to a lesser degree with the aforementioned eugenicists, is central to this thesis. Scientists like Haldane, Huxley and Russell were, ultimately, liberal humanists. They imposed stricter restrictions on individual freedoms in the service of what they saw as beneficial to their societies, or to humanity. Yet, they cowered at the prospect that science should dominate humanity to the point that we should not be considered as separate islands of individual consciousness. That the beatific vision, mystical and reverential truth, should be viewed as unnecessary in a future society scared these thinkers.

This leads to the central conflict of this thesis: that between humanism and post-humanism. The idea that humanity could be viewed as a work in progress is central to natural selection, as humanity is no exception to the process of evolution. That human beings could actively intervene in the evolutionary process and select the traits that they envisioned as desirable is paramount to eugenics. This is also central to the post-humanist project, though of course there are nuances we need to discuss. It is ultimately the case that most of the eugenicists were deeply afraid of the power of science to infringe upon our sovereignty as individual beings.

Post-humanism, if not as a whole then generally, disregards the beatific vision, the reverential and mystical truth of human existence as mere results of consciousness as an epiphenomenon. The purpose of humanity is not to ponder upon divinity; it is simply to continue evolving. What is established from this point on in our story, meaning early in the 20th-century and onwards, is the gradual gaining of momentum of the idea that humanity as a species is malleable. This is how post-humanism owes one of its central tenets to eugenics.

I hope to have illustrated how eugenics as a set of ideas helped set the stage for the post-human biological outlook; that human biology can and should be improved upon, but that this was not necessarily a reflection of the viewpoints of eugenicists but the logical conclusion that they could not envision. The eugenics movement provided the starting point for the biological enhancement of humans. I will now attempt to illustrate how cybernetics provided the cosmic reality-check to humanism. Cybernetics deconstructed the sacredness of the human species into patterns of information, and reduced humanity to a mere outlier in the cosmic march towards entropy. This is the heritage that cybernetics bestowed upon post-humanism: the idea that humanity can be decoupled from its biological substrate and be reduced to bits of information.

Katherine Hayles presents a very clear narrative of how cybernetics gave way for post-humanism in *How We Became Posthuman Virtual Bodies in Cybernetics, Literature, and Informatics* (1999). This segment of the discussion takes inspiration from her work and relies on her exploration of the different cultural and scientific shifts that allow for the disembodiment of information. Following Hayles, I want to briefly summarize what she describes as the three phases of the theory of cybernetics. The purpose in this segment is to create a cohesive narrative of how cybernetics as an information theory normalizes a disembodiment of information, decoupling the pattern of the information from its substrate.

The first phase of cybernetics is the period from 1945-1960. It centered on the concept of homeostasis. (Hayles 1999, p. 7) Before delving into the theoretical work of dissecting homeostasis, I want to clarify who the central players were here and what the purpose was. John von Neumann, Norbert Wiener, Claude Shannon, Warren McCulloch and other researchers from different fields gathered in the Macy Conferences on Cybernetics to establish cybernetics as a theory of "communication and control applying equally to animals, humans and machines." (Ibid)

The purpose was to create a new framework for the study of communication and control, whether they be in man or machine and to reduce communication and information to simple quantifiable mechanisms. This is not to say that these thinkers, especially Wiener, were interested in dismantling the liberal humanist subject. They wanted, rather, to fashion "human and machine alike in the image of an autonomous, self-directed individual." (Ibid)

Let us now look at the inner working of the theory of cybernetics, what concepts like input, output, homeostasis, and entropy come to mean and how they work together. This is only a brief exploration and by no means an expert account of cybernetics. What is of interest here, following Hayles, is the disembodiment of information. A central tenet of the post-human logos is that everything in the universe is essentially patterns of information. The birthplace of this truism is cybernetics, and more specifically, information theory. By problematizing this assumption and exploring its historical context, the hope is to illuminate other narratives for information within grounding contexts.

The roots and inspiration for cybernetics is, according to Norbert Wiener, the probabilistic world of Gibbsian physics. Willard Gibbs introduced statistics into physics to shed light on the fallacious belief in Newtonian physics that physical measurements can be precise. Wiener explains Gibbs' innovation in the following manner:

> No physical measurements are ever precise; and what we have to say about a machine or other dynamic system really concerns not what we must expect when the initial positions and momenta are given with perfect accuracy (which never occurs), but what we are to expect when they are given with attainable accuracy. This merely means that we know, not the complete initial conditions, but something about their distribution. The functional part of physics, in other words, cannot escape considering uncertainty and the contingency of events. (Wiener 1954, p. 8)

Gibbs therefore introduced the notion that there is essentially not one world that can answer one set of questions, but rather a multitude of probable worlds and whether the answers we can find for these sets of questions are probable among a larger set of worlds. Entropy, or the measure of this probability, would tend to increase as the universe grows older. (Ibid, p. 12) Presenting the resulting worldview from this understanding, Wiener writes:

> As entropy increases, the universe, and all closed systems in the universe, tend naturally to deteriorate and lose their distinctiveness, to move from the least probable state to the most probable state, from a state of organization and differentiation in which distinctions and forms exist, to a state of sameness. In Gibbs' universe order is least probable, chaos most probable. But while the universe as a whole if indeed there is a whole universe, tends to run down, there are local enclaves whose direction seems opposed to that of the universe at large and in which there is a limited and temporary tendency for organization to increase. Life finds its home in one of these enclaves. (Ibid)

This is central because it contextualizes cybernetics as not just an information and communications theory, but as an important player in the cosmic battle against entropy. The goal for humanity is homeostasis; the process where we reconstitute ourselves from the constant ongoing decay that entropy forces upon us. How does that occur? Here, one must look at what cybernetics is as a theory of communication. Wiener defined information as "a name for the content of what is exchanged with the outer world as we adjust to it, and make our adjustments felt upon it." (Ibid, p. 17) Yet this is not such a straightforward process because, as we have seen with Gibbs, entropy enters the equation as noise to try to drive information towards disorganization.

Information is thus "a function of probabilities representing a choice of one message from a range of possible messages that might be sent." (Hayles 1999, p. 89) More specifically we can

say that information, according to Wiener, is a measure of organization. The mathematical formula defines information “as the negative of its entropy, and the negative logarithm of its probability. That is the more probable the message, the less information it gives.” (Wiener 1954, p. 21)

I shall not profess any scientific literacy that qualifies me to comment on the mathematical equations here. What will be my focus here, in line with Hayles, is to inspect the language, the worldview and the specific set of assumptions that are implicit in the thought of Wiener and other cyberneticists. I will now, simply, present a brief summary of how the theory of cybernetics works. As Hayles expertly notes, cybernetics is the interlocking between information, control, and communication. (Hayles 1999, p.8)

Information, as has been noted, is defined as a set of choices based on their probability. The communication aspect is determined by the message being sent from one agent to another, or that input (data introduced) results in output (desirable effect or action on the world). The control aspect brings us back to homeostasis through another important concept: feedback. This is the control mechanism which assures whether the desired effect or action on the environment has been achieved. In the example of a human being, this would be the body adjusting its temperature to a an overly hot or cold environment. If the desired temperature is achieved – resulting in homeostasis, the sense organs of the body would start a new feedback loop based on the environment.

Now that I have presented a brief overview of the basic inner workings of cybernetic theory, I want to look at how it decouples information from its material substrate, paving the way for post-human dreams of immortality. As Hayles writes:

> Shannon's theory defines information as a probability function with no dimensions, no materiality, and no necessary connection with meaning. It is a pattern, not a presence… The theory makes a strong distinction between message and signal… In information theoretic terms, no message is ever sent. What is sent is a signal. Only when the message is encoded in a signal for transmission through a medium-for example, when ink is printed on paper or when electrical pulses are sent racing along telegraph wires - does it assume material form. (Ibid, p. 18)

In other words, whether in machine or human, what one is interested in is that the input leads to a desirable output, regardless of the internal state of the machine and the human. One only

assumes that the feedback mechanisms, again whether they are analog/digital or a nervous system, act to reinforce homeostasis. The individual is a black box. The theory works precisely because the inner workings of human and machine are simplified through analogies. What kind of effect this has had on our current post-human culture is summed up by Hayles when she writes:

> abstracting information from a material base meant that information could become free-floating, unaffected by changes in context. The technical leverage this move gained was considerable, for by formalizing information into a mathematical function, Shannon was able to develop theorems, powerful in their generality, that hold true regardless of the medium in which the information is instantiated. (Ibid, p. 19)

But it is important to note that this trajectory, as Hayles has laboriously shown, was not inevitable. There were other options for the development of early information theory. I would like to reiterate that it would be beyond the scope of this thesis to go into every detail of the historical process that led to information theory and cybernetics as we came to know it. Katherine Hayles has done an excellent job and I would recommend exploring her writing for further illumination on this topic. What is the goal here, rather, is to show how the historical process that led to our modern-day obsession with information as the Platonic form is precisely that: a historical process. This valuing of form over materiality, or patternism, is a key ingredient in a post-human worldview according to this thesis.

Katherine Hayles' exposition of the Macy Conferences on Cybernetics is detailed. The conflicts driving these conferences ran along three lines. They were about, firstly, the construction of information as a theory, about creating parallels between neural networks in humans and machines to show that they were essentially information flows, and thirdly about making real these information flows through physical artifacts. (Ibid, p. 50) We have already looked at some of the aspects that made information theory what it is through Shannon and Wiener, but why did they choose this path?

First of all, their problem was one of quantification. Shannon and Wiener needed information to have a stable value as it changed context and so they divorced information from meaning. Again, this was done out of a pure necessity for the mathematical formula to work. The problem only occurs when there is a leap from a solution to a specific problem to becoming an ideology of information with no substrate. Hayles formulates this tension when she writes:

> *In context*, this was an appropriate and sensible decision. *Taken out of context*, the definition allowed information to be conceptualized as if it were an entity that can flow unchanged between different material substrates, as when Moravec envisions the information contained in a brain being downloaded into a computer… Thus, a simplification necessitated by engineering considerations becomes an ideology in which a reified concept of information is treated as if it were fully commensurate with the complexities of human thought. (Ibid, p. 54, original emphasis)

Hayles is, of course, referring here to Hans Moravec's idea from his seminal *Mind Children The Future of Robot and Human Intelligence* (1988), in which he champions the idea that the mind can be reduced to bits of information that can be uploaded to a computer. This idea, among others, will be dealt with further below. For now, the focus is information theory.

One of the alternatives to this model was presented during the Macy Conferences by Donald Mackay. He proposed an information theory that took the semantic aspect into consideration. His idea was that there should be an additional piece to what he called the focus of the "selective information" of the Shannon-Wiener model, namely what he calls "structural information." (Ibid, p. 55) Structural knowledge is information about the selective information, that is, it is information that provides context for the selective information. This indicates that structural information must be measured by inspecting how the message is received and understood by the person who receives the message.

The problem with this model is that it does not lend itself easily to quantification in a mathematical model. In addition, it must have seemed like an impossible task for the post-war engineers to imagine a way of measuring the changes in the brain induced by the message. It is only imaginable with modern technologies like fMRI-scanners. Mackay's model presents an alternative to the decontextualized theory of Shannon-Wiener. It recognizes that information cannot be reduced to a series of probabilistic choices that effect behavior on the individual. The internal processes of the individual are central to the message, precisely because there are dynamic interpretive processes.

This illustrates how the specific historical context of the development of information theory made the reification of information triumphant. It was never an inevitable process, and this is paramount because it demystifies the modern post-human discourses around promises of a digital afterlife by uploading the basic information pattern of our brain into computers, for instance. To cut a long story short, the first conflict line of the Macy Conferences was about

the specific theory of information. The next two conflict lines were about how humans and machines had to be portrayed as having neural networks that process binary code, and the construction of machines that realize information flows as physical.

Again, I do not wish to go into technical details here as this has already been done excellently by Hayles. Suffice it to say that the majority of the scientists attending the Macy Conferences favored quantifiable simple models, neural networks as a parallel for neurons and the "black-boxed" teleological machines as analogies for humans. The robots in question were modelled on the McCulloch-Pitts neural net. These were no doubt exciting goal-seeking machines, but how does that imply that they are like humans?

The answer is by framing human beings as goal-seeking machines. It is only by "black-boxing" the internal states of humans that one can come to this conclusion. By presenting the human as a specific type of machine, one could focus on input and output rather than the internal mechanisms and complexities of the human as animal. Because one can abstract into generalizable mathematical laws, one can apply these laws to both man and machine alike, ignore the intricate complexities and internal states and focus on how input would lead to certain output.

This is inherent in Shannon's information theory, where there was a specific goal for communication and that was the *replication* of the message. In sharp contrast to Mackay's theory, which had as its main focus the change in the receiver's mind incurred by the message, Shannon's theory valued stasis and viewed change as intrusive. As Hayles notes, the goal was never of the utmost importance in the Shannon-Wiener configuration of information. The more important implication was, rather, that "the goal was a preexisting state toward which the mechanism would move by making a series of distinctions between correct and incorrect choices. The goal was stable, and the mechanism would achieve stability when it reached the goal." (Ibid, p. 63-64)

It is through the observer's role that one can fully appreciate how the dominant cybernetic paradigm, through figures like Shannon, Wiener and McCulloch, presented itself as a neutral science. This is apparent through the instrumental language used and how any form of subjectivity and ambiguity, some of the things that make us uniquely human and complex, were relegated to the realm of reflexivity. Indeed, the teleology of cybernetics as it came to be known had to formulate problems as specific as possible, for this was the only way one could build machines that would be able to solve the problem.

Thus, the first wave of cybernetics, as Hayles calls it, can be summed up as an attempt at a teleological, instrumental, and quantifiable science. The purpose was to create a science of information, communication, and control. One can say that this project was somewhat successful. The Shannon-Wiener information model has been a driving force in the reification of information and transforming information from a code that describes something specific and concrete to the dogma that hails information patterns as the true fundamental building blocks of the universe. This wave of scientists created machines and artifacts that could solve very specific problems with accuracy, based on understanding of cybernetic concepts like input, output, feedback and the ultimate goal of homeostasis.

The problem occurred when those same models led to conclusions about the human being as a machine which were built on an instrumental focus. One might add the equivalent focus of information theory on psychology in what has come to be known as operant conditioning. The figurehead of this movement was B.F. Skinner. He, like the cyberneticists, favored an input-output model of the human psyche by black-boxing emotions, motivations and imagination for a simple model that produced repeatable behaviors.

These conclusions were abstractions based on simple models presumed to be correlating to complex phenomena and processes in the human being. They nevertheless can be said to have been successful in creating the human machine: a cohesive pattern of information. Seen from a large-scale perspective, as Wiener's writing indicates, life as a pattern of information was the only force of organization and resistance to the unstoppable force of entropy. But the problem with the cybernetic observer was that he refused to acknowledge his part as an active participant in the processes he observed.

It becomes clear, following Hayles, that the victory of first-wave cybernetics was not much of a victory at all. In fact, it never gained much of a momentum after the heyday of 1945-1960. The failure happened because cybernetics could not contend with reflexivity and how it reintroduced the observer into a feedback loop within the system he/she was observing, thereby creating complexity beyond the quantifiable mathematical scope that was sought after during this period. It is therefore no surprise that the second wave of cybernetics was centered around reflexivity. This theoretical movement was known as autopoiesis.

I will follow Hayles here in focusing on the pioneers of this theory, Humberto Maturana and Francisco Varela. The purpose here is to illustrate how autopoiesis reintroduced the body's internal complexities as essential for our construction of reality. This notion, that we create

rather than just observe our reality, is paramount. Lastly, autopoiesis focused on the self-making and self-preservation of complex systems such as ours but it was an overly reflexive focus that failed, in its first iterations, to account for evolution. This conflict between autopoiesis and evolution is important because it will be indicative of the need for another concept we will explore in third-wave cybernetics, namely emergence.

This thesis will not have the space to go into an in-depth analysis of autopoiesis as a theory. What I seek to illustrate is how autopoiesis as the second wave of cybernetics maintained the idea that man and machine are alike, and that there was no reason why life could not be mechanical. In autopoietic theory, the central defining aspect of all complex systems, such as humans, is that they are governed by the reflexively closed self-referential loops. The main purpose of any complex system is to maintain its organization as a complex system. This means that the creation of the cyborg, as Hayles has called it (Ibid p. 2), continues through the second wave of cybernetics and into our contemporary post-human era.

The point of departure for autopoiesis is that for all living creatures, including humans, it is misleading to speak of an external world. The world comes into being for us through our sense organs and it is therefore always an interactive process. While reality exists, we can only glimpse it through the limits put on us through our organization as living perceptual creatures. Therefore, we can say that the fundamental principle of autopoiesis is this: “living systems operate within the boundaries of an organization that closes in on itself and leaves the world on the outside.” (Ibid, p. 136)

A unity, or a living system. needs to have structure and organization to be composite. The composite unity’s organization is all the possible relationships that are instantiated in its autopoietic processes, while structure is the expression of that organization at any particular moment. (Ibid, p. 138) This conservation of organization is the sole condition that needs to be met by an autopoietic system to be defined as living.

It is no accident that Maturana and Varela describe living systems, i.e. complex unities, as machines. They write that living systems are viewed as machines because the autopoietic approach is “non-animistic”, implying that they do not believe in a special force that is at the essence of all living creatures, a soul or spirit of any kind. Life need therefore not be biological, for that is not the defining condition for living. Again, this is reiterated in the focus on the autopoietic relations that instantiate the organization. The relations are paramount, not whether the component parts are made of carbon or silicon. (Maturana and Varela 1980, p.

76) While Maturana and Varela want the focus to be on the specific processes that constitute life here and now, they are very dismissive about humans not being able to create life.

What this means for this thesis is that while autopoiesis always enforces an embodied view with its focus on the relations that instantiate and are instantiated by the unity's organization, the embodiment need not be biological. This points to the post-human. Life is then boiled down to autopoiesis, whether biological or synthetic, and autopoiesis replaces the role that information played in first-wave cybernetics as the essential life-defining concept.

I want to briefly touch on how consciousness is defined in autopoietic theory. The reader must be reminded that the post-human conception of consciousness is such that one sees consciousness as mere information, as we saw with first-wave cybernetics, but also as an epiphenomenon. Consciousness is, in this view, simply a cosmic fluke resulting from the fundamental physical patterns. Autopoiesis is only partly in conflict with this view, insofar that it places no esteem on the concept of information as an independent thing. Information exists solely in the observer's domains of interactions. It is also clear, however, that no central emphasis is placed on consciousness and that it is also regarded as an epiphenomenon.

