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# **When cyborgs walk among us**

*Bringing together theories of digital culture and works of science fiction to discuss the ethical and societal consequences regarding cyborg implementations*

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# **Abstract**

The purpose of this thesis is to explain and discuss what a cyborg is and which consequences we could encounter in the future when implementing cyborg technology into our lives. As technology rapidly evolves and improves, in hopes of making human lives simpler and better, it is sometimes difficult to think of possible consequences of the technologies we welcome into our lives. A common concern is whether humanity will manage to keep up with technology. Some believe a new evolutionary step is coming up for our species, where we will have to merge ourselves with technology to keep up. By exploring digital philosophy through the umbrella term that posthumanism has become and taking a closer look at transhumanism, the purpose is to look at possible ways cyborgs might become a reality and the potential consequences. Later on, the thesis analyzes science fiction films which will show the views of digital philosophy through a different perspective. Sometimes, utopian ideas may turn dystopian in execution - several of the ideas presented by digital philosophies sound utopian, but the science fiction films displaying similar ideas tend to be dystopian. However, this thesis does not aim to decide whether humans evolving into cyborgs would be beneficial or not, but rather to explain and discuss potential consequences and inspire the reader to think.

## **Keywords**

Cyborg, digital culture, digital philosophy, posthumanism, transhumanism, science fiction, future technology, Metropolis, Alita: Battle Angel, Minority Report, Elysium, Replicas, Advantageous.

# Sammendrag

Denne avhandlingen har som mål å forklare og diskutere hva en kyborg er, og hvilke konsekvenser vi kan støte på i fremtiden når kyborgteknologi implementeres inn i livene våre. Teknologi utvikles og forbedres i et raskt tempo, i håp om å gjøre menneskeliv enklere og bedre, men noen ganger kan det være vanskelig å tenke på mulige konsekvenser av teknologiene som vi ønsker velkommen. En vanlig bekymring er hvorvidt mennesker vil klare å holde følge med teknologien, og noen tror vi er på vei mot et nytt evolusjonssteg der vi må fusjonere oss med teknologien for å holde følge. Ved å utforske digitalfilosofi gjennom det samlebegrepet som posthumanisme har blitt, og å se nøye på transhumanisme, er intensjonen å se på mulige måter å realisere kyborgene på og hvilke konsekvenser denne realiseringen kan føre til. Etterpå vil analyser av filmer fra vitenskapsfantasi-sjangeren vise synspunktene fra digitalfilosofien gjennom et nytt perspektiv. Noen ganger kan utopiske ideer bli til dystopiske utførelser - flere av ideene som digitalfilosofi presenterer høres utopiske ut, men vitenskapsfantasien viser lignende ideer som har tendens til å være dystopiske. Denne avhandlingen har ikke som mål å ta en avgjørelse på hvorvidt menneskets evolusjonssteg fra menneske til kyborg ville være fordelaktig eller ikke, men tar heller sikte på å forklare og diskutere potensielle konsekvenser og inspirere leseren til å tenke.

## Nøkkelord

Kyborg, digital kultur, digitalfilosofi, posthumanisme, transhumanisme, vitenskapsfantasi, fremtidsteknologi, Metropolis, Alita: Battle Angel, Minority Report, Elysium, Replicas, Advantageous.

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# Evolution of technology and its importance

Technology evolves at a rapid speed that just seems to increase. Because of this speed, we might not have as much time to consider the good and the bad sides of the new technology we welcome into our lives - or have time to stop and ask ourselves if we are heading in the right direction. Do we know if we are heading in the right direction? How often do we stop and ask ourselves this? Is new technology just beneficial?

Technology has always been invented with the purpose of improving the world, and more importantly, improving our lives. However, technology is not always black or white; sometimes, there can be both positive and negative consequences - where especially the long-term consequences can be difficult to predict.

Research is eager to explore the possibilities that open up with new, digital technologies; artificial intelligence, virtual reality, augmented reality, machine learning, robotics... The list goes on. The possibilities are endless. However, science fiction shows us dystopian worlds where these technologies have been further developed, and things have gone wrong, suggesting that perhaps these technologies may not be a step in the right direction.

## Research goals

Looking at both literature and dystopian science fiction, it seems both worlds are concerned with cyborg technology - the combination of man and machine into one. However, considering today's rapid technological growth, what from an evolutionary point of view may be conceived as unnatural, may nevertheless become a reality in a not so distant future. With many people and companies researching and exploring possibilities of artificial intelligence, cyborg technology seems like a likely result and a potential step further towards merging ourselves in a more radical way with technology... What would be the consequences? By confronting various representations of the cyborg in science fiction, within what may be broadly labeled as digital philosophy, one may generate some valuable and helpful insight into this question.

This thesis aims to discuss relevant theories of digital philosophy by exploring notions such as posthumanism and transhumanism, and applying various typologies involving these notions as tools to analyze and compare science fiction films featuring the implementation of cyborg technology. Altogether, the purpose of exploring and discussing the different aspects of cyborg technology is to identify and discuss the issues the world might have with the thoughts of realizing cyborg technology and potential problems with the technology itself.

Digital Culture studies the relationship between culture and technology, and how technology affects our lives. Through using digital philosophy as a critical and philosophical angle of approach, and using works of science fiction as a means of visualizing, the purpose is to discuss how the implementation of cyborg technology could affect our lives. By focusing on consequences relating to ethical issues and societal changes, this thesis prides itself on being at the core of what the study of Digital Culture is about - and its importance, by exploring the relationship between culture and technology concerning cyborgs.

