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Brave New World and the Ethics of Genetic Engineering

1. Introduction

The question of genetics has traced itself in literary studies since philosophers and scientists started to pay more attention to heredity, and it was a general thought in Charles Darwin's time that the passing of physical traits was bound to human reproduction (Roofs 124). Fifty years after his death genetic replication had become more evolved and complicated which made it possible for fictional writers to comment on the "engineered being" in a more detailed manner than ever before (128). One of these writers was Aldous Huxley, who in 1932 published one of his most famous novels Brave New World. Huxley's background made it possible for him to comment on the role of genetics in greater detail than other novelists at the time. His grandfather was best known as "Darwin's bulldog", and his brother, Julian Huxley, was an evolutionary scientist. It was only through an eye injury that he did not end up on the same path; instead his family's influence inspired him to incorporate scientific knowledge to his career as a writer (Woiak 106). The novel is therefore able to illustrate a society highly occupied with the modification of its citizens where genetic engineering has been institutionalized in order to create the "perfect" state. Embryos are chosen at their artificial birth to either become Alphas of the higher caste, Betas, Gammas, Deltas or Epsilon workers who have experienced oxygen shortage to the extent where they cannot be more intelligent than what their conditioning allows. All of this happens through practices such as cloning by the use of Bokanovsky's process and mass-production of bottled-babies that eventually are submitted to their future jobs through eugenic selection. In the end, every human of the New World has been thoughtfully planned and has an "unescapable social destiny" (Huxley, BNW 12) according to the state's industrial needs. Through non-stop distractions of the feelies, synthetic music from sexophones and orgy-porgys, the citizens of the New World never seem to get a break, except for the escaping drug of soma. In addition they have been engineered by the hypnopaedia process to like their servitude through mind-altering technology, which imprints passive messages of "truth" to their thought system while

sleeping. Feelings of love, sadness or jealousy within the population have been suppressed and it is not by coincidence that *Brave New World* has been misinterpreted as a novel dedicated to reveal the negative consequences of science. Further in the thesis I will explain how Huxley's relationship to the "The Modern Synthesis" in biology marks him as a devoted writer to the case of these sciences, and how his work has been influential in connection to genetic debates. Secondly, I will demonstrate how the novel anticipates the dehumanization of its citizens as a consequence of growing them in bottles, to then focus on how Huxley questions the ethics of such practises in relation to the way human individuality is perceived through the characters of Bernard Max and Helmholtz Watson.

2. Brave New World and "The Modern Synthesis"

In "The Modern Synthesis: Genetics and Dystopia in the Huxley Circle", Jay Clayton argues how readers have failed to view Huxley's novel as dividing in more than the direction of a cautionary tale where scientific advancements have run wild. To understand the real meaning of Brave New World, Clayton initiates how we need to look at Huxley's relationship to "The modern synthesis", and how it plays a significant role to his work. It was not only his family that inspired Huxley when writing about sciences, a good friend of him, J. B. S Haldane, demonstrated the way in which we could add genetics to Darwin's theory about how natural selection was the primary cause of evolution. This shift in biology in the 20th century marks what scientists would call "the modern synthesis", and the period brought forward evidence of how genetic science was one of key elements missing from Darwin's belief. The difference being that evolution accounted for inheritance over time, while genetics demonstrated how each individual varied from one another (875-876). It resulted in a merging between the two ideas where the outcome eventually was a unified theory of evolution. In addition it opened up new complicated questions regarding the morality of the growing interest of genetic engineering, and how it could affect the way we perceive the individual human being. On the one hand, we could be able to improve our health, looks, and intellectual abilities, but on the other we could experience devastating consequences where sacrifices have to be made as a result. Huxley himself even stated once how "...the Nature of Things is such that nobody in this world ever gets anything for nothing" (Huxley, BNWR 25) when talking about the advancements of science. According to Huxley, then, advancements often have to be paid for, and how that is being portrayed in *Brave New World*, through manipulating human genetics, is mainly what I am going to discuss later in the thesis.