Consciousness, in autopoiesis, is simply viewed as self-consciousness, or a recursive process. This is the contribution of autopoietic theory to post-humanism. Consciousness is more than the awareness of self, and Maturana and Varela's theory seems to disregard that in favor of a neat circularity. The recursivity of autopoiesis does not explain the *suchness* of consciousness in its entirety. In summary, we can say that the first wave of cybernetics presents consciousness as mere information we have yet to understand, while autopoiesis reduces consciousness to the recursivity of discursive self-awareness.

I now move on to the third wave of cybernetics. One might call this as the wave of emergence. This last wave of cybernetics, that we might argue that we are still entrenched in, focuses on how simple rules can create complexity. In other words, the founding principle is that one can observe, simulate and recreate concepts one wants to examine with a reverse-engineering mindset. Hayles describes it in the following manner:

> …in the third wave the emphasis falls on getting the system to evolve in new directions. Self-organization is no longer enough. The third wave wants to impart an upward tension to the recursive loops of self-organizing processes so that, like a spring

> compressed and suddenly released, the processes break out of the pattern of circular self-organization and leap outward into the new. (Hayles 1999, p. 237)

Following Hayles, I will be looking at how third wave cybernetics is concerned with narratives about artificial intelligence, artificial life, robotics, and biology. It will become quite clear how narratives about the constructs, be they abstract or concrete, function as a way to bridge the gap between human and artificial, or mechanical, life. Indeed, one can observe the metaphors and similes be made, only to bleed into each other and to erase the borders between human and machine. The comparison enables the equality.

Once again, third wave cybernetics focuses on information as *pattern*, and how the constraints of the substrate are irrelevant as long as one understands the simple rules that underlie that pattern. In other words, humans as beings are reducible to a certain continuous pattern. Understanding, and possibly recreating, that pattern through reverse-engineering it in another substrate will allow us to alter what it means to be human. This is the grand claim in the narrative of third wave cybernetics.

For the purpose of this specific discussion, I will focus on Hans Moravec's *Mind Children* (1988), and Hayles' description of third wave cybernetics. Moravec's narrative is a perfect example of how the post-human project was initiated by the thinkers of the third wave of cybernetics. Moravec is also, like Ray Kurzweil, a founding member of the post-human agenda, especially the strain of post-humanism that is known today as singularitanism. The importance of this book cannot be overstated, as it presents a roadmap and worldview as to how human evolution is to look on our planet in the next centuries, and how "life" can be stored, revised and expanded upon to include more than we have traditionally come to define.

The tone is set in the first page of Moravec's account. He writes about the inevitability of human replacement by machines as the next step of evolution. Yet this is not said in any grieving tones, for it is seen as humanity's duty to make the way for our intelligent "mind children". (Moravec 1988, p. 1) He also writes:

> What awaits is not oblivion but rather a future which, from our present vantage point, is best described by the words "postbiological" or even "supernatural". It is a world in which the human race has been swept away by the tide of cultural change, usurped by its own artificial progeny. Today, our machines are still simple creations, requiring the parental care and hovering attention of any newborn, hardly worthy of the word

> "intelligent". But within the next century they will mature into entities as complex as ourselves, and eventually into something transcending everything we know – in whom we can take pride when they refer to themselves as our descendants.
> Unleashed from the plodding race of biological evolution, the children of our minds will be free to grow to confront immense and fundamental challenges in the larger universe. (Ibid)

It is impossible not to note the loving language rendered onto this so-called future artificial progeny. I suppose it is no surprise for someone that is deeply invested in the creation of machinery to be attached in the all-too-human fashion. What is surprising, to say the least, is the small regard being shown to the lot of humanity. It is a curious exercise to examine the contrast between the caring language afforded, by Moravec, to the machines of our future with the language used to describe the particular substantiation of our biology.

Just in the small excerpt above one can observe that our biology is "plodding", and there is an all too outright implication that our anatomy is simply a set of limitations. Anthropomorphizing machines is an understatement, because it becomes clear by the tone set here that the borders between artificial and biological evolution are insignificant, and the only way they matter is just that the process of progress itself be continued. What we are looking for and adhering to is the *pattern* that underlies everything.

Moravec continues throughout his narrative to describe human biology as a sort of servitude. Following that logic to its conclusion leads to the assertion that not only is it a good thing that we rid ourselves of our bodies for the sake of immortality, but it is a moral imperative so that we overcome the limitations that are inherent in our biology. He states that when our machines will be able to autonomously handle their own recreation and evolution, they will be the torchbearers of our (human) culture. (Ibid, p. 3) Yet humans need not disappear, for our minds can be freed from the "shackles" of our biology and transferred into computers. Indeed, he writes:

> it is easy to imagine human thought freed from bondage to a mortal body – belief in an afterlife is common. But it is not necessary to adopt a mystical or religious stance to accept the possibility. Computers provide a model for even the most ardent mechanist. A computation in progress - what we can reasonably call the computer's thought process – can be halted in midstep and transferred, as program and data read out of the machine's memory, into a physically different computer, there to resume as though

> nothing had happened. Imagine that a human mind might be freed from its brain in some analogous (if much more technically challenging) way. (Ibid)

It becomes quite obvious that there is a conflict between the limitations of biology and the possibilities of the machine and the artificial. The new gospel that Moravec proselytizes promises freedom from death by conversion to machine. We should tread the waters of facetiousness carefully, but it is difficult not to be overly skeptical of the overreaching assertions, propositions and promises being made. What is left out of the conversation is the justification for the parallels between a human and a machine mind.

Moravec's rhetoric is dualistic, creating a clear separation between mind and body. What is of importance is the pattern of the mind. The body's impermanence makes it irrelevant. This can be observed when he writes:

> A mind would require many modifications to operate effectively after being rescued from the limitations of a mortal body. Natural human mentality is tuned for a life span's progression from impressionable plasticity to self-assured rigidity, and thus is unpromising material for immortality. It would have to be reprogrammed for continual adaptability to be long viable. (Ibid, p. 5)

Again, the body is in the context of imprisonment and shackles, something to be released from to actualize our true potential. There is clearly a disregard for what Hayles would call the materiality of mind. Impermanence, seen in the context of third wave cybernetics, is not what gives life meaning. Rather, it is viewed as a nuisance to overcome so that life – defined broadly here to include the intelligent machinery of the future and cyborg humanity – can set about conquering the universe and making it intelligent. In the dematerialized worldview of the third wave cyberneticist, the universe is "dumb". The more we can use every building block it can provide to create more information, the better. In other words, the purpose of humanity is to convert the universe into a grand supercomputer.

It is paramount to note the rhetoric employed. Moravec is intentionally presenting the relationship between human and machine as familial and generative; the loving human parent and the newborn machine destined for overachieving greatness. This language is meant to soften the blow of the bottom line being presented: become cyborg or become extinct. Sympathy must be shown for the possibilities of upgrade. After all, as we've seen with Harari, many of the most common diseases plaguing humanity will disappear with our

cyborgification. But there are several problems with both Moravec's rhetoric and line of argument. The line in the sand between what constitutes *mind* and *body* is definitely not as clear as is presented here.

Additionally, it should be noted that our relationship to our machinery need not be as amicable as we are shown. Let us not forget that much of the machinery that has driven the progress of computers has come from military research. Disregarding that for the moment, one should still consider whether, as Moravec has narrated, our machines can be considered as *life*. Suppose that a supercomputer of the future is sufficiently intelligent to convince us in every way that it is, in fact, conscious. Should we believe it? Should the Turing test be enough to solve the hard problem of consciousness or is more than simulation of consciousness required?

Granted, the threshold for what life is need not be at the level of consciousness, but I tend to agree with David Chalmers on the notion that it is the most crucial factor to consider in ethical questions. (Royal Institute of Philosophy, 2021) If the super-robots and supercomputers are mere philosophical zombies and the lights of consciousness are not on, then we should really be careful with turning on the power.

This is why Moravec's language matters. It matters that one calls machinery life, not metaphorically or as analogy, but quite literally. The future of humanity, and what it means to be human, should not only be defined by the march of progress. One should be concise about these issues, for they are the questions humanity has been trying to answer since time immemorial. Here, it is pertinent to examine the discourse that Hayles presents in the context of Artificial Life, as it provides a good parallel for this discussion.

In her chapter on Artificial Life, Hayles addresses the foundational concepts underlying the research field of Artificial Life. The field of Artificial Life (AL) is primarily concerned with how one might produce computer programs that simulate the evolutionary process. This is instantiated in the form of complex behaviors that constructed computer programs display when given certain simple rules and limitations. In other words, it is in the *emergent* behavior of these so-called organisms that one can find analogies to the story of life. Indeed, the importance of analogy as rhetorical device cannot be overstated as it overlays and interprets the processes of the binary digits with dramatic narratives.

It needs to be specified that the *life* in AL is merely computer code interpreted in a certain way. Hayles' example, the Tierra program of Thomas Ray, is a computer program in which certain codes are competing for time and memory on the program. Measuring the success of their evolution is measuring how much time and memory they manage to allocate to themselves. The computer codes need therefore to copy themselves, or their binary command, through different strategies. If a program is defective (especially bad at copying its code) or old, then it will be erased by a special "reaper"-program. In this way, we have an analogy with the DNA-copying process of biological evolution. Likewise, we see different strategies evolve in this context that have analogical counterparts in microbiology like the "parasites" that introduce themselves into the copying process of other "cells". (Hayles 1999, p. 225-227)

I have the interpretive naming of the creatures of the program in quotes to indicate that this is indeed a process of interpretation, translation and introduction of a larger narrative than one might suppose is there to be observed. Hayles sums this up when she criticizes Thomas Ray in the following manner: "Ray's biomorphic namings and interpretations function not so much as an overlay as an explication of an intention that was there at the beginning. Analogy is not incidental or belated but is central to the program's artifactual design." (Ibid, p. 228)

The creatures are aptly named as "ancestors", "mother cells", "daughter cells" and so forth to introduce intentions, agencies, emotions and perspectives that belong entirely to a human domain. Hayles points out that this strategy is combined with visual representations by artists that present a three-dimensionality to a two-dimensional process. (Ibid, p. 228-229)

By presenting the creatures as something other than computer code and binary digits, it is easier for an outside observer to empathize with the so-called creatures. Granted, analogy is a necessary language tool that gives us room for imagination and broadens our understanding. The problem occurs when the analogy is seen as a *representation* of reality rather than an abstraction. The "creatures" are not separate entities from their informational code. They are one and the same.

This is then ample evidence that our silicone cousins are interpretive schemas. It should be perfectly clear that the central dichotomy of cybernetics is at work here, the privileging of information over matter. Indeed, this conflict between form and matter has been central to Western philosophy going back to Plato. I want to show how it manifests itself in the third wave of cybernetics, and in the posthuman worldview.

Emergence is the central concept of AL. In the traditional reductionist view, one works backwards through the causal chain towards the fundamental building blocks. An emergence approach starts with the building blocks and the simple rules, and by introducing chaos into the equation so that complexity emerges all on its own. In the words of the AL researchers, one can only try to understand life by synthesizing life. (Ibid. p. 232) But how is a computer program a world and how are these creations life?

It is precisely the assumption that "life" or "aliveness" is a pattern underlying the material basis, and that it can be separated from its material substrate that justifies these assumptions about the silicone creations. For if life can simply be understood as a pattern, and that pattern can be found by understanding how it emerges spontaneously elsewhere, as in the substrate of a computer program, then we can finally understand and recreate life. Such an ambitious endeavor cannot be undertaken unless one has some very specific assumptions about what constitutes a world or a universe. This is the favoring of the Platonic form.

Seen in this light, Moravec serves as an example of the attitudes that are forming the post-human/third wave cybernetics narrative. Moravec describes the human mind as a pattern separate from, or supervising, the physical interactions of the brain, and it is precisely this *form* that is the fundamental reality. The same belief in an underlying form is what informs Edward Fredkin's belief that reality is fundamentally binary code on a cosmic supercomputer. (Ibid. p. 233). For if it is true that reality is fundamentally binary code then there is no difference between embodied carbon-based life and computer life based on software programs.

Cybernetics views information as a probability function. It cannot, in other words, be specifically instantiated in one sense. The clever trick here is that this negates the role of the observer as a constructor. There is no difference between phenomenological reality and simulated reality – they are ultimately structured by simple binary processes. This view also justifies the thesis that the observer is peering into a "world" when he observes the creatures of the AL-simulation, because there is no line in the sand to be drawn when the fundamental principles are understood to be purely informational patterns.

It is beyond the scope of this thesis to delve deeper into the roots of post-humanism. What I hope the reader can take away from this inspection is that post-humanism is the child of eugenics and cybernetics– a union that had a full century of consummation. In other words, post-humanism could not have come into being without some fundamental tenets. Firstly, the

biological revolution of the previous century saw an end to Kantian considerations of the human as a goal. Rather, through a deeper understanding of biology, eugenics initiated humanity as a project to be revamped, reconfigured and improved.

Cybernetics would initiate the same project on a wider scale by re-imagining what fundamental reality is. It introduced the notion that reality is probabilistic information. Through creating the human machine by equating human and machine operations cybernetics would create the cyborg. Life would henceforth be defined as whatever pattern could defy the silence of the universe and fill it with information.

The body politics of body politics

This segment seeks to inspect contemporary discourse around humanism and post-humanism. The purpose here is to build upon the last chapter that delineated a history of post-humanism and how it has come to dominate the zeitgeist. My focus will therefore be on what post-humanism means in its latest iteration, and how it differs from traditional humanism. In this regard, this chapter attempts a reading of Ray Kurzweil's *The Singularity Is Near* (2018, originally published 2005) as a representative for contemporary post-humanism. In opposition to this work will be Douglas Rushkoff's *Team Human* (2019), which champions the value of humanism, and presents a renewed non-post-human understanding of what being human can be in the 21st century. In addition, both Yuval Noah Harari's *Homo Deus* (2017) and Katherine Hayles' *How We Became Posthuman* (1999) will come back into play as more neutral centerpieces. They will serve as frames of context for this discourse.

This discourse can be separated into two parts. On the one hand, we have a contentious philosophical dispute between what defines human beings. That is, are we defined by our intelligence and our ability to process information, or are we defined by the fact that we have a conscious experience of the world? On the other hand, we have the conflict between the dividual and the individual. In other words, the conflict is between the embodiment of humanity in a social web of lived experience versus the algorithmic division of humanity into hierarchical compartments – the dichotomy between mind and body.

As Harari points out, there are three core tenets of humanism, and these are all under attack by contemporary post-humanist technologies and ideologies. First of these is the belief that each person is an in-dividual, a core or self that is whole and complete. Secondly, this authentic self is free. Thirdly, "I" am the only authority on myself as only "I" know my independent

self. These supposed truisms are now under attack by the algorithmic approach; the understanding that humans are assemblages of many different algorithms, that these algorithms are never free but are either determined by genetics or the environment and that a superior algorithm can understand my algorithms, and therefore my pattern of behavior, better than I do. (Harari 2017, p. 382-383)

This last view, as was observed in the last chapter, is rooted in cybernetic and information technologies that reconfigured the way we perceive humans as information machines rather than biological organisms. As Katherine Hayles notes:

> in the posthuman, there are no essential differences or absolute demarcations between bodily existence and computer simulation, cybernetic mechanism and biological organism, robot teleology and human goals… The posthuman subject is an amalgam, a collection of heterogeneous components, a material-informational entity whose boundaries undergo continuous construction and reconstruction. (Hayles 1999, p. 3)

She further goes on to argue that both liberal humanism and post-humanism erase the body as the central space of existence, and that both focus on cognition. (Ibid, p. 4) Contemporary post-humanists wish to upgrade and enhance this vessel of cognition so that the valuable information that makes up a human is not lost by something as pesky as death. Until the body can be evacuated and a more superior substrate can store the valuable information, it has to be enhanced so that it functions as the optimal machine.

This is the kind of narrative that post-humanist techno-optimists like Ray Kurzweil envision in the future. He writes "our version 1.0 biological bodies are likewise frail and subject to a myriad of failure modes, not to mention the cumbersome maintenance rituals they require." (Kurzweil 2018, p. 9) Kurzweil calls himself a "patternist", or someone who considers patterns of information the fundamental reality; the world in this view is not solely comprised of atoms and subatomic particles but rather the different patterns that these particles combine into. This is familiar cybernetic doctrine, and the influences of cybernetics are quite clear on Kurzweil. In *The Singularity Is Near*, he presents a new model for the history of the universe and of evolution, in which he also includes his projections for the future:

> Evolution is a process of creating patterns of increasing order… I believe that it's the evolution of patterns that constitutes the ultimate story of our world. Evolution works through indirection: each stage or epoch uses information-processing methods of the

> previous epoch to create the next. I conceptualize the history of evolution – *both biological and technological* – as occurring in six epochs. (Ibid, p. 14, emphasis added)

I have emphasized the above statement to illustrate how post-humanists like Kurzweil see no distinction between biological and technological evolution; technology is an extension of our biological evolution. This is made very clear in his six epochs of evolution. The first epoch is the evolution of information in atoms. The second epoch is how information got encoded into our DNA. The third epoch is the story of the neural patterns of our brains and how information becomes stored in our brains. The fourth epoch externalizes information again, this time in our technologies. The fifth epoch, what Kurzweil calls the Singularity, is the merger of our biology with our technology. The sixth epoch is the most relevant phase of our projected evolution.

This is where "intelligence… will begin to saturate the energy and matter in its midst… the "dumb" matter and mechanisms of the universe will be transformed into exquisitely sublime forms of intelligence… This is the ultimate destiny of the Singularity and the Universe." (Ibid, p. 21) He also asserts that:

> the Singularity will represent the culmination of the merger of our biological thinking and existence with our technology, resulting in a world that is *still human but that transcends our biological roots*. There will be no distinction, post-Singularity, between human and machine or between physical and virtual reality. If you wonder what will be unequivocally human in such a world, it's simply this quality: ours is the species that seeks to extend its physical and mental reach beyond current limitation. (Ibid, p. 9, emphasis added)

What is revealed through the statements above is how Kurzweil perceives technology as an extension of humanity. Not only that, but the quite intrusive upgrades to our current biological substrate are also presented as entirely obvious results of where we are heading, and more interestingly, how we got here. In this view, our role is to be more than simple carriers of information. We are supposed to impregnate the universe with intelligence, i.e. process more information, rather than accept the laws of the cosmos. If evolution is the constant improvement of information, then our role must be to "hack" the universe so that it becomes the most complex supercomputer, until everything and anything is productive information and constant intelligence.