To summarize, the goals of this thesis is to 1. explain and discuss the cyborg as well as digital philosophical theories from posthumanism and transhumanism, then 2. use the typologies from digital philosophy as tools to analyze works of science fiction, to 3. identify and discuss potential consequences of future cyborg implementation, and 4. through this display the importance of science fiction as a means to visualize concepts from philosophy and theories as to what the future might look like.

## **Theoretical foundation**

This thesis will first explain the history of various cyborg terms and discuss some of the different definitions of the term and underlying representations before concluding with a definition that will be used throughout the rest of the thesis. Defining the cyborg is essential, as the cyborg is the central theme to be discussed and which will be relevant for all the following aspects.

Thereafter the thesis moves on to digital philosophy to look at possible ways of realizing the cyborg and implementing this combination of man and machine into our lives, the potential future era in which humans may not be mere biological beings. The first chapter on digital philosophy talks about different views on the umbrella term of posthumanism, explaining different ideas and perspectives. The second chapter further explores one of the ideas from the posthumanism chapter, transhumanism, to delve more into possible ways of turning humans into cyborgs. This chapter features conflicting views, the science fiction-esque theory of mind upload, and hopes of immortality.

Both the posthumanism chapter and the transhumanism chapter conclude with a table that summarizes different (and sometimes conflicting) views and ideas associated with each of the terms. The typology gathered from these tables will be used in the next part of the thesis as tools to analyze and discuss science fiction works.

## Science fiction

The typological analysis of posthumanism and transhumanism will be followed by a discussion of six science fiction films. Science fiction films can help visualize theories from digital culture and digital philosophy, introduce new perspectives, and make the theories seem closer to reality. The main works to be analyzed in-depth are *Metropolis* (Fritz Lang, 1927) and *Alita: Battle Angel* (Robert Rodriguez, 2019), focusing on the general changes to society caused by cyborg implementation. To cover other aspects of cyborg implementation, four shorter supplementary analyses will follow these two films. The four additional movies chosen for the supplementary analyses are *Minority Report* (Steven Spielberg, 2002), *Elysium* (Neill Blomkamp, 2013), *Replicas* (Jeffrey Nachmanoff, 2018), and *Advantageous* (Jennifer Phang, 2015). *Minority Report* and *Elysium* display ethical changes to society and touch upon surveillance and the topic of dystopias disguised as utopias. *Replicas* and *Advantageous* illustrate issues originating in the possibility of cyborg implementation on a more personal level, focusing on the idea of mind upload. The films will be analyzed with the intention of looking at the relationship between humans and technology, the representation of cyborgs, and the consequences of cyborg implementation.

These films show somewhat different perspectives of technology and the representation of cyborgs, focusing on different themes, e.g., identity, ethics, possibilities of future technologies, and worlds turned dystopian with the help of technology. They address both positive and negative consequences of implementing cyborg technology and new technology in general, and display multiple imaginations of cyborg technology. Even though cyborg technology means the combination of man and machine into one, both science and science fiction have various ideas as to how it could be done. All the films selected display different alternative futures for humanity and tend to construct dystopian worlds and display their takes on cyborgs.

*Metropolis*: The movie is considered a classic and has inspired many science fiction films that came after it. This film displays a machine based on a real human being's appearance, which imitates a human being very well and could thus be considered a cyborg.

*Alita: Battle Angel*: Released in 2019, it is the most recent film to be analyzed in this thesis. This film shows a world where cyborgs are just as normal as humans and is an excellent example of how cyborgs might bring changes to society.

*Minority Report*: The film features mutated humans called *precogs* who use their powers to foresee the future and prevent murders. The *precogs* are reminiscent of cyborg technology and raise several critical ethical questions.

*Elysium*: Shows the illusion of a utopian world where diseases no longer exist, and immortality is possible, but the world turns out closer to a dystopia upon closer inspection - with several ethical problems.

*Replicas*: A man loses his wife and children in a car crash, and uses technology to revive them. By extracting their memories, he can recreate them and thus revive them. Many ethical questions arise from his actions.

*Advantageous*: A woman uploads her mind into a machine to keep her job and give her daughter the best possible future. The film discusses interesting questions regarding identity and what it means to be human.

## **Robots and cyborgs**

The topic of robots is ubiquitous in both computer science and futuristic science fiction; Robots as toys, robots as storage workers, robots in factories, robots as pets and companions for the elderly, robots as chess masters - there are many different purpose robots. However, a goal for science seems to be to make a human robot, i.e., a cyborg - meaning not only a robot that can imitate and pose as a human being but a robot that is a combination of machine and human, a combination of biology and technology.

However, not all new technology is a step in the right direction, and it is not always simple to identify which are and which are not. Humanity and society may face many issues that have never been encountered before with future technologies such as cyborgs. In this paper, the goal is to review how both digital philosophies and works of science fiction envisage possible future issues linked with specific implementations of the cyborgs.

This thesis's ultimate goal is to discuss and assess these possible consequences of various cyborg implementations by discussing ethical and societal issues seen and identified through science fiction and literature. The thesis will discuss problems and concerns regarding future technologies displayed in science fiction, based on theoretical framework and typology from digital philosophy - with the main focus on posthumanisms and transhumanisms.