What makes Huxley's connection to Haldane interesting is how he employed the sciences they discussed into the dystopian novel. The genre has a habit of drawing from the worst, and not the best, features of the present society, but in spite of that, Clayton does not put Brave New World in the category of being anti-science. He rather points to Huxley's relationship with his brother and Haldane, in which they all wrote and argued about the consequences of the emerging sciences of genetics. Huxley would for example use a notion of Haldane's work and incorporate it in one of his own fictional novels (878). According to Clayton, Brave New World represents another sort of synthesis where the two opposite literary genres naturalism and utopian fiction meet. Huxley was therefore one of the few who merged the modern synthesis in genetics (evolution & genetics) with the fictional literature of the dystopian synthesis (utopia & naturalism) as "two modes of modern synthesis" (876-877). Consequently they both spiralled together to produce a new type of modernist work. Utopian fiction mainly working as a satire by drawing from the horrible present and the ideal future, shown in how Huxley incorporates the questions of scientific advancement in contemporary society to an "ideal" future set 632 years "after Ford", and naturalism presenting the characters as somewhat trapped between the uncontrollable forces in society. His novel incorporates different aspects from these two literary genres in order to create a new genre where the individual is set up against an oppressive state on different accounts (Clayton 887-888). One of these accounts in *Brave New World* draws from Haldane's research on ectogenesis, which transcribes to growing babies in bottles in order to replace mankind's natural selection. Now that the novel's genre has been framed, and I have established where Huxley drew most of his ideas from, it can be easier to track the way he included them in his novel to portray the dehumanizing effects genetic engineering can have if employed in the "wrong" way.

3. Consequences of Growing Babies in Bottles

The consequences of genetic engineering can be traced throughout the novel. One of them is the dehumanization of the fertilization process where the creation of embryos has been affected. In the beginning of the novel, we are introduced to the Central London Hatchery and Conditioning Centre where a group of students are being led through the artificial fertilization process. Later they end up in the Bottling room, where each embryo is being moved from a test tube to a labelled bottle:

In the bottling room all was harmonious bustle and ordered activity. Flaps of fresh sow's peritoneum ready cut to the proper size came shooting up in little lifts from the

Organ Store in the sub-basement. Whizz and then, click! The lift-hatches flew open; the Bottle-Liner had only to reach out a hand, take the flap, insert, smooth-down, and before the lined bottle had time to travel out of reach along the endless band. Whizz, click! another flap of peritoneum had shot up from the depths, ready to be slipped into yet another bottle, the next of the slow interminable procession on the band.

Next to the liners stood the Matriculators. The procession advanced; one by one the eggs were transferred from their test-tubes to the larger containers; deftly the peritoneal lining was slit, the morula dropped into place, the saline solution poured in... and already the bottle had passed, and it was the turn of the labellers. Heredity, date of fertilization, membership of Bokanovsky Group – details were transferred from test-tube to bottle. No longer anonymous, but named, identified, the procession marched slowly on... (Huxley, *BNW* 7)

In this passage we are introduced to a room that at first seems lively and busy for its "harmonious bustle" and "ordered activity". Here any notion of Darwin's perception about heredity has been replaced by an artificial creation of embryos. Instead of parents passing down their traits to the human from generation to generation, the biologically superior or inferior ova, depending on which caste the embryo will belong to, have been fertilized by superior or inferior sperm in an unnatural treatment. Further, biological substances such as "Flaps of fresh sow's peritoneum" have been implanted to the bottle of each embryo, which becomes some sort of vessel for an artificial womb. Huxley comments on the process of using animal organs in order to create a perfectly bottled-baby, hence the "Sow", which can be translated to a female pig, and "peritoneum" meaning the inner organs on the surface of the pig's abdominal cavity. For people who have not studied biology, some of the words can sound confusing in the first reading of the novel, and the complexity might give us another clue of how Huxley was more concerned with the influence of his scientific friends, rather than the contemporary literature at the beginning of the 20th century.

In addition to a complex vocabulary describing the biological process of the engineered human, Huxley has been able to make the creation sound easy through the use of a factory-like process where the different parts come "shooting up in little lifts" from "Organ Stores", so that its just for the worker to reach out a hand and quickly insert the part before the process repeats itself. It is not a one man's job to create the embryo, or its inhabitation of the artificial womb, however, several people are lined up to make the process as efficient as possible shown in how quickly the workers have to act in order to keep up the production in the most orderly fashion. When the Liners are done with their part of the job, the