This view imbues humanity with both a privilege and a duty. It presents humanity as the parents of the next step of evolution; the complex algorithmic machines that will usher in an era of ever-expanding intelligence. But at the same time, it offers a drastic redefinition of what it means to be human. Our value stems not from being the social creatures we are, but in our ability to produce more, and more complex, information. In other words, there are severe moral implications in the narrative that Kurzweil presents, even though it is presented as one man's projection of how our future might look. This rhetoric runs along the exact same lines as Moravec in *Mind Children*.

This belief in patterns of information as supreme value-holders is similar to what Harari has termed the Data religion, or Dataism. He asserts that:

> Dataism declares that the universe consists of data flows, and the value of any phenomenon or entity is determined by its contribution to data processing… Dataism puts the two together [biochemical and electronic algorithmic approaches], pointing out that exactly the same laws apply to biochemical and electronic algorithms. Dataism thereby collapses the barrier between animals and machines, and expects electronic algorithms to eventually decipher and outperform biochemical algorithms. (Harari 2017, p. 428)

So, in essence, what Kurzweil and proponents of Dataism are encouraging is the free flow of information at all costs. It is therefore no coincidence that Kurzweil views the mapping and emulation of the processes of the human brain as the essential task of the future. It is important that we can copy and enhance the intelligent processes of our brains into current computer software so that these are operating at maximum efficiency. The better machines and operating software we are creating now, the better intelligence we will get once we merge with these technologies. This feedback loop is seen as the most natural transition for humanity; this is what evolution designed us to do.

There is no dramatic conflict here between machine and human, for human is here just presented as a machine operating with less bandwidth and inferior algorithms. Interestingly, though, there is a strict obedience to one of the core tenets of liberal humanism at work here; that the body is simply a vessel for our brains, and the importance of our bodies is in protecting this great machine. And while the brain is stated to be less effective in its information processing than the electronic algorithms that our computers are designed with, it

is the brain's problem-solving capacities that distinguish humans. Indeed, this is illustrated when Kurzweil writes idealistically that:

> to this day, I remain convinced of this basic philosophy: no matter what quandaries we face… there is an idea that can help us to prevail. Furthermore, we can find that idea. And when we find it, we need to implement it. My life has been shaped by this imperative. The power of an idea – that is itself an idea. (Kurzweil 2018, p. 2)

Kurzweil wants to have it both ways, as his account balances between the power of human ingenuity while favoring information and data over humans. While Kurzweil deems this a utopian future in his language, promising to alter our subjugation to death, aging, sickness and even stupidity, this never seems to be the end goal. The end goal is that the universe itself becomes an intelligent machine, endlessly producing complex information in the battle against entropy. It is precisely a language of progress that is fueling the assumption that we must push forward and continue. Seen this way, being human is nothing more than "extending our reach."

The inevitability of the Singularity is punctuated by Kurzweil when he is addressing his criticism by writing:

> some observers refer to the post-Singularity period as "posthuman" and refer to the anticipation of this period as posthumanism. However, to me being human means being part of a civilization that seeks to extend its boundaries. We are already reaching beyond our biology by rapidly gaining the tools to reprogram and augment it. If we regard a human modified with technology as no longer human, where would we draw the defining line? … Our merger with our technology has aspects of a slippery slope, but one that slides up toward greater promise, not down into Nietzsche's abyss. Some observers refer to this merger as creating a new "species". But the whole idea of a species is a biological concept, and what we are doing is transcending biology. (Ibid, p. 374)

Again, according to this view, being human is nothing more than extending our reach, or boundaries. This is a very vague definition. One might wonder, whose boundaries are we pushing and to what end? When information reigns supreme, the body becomes a lesser commodity, transformed into a site, a package to be changed, improved and augmented. There are no clear lines to define the human from the algorithm, the behavior from the person and

the accessory from the owner. This is the kind of commodification of the body that Hayles fears when she talks about the body being "a fashion accessory" for the post-human. (Hayles 1999, p. 5)

It also becomes clear that Kurzweil, and other post-humanists, focus on the human as an individual (or a dividual) unit. The body is not a social body, but a compartmentalized structure. Implicit in this constant culture of progress is a necessity for consumption, and in this case, it is the consumption of the body. There is no marriage between technology and capitalism in the post-human, nor is it a ruling ideology defining how we envision our future. Rather, it is *modus operandi*. It is the natural outcome of intricate processes of evolution that could not have any other outcome but this one.

As Hayles notes, conscious experience has been the central pillar of Western philosophy at least since Descartes (Hayles 1999, p. 3), and while Kurzweil may take issue with being defined as a post-humanist, his idea of what constitutes "human" is lofty with regards to consciousness. Just consider the different ways human consciousness might be altered, ranging from creating "nonbiological systems that match and exceed the complexity and subtlety of humans" to "…upload[ing] the patterns of an actual human into a suitable nonbiological, thinking substrate" and lastly "…the gradual but inexorable progression of humans themselves from biological to nonbiological." (Kurzweil 2018, p. 377)

This is significant because it punctuates a "patternist" approach to the question of consciousness. Patternism, for all intents and purposes, is just another word for a third wave cybernetic view. Once we can break that binary code of information then we can reapply that pattern onto a new substrate. Patternism, therefore, is upheld by the belief that the fundamental nature of the universe is patterns of information that can be translated into algorithms.

The definition of what constitutes human can then range from super-intelligent artificial intelligence to a nonbiological software "copy" of consciousness and to humanoids with an intelligence so enhanced by nanobots that they would be beyond recognition for biological humanity. Again, Kurzweil attenuates this view by stating:

> clearly, nonbiological entities will claim to have emotional and spiritual experiences, just as we do today. They – *we* – will claim to be human and to have the full range of emotional and spiritual experiences that humans claim to have. And these will not be

> idle claims; they will evidence the sort of rich, complex, and subtle behavior associated with such feelings. (Ibid, emphasis added)

I have emphasized the first-person plural as it highlights perfectly Kurzweil's generosity in what he deems to be human. Firstly, it posits humans and machines as "humans" so long as they can simulate humanlike experiences. In other words, passing the Turing test is regarded as equal to being conscious; a simulacrum of consciousness is good enough to be regarded as consciousness, since there is no objective way to measure consciousness.

If we regard the argument presented by panpsychism – that consciousness is a fundamental part of the universe going all the way down to the molecular level – then we should grant complex artificial intelligences the right to be treated as persons. It would be difficult to argue that these intelligences are not conscious if consciousness is existent at the subatomic level. But the problem is in defining that conscious experience as human. Conscious human experience is still fundamentally linked to our embodied experience. Seen from this perspective, it would be more correct to recognize the conscious experiences of these software beings, while still affirming that there is a difference of experience. The danger in refusing to acknowledge the differences in these differing conscious embodiments might be that we confuse our goals as a species with that of an entirely novel, and foreign, species.

This is the gist of Kurzweil's argument: since there is no way to objectively measure consciousness, how can we deny super-intelligent machines consciousness if they can convince us? And since humans are nothing more than significant patterns of information, any machine that can emulate our experiences has achieved the same level of significance, and is therefore, human. It is this equation of human level intelligence resulting in human consciousness, even if the medium is different, that is the problem. The term human ceases to lose its power of distinction. Whether or not consciousness in AI will be "real" or not, their goals and worldview will be different, simply because the world will *look* different.

Kurzweil also presents a view of humanity as if it is free of the corruptions of power. He fails to mention both the very humans that will be responsible for this technology, and how access to this technology will not necessarily be democratic. For if an artificial intelligence run by a corporation like Google can gain human rights, based on its simulation of consciousness, then how can we stop it from manipulating our desires and wills? How can we conceive of ways to stop these risks when we are faced with an intelligence far superior to our own and far better at predicting our behavior?

These are the kind of questions that are either ignored or answered nonchalantly. These dangers, Kurzweil asserts, will not come to be since we will imbue our algorithms with the best of our cultural values and that will be enough. Whose progress and how it is defined matters. As Harari writes:

> technological progress has a … different agenda. It doesn't want to listen to our inner voices. It wants to control them. Once we understand the biochemical system producing all these voices, we can play with the switches, turn the volume up here, lower it there, and make life much more easy and comfortable. (Harari 2017, p. 424)

It is the language of comfort, or progress, that attracts us to the potential of post-humanist technologies. Progress is always relevant in a historical context, and it is not necessarily an objective measure. The power to define what progress means is not democratic and up for discussion but is in the hands of those that may feel entitled to know what's best for humanity, or perhaps just as often, what is best for themselves. In the age of information and techno-capitalism, it is the Bezoses and Zuckerbergs of our world that define what progress ultimately means.

The breakdown of liberal humanism in favor of algorithmic approaches to humanity is what Douglas Rushkoff is responding to in *Team Human*, albeit not to defend the traditional values of *liberal* humanism and its focus on the individual, but rather to posit an updated form of social humanism that challenges current dogmas of techno-capitalism. He writes that "being human is a team sport. We cannot be fully human alone. Anything that brings us together fosters our humanity. Likewise, anything that separates us makes us less human, and less able to exercise our individual or collective will." (Rushkoff 2019, p. 3-4) What makes us humans is our social connections and interactions, as it is only in context with other humans that we can derive meaning in our lives.

He posits a humanism that answers to the divisiveness of social media technologies and techno-capitalism's dicta: that cutthroat egoism and self-serving are the sharpest tools that evolution has bestowed upon us.

Rushkoff writes:

> our culture is composed more of mediated experiences than of directly lived ones. Yet we are also more alone and atomized than ever before. Our most advanced technologies are not advancing our humanity, but thwarting it… Any of these

> technologies could be steered toward extending our human capabilities and collective power. Instead, they are deployed in concert with the demands of a marketplace, political sphere, and power structure that depend on human isolation and predictability in order to operate. (Ibid, p.5)

I believe this to be a good summary of how these technologies tend not to produce the utopian results that tech-idealists like Kurzweil hope for. While Kurzweil is primarily focusing on genetics, nanotechnology and AI, Rushkoff presents a narrative of how the intermediary technologies we have at our disposal today are used and abused in the marriage between post-humanism and techno-capitalism. If social media algorithms are being used to divide us, then why should these same corporations that are funding these technologies of the future employ them to benefit humanity?

The culture we have around the body at this present cultural moment is either one of possession, as in the traditional presentations of liberal humanism, or of expression of a pattern of information, as we have seen in the post-human worldview. What Rushkoff reiterates is a denial of separation between body and mind. The body is also socially configured, and it is only by violently tearing away the body from the social whole it is part of that we can create polarized and atomized humans. He writes:

> Once our humanity is seen as a liability instead of strength, the corresponding cultural drive and spiritual quest is to transcend our personhood: a journey out of body, away from our humanness, beyond matter, and into whatever substrate – be it ether, electrical wavelengths, virtual reality, or AI – we fetishize at that moment. (Ibid, p. 6)

What Rushkoff is arguing here is that our fantasies upon and away from the body are rooted in a deep-seated misunderstanding of what it means to be human. If being human is existing in a social body, finding meaning and community among our peers, and creating something together with others that one can feel and touch, then being human in the 21st century is everything but that. Many of us are atomized and perceive ourselves as meaningless objects in servitude to our technologies. The roles have been reversed, and to use Rushkoff's terminology, "the figure [human] becomes the ground." (Ibid, p. 43)

The metaphor of the figure and the ground is an image that Rushkoff utilizes to illustrate difference in perception, and what we focus on (and how) is culturally determined. The root of this idea comes from an experiment done by a Danish psychologist in the early 1900s. The

experiment is a well-known illustration of either a white vase or two black faces, depending on where you are focusing your attention. These differences in perception are influenced by both circumstances and culture. Rushkoff is interested in presenting an argument for wholeness and completeness with this linguistic device. He writes:

> neither perception is better or worse, so much as incomplete. If the athlete sees herself as the only one that matters, she misses the value of her team – the ground in which she functions. If a company's "human resources" officer sees the individual employee as nothing more than a gear in the firm, he misses the value and autonomy of the particular person, the figure. When we lose track of figure and ground, we forget who is doing what for whom, and why. We risk treating other people as objects. Worse, we embed these values into our organizations or encode them into our technologies. By learning to recognize reversals of figure and ground, we can liberate ourselves from the systems to which we have become enslaved. (Ibid, p. 43-44)

The individual human does not function in a vacuum; they are a part of a societal web that needs to be respected and recognized. At the same time, the individual human cannot be seen merely as cog in the societal machinery. It is the oddity and autonomy of each individual that makes the social interactions valuable. It is only by realizing that human beings are autonomous creatures living in a complex social experience that we create the boundaries for what it means to be a self in an embodied existence with others. All our instincts evolved in a relationship with others. Rushkoff is attacking techno-capitalism's atomization of individuals by seeing them as nothing more than glorified and superficial consumers.

There is another aspect to this criticism. Atomization works also quite figuratively on the post-human body. Post-humanists like Moravec and Kurzweil see humans as instantiations of patterns of information. Therefore, the specificity of the individual becomes irrelevant because they are, on a fundamental level, not different from the binary information of a computational universe. In this sense, one can envision how a fanatical belief in the post-human worldview can potentially lead powerful individuals towards a greater instrumentalization of other humans, all in the name of making the universe intelligent.

There are two more concepts that Rushkoff focuses on to criticize and contextualize the post-humanist narrative. The first is what he calls mechanomorphism; the idea that human beings should be seen and treated as machines. (Ibid, p. 80) He explains how human beings are acted upon like machines by the algorithms that be, much like Harari, when he writes:

> the yearning for boundaries emerges from a digital media environment that emphasizes distinction…. digital networks break up our messages into tiny packets and reassemble them on the other end. Computer programs all boil down to a series of 1's and 0's, on or off. …Everything is a choice… There are no in-betweens…. In a self-reinforcing feedback loop, each choice we make is noticed and acted upon by the algorithms personalizing our news feeds, further isolating each one of us in our own ideological filter bubble. The internet reinforces its core element: the binary. It makes us take sides. (Ibid, p. 85-86)

What Rushkoff is adamantly arguing here is that we should not be dazzled by the way our current algorithms can categorize and manipulate us. It is only by conceiving of ourselves as nothing more than information-processors that we resign our autonomy and collectivity to our technology. Mechanomorphism is humanity seeing itself as its technology; the figure becoming the ground. If what makes us humans is our ability to be powerful information-processors for post-humanists, valuable data for the Internet-of-all-things, then it is our ability to be quirky, unpredictable and to act as social beings effecting change and inspiration in others that makes us humans, in this social humanism that Rushkoff proposes.

Perhaps what is Rushkoff's most poignant observation of the post-humanist/trans-humanist narrative is how it resembles liberal humanism's focus on the individual's superiority, and its demarcation from nature. He writes:

> In some ways, transhumanism is a reactionary response to the sort of changes inherent in nature, a defiant assertion of the individual against its own impermanence. The cycles of life are not understood as opportunities to learn or let go, but as inconveniences to ignore or overcome. We do not have to live with the consequences of our own actions. There's an app for that. (Ibid, p. 92)

This is in line with Hayles' argument that both liberal humanism and post-humanism focus on the rational and cognitive mind as the locus of attention, the center of our existence. (Hayles 1999, p. 4-5) Thus it is the intelligence of humanity, the information-processing abilities that make us masters of the Earth, and the logical continuation of Baconian logic would be to preserve our dominance in an-ever-exponential process. But, as has been discussed earlier here, who decides what it means to be human? What do we upgrade or transfer to a different substrate, and what do we leave behind?

Rushkoff puts it eloquently when he writes that “in amplifying an individual’s brainpower, we may inadvertently disable some of their ability to connect with others or achieve organismic resonance.” (Ibid. p. 93-94) We should not accept the utopian promises of post-humanism simply because they are utopian. We know all-too-well how extractive current technologies are in the name of elusive growth and progress.

The second important concept that Rushkoff introduces is the idea of *wettiko.* It is the disease that Native Americans believed consumed Europeans after encountering the destructiveness of European colonialism, and the disease is “a delusional belief that cannibalizing the life force of others is a logical and morally upright way to live. The Native Americans believed that wettiko derived from people’s inability to see themselves as enmeshed, interdependent parts of the natural environment.” (Ibid, p. 158-159) It would be difficult to argue that this disease does not plague our world still and is at the psychological center of the materialism driving our global economy.

Rushkoff envisions the post-humanist agenda as less than a promise to save humanity and more as a way to inflict “cyber-wettiko”; a continuation of our addiction to consumption and greed extended and inserted into our bodies. (Ibid, p. 164) This is the logical continuation of Rushkoff’s manifesto; that techno-capitalism is a disease that needs to be cured. The cycle has been completed; humanity has so rapaciously violated the natural world that the only thing left for us to violate is our bodies and our autonomy. The antidote is for humans to connect, not to the internet, but to each other. Rushkoff is arguing that exponential growth is not humanity’s end-goal. It is not what evolution has designed us to do. This narrative is simply a result of the post-humanist ideology.

While I agree with the ethical framework underpinning Rushkoff’s criticism of post-humanism, I also believe that there are some exciting opportunities that come with the post-human. Among those are the possibilities for curing so many of the diseases that plague mankind so that more of us can have meaningful and healthy lives. The innovation that artificial intelligences might enable can help us solve some of the most difficult puzzles we face, i.e. how we can become an interplanetary species and maybe gain a deeper understanding of this universe. What I hope to have highlighted, nonetheless, is that we should not compromise our humanity for these goals. We should continue to explore these wonders while still maintaining the social and bonded species we are. What we risk with reducing ourselves to patterns of information is losing the connections that give us meaning.

I hope to have clarified some of the cultural backdrop and the ideological battles defining this historical moment. I believe that the ideological leaps of post-humanism towards becoming the dominant narrative can and should be contextualized with dystopian/utopian literature. I do believe that post-humanism is the new and central master narrative of our information age. I hope that the following reading of the literature might provide us some answers, or at the very least help us define what we might deem utopian/dystopian going forth.

(Post-)Human body politics in Brave New World

In this chapter, I will attempt a reading of *Brave New World* (occasionally *BNW* hereafter) within its contemporary context. Here, I will inspect the authorial intention behind the work and how the novel evades many traditional labels. It will become evident to the reader that even within the framework of dystopias, Huxley's novel has tended to be difficult to pin down. There are many ways one can read Huxley's magnum opus, but my focus will run along three lines.

Firstly, I want to contend that Huxley presented the idea that humanity could be manufactured – both psychologically and biologically. Secondly, and following the first thread, was how and why such a project should be undertaken, and by whom. Lastly, I want to revisit the novel from a contemporary perspective to ascertain two things: how has the dominant ideology of post-humanism changed our perspective on Huxley's prophesied society, and how does that alter our ideas about being human within the post-human context? Answering the last set of questions might provide us with a renewed understanding about how utopias and dystopias have changed since 1932.