## **Methodology**

This thesis is carried out with the perspective of digital humanities. Rather than explaining specific and intricate aspects of technology in-depth, such as artificial intelligence, machine learning, biotechnology, and nanotechnology, this thesis focuses on societal aspects instead - e.g., ethical consequences, including questioning how technologies such as these affect our

lives. Discussing works of science fiction through the lens of digital philosophy and digital humanities has the potential to bring out an interesting perspective of analyzing the critical and creative role and function of science fiction when it comes to identifying possible consequences of cyborg implementations.

Artificial intelligence and science fiction are generally popular topics, and combinations of these two involve imagining an infinite variation of bridges between e.g., computer science and fiction, and technology and ethics. This thesis, it should be emphasized, privileges the philosophical aspects of digital philosophy in combination with a perspective from digital humanities. Opting for such a perspective involves focusing on consequences to society and human lives, rather than focusing on the technologies themselves. The endeavor is pragmatic, e.g., the goal of this thesis is not to decide whether future technologies are good or bad, or to set up the positive consequences against the negative, but to identify and discuss potential consequences as seen through selected works of science fiction.

Furthermore, having assessed the power of science fiction to raise crucial ethical issues, the next step is to identify and discuss possible consequences humanity could face if implementing cyborg technology in the near or distant future. Through this, we will foresee potential short-term and long-term consequences related to cyborg technology (and perhaps to other advanced future technologies) and highlight the importance of science fiction's role in visualizing the future.

This thesis mainly relies on two main research methods: desktop research for the theoretical and philosophical chapters, and film analyses for the chapters regarding the selected works of science fiction.

The theoretical part, meaning the chapters on cyborgs and digital philosophies, is based on desktop research using search terms relating to terms, e.g., cyborg, posthumanism, transhumanism, man and machine, cybernetic organism, and robot. Following the source search, the relevant selection of critical sources was guided by their potential to reflect the history of the key terms and representations linked with the theme of the cyborg and discussions of posthumanism and transhumanism. Rather than limiting the theoretical sources

to a few of the most widely cited authors such as Donna Haraway and N. Katherine Hayles, the review of the available corpus of critical works led to including lesser-known and not as widely cited authors as well. This will broaden the horizon and allow us to explore the diversity of terminological usages and associated interpretations. The tables at the end of the posthumanism and transhumanism chapters summarize such different views and ideas concerning each of the terms, and offer a tentative typology that will be used as a frame of reference for analyzing the selected science fiction films.

The three science fiction chapters consist of film analyses to help identify and discuss possible consequences of cyborg implementation but additionally rely on desktop research searching for the names of the films to find information on them. The films were chosen with these criteria in mind: they should feature at least one cyborg, have a cyborg as a major character or protagonist, and show the consequences of new technological advances.

*Metropolis* and *Alita: Battle Angel* were chosen together because they both work as societal critiques and offer a similar societal structure despite being released almost 100 years apart.

*Minority Report* and *Elysium* were analyzed together because they both focus on potential ethical problems regarding future technology where cyborgs play a major role in the plot and course of technology. *Replicas* and *Advantageous* were chosen because both films deal with ethical issues and other problems related to the life-saving technology of mind upload and show possible consequences of future technology on a more personal level.

# Cyborg

## History, definitions, and scientific theories

The following chapter will be about cyborgs in general, the history of cyborgs and how they will be defined in terms of this thesis. The chapter will also offer a look at how science has been looking at cyborgs from the term was coined in 1960 until today. The chapter will also explain some of the inspirations behind the term, and how and when the word originated.

The chapter will begin with laying a theoretical foundation for how one might define and think of cyborgs through the essay where the term first was taken into use, before moving on to a timeline of cyborg history. In other words, the chapter will begin with the article that first mentioned cyborgs, *Cyborgs and space* written by Manfred E. Clynes and Nathan S. Kline, published in 1960. After looking at what inspired the term and how it first was defined, other definitions will be discussed, including taking a look at Donna Haraway's highly influential essay, *A Cyborg Manifesto*. Finally, towards the end of the chapter, the definition of cyborgs for this thesis will be presented and explained in light of how cyborgs have been defined over time.

The idea of cyborgs has existed for many years with its current term, and for even longer without being called cyborgs. The concept of combining concepts has been around for a long time, and even though the technology needed for posthumanism and cyborgs to exist might not necessarily exist in itself yet, there are different ways to define cyborgs. According to some of the definitions of what a cyborg might be, humans are cyborgs already and possibly have been for centuries with add-ons such as prostheses.

In this chapter, several different definitions of the term will be discussed and compared in chronological order, taking a look at how the term has developed and evolved over time. This will be helpful towards the end of the chapter when deciding how the cyborg should be defined in terms of this thesis.



## **Cyborg origin**

Haraway's *A Cyborg Manifesto* is one of the most widely recognized articles regarding cyborgs. However, Haraway herself did not invent the term. The idea of cyborgs and the term itself had been invented years earlier and was not initially linked with feminism. In this part of the chapter, it is time to take a closer look at the origin of the cyborg term and look at what could have inspired its invention.

## **Cyborg - cybernetic organism**

The term *cyborg* was supposedly first used in the article *Cyborgs and space* by Manfred E. Clynes and Nathan S. Kline. The article was published in 1960 and contained the first official mention and definition of the word cyborg. This does not mean the idea of cyborgs (the combination of man and machine) did not exist before 1960, but it means that the first time the word cyborg was officially taken into use.