Matriculators take over and move the eggs to their newly bottled environment, and next they are being transmitted to the Labellers. What we would have called a birth certificate identified by name, place, date of birth and parentage has been replaced by "heredity, date of fertilization, and membership of Bokanovsky Group". "Heredity" in this case does not respond to the passing genes of parents, but rather the embryo's chosen hierarchical caste. This labelling is crucial to the later treatment of the embryo in the Social Predestination Room, where each caste will receive different conditioning depending on their genetic nature. "Place" and "date of birth" have also been replaced by a more inhumane and unnatural term like "date of fertilization". By removing the old terms Huxley makes a point in showing how society might adopt new vocabulary as normality according to the scientific outlook the state endorse, which is to genetically modify its citizens in order to create stability and happiness over all else. In this case it makes the labelling of newly bottled babies sound unfamiliar to that of todays world. It is therefore quite possible to view Huxley's novel as one that promotes anxiety and repulsion to the advancement in science, but we have already established how that does not seem to be the case in relation to his scientific background. Instead we need to look at what clues the text gives us regarding the consequences Huxley truly worried about regarding genetic engineering.

Huxley has presented how humans can be mass-produced in a mechanised way, implied by how the fertilization process "marched slowly on...", and it reflects the times belief in an efficient workplace. The narrator does not use a lot of emotions in his description of the newly created citizens of the New World. On the contrary, it sounds like he is following an instruction manual that has been thoughtfully planned in order to create the perfect automobile; "deftly the peritoneal lining was slit, the morula dropped into place, the saline solution poured in..." The only problem is the fact that they are not parts of a vehicle, ready to be put together in order to satisfy the person who is driving, but real human beings, who have been stripped from the ability to move up in the pre-created hierarchy or track any kind of inheritance by a mother or a father because of their genetically created background. Every trace of natural selection has had to bow down to the state's artificial breeding, which emphasises the Director's indication later in the novel of how "What man has joined, nature is powerless to put asunder" (BNW 17). It is the humans in the New World who have been able to put these works in motion, not the course of nature, or science itself. On that account it does not seem by coincidence that Huxley chooses to present the genetic manipulation of its citizens in the same way Henry Ford's method of production operated in the 1920s. Like the embryos are produced on a conveyor belt in the novel, cars were rolled off the assembly line.

This production did not only appear brutal, but was also financially successful. Every worker was limited to a specific job with a simple task carefully timed to ensure efficiency. Mass production was the goal, and the workers had to suffer time-pressuring demands and an insufficient work environment where even speaking with a colleague could land you in trouble (Baker 83-84). To compare Ford's method to that of a human birth dehumanizes the process, which makes the room less lively and busy than in our first meeting with the passage. In addition it gives us further evidence of how Huxley was not concerned with the science itself, but rather the way in which it is employed, and how that can threaten the way we view the importance of an individual when discussing the morality of genetic engineering.

Like the workers in Ford's factory did not have any emotional commitment to their part of the job, the Bottle-liners, Matriculators and Labellers have no sense of emotional connection to the embryos they are creating. We could claim that our ability to emotionally connect is what makes us most human, and to remove that from the creating of them should make us wonder what Huxley's intention with it was. The question to be answered further in the thesis is therefore why Huxley chooses to portray the genetic engineering of the human being in a dehumanizing way, if he was not necessarily against the science itself. And it will also reveal how he challenges the ethical dilemma of such practices in relation to the way human individuality is perceived in the novel.

4. The Ethics of Genetic Engineering: Bernard Max and Helmholtz Watson

The question left unanswered is how the emerging notion of human genetic engineering raises new ethical dilemmas regarding if it is morally right or not, and in that case, why and to what extent. One could claim that Huxley's aim in *Brave New World* is to demonstrate how some people, whether it is dictators or scientists, think it is justifiably right to sacrifice the individuality that makes each human being special for the "ultimate good" of society, and he even stated once how "The intellectually gifted are notorious for the ruthless way in which they cultivate their gifts" (Bedford 244). Much of this inspiration came from his concern of how some scientific viewpoints seemed to acknowledge themselves as true and impartial over the individual human, and this opinion is what differs him from his friend Haldane. According to Jay Clayton, Haldane believes the advancement of biological sciences could be applied to the nation, in the same impartial way that it had revolutionized industry and medicine. The scientist should, according to him, remove himself from emotions in order to reach the most efficient and ideal result as possible, even if it required studying the human being on the same basis as a "tape-worm" (881). This emotional impartibility is what Huxley mainly satirises in

his novel, by turning it to the scientific viewpoint itself. It is therefore not by coincidence that he used Haldane's notion of bottled-babies to demonstrate the dehumanization of the fertilization process. And we could claim he did so by exaggerating the consequences of using the same lack of emotions when creating a car, as to creating a human. However, if we were to look at Huxley's own comments on the novel twenty-seven years later from *Brave New World Revisited*, it reveals a Huxley that is much more concerned with the devastating consequences of emotional impartibility within sciences, or "the Will to Order" as he called it, especially if it affects the way we perceive individuality.