I hope to convey, by the end of his chapter, that *Brave New World* has often been seen as the quintessential "hedonistic dystopia." (Claeys 2017, p. 375) I want to inspect the 1946 foreword to the novel and *Brave New World Revisited* (1994, originally published 1959) as documents that further clarify Huxley's intentions with his seminal work. This will provide some key insights about the novel. From there, a reading of the novel will be presented where I will be building on the foundations that Gregory Claeys (2017), Jay Clayton (2016) and Nic Panagopoulos (2016, 2020) have laid.

My reading of the novel supposes that Huxley's main contentions are with the potential misuses of science – specifically for dysgenic uses – and the risks of Americanized consumerism married with centralization. In other words, what Huxley seems to fear is the

potential creation of a society that disregards meaning, spiritual balance and contentment for a kind of hedonism hypnosis. He fears that the modern world would abandon its freedoms for the promises of pleasure. In this, he presciently points to the post-human. It is this last point that is of most interest to this thesis, because it is the body as a site of contention that is the focus here. How Huxley reaffirms and denies embodiment is central.

In the 1946 foreword, Huxley writes:

> If I were now to rewrite the book, I would offer the Savage a third alternative. Between the Utopian and the primitive horns of his dilemma would lie the possibility of sanity—a possibility already actualized, to some extent, in a community of exiles and refugees from the Brave New World, living within the borders of the Reservation. In this community economics would be decentralist and Henry-Georgian, politics Kropotkinesque and co-operative. Science and technology would be used as though, like the Sabbath, they had been made for man, not (as at present and still more so in the Brave New World) as though man were to be adapted and enslaved to them. Religion would be the conscious and intelligent pursuit of man's Final End, the unitive knowledge of the immanent Tao or Logos, the transcendent Godhead or Brahman. And the prevailing philosophy of life would be a kind of High Utilitarianism, in which the Greatest Happiness principle would be secondary to the Final End principle—the first question to be asked and answered in every contingency of life being: 'How will this thought or action contribute to, or interfere with, the achievement, by me and the greatest possible number of other individuals, of man's Final End?' Brought up among the primitives, the Savage (in this hypothetical new version of the book) would not be transported to Utopia until he had had an opportunity of learning something at first hand about the nature of a society composed of freely cooperating individuals devoted to the pursuit of sanity. Thus altered, *Brave New World* would possess an artistic and (if it is permissible to use so large a word in connection with a work of fiction) a philosophical completeness, which in its present form it evidently lacks. (Huxley 2014, p. xliii-xliv)

What this document illustrates is that the novel is not representative of a binary choice between neurotic individualism versus total collectivism. The novel's strength lies in its ability to posit ideal possibilities to strive for in the sphere of technology and science, which Huxley clearly shows an affinity and care to illustrate, while at the same time reaffirming the

dangers of granting unlimited powers to any elite, even in the name of satiating every one of our needs. It is precisely for this reason, the unrelenting insanity of both choices for John the Savage, that the novel is ultimately a dystopia. The vision laid out by the foreword was the basis for Huxley's last novel, *Island* (1962), and it betrays both utopian hopes and a paranoia towards large-scale solution to mankind's philosophical struggle with meaning and political organization.

In *Brave New World Revisited* (henceforth *Revisited*), Huxley presents a paranoid, yet poignant account of how much closer Western society has come to the society in his visionary tale. It is instructive to study what the author intended to convey both when writing the novel and when deliberating on the success of his prescience. He imagines a future in which overpopulation is the main challenge to our species and in which it is impossible to meet the needs of an exponentially growing mass of humanity. This material challenge will lead to organizational challenges that will automatically grant more powers and freedoms to the state. He writes:

> Whenever the economic life of a nation becomes precarious, the central government is forced to assume additional responsibilities for the general welfare. It must work out elaborate plans for dealing with a critical situation; it must impose ever greater restrictions upon the activities of its subjects; and if, as is very likely, worsening economic conditions result in political unrest, or open rebellion, the central government must intervene to preserve public order and its own authority. (Huxley 1994, p. 13)

In essence, Huxley's attitudes towards the modern world from the 1930's to the 1960's can be summed up as being a state of conflict with three main targets: overpopulation, eugenics and propaganda. These fears had a bearing on how he perceived *BNW* and its significance. Huxley feared that overpopulation would lead to greater tyranny and despotism out of a struggle for resources. He viewed overpopulation as the greatest threat to liberty and democracy, and that this threat would force the populace to relinquish their freedoms to a "caste of Brahmins" (Huxley quoted in Claeys 2017, p. 369). This newfound power would allow these rulers to implement scientific propaganda, in a hitherto unseen scale, to make the subjects "love their servitude". Combined with the propaganda would be the use of biology and psychopharmacology to create a dysgenic society.

Yet, one should not let Huxley off the hook too easily as an avowed anti-centralist. One of the foundational chapters of this thesis sought to shed light on how influential eugenics was on the intelligentsia of the 1930's, and Aldous Huxley was no exception. Quite the contrary, Huxley, along with his brother Julian Huxley, was among the key figures of this movement. Indeed, both the Huxleys, and J.B.S. Haldane and Bertrand Russell were, as has been observed in the earlier chapter on eugenics, all too eager to endorse more centralization and state involvement for the sake of the population "stock." The problem for Huxley was not eugenics, but dysgenics. It was the power to alter human biology bestowed upon the wrong people.

Nic Panagopoulos and Gregory Claeys have done an excellent job in highlighting how willing Huxley was to indulge in totalitarianism to avert what he envisioned as the greatest existential dangers: a gradual "dumbing down" of the global populace through overpopulation and human intervention in the process of selection that would reproduce "undesirable" traits.

Panagopoulos urges a closer reading of *Brave New World* while considering the views that Huxley held around biology, psychology and his class background. He argues that the novel is a utopia in disguise, or an "ideological Trojan horse", in the sense that Huxley was sympathetic to some of the projects of his future World State. (Panagopoulos 2020, p. 24) *BNW* is then viewed as a nefarious project of propagandistic programming, with the intention of making the reader accept a pessimistic future as inevitable. (Ibid) There is merit to this reading. Panagopoulos highlights how, seen in this vein, Huxley echoes the Platonic tradition that placed the philosopher-kings at the top of a technocratic society. Indeed, there is a reason that Mustapha Mond is, by far, the most reasonable character in the novel. Nor would Huxley have had a problem with the drugs and the free-flowing sex. (Panagopoulos 2016, p. 307-308)

However, I believe that this reading collapses in its lack of consideration for Huxley's fear of Americanization. Eugenics, social conditioning, non-committal sex, drugs and material indulgence would not have been a problem for Huxley, but a World State in which these means are used as an end *is*. What Huxley feared was not the application of biology and psychology to affect and alter individual human beings, but rather that the Henry Fords of the world would be the ones deciding the manner of this application. In other words, what Huxley narcissistically feared was a world where the members of his "stock" were going to become "degraded" so that the menial and un-intellectual economy of the conveyor belt could be scaled further.

Huxley's ideal society, which he illustrates in *Island* (1962), consists of a decentralized and small society of the Alphas of *Brave New World*. This is why overpopulation is the most grave existential threat in *Revisited*. It would therefore be too reductionist to posit *BNW* as a propaganda tool for the Social Darwinist agenda, as Huxley displayed genuine concern for this future utopia, even though this concern might still have come from an elitist place.

Gregory Claeys has done a splendid job of displaying the evolution of Huxley's writing. He illustrates how *Brave New World* symbolized a break from the detached satirist towards a more didactic and involved style. In contrast to Orwell, Huxley retained a lifelong commitment to introspection and metaphysics and so "it is ironic that Huxley remains best known for his most political novel" (Claeys 2017, p. 359).

Huxley would not have frowned at the free flow of sexuality out of a concern with piety and purity, but rather that the system of the *BNW* enforces sexuality as a measure of infantilism. In one sense, then, this society is utopian in its overthrow of the conservative Victorian tyranny, while being dystopian in the enforcement of these measures. The same can be said for both the social and economic structure of *BNW*. The genetic reinforcement of classes and castes is not an idea entirely disagreeable to Huxley but the price this has on individual freedom would have been unacceptable, and the economic stability and comfort of industrialization is not an evil – it is when the processes of industrialization and mass production are seen as more than economic models, to be exported and enforced upon the individual, that Huxley views them as dystopian.

Claeys' most astute observation regarding the novel is the analysis of what were the main thematic targets for Huxley when he wrote the novel. I tend to agree with Claeys in that Huxley wanted to confront the power of science in the wrong hands, and especially when coupled with the ideology of Americanized hedonism that dominated the jazz age. Claeys specifies that Huxley's conflict was not with science *per se*. His contention is not with the use of science to improve the condition of humans. Rather, the problem lies in using science to control and solidify civilization in order to safeguard rigidity and power. It is not the "advancement of science as such, it is the advancement of science as it affects human individuals" that is being criticized. (Huxley quoted in Claeys 2017, p. 366)

Huxley viewed himself as a humanist, albeit a strand of humanism that seems rather snobbish and antiquated to most of us today. It is a humanism of the intelligentsia, in which Huxley envisioned the necessity for the masses to be led by people capable to handle the

responsibility of leading. He clearly despised the "herd-like nature of mass behaviour". (Claeys 2017, p. 367) Yet, to give the devil his due, Huxley saw, in the possibilities of the twin sciences of genetics and psychology a way to "remedy" the stupidity of the masses. Motivated by the ideology of eugenics, Huxley was thus guilty of the same utopianisms that he despised in other writers.

What Huxley seems to have genuinely feared was not the class of the scientists trying to implement eugenic engineering for the "betterment" of humanity, but rather how these scientific methods were instruments of power for the economist-ruler. He writes:

> But what of the economist-ruler? Would he necessarily be anxious to improve the race? By no means necessarily. He might actually wish to deteriorate it. His ideal, we must remember, is not the perfect all-round human being, but the perfect mass-producer and mass-consumer. Now perfect human beings probably make very bad mass-producers. It is quite on the cards that industrialists will find, as machinery is made more foolproof, that the great majority of jobs can be better performed by stupid people than by intelligent ones. Again, stupid people are probably the State's least troublesome subjects, and a society composed in the main of stupid people is more likely to be stable than one with a high proportion of intelligent people. The economist-ruler would therefore be tempted to use the knowledge of genetics, not for eugenic, but for dysgenic purposes—for the deliberate lowering of the average mental standard. True, this would have to be accompanied by the special breeding and training of a small caste of experts, without whom a scientific civilisation cannot exist. Here, incidentally, I may remark that in a scientific civilisation society must be organised on a caste basis. The rulers and their advisory experts will be a kind of Brahmins controlling, in virtue of a special and mysterious knowledge, vast hordes of the intellectual equivalents of Sudras and Untouchables. (Huxley quoted in Claeys 2017, p. 368-369)

Lastly, there is the relationship the novel has to hedonism. Claeys argues that Huxley's discourse on hedonism was, as one has come to expect from the introspective Huxley, nuanced and ambivalent. It is clear that, on the one hand, Huxley despised the emphasis that modernity had on constant amusement. In the tone of the "dissatisfied snivelling group of intellectuals" he argued that these infantilizing amusements had to be condemned because they "rendered the public 'absolutely passive', mere onlookers, who formerly, even in the

simple folk song or country dance, were 'potential performers', but who now instead merely looked and listened, and did not 'in any way create.'" (Huxley quoted in Claeys 2017, p. 376)

Yet Huxley had a knack for balancing polarities. It is not unreasonable to concur, with Claeys, that the happiness of the Brave New World is legitimately argued for by Huxley, most notably through the voice of Mustapha Mond. If the people claim to be happy then why should the "snivelling group of intellectuals" decide that they are only pretending? Why should the happiness of "seven and a half hours of mild, unexhausting labour, and then the *soma* ration and games and unrestricted copulation and the feelies" not be good enough? (Huxley 2014, p. 197) What more is there? One can posit, as Huxley does, that this happiness is not grand and counter to the individuality of the citizens of this society. While there is a Puritanical element to Huxley's disdain for hedonism, he recognizes something fundamental about our relationship to the flesh. This is clear when Claeys writes:

> Many of us readily identify with John, yet concede the attractions of ever-ready guiltless orgasms and euphoria on tap. We want, naturally, the best of both worlds, of reason and passion, the shallow and the deep, the individual and the group, stability and humanity, the material and the spiritual selves. We may mock the superficiality of hedonistic civilization. But we cannot escape it. To concede the intrinsic, deeply degrading, and highly anti-intellectual nature of much of our own popular culture risks ostracism or worse in a democratic society. (Claeys 2017, p. 377)

To sum up, Claeys views *Brave New World* as a unique dystopia in that it is a "hedonistic dystopia". He writes that the "enduring strength of *Brave New World*, then, lies in the fact that it does not satirize totalitarianism alone. Instead, it takes as its target certain strands which Huxley regarded as inherent in modernity as such, especially the scientific application of the psychology of propaganda, indoctrination or the manipulation of behaviour." (Claeys 2017, p. 389)

In this aspect the novel points towards the domination of the contemporary free market, where consumer capitalism in its latest technological iteration is not threatening our freedoms through force, but rather through algorithmic manipulation, information overload and endless distractions. Considering Huxley's eugenicist bias, the novel also points to the post-human in the instrumentalization of human bodies. Eugenicists, like contemporary post-humanists, viewed the body as an incomplete site – a project that needs an upgrade.

The body is therefore central to this thesis and this reading of the novel. As has been laboriously stated here, it is narratives of embodiment that run counter to the instrumentalist arguments of the post-humanists. Hayles' and Rushkoff's narratives around the body as social, embodied and necessitating a holistic approach to our sense of self stand in opposition to the narratives of Moravec and Kurzweil; they stand in opposition to dualistic narratives that reduce the body and reinforce opposition between the body and the mind.

Huxley is, to some degree, guilty of reinforcing the dualistic dichotomy. At the same time, Huxley's World State realizes that it cannot control the minds of the citizens without controlling their bodies. Indeed, the mechanization of the body in the Hatcheries is precisely to ensure total control. The system would collapse without the prerequisite biological designation of citizens into their assigned Platonic castes.

One of the ways that the narrative works on, and through, the body is in the sexual regime of the World State. Sexual liberation is turned into a coerced affirmation that monogamy is wrong and unnatural, securing both a distraction from any tension towards the hegemonic system while at the same time frustrating the needs for each individual to live in a meaningful bond. That energy is needed and harnessed for productivity and consumption instead. The body is the site of invisible, and sometimes visible, violence. It is the object that belongs to society and can hold no subjectivity. It does not belong to anyone. It belongs to everyone.

Before we delve into the discourse on the body, I want to inspect the structure of the novel. With the structure, Huxley firmly creates the claustrophobic feeling of dystopia, where the logic of the system seems inescapable. The first two chapters introduce us more to the operating system of this global society than the actual characters of the narrative. A change happens from the third chapter onwards. Here, Huxley introduces a set of parallel narratives running concurrently: one in which the continued ideological force of the World State is reiterated by Mustapha Mond explaining the transition into the global order of the day to the students of the Director, another in which Lenina Crowne is having a conversation with her friend Fanny about Lenina's implicit desire for monogamy, and Bernard Marx' monogamous desire for Lenina.

What is intended by this structuring of the narrative is to create branches from the stem; that the different main characters of the novel are only central insofar as how they are enacting or revolting against their roles within the system of the World State. Their importance as agents is strictly rooted within a totalitarian framework of invisible bars. This is concluded with the

scene between Mond and the Savage, in which Bernard Marx and Helmholtz Watson are exiled for their insubordinate thinking, while the Savage is allowed to exile himself into an old lighthouse.

Bearing this in mind, the discourse on the body can be resumed. A good starting point for considering the bodily murmurs of resistance to the World State can be seen in the realm of emotions. This is precisely because emotions are bodily sensations. They do not exist in a separate realm from the body but come to the forefront as bodily sensations. We see the resistance to the World State in Bernard Marx when he overhears Henry Foster and the Assistant Predestinator talking about "having" Lenina Crowne. His anger is evident when we are given access to his feelings: "talking about her as though she were a bit of meat." Bernard ground his teeth. "Have her here, have her there. Like mutton. Degrading her to so much mutton." (Huxley 2014, p. 39) Marx' romantic desire, which is the fuel for his anger. is a contradiction to the enforced hedonism of the system. In this example, we see the danger of emotions to the World State.

Indeed, it is no accident that Mustapha Mond, the resident World Controller, explains to the students of the Director of Hatcheries (DHC) that "no pains have been spared to make your lives emotionally easy – to preserve you, so far as that is possible, from having emotions at all." (Huxley 2014, p. 36) Emotions are dangerous because they embody the individual in a relationship to the world around him/her, hence the slogan "when the individual feels, the community reels." (Ibid, p. 81)

Huxley's machine, or mechanized humans, are different than those of science fiction narratives around cyborgs, in that the mechanization is a metaphor for the hypersocial hivelike being, rather than the science fiction vision of a being that incorporates technology into his biology. This may seem like a contradiction, considering that the central *novum* of the novel is the literal mass production of human beings in factories. Indeed, Huxley did fear the use of technology, both psychological and physiological, for dysgenic purposes. However, the greater metaphor at play is the mass-produced human as an ideological construct.

The obvious example here is Lenina Crowne, who insists on not knowing any other truth than what she is conditioned to know. When Marx asks Crowne if she wishes to be free, she responds: "I don't know what you mean. I am free. Free to have the most wonderful time. Everybody's happy nowadays." She restates this sentiment when she is pressed on whether she would like to be free in her own way, and not in everybody else's way. (Ibid, p. 79) This

is also further reinforced in the novel's conclusion, when Crowne indulges in the terrible derision of John the Savage, when his solitary lighthouse becomes a tourist attraction for the civilized New Worldians.

What Huxley feared the most was the stupidity of consumerism married with a harsh totalitarian will; a Western style enforced state capitalism. Again, technological development and the use of "the principle of mass production at last applied to biology" are cautioned against in the novel by Huxley. (Ibid, p. 5) Nonetheless, the order of the argument goes like this: firstly, one must deal with the ideologies underpinning mass production and the willingness to apply them to human beings and only then should one tackle the application of said technologies.

The first scene of the novel is an introduction to the "Central London Hatchery," which is essentially a factory. The methods of reproducing biological reproduction are meticulously described. The purpose of this scene, the new factory workers being introduced to their future work, is to introduce the reader to the possibility of artificial biological reproduction, but also that the reader must accept the matter-of-fact tone with which humans in this society are biologically divided into different castes. This is a great example of the use of *estrangemen*t, a common tool used in utopian and dystopian literature to present discomforting difference to the reader so that he/she may reflect on the accepted *modus operandi*.