In the article, it is stated that “[t]he Cyborg deliberately incorporates exogenous components extending the self-regulatory control function of the organism in order to adapt it to new environments” (Clynes and Kline, 1960, p. 27). In other words, a cyborg is, according to Clynes and Kline, a being that is modified on purpose with the intention of adapting itself to new environments.

However, this article's definition of cyborgs is not meant in the way of combining man and machine into one being, but rather to give humans tools or extensions which makes them more adaptable to a new environment. This could be compared to both a human holding a useful tool or a human wearing a prosthesis to replace a lost limb. Cyborgs can be defined as merging man and machine into one, but can also, as stated by Clynes and Kline, be a normal human being with add-ons - i.e., a man wearing a prosthesis or a diver wearing an oxygen tank.

The main point of the article, as stated in the first paragraph, is that “[a]ltering man's bodily functions to meet the requirements of extraterrestrial environments would be more logical

than providing an earthly environment for him in space” (Clynes and Kline, 1960, p. 26). That means that in terms of this article, a cyborg is not just a human that has been altered to adapt to a new environment, but more specifically, a human that is being altered in order to survive in an extraterrestrial environment. The reason given by Clynes and Kline is that it would be better (and perhaps simpler) for man to adapt to space than for space to be adapted for man.

All in all, the concept of cyborgs is heavily based on space travel in this article. However, the general concept is still the same as Donna Haraway mentioned in her famous essay *A Cyborg Manifesto* (which will be discussed further on in this chapter): a cyborg is a human that has been combined with something non-living. Whether the combination becomes part of the human or is an extension of the human, and no matter the intended purposes and areas of use, it can still be considered a cyborg as the general idea is the same. Simultaneously, the term’s original definition could indicate that the term’s meaning has changed slightly over the years, despite the general concept remaining similar to the original definition.

Just like how Haraway’s essay’s themes make more sense if seen through a perspective of the time it was written, the same can be said about this article by Clynes and Kline. In both the United States of America and Europe, the Space Race was a major ongoing event when the article was written.

## **Cybernetics**

Cybernetics was first defined in the book *Cybernetics: or control and communication in the animal and the machine*. The book was written by Norbert Wiener and first published in 1948. In his book, Wiener states that “[w]e have decided to call the entire field of control and communication theory, whether in the machine or in the animal, by the name *cybernetics*” (Wiener, 1948, p. 11). In other words, the term cybernetics is about the theories of control and communication, regardless of whether it is a living being or a machine.

Cyborgs can be considered a natural step after cybernetics, seeing as the word cyborg was made up of the two words cybernetics and organism. Cybernetics is about control and communication, no matter if it is about a machine or an organism. Simultaneously, the cyborg term takes this a step further by wanting to combine the machine and organism into one being. Both cybernetics and cyborgs can also be connected to *posthumanism* - a human state that involves humans being more than just humans.

In her book *How we became posthuman*, N. Katherine Hayles talks quite a bit about cyborgs and cybernetics, and connects the two ideas together. “Fusing cybernetic device and biological organism, the cyborg violates the human/machine distinction; replacing cognition with neural feedback, it challenges the human-animal difference; explaining the behavior of thermostats and people through theories of feedback, hierarchical structure, and control, it erases the animate/inanimate distinction” (Hayles, 1999, p. 84). Hayles shows how the idea of cybernetics incorporates part of the concept of what a cyborg is and which thus makes it likely that without the notion of cybernetics, the term cyborg might not have been invented either. This shows the importance of cybernetics in terms of cyborg theory. Even though the idea of combining man and machine existed before the term of cyborgs, the term cyborg is not as likely to have been invented without cybernetics existing beforehand, as part of the word originates from the cybernetics term.

## **A Cyborg Manifesto**

*A Cyborg Manifesto* by Donna Haraway was first published in the 1980s. Although the term had existed for over 20 years at the time, Donna Haraway indeed wrote the essay which got the cyborg term more widely recognized, and which influenced many later books and articles. Haraway’s essay could be considered as one of the most famous scientific essays concerning cyborgs and remains one of the most central readings regarding the idea of cyborg technology.

Haraway defines cyborgs early on in her essay by writing that “[a] cyborg is a cybernetic organism, a hybrid of machine and organism, a creature of social reality as well as a creature

of fiction” (Haraway, 1991, p. 149). This is how Haraway introduces the term cyborg in her iconic essay. The idea of cyborgs can be hard to grasp, seeing as the definition of the term, according to Haraway, consists of contradictions; machine and organism, reality and fiction. On the other hand, we already have existing examples of machine and organism combined into one. However, the idea of cyborgs has been discussed in science for many years, while there are still arguments whether humans have been cyborgs for centuries already or will not be for centuries still. Therefore, Haraway’s definition of a cyborg may be making sense despite the contradictions it might contain.

It is also important to note that Haraway creates a link between cyborg and feminism as well as gender, for example, by stating that “[t]he cyborg is a matter of fiction and lived experience that changes what counts as women's experience in the late twentieth century” (Haraway, 1991, p. 149). The feminist and gender aspect of cyborgs as presented by Haraway in *A Cyborg Manifesto* might prove irrelevant for this thesis but is still important to address as it is an essential theme in Haraway’s highly influential essay.