With the question of ethics regarding human engineering, heredity and genetics, to Huxley, becomes considerably important, and he stated how "Every individual is biologically unique and unlike all other individuals" (BNWR 128-129). Consequently he rejects how certain theorists believe human individuality solely originates from our social environment, and that it can be used as an argument for how it is morally right to study the human without taking its biological uniqueness into account. If it is true that heredity is no less significant than culture, it seems to Huxley that we should be extremely careful with the task of genetic modification. He even points to how some scientists would claim that the abilities of a person and the choices he makes, have no certain connection to heredity or genetics, and ironically calls them out by stating how "Shakespeare's plays were not written by Shakespeare... they were written by Elizabethan England" (BNWR 128). According to Huxley the emotional impartibility of a scientist mixed with the belief of heredity's little significance could create devastating consequences to what we believe is ethically right for the individual. To study all humans under a one-sided scientific assumption would, to him, be as studying a dragonfly, rocket or breaking wave the same way. It is true that the same laws of motion are there, but in different ways, and this difference is at least as important as their similarities (BNWR 130). The true and only available science of the New World can therefore be compared to what he redeemed the workings of the "Will to Order". According to him some scientists will ignore the uniqueness of their research objects, and focus on what they all have in common in order to find a "law" where they can make sense of and effectively deal with any discrepancies (BNWR 29). If heredity and genetics did not matter as much in the creation of a human's individuality, what would stop an emotional impartial scientist from going to extreme lengths with genetic modifications to ensure a totally stable society then? These are some of the questions Huxley seems to raise in his novel. I therefore argue that Huxley depicts the scheme of the individual human having to bow down to these emotionally impartial theories in the characters of Helmholtz Watson and Bernard Max. The difference being that one of them

questions his environment, and the other something within him. After arriving to Bernard's room they end up in a discussion where they both have a sense of feeling alienated to the created society around them. Helmholtz asks Bernard if he ever feels like he has something

Speaking very slowly, 'Did you ever feel,' he asked, 'as though you had something inside you that was only waiting for you to give it a chance to come out? Some sort of extra power that you aren't using – you know like all the water that goes down the falls instead of through the turbines?' He looked at Bernard questioningly.

more inside of him to say, where Bernard misunderstands the question and thinks of how he

would feel if things were different. I will first start off by explaining what they both have in

common, to then reveal how they separate from each other:

'You mean all the emotions one might be feeling if things were different?' Helmholtz shook his head. 'Not quite. I'm thinking of a queer feeling I sometimes get, a feeling that I've got something important to say and the power to say it – only I don't know what it is, and I can't make any use of the power. If there was some different way of writing... or else something else to write about...' He was silent; then, 'You see,' he went on at last, 'I'm pretty good at inventing phrases – you know, the sort of words that makes you jump, almost as though you'd sat on a pin, they seem so new and exciting even though they're about something hypnopaedically obvious' (Huxley, *BNW* 59)

Bernard and Helmholtz both have in common that they once were bottled-babies. In addition they belong to the caste of Alphas, which puts them at the top of the created social hierarchy. Consequently they have been genetically engineered in certain ways to fit "perfectly" in the puzzle Huxley calls the World State. They have a common feeling of sticking out from the crowd, and if they share these feelings with the rest of the population they would be perceived as crazy. Therefore they meet up privately to discuss why they feel this way. What they don't know, however, is that there are fundamental arguments for their questioning of themselves. As readers with our own individual minds it allows us to genuinely feel sorry for them, and we can trace their oppression of individuality throughout the novel. In this case the oppressor is the state ruled by Mustapha Mond, and we could claim he represents the emotional impartial scientist Huxley seems to condemn in his revisited version. To Mustapha Mond it is justifiably right to sacrifice individuality in order to remove poverty, war, diseases and old age. His ethics are based on having to choose between what seems like two evils, and he is unable to see a middle road, and therefore according to him; "...independence was not made for man – that it is an unnatural state – will do for a while but not carry us safely to the end..."