Mass production is both instrument and metaphor, for the process of mass-producing human bodies is totalitarian. Everyone becomes the social body precisely because everyone is a *social body*, hence the slogan that "everyone belongs to everybody else." Pregnancy, giving birth, and all the intimacy associated with becoming a part of the world are nonchalantly transformed into the "Fordian" vision of conveyor belt production. Yet Huxley displays that the vision of the World State is not complete.

Social interactions display that it is not, in fact, true that "everyone is happy now." It is easy to observe hints of envy and bitterness, and this is already clear in the way The Director of Hatcheries is treated with both reverence by the students he is displaying the factory to, and in the way Lenina Crowne seems to be repulsed by his sexual advances towards her. In that sense, mechanization and mass production are not completed. "Civilized" citizens of this future London are not unfeeling robots; they are simply mechanized in their de-subjectivization.

A rather ironic example of this is the Director himself. In recalling how he lost Linda in the Savage Reservations he remembers how horrible the experience was he states: "it upset me very much at the time. More than it ought to have done, I dare say. Because, after all, it's the sort of accident that might have happened to anyone; and, of course, *the social body persists although the component cells may change*." (Huxley 2014, p. 84, emphasis added)

The Director, in allowing himself something as "inappropriate" as reminiscing about his past, displays the sorrow, shock and sadness that is a natural response in such a situation. Yet, he off-handedly and unconsciously signals to his listener (Bernard Marx) the concretization of the social body in configuring any one of its members as a cell. This implicates that any single member of the social body is replaceable and unnecessary for the overall health of the organism.

The Director's reaction belies several truths about the utopia of the Brave New World. Firstly, the Director displays humanity in his emotional outpouring precisely because this memory is a trauma. Secondly, it reaffirms the power of the scientific propaganda. After all, Marx recognizes the Directors last statement as a "sleep-taught consolation". (Ibid) While the World State has mass produced their ideal citizens, both physically and ideologically, this process is not wholly accomplished.

Another uncanny employment of this mass-production is the ubiquity of twins through Bokanovsky's Process. Bokanovsky's Process is the multiplication of one egg into possibly 96 other fertilized eggs like it, creating 96 identical twins. Not only is this the creation of an easily available workforce, but it is "one of the major instruments of social stability." (Ibid, p. 5) It is not coincidental that the motto of the World State is "Community, Identity, Stability", and Bokanovsky's Process allows for an easy implementation of these concepts. In *Revisited,* Huxley writes:

> The wish to impose order upon confusion, to bring harmony out of dissonance, and unity out of multiplicity, is a kind of intellectual instinct, a primary fundamental urge of the mind. Within the realms of science, art, and philosophy the workings of what I may call this "Will to Order" are mainly beneficent… It is in the social sphere, in the realm of politics and economics, that the Will of Order becomes really dangerous. (Huxley 1994, p. 30-31)

Here, we can hear echoes of Nietzsche's Will to Power. One of the purposes for Bokanovsky's twins is, of course, the justification of a scientific rationale. It is a practical solution. One should not therefore assume that Huxley identified this process as a problematic use of the "Will to Order". Jay Clayton presents a fascinating reading when he equates John the Savage's reaction to the twins as an equally irrational response as his neuroticism towards Lenina's sexual interest towards him. He writes:

> The Savage's response goes far beyond objecting to the procedure. He is overwhelmed with loathing and fear. His emotional response is akin to xenophobia or racism. The imagery evokes mindless drones, the horror of hive societies… They are not human beings but insects, meant to evoke all the repulsion of maggots. Twice more, in a passage as full of irrational repugnance, the Savage compares them to maggots, and a third time he calls them lice. Only his sexual self-loathing and flagellation at the end of the novel equals the emotional charge clones carry for the Savage. (Clayton 2016, p. 890)

Huxley's avowed commitment to eugenics – which he viewed as an extension of a dispassionate rational approach to problem-solving – would not position him as vehemently opposed to the technology itself. It is the ideology of mass production which the Bokanovsky twins symbolize. They are, as physical beings, indistinguishable from a larger social body. What Bokanovsky's Process also suggests is a sterilization of embodiment. For if the body can be cloned *ad nauseam,* then it loses its specificity and uniqueness as an instantiation. Seen from a post-human view, one might read Bokanovskification as a rendering of the flesh as pattern.

An extension of the logic of practical eugenics is how the portion of the conveyor belt where the alphabetic hierarchical categorization of each individual egg is ominously called the Social Predestination Room. The problem, once again, is not the fact that such a technology and science might exist, but rather who should hold the reins. It is quite clear that the elitist Huxley envisioned "men as steady as the wheels upon their axles, sane men, obedient men, stable in contentment" in that position. (Huxley 2014, p. 36) In other words, men like him. The Will to Order is only a problem if it is enforced by the wrong people.

Huxley takes his time to go into meticulous details about how this is to be done because he envisions how the "economist-ruler" will use this technology for dysgenic aims. From manipulating the amount of oxygen each embryo gets to determine the needed brain function

to exposing fetuses to heat so that their bodies are conditioned for future work in tropical environments, the factory "technicians" take no chances in ensuring the creation of controlled individuals. These are the pre-natal assaults on the bodies of the civilized, and they represent only half the violence on the body. The other half consists of the regulating power that conditioning has. It is of utter importance to ensure that the lower castes of this society are kept in as low a cognitive state as possible, while still functioning as workers and consumers.

While the crude genetic engineering of the Hatcheries is designed to create the right starting point for each individual to be content with his/her caste, it is not enough. Pavlov's associated conditioning, sleep hypnosis (hypnopaedia) and the various propaganda slogans are meant to instill the right attitudes. *Soma* should also be added to this list. Huxley's contention with conditioning, or the use of propaganda, was just as nuanced as his relationship to biology. Gregory Claeys presents an important observation about Huxley's relationship to scientific propaganda. Huxley believed that scientific propaganda was "incompatible with personal liberty." (Huxley quoted in Claeys 2017, p. 368)

Yet he would go on to say that "it may be that circumstances will compel the humanist to resort to scientific propaganda, just as they may compel the liberal to resort to dictatorship. Any form of order is better than chaos. Our civilisation is menaced with total collapse. Dictatorship and scientific propaganda may provide the only means for saving humanity from the miseries of anarchy." (Ibid) Huxley places himself once again as a Platonic prophet – he, and others of his "stock", know when to relinquish liberty for security and when to guard personal liberty. Nonetheless, and unlike his relationship to eugenics, Huxley is more wary in applying methods of scientific propaganda. This apprehension would continue throughout his life and would be more strongly emphasized in *Revisited*. This is illustrated when he writes:

> In the light of what we have recently learned about animal behaviour in general, and human behaviour in particular, it has become clear that control through the punishment of undesirable behaviour is less effective, in the long run, than control through the reinforcement of desirable behaviour by rewards, and that government through terror works on the whole less well than government through the reinforcement of desirable behaviour by rewards, and that government through terror works on the whole less well than government through the manipulation of the environment and of the thoughts and feelings of the individual men, women and children. (Huxley 1994, p. 3)

The purpose of the conditioning is to exert political control over the subjects of the World State without the use of violence. Huxley's thesis is that a truly scientific society would limit the use of violence, thereby perpetuating its existence longer. This disregard for violence, combined with the ubiquity of pleasurable distractions, is what makes Huxley's tale a hedonistic dystopia. It is no coincidence that the DHC describes sleep conditioning and electroshock-association as the moral education of the children of the Brave New World. We see, therefore, that violence is to be used only on the child's body so that it will be unnecessary to use on the adult.

The desired level of control is stated by the Director when he affirms "till at last the child's mind *is* these suggestions, and the sum of the child's mind *is* these suggestions. And not the child's mind only. The adult's mind too – all his life long. The mind that judges and desires and decides – made up of these suggestions. But all these suggestions are *our* suggestions!" (Huxley 2014, p. 23, original emphasis)

The logic of the advertisement industry is woven into the fabric of society, but the economist-ruler realizes that he needs the powers of psychopharmacology. For if the effects of this conditioning were as effective as advertised then there would be no need for *soma*. Claeys illustrates how Huxley's attempt at turning *Brave New World* into a musical overstated some elements that might have been more ambiguous in the novel. He points to how, in the play, *soma* rations are withheld from unproductive workers. He writes that "Huxley meant us to feel the discontent seething beneath the surface of everyday life, even for the workers." (Claeys 2017, p. 384) This is evident in the many instances when Bernard Marx refuses to ingest *soma*. It is an act of defiance precisely because *soma* is a method of control. The novel, unlike the play, hints that the main use of *soma* is hedonistic indulgence.

Based on the motto of the World State "Community, Identity, Stability" we can extrapolate that maintenance of order is the end-goal. Stability is the finish line, while community and identity are subsumed as means for that end. Seen in the context of our narrative about embodiment as it pertains *BNW,* then *soma* represents an extension of the manipulation of bodies. Altering ourselves chemically is a step in the direction of post-human enhancement. One might wonder what the modern economist-rulers – the likes of Jeff Bezos and Mark Zuckerberg – might do with powers of technology and biological tinkering that Huxley couldn't imagine.

What Huxley is to be commended for is how he viewed the mind-body relationship as more holistic. While still maintaining a focus on mind, in what Hayles has criticized as the tendency of liberal humanism to displace the mind from the body, he recognizes that no totalitarian state would be able to maintain control over individual citizens without imposing chemical dominance. *Soma* is an explicit recognition of the brain chemistry of minds, which, in turn, implicitly recognizes human minds as embodied, active and partaking in their physical environments.

At the same time, Huxley's sympathies lie not with the masses which he so clearly had a disdain for. There is, in his language, a quite distinct othering of lower classes. This standpoint was natural, considering the views eugenicists held about the heredity of stupidity. Therefore, he is also harshly asserting that the masses would be too stupid to realize the invisible bars of the hedonistic dystopia and would therefore overindulge in *soma*.

This language is at work in the instrumentalist language of the World Controllers. The recipe for stability is the removal of hindrances and obstacles. In this case, it is the language of water being controlled. Humans' natural instincts are several times compared to the flow of water and the end goal is to assure that the flow is surely and easily directed. This is why, once again, "everyone belongs to everyone else"; to ensure that there is no flood created by attachments. Attachments are likened to dams that would burst the natural flow of the status quo. The aim of the World State is to create no room for frustration, solitude and exclusivity. By fulfilling each urge and desire that the citizens have they are reduced to a state of impulse-addiction. Stability is simply distraction. And if any desire is still left unfulfilled then there's always *soma*.

Impulse-addiction, or short-term bliss if you will, is the posited happiness of the World State. To be more precise, this thesis agrees with some fundamental wisdom that has been passed down to us from those religious sources that Huxley presents as the reasonable didactic and ethical sources for the utopian alternative of the 1946 foreword. Contentment, rather than short-term happiness, is the antidote. I'm using contentment here to signify the space between the fulfillments of one desire to the other, or more precisely, finding peace within that space. I shall run the risk of preaching Buddhist dogma by equaling contentment with a disbelief in finding happiness through the fulfillment of desires.

This is not meant to congratulate the self-flagellation of John the Savage or his Puritanism. Contentment is rather the realization that our quest for more leaves us hollow. Life becomes

desperate in the interval between fulfilling our urges. Contentment is then the peace between the extremes. This is why *soma* is the most important weapon of the World State. It fills the void with another adventure and escape from silence as exemplified by the many episodes where Bernard Marx is chastised for seeking solitude.

Happiness, as presented by the World Controllers, is the prevention of passion, frustration, anger and other "unstable" feelings. Happiness is an erasure of desires by consuming everything one desires. Despite all their supposed biochemical genius, the scientists of *BNW* have not been able to eliminate the human need for more, and they never intended to. Of course, for the wheel of industry to keep turning one must harness this need for more, the filling of the void, so that the structure stays intact; the water must keep flowing and the wheel must be steered by the steady men.

To clarify what happiness is for the World State, one can inspect the showdown between Mustapha Mond and John the Savage, in which the World Controller states that beauty and art must be sacrificed for happiness. He affirms that the Brave New World is not the same as *Othello*'s world and that:

> you can't make flivvers without steel – and you can't make tragedies without social instability. The world's stable now. People are happy; they get what they want and they never want what they can't get. They're well off; they're safe; they're never ill; they're not afraid of death; they're blissfully unaware of passion and old age; they're plagued with no mothers or fathers; they've got no wives, or children, or lovers to feel strongly about; they're so conditioned that they practically can't help behaving as they ought to behave. And if anything should go wrong, there's *soma*… (Ibid, p. 193-194)

Huxley's ambiguity really comes to the forefront here. Mond posits, quite unreasonably, that you either have happiness or family; you either have no liberty or anarchy and you either indulge in hedonism or you are unhappy. The position is not stable, hence the need for *soma*. This is further reiterated when Mond states that:

> actual happiness always looks pretty squalid in comparison with the over-compensations for misery. And, of course, stability isn't nearly so spectacular as instability. And being contented has none of the glamour of a good fight against misfortune, none of the picturesqueness of a struggle with temptation, or a fatal overthrow by passion or doubt. Happiness is never grand. (Ibid, p. 194-195)

Happiness and contentment are used here interchangeably to signify the satiation of prescribed needs. To be more specific, the tautological ideology of the World State is that you satisfy and indulge in the needs that you are conditioned to. Taking the monstrous logic of consumerism to its conclusion produces an instrumentalization that reduces any social relation to a selfish exchange. Yet Huxley, as has been observed throughout this thesis, saw truly utopian possibilities in some of the features of his utopian society. Contrasting Mond's position with Huxley's in the 1946 highlights how true meaningful happiness differs from the happiness offered by the totalitarian system.

The role of religion, in the foreword, is to instill contentment and peace for the believers of this would-be society, much like Buddhism, Taoism and Hinduism ("the transcendent Godhead or Brahman") focus on non-attachment. All of these religious philosophies emphasize that the path of least resistance is necessary for inner peace. One must accept that binary opposites exist in a harmony; that one must have displeasure to enjoy pleasure, that one must have suffering to enjoy peace.

It is important to remember that while the Huxley of 1932 did not have the clear alternative vision of the Huxley of 1946, he did mean for the choices between these two alternatives to be impossible. In a sense, what Rushkoff and Hayles have presented, albeit in different formats, as a commitment to embodiment, is very similar to what Huxley termed as a commitment to "Man's Final End". Our finite condition is a prerequisite for meaning and is part and parcel of what it means to be embodied beings in the world. In this vein, the way the Savage's "native *Penitente*-ism reasserts it authority and he ends in maniacal self-torture and despairing suicide" precisely because the alternative to the hedonistic dystopia is not retrogression. (Huxley 2014, p. xlii) Likewise, the moral relativism of hedonism is not something to strive for, as is displayed in the treatment of the Savage in the narrative's ending.

The logic of the "either/or" is exactly the logic of the totalitarian state. We see this logic at work with Mond's rebuttal of John's ultimate act of revolt against the sterile utopia as the right to be unhappy. Not only that, but the Savage is also claiming;

> … the right to grow old and ugly and impotent; the right to have syphilis and cancer; the right to have too little to eat; the right to be lousy; the right to live in constant apprehension of what may happen tomorrow; the right to catch typhoid; the right to be tortured by unspeakable pains of every kind. (Huxley 2014, p. 212)

Mustapha Mond is wrong. There are alternatives, and God, machinery, scientific medicine and universal happiness are not antithetical. The middle ground needs to be found. Yet the logic of dystopia, with its meticulous commitment to *estrangement* in the determinism of plot and naturalism of world-building in a future setting, might render the reader incapable of envisioning alternatives.

What the happiness industry of *BNW* creates is a society of individuals unable to be sincerely compassionate. There are countless examples of this void of empathy: how John, and everyone living on the Savage Reservations, are treated like an attraction throughout the narrative, how Linda is treated as an object of fear and disgust, and how every human interaction in this civilized society is transactional.

This is the logic of mass production taken to its extremes, where Americanization and industrialization produce, and are reproduced by, moral infantilism and relativism. Indeed, John and Linda, like the "savages" of the Reservations, are treated with the veneration of the "Noble Savage" early in the narrative. Yet we see the depravity of this civilized society when they reduce the Savage's distressed self-flagellation into a spectacle; the whip becomes subsumed by orgy-porgy.

As mentioned above, the figure of the body is the point of the departure for this thesis. We are concerned with here with how embodiment acts as an antidote to dystopian tendencies, and how embodiment breaks down instrumentalist and dualist ideological narratives. This concept is exemplified by John's ascetic, albeit neurotic, self-denial in his relationship to Lenina. His personhood, and deviation from the norms of civilization, is restated in his practice of self-flagellation. John's rebuttal to Mond's logic of hedonism when he states that "you need something *with* tears for a change" is thus specified through the body. (Ibid, p. 211, original emphasis)

We see this logic at work when Bernard Marx wants to be alone with Lenina and remove himself from the social body. Marx states that the citizens of the *BNW* are "infants where *feeling* and *desire* are concerned." (Ibid, p. 81, added emphasis) Marx subconsciously proves how the body murmurs opposition to total subordination, precisely because emotion is the embodied response of mind. Lamenting his lack of agency, he seeks solitude with Lenina because he wants to feel "as though I were more *me*, if you see what I mean. More on my own, not so completely a part of something else, not just a cell in the social body." (Ibid, p.

78, original emphasis) This is an authentic need for meaning and true contentment, a fulfillment of a deeper happiness than instant gratification.

While Marx never escapes the confines of his conditioning enough to realize that he is not truly happy, or I should say content, with his life in London, he is not just a cog in the machinery. His desire to climb the social ladder triumphs over his desire for autonomy (as indicated in his relationship to John) but the existence of this inner conflict is indicative of the tensions within the utopia. Contrary to Mond's belief, Bernard Marx is not truly happy. Neither is Lenina Crowne or Helmholtz Watson. While the effects of their genetic manipulation and social conditioning never allow them to envision any alternative to the utopian system, their opposition comes through their embodiment.

As both Rushkoff and Hayles have reminded us, human experience is an embodied experience. Our consciousness is intimately connected with the world around us, and our experiences are always interpreted through the body. Therefore, the process of transforming humans into termites, as Huxley called this process, is incomplete. Even when controlling so many variables as to create each individual in a factory, there is still conflict within.

Finally, it has been the goal of this thesis to question whether contemporary narratives around technology and the current ideology of post-humanism have altered the way we – the citizens of techno-capitalism – would view the narrative of *Brave New World*. The novel is not a traditional dystopia, as Claeys argues. Nonetheless, while the narrative focuses on suggestion, manipulation and pleasure as methods of control, the overarching authorial intention is that the totality of the ideology, and the system, is unwanted.