Furthermore, it is stated in *A Cyborg Manifesto* that “[b]y the late twentieth century, our time, a mythic time, we are all chimeras, theorized and fabricated hybrids of machine and organism; in short, we are cyborgs” (Haraway, 1991, p. 150). In other words, Haraway said in her definition of cyborgs a page earlier that cyborgs are fiction, but now claims that cyborgs indeed do exist - because humans already are cyborgs. Her claim of cyborgs already existing indicates how cyborgs can be defined differently, as others think of cyborgs as highly advanced technology that so far only exists in science fiction. It would even appear that there is possible for more than one different definition to be valid and co-exist, as Haraway both writes that we are cyborgs and that cyborgs are only imagination in the very same essay. This could make sense, considering that cyborgs can be defined in different ways and seen through different perspectives.

The fact that Haraway talks about gender and feminism, as well as cyborgs in her essay, may seem more logical if seen through a perspective of the time period it was written. Considering the society and culture in the Western world during the 1970s and -80s, it was generally more accepted to display identity more freely. Examples of this could be the feminism Haraway

writes about, but also hippie culture, LGBT, and other movements that emerged in the years before she wrote her essay. If seeing Haraway's essay through the lens of the time period it was written, the connection of cyborgs to feminism and gender makes more sense, and it may be simpler to understand why she is building a bridge between feminism, gender, and cyborgs.

## **Re-actualizing Haraway**

Since Haraway's essay was published, many articles and books citing and discussing the essay have been written. There is no reason to question the influence *A Cyborg Manifesto* has had, and still has, on the theories of cyborg technology. In the following, one of these will be addressed and discussed. Through one of the books, the view on cyborgs could be different or similar - or both. Maybe the definition will be somewhat different from Haraway's, or perhaps it will be similar with a twist.

### **Cyborg Selves**

One of the books in which *A Cyborg Manifesto* is being discussed is *Cyborg Selves: A Theological Anthropology of the Posthuman* by Jeanine Thweatt-Bates, published in 2016. The first chapter of this book is called *The Cyborg Manifesto*. This explains Haraway's famous essay and how it can be linked to posthumanism, which can be considered the book's main topic. In other words, the book makes a case for the reader about how cyborgs and posthumanism are highly relevant to each other and shows how cyborgs could be part of posthumanism theories.

In the part about Haraway's essay, it is stated that "Haraway's landmark essay, "A Cyborg Manifesto," has become a reference point for discussions of the posthuman" (Thweatt-Bates, 2016, p. 15). This works as a bridge between Haraway's essay and posthumanism, underlines her essay's significance and importance, and indicates how influential *A Cyborg Manifesto* has been for others.

Thweatt-Bates also offers a definition of what a cyborg is, which is rather similar to the definition of Haraway's. "A cyborg is a hybrid figure: neither wholly organic nor solely mechanical, the cyborg is both simultaneously, straddling these taken-for-granted ontological and social categories. It is this hybrid aspect of cyborg existence that holds simultaneously so much threat and promise" (Thweatt-Bates, 2016, p. 16). In other words, the definition is similar to Haraway's, except perhaps not focusing on the aspect of feminism's role and neither giving it the same vital part in the cyborg theory. The quote explains that a cyborg is the combining of organism and machine into one, and views this as both a promise and a threat at the same time.

The author also mentions when the term cyborg supposedly was taken into use, and by whom - as mentioned earlier in this chapter. "The term "cyborg" was coined in 1960 by Manfred Clynes and Nathan Kline, to refer to their concept of a mechanically enchanted or altered human being who could survive extraterrestrial environments" (Thweatt-Bates, 2016, p. 18). This reminds us that a cyborg was initially meant to be a human being with mechanical alterations, which could be declared similar to Haraway's definition, except that their sole purpose is to survive in extraterrestrial environments. This could indicate that the scientific theory of cyborgs can be linked to science fiction from the very beginning, as the term extraterrestrial is usually strongly connected with science fiction.

Thweatt-Bates also quotes Haraway saying that "[c]yborgs are not about the Machine and the Human, as if such Things and Subjects universally existed. Instead, cyborgs are about specific machines and people in interaction" (Thweatt-Bates, 2016, p. 36). This is an important distinction, which displays that Haraway might think of cyborgs just as much as the interaction between man and machine, as the combination of them into one. If one is to define cyborgs as purely the interaction between humans and machines, as Haraway is quoted mentioning, it makes more sense that she also has stated that "we are cyborgs" (Haraway, 1991, p. 150).

## Cyborgs after Haraway

Haraway's essay *A Cyborg Manifesto* has been regarded as one of the most influential works on cyborgs, and after her essay was published, the topic of cyborgs became more widely recognized. In this part of the chapter, some of the definitions of the cyborg term from books and articles written after Haraway's essay will be discussed. The intention is to discover if their definitions are similar to Haraway's and each other's definitions or whether some definitions appear different.

### How we became posthuman

In her book *How we became posthuman* (as briefly quoted earlier), N. Katherine Hayles talks about the idea of cyborgs. Already in the book's prologue, Hayles writes something rather important in the form of a few questions. "Why does gender appear in this primal scene of humans meeting their evolutionary successors, intelligent machines? What do gendered bodies have to do with the erasure of embodiment and the subsequent merging of machine and human intelligence in the figure of the cyborg?" (Hayles, 1999, p. xii).