(BNW 205). He also ridicules human instincts that might lay in our biological nature by stating how "As one believe anything by instinct! One believes them because one is conditioned to believe them" (BNW 207). He fits the description of a theorist that minimalizes the importance of heredity in connection to our individuality, and solely believes the social conditioning of a society is what makes up the human mind. Consequently there seems to be no solid reason for why he should not be morally able to change human life for "the better". However, the state's genetic engineering and conditioning is not bulletproof, as we will see further in the characters of Bernard and Helmholtz.

In our first meeting with Bernard Max we come to learn that he has an unsavoury reputation and that he mostly likes to be on his own. The reputation is to blame on his physique, as it does not resemble an Alpha, and is "hardly better than the average Gamma" (BNW 55). Consequently Bernard feels insecure around lower caste members since there is little to his looks that make him superior to them, shown in how he "...gave his orders in the sharp, rather arrogant and even offensive tone of one who does not feel himself to secure in his superiority" (BNW 55). The other citizens base the reputation on a fault in his genetic engineering where alcohol has been put in his blood-surrogate, and the narrator hints at how it might be true "for accidents will happen" (BNW 55). Bernard is therefore a perfect example of an individual that has been shaped and formed by his environment in how society portrays him as an outcast, and consequently mocks him for it. His insecurities mainly lie in how he presents himself on the outside, rather than inside, and he seems to be the only person who feels this way. However we could claim that Huxley, in his presentation of Bernard, initiates how heredity actually becomes severely important to a human's environment. Even if Bernard has the right label of an Alpha from his previous bottled environment, something must have gone wrong in the passing of the Alpha gene for him to be that small. It could be a play by Huxley to show how the passing of genes becomes considerably important, as well as environmental factors. And it is therefore not by coincidence that Bernard does not understand Helmholtz when he talks of how he feels like something is missing within him, because individuality within Bernard comes from his fault in conditioning, and that affects him in his social environment as well. His individuality and difference is therefore best pictured when he becomes a contrast to his surroundings, which is probably why he likes spending his time alone. For him then, the ideal thing would be how he would feel "if things were different", hence him having the same physique as Helmholtz and consequently feeling better in his own skin. It becomes even more clear when he states how "I am I, and I wish I wasn't..." (BNW 55).

In contrast to Bernard, Helmholtz resembles the perfect Alpha plus in his physique; "a powerfully built man, deep-chested, broad-shouldered, massive, and yet quick in his movements, springy and agile..." (BNW 57). He too has a reputation, but his consists of being an indefatigable lover, which becomes a positive trait in a state where countless sexual acts are recommended. He stands out, but not in the same way as Bernard, instead he is considered able to do most of the things one should expect from an Alpha. In addition, Helmholtz is a writer for the hypnopaedia slogans that work as tools to manipulate the mind of the population. This job requires him to write messages of "truth" to the different castes so they eventually end up liking their servitude. He cannot write whatever he wants, and is restricted to make rhymes for the pushing ideas the state wants its citizens to endorse, and he therefore becomes an active participant in his own, and others conditioning. Compared to the physique of Bernard, it is much harder to track why Helmholtz mentally stands out from the rest of the citizens. It is said that some do consider him "a little too able" in his "mental excess" (BNW 57-58), and we also know from the passage earlier that he feels the same way about his abilities. He has the feeling of not using all of his "extra power", which can be interpreted as some sort of talent he acquires. Where this power comes from is hard to say, but we could, according to Huxley's belief about the importance of heredity and biology within the human individual, interpret it as a latent ability blamed on his heredity in what makes him special apart from other Alphas. And it is possible due to the fact that they do not clone upper caste members. Consequently each of them is special, and has inherited traits from the highest quality of genes. The genetic manipulation of an Alpha eventually makes them able to challenge this individuality, while other castes are not that lucky. Mustapha Mond enhances this later in the novel by stating how; "Each one of us... goes through life inside a bottle. But if we happen to be Alphas, our bottles are, relatively speaking, enormous. We should suffer acutely if we were confined to a narrow space" (BNW 196). To produce them in this way is a risk to the New World, but in order to have a functional state, one must also have people with abilities to do the upper rank tasks that are needed. In addition to that Mond comments on the state's oppression of individuality by explaining how the lower castes are being confined to a smaller bottle, hence them not having the ability to express their true self outside of society's restrictions. Consequently the New World becomes an unfair society, where only a few Alphas have the ability to explore their individual self. Helmholtz is one of these people and could be compared to a disguised Shakespeare in the midst of an England that does not allow people to publish or practise their own writing. His individual ability to produce works that are of significance to him, has been supressed, and there is no way that these abilities can