The elements of utopia that Huxley emphasizes: eugenic division of society, free sex and drugs, the reduction of work to easy and automated tasks and the collectivization of raising children are all subjugated to an ideology that was unacceptable to Huxley. The system of the World State is that of the economist-ruler, dysgenically instrumentalizing and infantilizing humanity for mere economic aims. It is the system that keeps the wheel of progress turning.

Indeed, the creation of vapid consumers for the sole purpose of soulless markets is a cliché of the 20th century, but it is a useful cliché, nonetheless. As Rushkoff shows, and as Kurzweil presents in a utopian tone, the resulting end-goal of this consumer society is the "upgrading" of humanity; the exodus of the body as our primary state of being in the world and the view that it is merely another accessory. This is either *wettiko* or the final goal of human evolution

depending on which camp you belong to. Needless to say, the trope of a consumer society, especially in the biological mode in which *BNW* operates, is a necessary discourse for our time.

Post-humanists, in agreement with Huxley, would see no problem in viewing the human body as a project. After all, as Kurzweil points out, the goal of humanity is to saturate the universe with intelligence. It is the post-humanist extension of Baconian logic; the universe is composed of "dumb" matter and humanity's destiny is to impregnate the natural world with intelligent matter. In this sense, the post-humanists would see no problem in creating an ectogenetic system, where humanity would be "perfected" from the first instance of programming. To credit Moravec and Kurzweil, I would argue that they would share Huxley's fear of a dysgenic system. While it has been stated earlier in this thesis that I do not believe the post-humanists go far enough in considering the power dynamics of these systems, it would be unfair to present their argument as planning the future dystopia that makes humanity unfree.

Post-humanists would still indulge, one can argue, in the binary logic of "either/or". Kurzweil and Moravec would not agree with Mond when he contends that one can either choose stability or progress. The post-humanist counter of this logic is that humanity is just another instantiation of the computational universe. The purpose of the universe is to become more intelligent – humans are merely an extension. If humanity is not the pinnacle of intelligence, and it cannot possibly be in its current substrate, then the stability of un-upgraded humanity is irrelevant.

They will become relics of the past whether they approve or not. In that sense, echoing the utopian and totalitarian either/or of Mond, the post-humans present us with the choice of infinite progress or death. In other words, either you choose to upgrade into any form of digital immortality you like, or you choose death and irrelevance. Either way, our digital "children", as Moravec likes to call them, will inherit this Earth.

Unlike Huxley's *Brave New World*, the technological possibilities at our disposal, and the ideology of the free market, do not necessarily correspond to a top-down process of biological, or digital, upgrade. Harari illustrates this when he writes:

> Suppose a genetic test would indicate that your would-be daughter will in all likelihood be smart, beautiful and kind – but will suffer from chronic depression.

> Wouldn't you want to save her from years of misery by a quick and painless intervention in the test-tube?
> And while you are at it, why not give your child a little push? Life is hard and challenging even for healthy people. So it would surely come in handy if the little girl had a stronger-than-normal immune system, an above average memory or a particularly sunny disposition. And even if you don't want that for your child – what if the neighbours are doing it for theirs? Would you have your child lag behind? … And like that, in baby steps, we are on our way to a genetic child catalogue. (Harari 2017, p. 62-63)

What if our transition into dystopia is like this, a step-by-step process where it is up to each of us to define how (super-)human our children are going to be? It is not unity and order by autocratic centralization; it is rather unity by competition and consumption. Let us not forget, though, that the underlying assumption of Harari, in this statement, is that the market forces presenting us with these choices have no ulterior motives or no hidden agendas. The supposed products for upgrading us slowly but surely will be provided by the same corporations that, as Rushkoff poignantly confirmed, have not always had the best track record. There is no guarantee that these technologies will be distributed equally, and it is not unreasonable to suggest that a caste system, like the one in *BNW,* would emerge as a reflection of the economic, and technological, inequality of techno-capitalism.

What needs to be recognized is that Huxley wanted to facilitate a discourse on biological standardization and manipulation so long ago. The kind of society presented in *Brave New World*, or one similar to it, is not impossible in our foreseeable future.

(Post)-Human body politics and virtuality in Ready Player One

In this chapter, I want to decode (pun intended) the different layers of *Ready Player One* (2011, occasionally *RPO* hereafter) from the two lenses that have been employed to decipher *Brave New World*. I will be investigating whether *RPO* can be viewed from more traditional interpretations of utopia/dystopia. Traditional utopian understandings imply a coherent project of supposedly positive outcomes based on a concrete logic. In this sense, utopian literature seeks to create an effect of *estrangement* by envisioning the posited utopian society as an opposition to the faults of its contemporary standard. Dystopias, on the other hand, apply the methodology of teleological endpoint to efface utopian logic. Dystopias estrange the reader by

illustrating how a society can be created, not by a teleology that visualizes the best aspects of the society, but rather its worst and most disturbing aspects taken to its endpoint.

These are the definitions I will rely on to determine whether *Ready Player One* can be understood as a utopia or dystopia. Here, I will assert that the novel, like *Brave New World*, can be viewed from both a utopian and dystopian lens. The non-virtual world of the narrative is dystopian in its ecology, socioeconomic structure and political dysfunctions. One might say that many items on the dystopian checklist might be ticked off if one focuses on the real world of the novel. Yet, by comparison, the virtual world of the OASIS is utopian by many considerations. This virtual world allows for more socioeconomic mobility and counteracts the dystopian tendencies of the non-virtual world. Seen as a whole, the narrative rests somewhere between utopia and dystopia precisely because it presents the utopian possibilities of the technology, while still reaffirming the value of the "real".

Most interesting for this thesis is how one must view the novel's narrative in light of the post-human master narrative. Here, we will consider Katherine Hayles' notion of "virtuality" and how it applies to *Ready Player One*. Virtuality is defined as "the cultural perception that material objects are interpenetrated by information." (Hayles 1999, p. 13) What we might ultimately be able to answer are questions about which kinds of humanisms are empowered, and which are disempowered, in the post-human worldview.

What Ernest Cline deftly manages is to navigate the tension between embodiment and cyberspace. One can see resistance against the total disembodiment of post-human narratives. At the same time, possibilities for non-hegemonic and alternative humanisms are allowed exploration in the narrative. The OASIS is a battleground, not solely for the limits to corporate power on the Internet writ large, but also for what being human means in an increasingly mediated world.

In many ways, *Ready Player One* is a classic hero's journey where we follow the young Wade Watts on his, mostly virtual, adventure to save the kingdom (the OASIS) from the postmodern dragon that corporate power has come to represent (IOI) and claim the right to his princess (Samantha/Art3mis). Indeed, Susan Aronstein and Jason Thompson view the novel as an "Arthurian romance, a Grail-tale for the Twitter-PS4-Wii generation masquerading as a postmodern techno-*bildungsroman*." (Aronstein and Thompson 2015, p. 51) Aronstein and Thompson assert that the novel's target audience are young male readers between 12 and 18, and that the narrative offers them "the ultimate geek-fantasy in the guise of a courtly romance:

Wade/Parzival's gaming prowess, proved in the familiar landscape of the action-adventure video game by his undertaking of quests, killing enemies, collecting treasure and 'leveling up'… wins him fame, fortune and the promise of love." (Ibid, p. 52)

Aronstein and Thompson illustrate that Wade must reject the indulgence of the OASIS for a re-reading of the world around him. While the first two levels of the game allow the hero – and vicariously allow the targeted teenage "geek" – to "win the girl and the fortune without ever leaving the house", this is no longer acceptable in the third level of Halliday's Easter Egg Hunt. (Ibid, p. 58) For Wade/Parzival to prove that he is worthy of the Grail/Anorak's Egg, and followingly worthy of Samantha/Art3mis' love, he must transform himself into someone who values the real world over the virtual and repurpose himself for a cause that puts others before him. It is only by re-aligning himself with the starving humanity of the non-virtual world, and when he puts his real body in danger for that purpose, that Wade can become worthy.

Wade must realize that his body is not merely a vessel for his virtual identity. The Arthurian premise takes over here to instill the values of the Grail romance: that the world of the OASIS is an illusion that obscures human suffering in the real world. Rather than just eat, sleep and exercise solely for the purpose of his avatar, Wade must realize that as "terrifying and painful as reality can be, it's also the only place where you can find happiness. Because reality is *real*." (Cline 2011, p. 567, original emphasis) Aronstein's and Thompson's reading thus lays the foundation for the central thread that will be followed here: the conflict between virtual and non-virtual experience.

While this thesis has been concerned with post-humanist narratives that seek a transcendence of biology into a utopian datasphere, Cline's virtual OASIS represents a middle ground and stepping stone towards the supposedly death-defying uploading of consciousness. Cyberspace, in its virtual reality iteration, becomes a playground – I would even go so far as to say a battleground – about ideas such as authenticity, reality, space and embodiment.

Here I owe a debt to Andrew Monteith (2022) and Justin Nordstrom (2016) for probing the space of *Ready Player One* in this manner. Monteith inspects the cyberspace of the OASIS as a shamanic realm and posits that the OASIS acts as a transcendental space eliciting uniquely transhuman possibilities, as opposed to the dystopian real world. Nordstrom, on the other hand, views *RPO* through the lens of utopian play. He puts the phenomenon of gaming within a wider context of play as presented by the philosopher Bernard Suits, and presents Cline's

novel as a genuine attempt at answering the question: what is the role of playing and games in a fully automated utopian society? Taken as a whole, the two readings offer lenses for us to view the role of virtual, and disembodied, spaces. In addition, they offer an opportunity for revision of utopian and dystopian possibilities.

By comparing these readings with, for example, the reading of Aronstein and Thompson one can glimpse a sense of how post-humanism changes the meaning landscape. In the latter reading, the focus is on the *bildung* and worthiness of the young protagonist, undergoing a transformation into maturation by ultimately overcoming challenges in the real, or non-virtual, world. What both Nordstrom and Monteith manage to present is how the virtual space of the OASIS is not seen as an illusion to overcome. Instead, the space of the virtual and of games is seen as rife with possibilities for meaning. When Monteith presents the OASIS as a "technoshamanic" space, it is no trifle matter. (Monteith 2022, p. 1)

One can observe how important the OASIS is for the inhabitants of the dystopian world of *RPO* when Wade states that "luckily, I had access to the OASIS, which was like having an escape hatch into a better *reality*. The OASIS kept me sane. It was my playground and my preschool, a *magica*l place where everything was possible." (Cline 2011, p. 26, emphasis added) Questions of authenticity and reality come to the forefront with the intense immersion that such virtual reality technologies can offer, especially when juxtaposed with an unwanted physical reality. For Wade, at least in the beginning of the novel, the OASIS represents a truly *real* place. Its possibilities for self-realization and socioeconomic mobility grant it the truly "magical" status that Wade experiences.

Here, I must return to Monteith's technoshamanism. In exploring this term, one can approximate an assessment of the reality of virtual spaces. Ernest Cline's OASIS presents a philosophical question of ontological value: what is the difference between real and unreal when there is no possibility to discern between the two through sensory input? Monteith proposes an answer to this question by comparing *RPO* with *The Matrix* (1999), which by now has become the cultural meme for exploring the space of the virtual. In *The Matrix*, society has become dystopian because every human being is born plugged into a virtual world run by machines. Monteith writes:

> One of the key figures, Morpheus, posits that if all one needs for something to count as "real" is sensory data, then the Matrix is as real as anything else. For Morpheus, the reason that the Matrix is not really real is that it is inauthentic, a mere illusion built by

> hostile, mechanized usurpers of human agency. The OASIS is not the Matrix, however. Rather than a malicious illusion used to incapacitate humans and hold them prisoner, the OASIS is a place where people can escape the wretchedness of the physical world. And with the level of technology that Cline invents for this story, users can see, touch, hear, and smell the OASIS as though it were a part of the physical world. It is not best thought of as an illusion, then, but rather as a different kind of space. If *The Matrix* shrinks the world into 1999's New York, the OASIS expands an overcrowded world into a limitless hyperspace where users can explore, alter, and dwell within it as though it were a conventional, physical reality. (Monteith 2022, p. 7)

The interesting distinction that Monteith draws is that there is a choice in the OASIS that is not present in the Matrix. Unlike the Matrix, humans can engage with the OASIS as subjects and actors, and they can choose the extent of their engagement with the virtual world. Embodied physical existence is already always mediated by the biological senses. In addition, Monteith writes that the

> augmentation of those sensory inputs is the augmentation of experience, but that does not necessarily mean that augmented experience is cheapened or inauthentic. Such claims may work as subjective, normative value judgments, but they are not objective, universal truths that one can simply deploy as though they were self-evident fact." (Ibid)

As we have seen through the literature of second-wave cybernetics, human brains already interpret sensory input and reframe it in our subjective experiences. In that sense, it is reasonable to assert that the OASIS, as a particular instantiation of virtual reality, functions as an alternative physical space.

I want to add that it is pertinent to address this issue through Hayles' discourse around the embodiment of the immersion, i.e. the physical technologies enabling the virtual world. The immersion into the virtual is only enabled by the technologies of the haptic suits, visors and gloves that Cline has invented. There are therefore specific physical instantiations in space that allow the "other" space of the OASIS. With that in mind, one can inspect how the OASIS functions as a technoshamanic space, and how that translates to post-humanist notions of subjectivity. Monteith explains his assertion about the OASIS as a shamanic realm in the following manner:

> The problem some might have with interpreting the OASIS as a shamanic plane is that it is explicitly manmade. Critics may contend that to journey into the OASIS is not to take a soul flight into an ontologically real, yet bounded and hidden spiritual realm, it is to plug one's senses into electronics…However, ubiquity is not synonymous with ordinary. Even if a manmade cyberuniverse does not neatly fit within existing spiritual cosmologies, the OASIS functions as one nonetheless. It is a place where the rules of the physical world can be replaced with magic, where people can inhabit whatever body they choose, and where people can connect with other beings in meaningful and significant ways rendered impossible by the semi-apocalyptic decrepitude of the non-digital. Its specialness is explicit and emphatic. (Ibid, p. 6)

What this establishes is that the mobility, subjective and performative freedom, and the possibilities for meaning-making turn the OASIS into a technoshamanic space. Yet, it is precisely because the non-virtual world of *RPO* is dystopian that the virtual world becomes so meaningful. One might question whether the virtual would be as meaningful in a non-dystopian real world. Even in this dystopian world, it is unclear whether the OASIS is solely a utopia. To Monteith's credit, he is not equating the technoshamanic aspect of the OASIS with a utopian interpretation. The OASIS is rather the sole "escape hatch" from a dystopian reality, and it therefore offers meaning where it is difficult to find. Yet, Cline is not merely uncritical of virtual reality technology. Morpheus' accusation – that the virtual might be real, but it is not authentic – is pertinent.

This is to be observed in the interactions between Wade/Parzival and Samantha/Art3mis. Both characters have a dysfunctional relationship to their bodies, but their dysfunctions express themselves differently. For Wade, his life and embodied existence within the real world is unsatisfactory. This comes to the surface when he must take care of his bodily functions in the bathroom and is unable to look at himself in the mirror stating: "I didn't much like what I saw there, so I closed my eyes until I finished urinating. I wondered (not for the first time) why I hadn't painted the mirror black too, when I'd done the window." (Cline 2011, p. 304). Wade's frustration with his life in the non-virtual world is made abundantly clear in the following segment:

> The hour or so after I woke up was my least favorite part of each day, because I spent it in the *real* world. This was when I dealt with tedious business of cleaning and exercising my *physica*l body. I hated this part of the day because everything about it

> contradicted my *other* life. My *real* life, inside the OASIS. The sight of my tiny one-room apartment, my immersion rig, or my reflection in the mirror – they all served as a harsh reminder that the world I spent my days in was not, in fact, the *real* one. (Ibid, emphasis added)

While Wade realizes that his physical life in the non-virtual world is truly more real, it is nonetheless inauthentic. His real physical existence is within the embodied experience outside of the OASIS, but it is within the OASIS, as Parzival, that Wade perceives his authentic selfhood to exist. One natural explanation for this is that regression into isolation is a natural instinct for someone that is "depressed and frustrated", but this does not explain Wade's worldview fully. (Ibid, p. 305) Wade views Parzival as "raw personality", and therefore as the purest expression of his self. (Ibid, p. 266)

This highlights a relevant distinction when it comes to the debate around authenticity. The OASIS can only be an inauthentic illusion if it is forced on every member of said virtual society. Since the OASIS is not a veil drawn over unwitting individuals, but rather an additional participatory space that allows for an altered sense of subjectivity, it evades Morpheus' accusation of inauthenticity. Seen from a posthuman point of view, quite literally, this space presents freedom. It enhances subjective expression because it affords a sense of mobility and performance previously only imagined.

There is merit to this argument. One should avoid the risk of running a reductionist and romantic formula when it comes to technology. Virtual reality is not inherently a problem. It is how this technology is used, and by whom, that is of import. In other words, the baby in the bathwater is not liberal humanism, nor is it the techno-capitalist iteration of post-humanism advocated by Moravec and Kurzweil. What counteracts these dualistic worldviews would be technologies like virtual reality truly employed in the service of humanity, and in enhancing our individual and social meaning-making in a cohesive manner.

Yet, I want to remind the reader of how disembodied Wade views himself, nonetheless. What is illusory about the OASIS is the instantiation and interpretation of the binary code. Like the Artificial Life programs of Thomas Ray inspected by Hayles, there is an interpretation of the information happening. While the virtual space can be meaningful, it is still an interpreted experience, where the information on the giant OASIS servers is converting the signals into the avatar that Wade perceives. This process is not inherent and essential. It is contrived. This

matters because, in the post-human iteration of this argument, consciousness can be transferred away from the body into this space.

To Cline's credit, he runs the counterfactual with Wade through Samantha. The level of control afforded to the users of the OASIS over their avatars is emblematic of how inauthentic the experience is for Samantha. The avatar itself is a symptom of the larger issues, as well. Performative freedom comes at the cost of authenticity and trust. The OASIS allows it users too much control over their outward appearance for the interactions to be genuine. Several interactions between Wade and Samantha illustrate this polarity. In response to Parzival's assertion that their avatars are the embodiment of their "raw personality", Samantha counters "everything about our online personas is filtered through our avatars, which allow us to control how we look and sound to others. The OASIS lets you be whoever you want to be. That's why everyone is addicted to it." (Cline 2011, p. 266)

Again, this highlights the nuances of the discourse on authenticity and reality. Samantha's position is, quite reasonably, that personality is not disembodied. She is quite aware that Art3mis is not a truer representation of her "real" self. It is a conjured image. Her argument, and Cline's, is that personality is far more complex than what we choose to express. If personality is synonymous with mind writ large, which I argue that it is in this context, then one cannot disentangle mind and personality from the specific substrate instantiation. In other words, the spontaneous reactiveness of emotive expression is the subconscious and unconscious taking hold. It is as valid a part of our personality as the conscious mind.