Hayles' questions are essential for more than one reason. First of all, Hayles gives the reader her definition of the term cyborg, even though her definition does not stand out when she states that a cyborg consists of a machine and a man merged together. Secondly, Hayles wonders why gender is relevant for machines and also for cyborgs. This is perhaps where it becomes interesting. Haraway blends, as mentioned earlier, the term cyborg together with feminism and gender, and can be seen as one of the most influential texts on cyborgs to date. At the same time, Hayles seems to doubt whether gender is relevant for the cyborg.

In terms of defining cyborgs, Haraway and Hayles mostly seem to agree, yet when it comes to the relevance of gender, Hayles seems a bit critical. Hayles does not mention Haraway at this point in the book, but seeing as Haraway is mentioned several times throughout the book, it seems unlikely Hayles would not have thought of the connection herself when she writes about cyborg and gender in the same sentence. This does not necessarily indicate that Hayles is discrediting Haraway by any means. Still, Hayles' questions may be interpreted as

expressing a certain degree of criticism, or perhaps rather skepticism, towards the centrality of gender in cyborg theory.

### **The cyborg experiments**

In the book *The cyborg experiments: the extensions of the body in the media age*, the cyborg term is explored by several different authors. One of the chapters, *The Human/Not Human in the Work of Orlan and Stelarc*, written by Julie Clarke, offers an interesting view of cyborg technology. “The cyborg body, as part human, part machine, exhibits both fragility and strength. The monstrous prosthetic attachments that characterize the cyborg are often conflated with the rather benign prosthetic limbs allocated to amputees; and the presence of the prosthetic as a distinctly different material to the human body represents the loss not only of the body but also of the self, while simultaneously marking the site of the absent wound” (Clarke, 2002, p. 36).

Clarke, too, believes that a cyborg is a being that is part machine and part human - just as explained by Hayles and Haraway, and by Clynes and Kline. However, Clarke also explains how cyborgs have both positive and negative sides. In addition, Clarke writes about prostheses, which, similarly to cybernetics, can be seen as inspiration behind the term cyborg. When Clynes and Kline coined the cyborg term, the cyborg did not necessarily have to be merged together as the cyborg was seen more like a human with add-ons that made the person adaptable to survive in space. In other words, a cyborg does not necessarily have to be a human and machine permanently fused together into one being where both parts rely on the other permanently - i.e., how the human would only need Clynes and Kline’s cyborg add-on in space and not on Earth. Therefore, prostheses could also be considered vital for the history and origin of the cyborg term, and as told by Clarke, this could also highlight a weakness in cyborgs as opposed to them being the perfect next step in human evolution.



## Keep Calm and Remain Human

Wells (2014) offers another perspective on what a cyborg is. The author states that “[t]he cyborg is a hybrid of organism and technology that augments the organism with capabilities (extended or new), which provide the cyborg with otherwise unattainable affordances” (Wells, 2014). This definition is much similar to those of Clynes and Kline, and Haraway. We have a hybrid of organism/human and machine/technology in all of these definitions, if for now overlooking their additional themes of feminism and space travel.

However, this article also offers a rather radical perspective on how the cyborg term could be defined. “African modern *Homo sapiens*, with fully developed symbolically artistic and mundane technological dependencies, and with cognitive structures and social behaviors that facilitated the development of new symbol sets and technological experimentation, were already cyborgs in my estimation” (Wells, 2014). In other words, the article offers a point of view where humans not only are cyborgs today but have been so for a very long time, since humans first started developing the first tools (e.g., axes) as a technology to improve their lives. This is somewhat reminiscent of what Haraway wrote in *A Cyborg Manifesto*, “we are cyborgs” (Haraway, 1991, p. 150), but with an in-depth explanation that goes further back in history, by stating humans have been cyborgs for an extended period rather than just recently becoming cyborgs.

Even though it seems there is an agreement as to what a cyborg is in terms of being a combination of organism and technology, regardless of the context (i.e., feminism or space travel), there might be a difference. The difference is whether humans just might *become* cyborgs one day as part of the post-humanism, or whether humans are and always have been cyborgs. This perspective is vital to take notice of, as it can make a difference to what could be considered a cyborg. There is a difference in definitions regarding whether cyborgs have existed for a long time or currently only belong to the future. The difference mainly comes from how one interprets the combination of machine and organism, and how interconnected the two have to be considered a cyborg.

## **Cyborg - feminism or space travel, futuristic or realistic?**

Throughout this chapter, the word cyborg has been defined several times by different people. Most of these definitions are similar to each other, and appear to include a combination of man and machine, even though they can be interpreted in different ways.

The first definition in 1960, by Clynes and Kline, was about how humankind should adapt to the conditions in outer space by wearing add-ons, rather than for space to adapt to man.

Haraway decided to leave out space and instead write about feminism. Other authors write about cyborgs alone or link them with posthumanism theories. Either way, they all seem to agree that a cyborg is a combination of man and machine.

However, it is essential to remember that combining man and machine can be interpreted in radically different ways that are hardly compatible with each other. Some definitions indicate a belief that this combination can be a human with an add-on, like a prosthesis or even eyeglasses - meaning humans have been cyborgs for centuries already. Others think of cyborgs as more advanced beings in terms of posthumanism, where a human could be both a machine and an organism at the same time. This makes a difference as to whether humans have been cyborgs for centuries in the past and could be considered cyborgs today, or whether cyborgs should be linked with posthumanism and may only exist in the future, currently belonging to futuristic ideas and science fiction. It could prove difficult to decide which one should be the correct definition, and whether one should be regarded as more valid than the other. One of the reasons is that Clynes and Kline's original meaning of the word from 1960 did not necessarily intend for cyborgs to only belong to the perhaps distant future, but rather at the time being, in terms of astronauts going to space needing add-ons for survival there.