come from his environment in the New World since they do not practice such writing. The New World, to him, therefore might resemble the narrow space Mond talks about. The novel does not give us a concrete answer for why Helmholtz have this ability, but we could interpret it as Huxley's attempt to shed light on how some sciences can be employed morally "wrong" if it removes the individual being from expressing him or herself freely. The goal of stability over all else therefore does not justify the methods that are dehumanizing to its subjects when it comes to individuality and our biological uniqueness. In the last chapters of the novel, we come to learn that Mond has had enough with both Bernard and Helmholtz. They have started to become too aware of their individual self, in addition to helping John, from the Savage Reservation outside of the New World, with a rebellion where several doses of soma were thrown out. Eventually the only option left is to send them both to an island far away, which is a common routine for those who do not fit in. The fact that they both get sent away highlights Huxley's point about the emotional impartial scientist's inability to view it's research objects as uniquely different. And instead of being celebrated for their difference from the rest of the world, they get sent away so that the morality of the state's scientific viewpoint stays persistent. There is no room for any challenging behaviour that might tear down the wall of stability.

Eventually we could interpret Huxley as a strong advocate for the uniqueness of each human being compared to the contemporary society's pushing agendas of science and industry. And it becomes even clearer after looking at Huxley's revisited novel. In it, he does not only ridicule certain trends in science that redeem themselves as the best option in regards to genetic engineering and its given advantages. He also enhances the importance of an individual mind, and how it might be oppressed if we give these trends a free playing field. We therefore, according to him, need to value the course of heredity, and how each human can be combined by these evolutionary factors in multiple ways. To Huxley, then, "Any culture which, in the interests of efficiency or in the name of some political or religious dogma, seeks to standardize the human individual, commits an outrage against man's biological nature." (Huxley, *BNWR* 28-29)

5. Conclusion

After establishing Huxley as a modernist writer that mainly concerned himself with the scientific outlook at the beginning of the 20th century, *Brave New World* can be interpreted as more than just a cautionary tale of scientific advancements having spiralled out of control. The advancements instead made it possible for Huxley and his social circle to comment on

the arising issues by incorporating them in both fiction and non-fictional works. According to Jay Clayton "The Modern Synthesis" in biology, then, does not only represent a shift in evolutionary practices, but also the era of science within literature. To genetically engineer the human biology was no longer only a matter of imagination, but could actually be employed to real life. This resulted in new ethical dilemmas of how far one could use these notions in order to improve our current reality. As I have indicated, Huxley would take inspiration from scientific discussions, for example Haldane's notion on ectogeneses, and draw us a picture of the dehumanizing effect this could have on us if employed by the same standards as the current world's modern industry. In addition the novel depicts how certain viewpoints at the time could be harmful to the expression of individuality when it is considered less significant than the happiness of the majority in a state. He does so by showing us the result of a "morally certain" theory of genetic engineering, described through the character of Mustapha Mond, and how he use the notion of emotional impartibility and significance of social environment, rather than heredity, when justifying his methods. Eventually every human in the New World is genetically engineered to fit their position in society, with the exception of some Alphas. In the case of Helmholtz Watson and Bernard Max, their individuality is perceived as a fault in the system where their genetic engineering has not been able to completely modify them into the established society. This is both shown in Bernard's connection to his environment, and how he feels individualised compared to those around him, and Helmholtz in how the New World's policies of literature becomes too narrow for him. One could therefore interpret these distinctions through Huxley's own opinions in Brave New World Revisited, as him trying to prove a point regarding the practices of genetic engineering, and how it can be morally wrong compared to how we all have the right to carry out our inner, as well as outer workings of what it means to be human. What has been argued in the thesis is therefore not Brave New World as a novel that satirises scientific advancement, but rather the ideologies of those in contemporary society who might come to use it. His novel could therefore work as an educational tool, for the present ills of society is what he mainly depicts, and he does not seem to predict what will happen in the near future. For further study it would be interesting to look at his earlier non-fictional writings connected to eugenics and how he was an advocate for the engineering of the population if used in the "right way". Joanne Woiak presents an article for some of his beliefs and refers to his essays "What is Happening to our Population" and "Are We Growing Stupider" (Woiak 106), which was written before the publication of Brave New World. It reveals a Huxley that was much more concerned by the population's ability to sustain democracy.

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