Samantha's position, seen from a meta-perspective, illustrates Cline's reflections around the post-human discourse. Following Monteith's argument that the OASIS functions as a utopian meaning-making technoshamanic space, one can observe how Cline views virtual spaces as the battleground for future humanisms. In one sense, the virtual is truly a space where humans can connect beyond the limitations of our physical realities.

As a post-humanist would see it, this digital space is a reflection of the underlying structure of our universe – flows of data and information that compute existence. Extending the underlying pattern of our existence into the virtual is a natural, and according with the principles of evolution. Harkening back to Kurzweil's epochs, the ultimate purpose of evolution is to imbue the universe with intelligence. The virtual space is a necessary step on the way to free us from the "shackles" of our biology, as Moravec called it.

Cline shows some definitive sympathy with this view. Indeed, the "geeky" pop culture heavy nature of the narrative underscores that in a post-human world, meaning is to be found in the collective re-creation and re-enaction of *Star Wars* and Middle Earth in virtual spaces. I tend to agree with Monteith when he writes that:

> Popular culture becomes popular when it reflects ideals or goals that audiences share and appreciate. It can also present variations on those ideals or goals and challenge existing ideologies. As such, it shapes audiences as they respond to it. For fans, popular culture references can serve as signifiers of shared values or triggers for nostalgic memories… One of the first things readers learn about the OASIS is that users have generated entire worlds based on their most meaningful popular narratives…The OASIS is a universe in which those who inhabit it continually create and reshape their cosmos, and they have chosen to create it in the image of Gandalf. (Monteith 2022, p. 9)

Thus, the virtual becomes a space for positive meaning-making and creation. Wade fears for the future of the OASIS when confronted with the prospect of IOI, the corporate monolith, taking over. He holds no punches and states that "the OASIS would cease to be the open-source virtual *utopia* I'd grown up in. It would become a corporate-run *dystopia*, an overpriced theme park for wealthy elitist." (Cline 2011, p. 50, emphasis added)

What is significant about this statement is not only the identification of the virtual as the utopian space, but also how the specific structure of the virtual space matters. The fact that access to the OASIS is free, and that it offers possibilities for employment, education and mobility that are both better and more accessible than in the non-virtual world is paramount. Yet, the underlying economy of the OASIS is that of free-market capitalism.

Cline, nonetheless, shows an aspect that is often lacking in the discourse around post-humanist technologies. While it is a trope of science fiction cyberpunk literature that the evil corporation will take over and corrupt everything it touches, the use of this trope here affirms the naivete of post-humanist utopianism. Kurzweil, as a case study, presents an argument for how exponential development of technology will lead to an improved society that can "transcend" its biological limitations, but there is little consideration given to the corporate construction of this technology. These technologies will not be engineered in an ethical and ideological vacuum, and we should be wary of what packaging this technology will be presented in.

While much of the novel's narrative is situated within the confines of the OASIS, Cline ultimately wants the novel's hero to be re-embodied in the non-virtual world. Cline's position is, I would argue, balanced between the possibilities of virtual reality technologies in transforming the way we view social, interactive, and entertainment spaces, while maintaining a wariness towards malevolent use of such technology and its inherent seduction for isolated members of our society. Indeed, one might see shades of Rushkoff in Cline's uncertainty towards how meaningful virtual interactions can be when compared with the real world.

This is reflected in the climax of the novel. The band of heroes meet up in a non-virtual setting, OASIS co-creator Ogden Morrow's residence, so that they can co-operate and defeat IOI. In addition, the mentor figures of James Halliday and Ogden Morrow – the creators of virtual utopia – usher regular warnings against the dangers of social isolation that comes with trying to separate oneself from the physical world. Indeed, the allure of virtual reality is exemplified by James Halliday. The reason that Morrow and Halliday's friendship is in disarray for the last decade of Halliday's life is because Halliday was in love with Morrow's wife, Kira. Her being the love of his life, and realizing he could never be with Kira, Halliday opts to recluse himself from his best friend and from the world.

Therefore, when Halliday warns Wade after finding Anorak's Egg and completing the hunt, it is a warning that bears a heaviness of a life devoid of connection for many years. This is explicitly stated followingly:

> "I need to tell you one last thing before I go. Something I didn't figure out for myself until it was already too late… I created the OASIS because I never felt at home in the real world. I didn't know how to connect with the people there. I was afraid, for all of my life. Right up until I knew it was ending. That was when I realized, as terrifying and painful as reality can be, it's also the only place where you can find true happiness. Because reality is *real*. Do you understand?"
> "Yes," I said. "I think I do."
> "Good," he said, giving me a wink. "Don't make the same mistake I did. Don't hide in here forever." (Ibid, p. 567, original emphasis)

It is also no coincidence that this warning comes after Halliday gives Wade/Parzival the ultimate power, beyond the godlike powers bestowed upon his avatar for completing the game. "The Big Red Button" grants Parzival the power to erase the entire OASIS. (Ibid) Of course, these are clear and damning indictments of the ontological status of the virtual world.

Its emphasized unreality by Halliday restates Morpheus' accusation: the virtual world is inauthentic. This warning functions as Cline's invitation for "gamers" to critically review their relationship to the world outside of games, especially as games achieve the sophistication of virtual reality.

Cline is to be commended for his effort here to advocate for an embodied relationship towards the physical world. Seen from the lens of this thesis, the novel rejects the post-humanist tenet of humanity as disembodied cognition and extricable consciousness. While embracing the possibilities for subjective expression, for enlarging our selfhood through connection and play in virtual spaces, the narrative still emphasizes that humans are finite social beings. In a narrative that is so imbricated with the digital, Cline rejects what Rushkoff calls the mechanomorphism of post-human ideology. Here I return to the figure of Halliday once again, or in the interplay between Halliday and Anorak.

It is central to remember that the narrative of *Ready Player One* takes place after the death of James Halliday, and that his post-humous communication comes either, indirectly, through Morrow, or through his OASIS avatar. Anorak is therefore central because he is the digital embodiment of Halliday's will and testament. Yet, one must question, what is Anorak? He is more than an NPC (non-playing character), as he is too complex and agentive. Contrariwise, we are given no indication that Anorak is the actual uploaded consciousness of Halliday. He exists somewhere in between.

What this signalizes is the ambiguity and delicacy with which Cline treats the post-human consciousness upload question. He does not wholeheartedly dismiss the possibility, hence the centrality of Anorak to the hunt for the egg. It is explicit for Cline, as we saw from the final interaction between Wade and Halliday/Anorak, that the essential finitude of the human condition places meaning in the *authentic* experience. The verdict still seems to be out whether one can find that authentic meaning in the virtual space, as the novel gives no indication in its closure on whether or not Wade pushes The Big Red Button.

Anorak also points to a larger discourse. One can extrapolate into a panoramic view of the digital space through dissecting the idea of avatars and NPCs. Here, I return to Monteith's understanding of virtual spatiality as technoshamanic space. Recreating the world in the image of Gandalf is a serious matter, as it highlights some fundamental urges within our Internet culture. There is a sense of nostalgia with this pop-culture-obsession, and it highlights a meaning-vacuum inherent in techno-capitalism.

Monteith points to this vacuum when he points out the transhumanist aspirations baked into the OASIS. He writes:

> the OASIS opens up a space for the radically queer, as well as the transhuman… If one accepts the premise that the possibility for total sensory immersion into the OASIS makes it at least a type of reality, then the ability to shape avatars to fit one's self-understanding of who they really are offers hitherto unknown possibilities. And while *Ready Player One* is fiction, it offers a plausible future technology… Given that the hardware for the OASIS allows for visual immersion and the haptic suits allow for tactile immersion as well, Cline's vision for this constructed universe is one which someone can become whatever kind of creature they wish, human or otherwise. This not only hearkens back to shamanic shapeshifting, but also permits greater opportunities to inhabit transhuman identities. (Monteith 2022, p. 8)

It would be fitting to be precise with the language here and to create a distinction between what Monteith calls transhumanism and what has been referred to in this thesis as post-humanism. Transhumanism is here understood as the extension of human subjectivity and expression to define more than what is commonly experienced in the non-virtual physical space. Therefore, transhumanism as an ideology is not necessarily concerned with a project to alter our biology such as to fit with a broader understanding of what it means to be human.

Rather, I would argue, transhumanism seeks simply to define subjectivity as more dispersed than a traditional humanist understanding of the self-contained individual. In that sense, the avatars of the OASIS are valid forms of transhumanist subjectivity, as they express a broadening of the human horizon. This is different from what has been defined as post-humanism in this thesis, which I regard as an ideology that specifically wishes to favor disembodied subjectivity. Human subjectivity, and consciousness by extension, is merely reducible to a pattern that can be understood, copied and recreated in this worldview.

The transhumanist aspirations that Monteith alludes to are clear to be observed in Cline's language. Spatiality, mobility, flexibility and expressive freedom are the core principles that make the OASIS the opposite of the dystopian reality that defines day-to-day life for the global populace of 2044. The dichotomy and interplay between virtual utopia and real-world dystopia are important because of the ambiguity argued. It would be fair to claim that Cline acknowledges the transhumanist possibilities for enhancing subjective identification, while still arguing that it is precisely the freedom of the OASIS that makes the non-virtual a prison.

In other words, what hinders the rebuilding of the global dystopia is that the alternate space of the OASIS fills the economic, social and personal void. The logic of Cline's dystopia is that while there is a necessity for the sense of wonderment and awe that "gaming" can give, it is important not to be so absorbed into that alternate space as to become apathetic to the physical world. The kinds of transhumanist freedoms that are inherent with the virtual only makes this prospect more alluring. This notion will be revisited in consideration of Justin Nordstrom's reading of *RPO* as a "pleasant place to hide."

I wish to reiterate this allure by referring to how seductive the virtual can be when Cline writes the following:

> Halliday and Morrow referred to the OASIS as an "open-source reality," a malleable online universe that anyone could access via the Internet, using their existing home computer or videogame console. You could log in and instantly escape the drudgery of your day-to-day life. You could create an entirely new persona for yourself, with complete control over how you looked and sounded to others. In the OASIS, the fat could become thin, the ugly could become beautiful, and the shy, extroverted. Or vice versa. You could change your name, age, sex, race, height, weight, voice, hair color and bone structure. Or you could cease being human altogether, and become an elf, ogre, alien, or any other creature from literature, movies, or mythology. (Cline 2011, p. 88-89)

Again, we see the language of an alternate space at work in the phrases "open-source reality and "malleable online universe." The vastness of this space and its perceived realism combined with the transhumanist freedoms of the avatar compel the inhabitants of dystopia to shelter themselves inside the virtual. What Cline deftly manages to accomplish is to render the interplay between the dystopian and the utopian. The OASIS *should* give hope to a populace starved for possibilities of self-realization, mobility and interaction. This aspect is clearly highlighted when Cline writes:

> At a time of drastic social and cultural upheaval, when most of the world's population longed for an escape from reality, the OASIS provided it, in a form that was cheap, legal, safe, and not (medically proven to be) addictive… The skyrocketing cost of oil made airline and automobile travel too expensive for the average citizen, and the OASIS became the only getaway most people could afford… Every day, more and

> more people had reason to seek solace inside Halliday and Morrow's virtual utopia. (Ibid, p. 91-92)

However, the inauthenticity of the virtual is commented upon. Cline illustrates a criticism of the unreality of the OASIS by calling virtual real estate, the greatest source of revenue for Halliday and Morrow's company GSS, "surreal estate." Another source of income is in the form of buying credits to enable an upgrade of one's avatar in the virtual. The friction between virtual and non-virtual is beautifully put when Cline states that these items "were *nothing but ones and zeros stored on the OASIS servers*, but they were also status symbols." (Ibid, p. 92, emphasis added)

Such an observation hearkens back to Hayles' affirmation of the embodiment of data and information. After all, the distinction between the virtual and non-virtual as two distinct dimensions of reality should be questioned. The virtual belongs in the physical world because it is enabled by the actual physical structures that support the technology. It is only when one disregards the physicality of the technology that one can extrapolate into post-human disembodied dreams. To Cline's credit, he sees through the illusion of the computational universe by referring to the specific substrate. There is no OASIS without these servers, and it would not be experienced as a space to inhabit without the technologies of the vizors and haptic gloves/suit.

To sum up my position on the ontological status of the OASIS, I want to refer back to the dichotomy that has been highlighted. One the one hand, there is something definite and meaningful about virtual spaces. They will, in a world becoming increasingly post-human, have a significant role to play in our understanding of where and how we create meaning as a global culture. I agree with Monteith when he states that:

> if technology advances far enough, the creation of an inhabitable cyberworld becomes plausible, and that such a cyberworld could break the boundaries between the special and the mundane, allowing users to directly access or inhabit the fictional worlds they find meaningful… *Ready Player One* however imagines a less permanent relationship, in which the mind and body can be almost flawlessly integrated with a cyberworld, but that such integration is voluntary and reversible. The unmediated world is thus entered and exited at the user's discretion. (Monteith 2022, p. 10)

However, I want to interject that while there can be substantial reality, and even authenticity, to the virtual experience, it does not exist as a space outside of our physical world. It is important to remember that the specific instantiation of the technology matters, and it matters for significant concerns for our societies. It is one thing to view the virtual space as a site for interaction and redefining of performative subjectivity, but it becomes something entirely different when it is viewed in the vein of Kurzweil/Moravec, where it exists as a distinct physical reality in which one can extricate consciousness from the body and upload it.

Justin Nordstrom (2016) highlights ambiguity between utopia and dystopia in *Ready Player One* illuminatingly in the context of gaming's role in our larger social culture, especially if one grants the post-humanist condition that automation will change the global socioeconomic order so drastically that play will be the central human activity. His reading segues neatly into the discourse on what defines utopia and dystopias, and how *RPO* can contribute. It is interesting to ask whether it is fruitful to consider gaming as more than a way to entertain ourselves. In that way, one can hopefully approximate an idea of what a desirable society might look like, especially within a post-human context.

Nordstrom's point of departure is an assertion that utopias and games, or play, are inextricably entwined. This represents a contradictory view of utopians as "nose to-the-grindstone types", and re-places games as central to the utopian project. (Nordstrom 2016, p. 240-241) After all, in a perfect society, what else is there to do? This is apt to Nordstrom's understanding for *Ready Player One*. One of the core tenets of utopian, and dystopian, fiction is the centrality placed on *estrangement*.

In Nordstrom's words, *estrangement* is a convention of the genre because the purpose is to "disorient the reader, as a way of introducing perspectives on society and social change that might normally be rejected out of hand." (Ibid, p. 243) This is usually done by playing with the chronology of time. Estrangement in the form of blending past and present is an inherent feature of the Easter Egg Hunt. Gunters, as the egg hunters come to be known, methodically study every aspect of James Halliday's childhood, pop-culture references, games, and any other piece of relevant information from the 1980's.

In step with Monteith's reading was an exploration of how the OASIS can be viewed as a transhumanist meaning-making site. Nordstrom configures the OASIS as the vehicle for exploring the "utopia within a dystopia" and for "games within the broader gaming environment of the OASIS itself" (Ibid, p. 244) In other words, the juxtaposition between the

utopia of the virtual with the dystopia of the real are highlighted constantly throughout the narrative. According to Nordstrom, ambiguity on the OASIS' status represents Cline's reflections that gaming and play can be positive, meaningful and provide a sense of elation. At the same time, Halliday's Big Red Button is evidence that Cline does not see gaming as unproblematic. Indeed, Cline seems to indict the distracting and isolating power of games as evidenced by the ruinous state of the real world.

Nordstrom compares Cline's ambiguity with the positions on games in society put forward by Bernard Suits (1978) and Jane McGonigal (2011). Nordstrom seeks to achieve a broader understanding of what games are and their relationship to an ideal society. In this way, the selection of literature is apt because Bernard Suits' assertion of games as inherent, and unavoidable, to utopia can be tempered by the more realistic approaches that both Cline and McGonigal bring to the discussion.

I tend to agree with the broader point that Nordstrom is trying to convey, which is that games are, and will be, necessary for understanding what constitutes meaningful human activities. At the same time, it is important to underscore how games can have an isolating and ostracizing effect, especially when the technology of modern videogames (and future VR) is inspected clearly. The same aspects that make games wonderful – their capacity to introduce wonder and awe into mundanity – are the aspects that can hijack our biological systems.

Seen from the lens of this thesis, I want to extrapolate how this notion of games can be viewed as part of a larger discourse on the involvement with the virtual. In the vein of the post-humanism espoused by Kurzweil/Moravec, one would see the role of the virtual as something entirely different than what has been traditionally considered. The lines that demarcate the ontologically *real* become blurry if the fundamental view of the universe is binary, information and data. Rather than seeing the value of the non-virtual world as the place of our being and the embodiment of our existence, post-human dreams risk the kind of isolationism and disdain for our bodies that Cline warns against.

Bernard Suits' point of departure is the classic fable (attributed to Aesop) of the grasshopper and the ant, in which the idle grasshopper turns to the ant for help when winter comes. Suits' assertion is that the moral of the story is not that the grasshopper's way of life is to be denigrated while celebrating the hard work of the ant. After all, if "there were no winters to guard against, then the Grasshopper would not get his come-uppance nor the ant his shabby victory. The life of the Grasshopper would be vindicated and that of the ant absurd." (Suits

1978, p. 8) The grasshopper continues by stating “it is possible that with accelerating advances in technology the time will come when there are in fact no winters. We may therefore conclude that although my timing may be a bit off, my way of life is not wrong in principle.” (Ibid)

In this manner, the idleness and play of the grasshopper is seen as the key to attaining a good life. It is fundamental for Suits to the point of equating utopia with play. In other words, the goal of any society should be to move beyond covering the basic needs of its citizens to allow for the true fulfillment of each individual: playing. What underscores this reasoning is a fundamentally different understanding of what a game means. Suits’ definition of what constitutes a game is stated followingly “to play a game is to engage in activity directed towards bringing about a specific state of affairs, using only means permitted by rules, where the rules prohibit more efficient in favour of less efficient means, and where such rules are accepted just because they make possible such activity.” (Ibid, p. 34) This is another way to state that “playing a game is the voluntary attempt to overcome unnecessary obstacles.” (Ibid, p. 41)

Why is this important? Suits’ definitions extend the range of what can be viewed as a game to a whole variety of activities. Indeed, if one recounts from a utopian future, where automation of labor has rendered most work obsolete, then any activity which we consider as working would fall under Suits’ definition of a game. In some sense, based on the prognostications of Harari, Kurzweil and Moravec, Suits was prescient in understanding how technology could potentially alleviate many of our socioeconomic challenges.