### **Cyborg definition**

This thesis will define a cyborg as a combination of man and machine, whereas the cyborg's potential surpasses what a pure biological human is capable of, thanks to advanced technology. A human with a prosthesis can be a cyborg, but only if the prosthesis works as an

upgrade in terms of a biological human's body part, and not only as a replacement, e.g., of a lost limb. The merging of technologies and real-world bodyminds should be clearly augmentative to qualify for the term cyborg.

# Posthumanism

## The relationship between posthumanism and cyborgs

Posthumanism is a concept that can be defined in several different ways, and the meaning of the term could change depending on the various aspects of the term. In this chapter, some of the definitions will be explained and discussed, as well as the history of the word itself and its original meaning. This chapter will look at posthumanism in general but mainly focus on the aspects of relevance to cyborg theories. Towards the end of the chapter, the term will be put into perspective and discussed in connection with the previous chapter on cyborgs.

In the previous chapter, the cyborg term was explained, and the term's history was explored and put into perspective through the lens of historical context. In this chapter, the goal is to build a bridge between cyborgs and posthumanism in order to situate the idea of cyborgs in a wider framework. Quite importantly, the following discussions will also serve the purpose of pinpointing the centrality of posthumanism, and not only transhumanism (to be addressed in another chapter), when it comes to the idea of cyborgs.

Cyborgs are, as stated in the previous chapter, humans who have been improved and augmented by advanced technology. A combination of man and machine, where some believe it could be a human with an add-on and others believe the cyborg to be an advanced being that is part human and part intelligent machine in an inseparable combination.

Posthumanism is a possible explanation for what could happen when humans become more than merely biological beings, i.e., using non-biological components to further evolve and improve upon the human race. There are many variants of the term and many explanations of how it might be in practice. This chapter will focus on the connections between posthumanism and cyborgs, building a bridge between the terms in hopes of looking more at the big picture and creating an understanding of why these terms are important to discuss when it comes to the future of the human race. Posthumanism is a name for the idea of a further evolution from being just humans, that works as an umbrella term with many variations of it existing - where some of them even contradict each other. One of the most

commented variations is transhumanism, which has a more explicit focus on the importance of advanced technology with ideas such as mind upload.

The future of the human race might be unpredictable. However, there is no denying that technology is being developed and evolved at a fast pace. The development is fast-paced, where it is doubtful whether other important factors such as ethics, security, or what is best for human lives, can genuinely be taken into consideration. This may raise concerns regarding the future and whether the new technology will improve human lives if the risks regarding this technology are unknown. In this chapter, we will look into some of the concerns related to posthumanism in preparation for the next part of the thesis, where literature on posthumanism, cyborgs, and transhumanism (explored more in the next chapter), will lay the foundation for a discussion of how science fiction predicts the future could be like.

### **Posthumans - more than just humans**

Posthumanism is what comes after humanism when humans are more than just mere human beings, whether they have been permanently physically fused together with a machine or not. An example of this could, as mentioned above, be the cyborgs discussed in the previous chapter. Since posthumanism originated in the early 1970s, the term has been expanded upon and is now said to have several different definitions all at once. According to Ferrando, ““Posthuman” has become an umbrella term to refer to a variety of different movements and schools of thought” (2013, p. 26). It has become a jungle of different ideas and thoughts collected under the umbrella term of posthuman, all involving different suggestions as to what could be the next evolutionary step for humans, making it rather challenging to navigate and understand.

## **Becoming posthuman**

In her book *How We Became Posthuman: Virtual bodies in cybernetics, literature, and informatics*, N. Katherine Hayles offered a systematic discussion of the implication of posthumanism, presented an in-depth exploration of virtual bodies, and, most relevantly to the present work, addressed the theme of the cyborg. Therefore, this book is essential for this chapter and a natural starting point for discussing the relationship between posthumanism and cyborgs.

### **Cyborgs and posthumanism**

Hayles writes that “it is important to recognize that the construction of the posthuman does not require the subject to be a literal cyborg. Whether or not interventions have been made on the body, new models of subjectivity emerging from such fields as cognitive science and artificial life imply that even a biologically unaltered *Homo sapiens* counts as posthuman” (1999, p. 4). Much can be gathered from this quote, which delimitates rather sharply the boundary between posthumanism and transhumanism. Most interestingly, Hayles states that cyborgs could be an integral part of the posthuman condition and thus creates a link between cyborgs and posthumanism. However, Hayles also states that the posthuman condition (‘posthumans’) would not necessarily be synonymous with being a technologically altered augmented human. Even though the first part is essential for this chapter, the link between cyborgs and posthumanism, it is important to acknowledge that not all forms of or views on posthumanism include cyborg theory. This is why the next chapter will focus on transhumanism, to explore further the theories from digital philosophy concerning cyborgs.