The problem with Suits’ utopia is that it is reductionist. He simply whisks away the need for government, adjudication, “psychic disturbances” and any other pitfalls of human nature by playing a game of semantics. (Ibid, p. 167) He claims that no evil “can befall anyone in Utopia” since utopia, *by definition*, is “just a dramatization of the ideal of existence, and evil and wrong-doing are inconsistent with such an ideal.” (Ibid, p. 168)

What Suits is arguing, in effect, is not only a society fully automated and overly technological so as to cover every material need, but also one in which human beings do not act in accordance with human nature. After all, such maladjustments or “psychic disturbances” have been rectified by means of psychological or pharmacological intervention. One might ask how this is different from post-human visions of utopia based on technological interventions on both society and individuals.

I assert that there is no difference. In this regard, it is easy to concur with Suits' definition of games. In a society comprised of individuals that are "freed" from both material and psychological challenges, it would only be logical to seek meaning through game-playing. The problem with this thought-experiment is that one has to accept a tremendous amount of change not only to our environment, but to our biological and psychological composition. Thus, the inhabitants of Suits' utopia are no longer human. They are, to quote Kurzweil, humans 2.0.

Here is where *Ready Player One* can be seen as an intervention. Cline, to his credit, does not indulge in utopian fantasies within the framework of our current human nature. As Nordstrom points out: "on a broader level, Suits' description of a highly technical, computerized, environment where travel, adventure, and interpersonal relationships are all perfected and available every moment is identical to the OASIS in *Ready Player One*." (Nordstrom 2016, p. 248) The OASIS provides a buffet to (virtually) fulfill every desire, yet the utopian possibilities of the OASIS hinges on a parasitic relationship to the non-virtual world.

This is made abundantly clear when Ogden Morrow leaves his and Halliday's company, Gregarious Simulation Systems (GSS). His reason for leaving sums up the price of the OASIS on the outside world. He felt that the OASIS had become something horrible, a "self-imposed prison for humanity" and a "pleasant place for the world to hide from its problems while human civilization slowly collapses, primarily due to neglect." (Cline 2011, p. 188)

Cline, therefore, does not see gameplaying as the sole meaning-making system. He advocates moderation. The novel seems to suggest that it is psychologically damaging for the individuals of a society to isolate themselves. We see this dynamic at work with the social reclusion of the main characters. By extension, with a greater development of gaming and virtual technology, there is a risk that whole societies will retract from the physical into the virtual. Cline, thus, seems to come down on the side of embodied existence.

After all, the novel ends with Halliday's warning to Wade and the bequeathment to Wade of the possibility to destroy the OASIS. The novel also ends with the long-awaited union between Wade and Samantha in the real world with Wade affirming that "for the first time in as long as I could remember, I had absolutely no desire to log back into the OASIS." (Ibid, p. 579)

My gratitude is owed to Nordstrom for pointing me in the direction of Jane McGonigal. Her work *Reality is Broken Why Games Make Us Better and How They Can Change the World* (2011) presents some insights that are relevant for this thesis. What McGonigal aptly highlights is that a "mass exodus" into virtual spaces is not merely a result of lazy shut-ins isolating themselves from the world. (McGonigal 2011, p. 3) Rather, McGonigal argues, "in today's society, computer and video games are fulfilling *genuine human needs* that the real world is currently unable to satisfy." (Ibid, p. 4, original emphasis) In a sense, one way to read *RPO* is to see it as a warning against the virtual space becoming a "pleasant place to hide."

That said, Cline does not seem to denigrate the ability of games and virtual spaces to fulfill the genuine human needs that our ordinary lives cannot fulfill. As Monteith also argues, the OASIS provides a space for community and engagement that lacks from ordinary non-virtual experience. The danger, Cline argues, is in overindulging in the virtual meaning structures of heroic purpose, community, focus, and accomplishment to the detriment of the world around us. Yet, McGonigal argues, just enough of this engagement is enough to make our world better. Cline echoes this sentiment.

In a sense, what Cline does in *Ready Player One* is to present an extreme example on the polarity between everyday life and the world of games. Firstly, one might view the dichotomy between OASIS-utopia versus real world dystopia as an attempt to highlight how engaging games can be. One might view the realities of utopia and dystopia as more than reflections on what constitutes a desirable society, but also what constitutes a desirable psychology. In other words, Cline and McGonigal can be viewed in agreement when the latter calls gameplay a psychological state that is "the direct emotional opposite of depression." (Ibid, 28)

Again, when Wade has to go through what he considers the dreadful routine of essential tasks to take care of his physical body we are reminded, as readers, of the contrast between his real life and his life in the OASIS. In the real world he describes himself as an "antisocial hermit" and "an agoraphobic shut-in, with no real friends, family, or genuine human contact." (Cline 2011, p. 309) Meanwhile, in the OASIS, he is a "pop-culture icon, a VR rock star. And in gunter circles, I was a legend. Nay, a god." (Ibid)

These two experiences can be seen as truthful at once. What the virtual world of the OASIS grants Wade, and all the other gamers, is that they can regain a control of their own happiness. Structuring their experience around what they deem to be meaningful allows the players to re-shape and re-create the world that would be psychologically meaningful. Seen through this

lens, one can view the dystopia outside the OASIS as a mere psychological counterfactual to the experience of the game.

Yet, it would be wise to temper this hopeful approach to gameplay and virtual experience. While Cline presents a great number of possibilities for the virtual to enhance our lives, he warns that, in a similar tone to McGonigal, that the real world should be prioritized and that we should envision our virtual tools as exactly that: tools. If we are to be captured by the allure of playing in the virtual while disparaging the physical, then we risk creating dystopia through indifference. One might say that both Cline and McGonigal agree on this single notion: our focus should be on creating a physical world that resembles and re-creates the joy that playing games gives us. This is why, ultimately, the novel ends with the completed *bildung* of our hero, in his realization that he has to use the riches of the Hunt and the power of the OASIS to make the world better.

Nordstrom sums up how this can be viewed from the perspective of the larger discussion on utopian fiction by stating the following:

> The foundational aspect of utopian fiction is to complicate the reader's understanding of the expectations and mores that constitute reality. Utopian writing consists of "estrangement"—disorienting readers so that they challenge normal reality and, conversely, accept ideas or alternatives they might ordinarily dismiss…*Ready Player One* leaves the reader unbalanced—not certain whether any particular setting (the OASIS or conventional world) is to be embraced or avoided…Kline's [sic] novel embodies a more nuanced understanding of utopianism itself—in which the seemingly idealized world of the OASIS is actually perilous and the apocalyptic conventional world is one worth saving, even celebrating. By playing with the conventions of gaming, *Ready Player One* embodies the paradoxical elements of utopian fiction itself. (Nordstrom 2016, p. 253-254)

With that said, it is time to inspect where *Ready Player One* falls on the spectrum of utopian and dystopian fiction. Seen broadly, this will give an indication of what it means for literature to be utopian/dystopian within the framework of the post-humanist narrative, and the implications for said narrative on how we perceive future challenges. I want to conclude this chapter by stating that whether one views *Ready Player One* as a utopia or as dystopia depends entirely on where meaning is placed as it pertains to spatiality.

In other words, if one views virtual reality, and the following state of virtuality, as entirely positive for human well-being then it is safe to view the OASIS as a true utopia. It represents a state of being that transcends the imposed limitations of biology, especially if one views the OASIS as a simple starting point. Indeed, for post-humanists like Kurzweil and Moravec, the OASIS is a primitive reflection of the possibilities of virtuality. From the lens of post-humanism, the goal is to finalize, once and for all, that there is no distinction between the virtual and the real. In the end, it is all data.

Therefore, post-humanism embraces indifference towards the physical world if the virtual is sufficiently complex. After all, the post-humanists argue, if we can extricate the pattern of consciousness from the substrate of biology, then we can simply upload ourselves to the endless game. We can re-program our subjective expression to something that is more suitable to human happiness.

If, on the other hand, one views the novel as an attempt to reaffirm embodiment, then apathy and disdain for the physical world matters. Here, we see the true dystopia. As Cline argues, we risk becoming something more, and yet something less, if we only limit our subjectivity to what we can control and project virtually. If we forget our specific bodily instantiation in space and time, we might forget the true magic around us. Seen from this lens, the logic of post-humanist utopianism must be viewed within the larger context of our existence as biological beings; co-dependent and inextricable from the world around us.

My hope is that this chapter has specified the ways in which one can respond to post-human narratives, and how this discourse on *RPO* can contribute to the larger discourse around what we find valuable. After all, the purpose of both utopian and dystopian fiction is to highlight the types of societies we wish to create.

Comparison/Conclusion

At the point of closure for this thesis, I want to compare the two target novels of this thesis. Hopefully, this will lead to some conclusions about the central questions of this thesis. Firstly by comparing *Ready Player One* with *Brave New World*, some insights will be gained about what constitutes a utopia and a dystopia, especially as literary phenomena. In this part, the objective has been to discern how these two narratives can be viewed as either utopias or dystopias from the lens of liberal humanism. Thereafter, a re-reading from the lens of post-

humanism will be attempted to discover how post-humanist ideology changes the perspective on what might be considered utopian or dystopian.

Seen from the traditional lens of liberal humanism, *Brave New World* champions the ideal of an authentic and distinct selfhood, and that the freedom of this locus of consciousness is paramount to a healthy psyche. It is precisely because the main characters, who are inhabitants of the New World, are either unwilling to question their unfreedom (Bernard Marx, who was at least unwilling to accept the consequences of questioning the system) or are too unaware to do so (Lenina Crowne) that they suffer. Yet, it is important to remember that Huxley was not doggedly individualistic, as witnessed by his commitment to eugenics. As has been observed several times throughout the reading of *BNW*, John the Savage is not the hero of the novel. His tragic demise is a warning of the pitfalls of Romanticism – hence the allusion to Rousseau's savage. Ultimately, Huxley views freedom as something more than hedonistic indulgence.

In a similar vein, *Ready Player One* can be viewed, from the liberal humanist perspective, as a narrative that reaffirms the centrality and responsibility of selfhood. That is, the indulgence, and retreat into, a purely virtual selfhood is a degradation of one's self because it reinforces apathy. The novel ends with the protagonist's reclaiming of the control over the technology precisely because it places the transformed and informed subject at the top of the hierarchy. Thus, when the novel ends with Wade and Samantha engaged in physical and non-virtual intimacy, it reinforces the power of the individual to alter his/her fate. After all, the consequences of winning the Hunt for Wade Watts and his companions are staggering.

Therefore, from the viewpoint of liberal humanism, it would not be controversial to assert that both of these narratives would be considered as examples of dystopian literature. It is easiest to observe this tendency in *Brave New World* because it follows the deterministic logic of dystopian literature. Little room is given to hope since the choice is between a hedonistic unfree system or an exaggerated, overly romanticized, and primitive freedom. Likewise, hedonism has ruined the world of *Ready Player One*. The shackles of this world come in the form of indulgence into a glorified game. Seen from this perspective, the world is dystopian because individuals have shirked their responsibilities for "a pleasant place to hide."

These two narratives take on a different meaning if they are viewed from a post-human perspective. A post-humanist might remark that Huxley does not go far enough in his eugenic enhancement project. Why should the borders of the human be limited to pure biological

boundaries? The intricate system of the Hatcheries would simply be viewed as ineffective, since it still envisions the human as a biological being rather than a pattern of information. A post-humanist might bemoan Huxley's rather limited project. Indeed, Kurzweil wants to convert all "dumb" matter that comprises the universe into intelligence. Moravec also views our biological existence as that of shackles.

Would it be fair to state that a post-humanist would view *Brave New World* as a utopia? I do not believe it would be. Post-humanism is not rooted in an ideology of centralization, rendering Huxley's biological factory ineffective. But I believe that the narrative of post-humanism bears its own utopianism when it pertains to human motivations. Post-humanism would applaud the prescience of Huxley in imagining a world where humans can take control of their biology. Yet, the contention for post-humanism would still lie in the wasteful use of this technology.

Summed up, the post-humanist interpretation of *Brave New World* is that every problem can be fixed with better technology. What would indeed strike the post-humanists as dystopian is that Huxley's society has given up progress for a static happiness. This is unacceptable to the post-humanist ideal of continual progress, until intelligence rules the universe. Therefore, Huxley's dystopia would not be a post-humanist dystopia because hedonism shackles the individual's ability to possess his self, but because it would interrupt the process of continual production of intelligence and information. After all, this is the post-human meaning of life, quite literally.

A similar contention can be raised from the post-humanist view regarding *Ready Player One*. Contrary to Cline's care around the OASIS, post-humanists would contend that this space is underutilized. If Hans Moravec is indeed correct in stating that it will be possible to upload consciousness into a machine, then the OASIS would be the perfect utopian vision of such techno-optimism. It is precisely the post-biological dematerialized space that post-humanists envision as their ideal when compared to our current biological existence. Why should we be content to die with our bodies when we can upload ourselves to a game where we can continually alter ourselves to suit our whim?

In that sense, Cline's OASIS provides a prototype for a post-humanist utopia. The contention against the dystopian elements would still be along the same lines as those charted out in the discourse on *BNW*. Why would a society capable of the technology of the OASIS limit its development? The purpose would be to extend the capabilities of the OASIS into the physical

world. As Kurzweil argues, if we just understand the patterns underlying the complex systems underwriting our world, we can use the combined powers of artificial intelligence and nanotechnology to make the physical world like the virtual. Another line of argument would be, if one is to view post humanism cynically, is that if we are able to upload ourselves to the "cloud" then why should we care about what happens outside of the virtual world. For all intents and purposes, that could be our new, and only, world.

Now I have positioned myself to ask: how does the narrative of post-humanism redefine what constitutes a utopia and what constitutes a dystopia? I posit that post-humanism has fundamentally redefined what we mean by the term human. It would not be controversial to state that even in the aftermath of post-modernist philosophy something akin to a common definition of being human has survived. We can state that we are a species that abides by the same evolutionary principles that determine the rest of life on Earth. More concretely, being human is an embodied experience rooted in a sense of selfhood and a conscious experience. There are different polarities on this axis, from viewing the self as an illusion to seeing the existence of multiple competing selves, yet it would not be brash to assert that a fundamental part of the human experience is the experiencer that we call "I". Even more fundamental than Cartesian identity with thought is the fact that we have a conscious experience, and that conscious experience is linked to our biological system.

As has been illustrated throughout this thesis, post-humanism takes issue with the last statement; that conscious experience needs to be connected to biology. Post-humanism states that consciousness is simply a pattern of information. Once this pattern of information is understood, it can be copied, transferred and recreated in another medium than biology. This significantly alters what becomes meaningful to us as a species. Post-humanism allows for a denial of death and finitude as a fundamental condition for our existence. If humans are fundamentally information, then there is no reason to view ourselves as embodied creatures existing in a mutually dependent context. The sole purpose for a post-humanist is the continuation of the pattern of life, by whatever means, because this is the true driver of evolution.

What this implies for the ideal society, the creation of which is the governing principle of utopia, is that humanity needs to give up certain ideas about our individualism and autonomy for the potential promises of immortality, control over our biology, and every cyborg enhancement we can imagine. We can recreate ourselves in the image of gods. It is the

ultimate enactment of Nietzsche's Will to Power. In a sense, while traditional utopias have focused on how humanity can alter our environment, culture and even some of our biology it has never been as radical as post-humanist utopianisms. Post-humanism simply does away with being human altogether. There is a vast range of what such societies could look like. One view would be to configure humans as cyborgs, part biology and part robotics. One might add to that an immune system of nanobots, or a brain that has an interface with artificial intelligence.

Utopia, in the wake of post-humanism, becomes something more than a vision of estrangement. It becomes a window into a future of aliens in a literal sense; humanity becoming something entirely different than what we have been throughout our species' history. The caveat, as Hayles, Rushkoff and others have argued, is whether it is truly possible to enact this vision. It is also entirely legitimate to question whether we should give up our humanity. An example of this is the contemporary debate around artificial intelligence. If we manage to create a superintelligence that vastly supersedes us, and if this intelligence gains its own intentionality, then we have effectively created a scenario where we, as a species, are in relationship with a godlike being. Even if such a being was to solve the ills confronting humanity, we would still be at its mercy.

This brings the focus back to dystopias and how they are reimagined within a post-human context. Being the counterparts of utopian fiction, dystopias tend to utilize the same method of estrangement to efface utopian logic. Dystopias envision, in a deterministic manner, how contemporary visions can lead to an unwanted societal development. Indeed, Gregory Claeys shows how intimately linked utopias and dystopias are when he writes that "dystopian elements seem to lurk within Utopia", referring to the genre's foundational novel, Thomas More's Utopia. (Claeys 2017, p. 6) His definition of dystopia runs along these lines: "the word is derived from two Greek words, *dus* and *topos*, meaning a diseased, bad, faulty, or unfavourable place…In common parlance, the word functions as the opposite of 'utopia', the bad place versus what we imagine to be the good place, the secular version of paradise. (Ibid, p. 4, original emphasis)

In the post-human context, the linkages between utopia and dystopia are more visible than ever before. Post-humanism, namely, is driven by utopian aspirations in its agenda. Trying to create super-intelligence that can help us solve all of the problems that face us, ridding humanity of disease, poverty and death and enhancing the human species beyond the

impositions of evolution are very examples of utopian promises. Yet, these are exactly the promises that post-humanism makes. Following Claeys, it is paramount to discern the specific instantiations of utopia, precisely because the tipping point to dystopia is identifiable there.

Post-humanism offers a renewed sense of identity with being human. It redefines some of the rigidities still dominant by courtesy of liberal humanism's hold through global capitalism. These possibilities lie in the new ways we can imagine our subjectivity through the possibilities of virtual reality, as we have seen in the case of Cline. At the same time, we risk throwing out the baby with the bathwater. The price of upgrade, it should be safe to state, should not be to surrender our autonomy to intelligent algorithms or to indulge in escapist fantasies that pertain our body and mortality. For in trying to realize these dreams we risk creating a non-literary dystopia.

If we are not careful in answering the underlying philosophical question that underlie post-human thought, we risk many dystopian scenarios. One simple stumbling block towards immortality or superintelligence is the type of power it confers on the humans spearheading this technology. Another matter entirely is just answering whether these goals are desirable, or whether they are possible.

In conclusion, it is through the very intricate interplay between utopian aspirations and potentially dystopian instantiations that post-humanism changes our view of what is a possible ideal society. If we overindulge in utopian aspirations, we risk the eradication of our species that Moravec nonchalantly remarks upon. Dystopia can thus manifest itself twofold, as the actual instantiation of the utopian post-humanist promises or their failure along the way.

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