According to Hayles, humans have entered the time period of posthumanism already. She states that “[a]s you gaze at the flickering signifiers scrolling down the computer screens, no matter what identifications you assign to the embodied entities that you cannot see, you have already become posthuman” (1999, p. xiv). This means that, because of where humans are today in terms of science and technology (i.e., machine learning, artificial intelligence, or even medicine), Hayles considers the posthuman time period to have already begun. It also means that humans do not need to be physically fused together with a machine (i.e., a cyborg)

to be considered posthuman, as Hayles states that interacting with the advanced technology today in the way humans do is enough to be considered posthuman. As Hayles puts it in her book, “even a biologically unaltered *Homo sapiens* counts as posthuman” (1999, p. 4) - which can be linked to how Haraway sees cyborgs or even the original meaning of the cyborg term.

At the same time, Hayles claims that humans alive today are cyborgs. In her book, she states that “[c]yborgs actually exist. About 10 percent of the current U.S. population are estimated to be cyborgs in the technical sense, including people with electronic pacemakers, artificial joints, drug-implant systems, implanted corneal lenses, and artificial skin” (1999, p. 115). In other words, Hayles believes a cyborg is a combination of man and machine, but whereas the combinations do not have to be more technologically or scientifically advanced than the technology that already exists today is. This is interesting to note, as this means that Hayles believes that humans today are posthuman and that cyborgs do exist to such a degree that one in ten Americans today could and should be considered cyborgs. In a way, this also causes Hayles’ argumentation to have a sense of circularity to it; even though this may not necessarily discredit her point of view, it is important to notice.

Hayles’ view on what it means to be posthuman is exposed in-depth and consists of four points, whereas the fourth is, according to Hayles herself, the most important. The fourth point states that “the posthuman view configures human being so that it can be seamlessly articulated with intelligent machines. 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“ (1999, p. 3). This suggests another clear link between cyborg theory and posthumanism, as posthumanism views humans that are not only combined with intelligent machines - but seamlessly combined, meaning the human part and machine part of the human being should be inseparable. In other words, even if Hayles asserts that some humans today could be considered cyborgs, she also seems to believe that cyborgs of the future will be more technologically advanced than those of today.

Hayles' more comprehensive approach to cyborgs may be interpreted in such a way that some humans have started the transition from human to cyborg. However, they could be considered to constitute more an early prototype than a fully realized actual cyborg in terms of what cyborgs are expected to be like in the future. However, even if humans have just started transitioning and are mere prototypes of cyborgs, that could still mean Hayles is right in saying posthumanism is now.

Furthermore, Hayles attempts to explain what it would mean for humans to become posthuman precisely. She states that "becoming a posthuman means much more than having prosthetic devices grafted onto one's body. It means envisioning humans as information-processing machines with fundamental similarities to other kinds of information-processing machines, especially intelligent computers" (1999, p. 246). Becoming posthuman is not just about cyborgs and combining a human with a machine; it is also about seeing humans as both a human and a machine at the same time - and about comparing this being with intelligent machines. In other words, posthuman does not necessarily just mean a human with an add-on such as a prosthesis because there would be no enhancement of intelligence involved. This can be compared to how a cyborg is defined in this thesis, as explained in the previous chapter. Posthumanism is not necessarily just about improving human beings (this, however, might be the case in transhumanism) or even altering human biology; it is about humans and intelligent machines - together as one, inseparable as one being. In a way, perhaps one could say that posthumanism is all about humans being more than just mere humans while still attempting to hold on to what it means to be human.

Towards the end of her book, Hayles seems to express concern over the posthuman future that may lie ahead by stating that the prefix "'Post," with its dual connotation of superseding the human and coming after it, hints that the days of "the human" may be numbered" (1999, p. 283). Hayles here explains how going beyond human might number the days of the human race. She further elaborates on this by writing that "not only in a general intellectual sense that displaces one interpretation of "human" with another but also in a more disturbingly literal sense that envisions humans displaced as the dominant form of life on the planet by intelligent machines" (1999, p. 283). From this, it can be gathered that humans may no longer serve as the world's dominant species if humans become posthuman with help from



intelligent machines. This could mean that machines would take over the world, thus leaving less need for human beings to survive and not go extinct. In other words, posthumanism could be a way to further develop and evolve humans for the better, but it could also be a cause of worry in terms of the future of the human race and even source doomsday predictions.

Hayles, later on, takes a step further and goes as far as stating that “posthuman is likely to be seen as antihuman” (1999, p. 286). This further indicates a concern about whether posthumanism is a desirable future for humans. However, just a few sentences later, she explains that “the posthuman does not really mean the end of humanity [...] What is lethal is not the posthuman as such but the grafting of the posthuman onto a liberal humanist view of the self” (1999, p. 286-287). Perhaps Hayles does not believe posthumanism will be the end of the human race, but merely the end of humans from a traditional point of view, and the end of how one views and constructs the self today. Nevertheless, it does seem that Hayles believes there is a reason to be concerned about the posthuman area as well as excited, as it does come with its own issues as to how life will be when humans and machines are one being.

According to Hayles, whether posthumanism should be seen as a good or a bad step for the future of humanity depends on one's perspective. “Although some current versions of the posthuman point toward the antihuman and the apocalyptic, we can craft others that will be conducive to the long-range survival of humans and of the other life-forms, biological and artificial, with whom we share the planet and ourselves” (Hayles, 1999, p. 291). This can be applied to several different technologies, both newly invented and those which humans are yet to invent. Whether posthumanism, or cyborgs for that matter, should be seen as antihuman and apocalyptic, or whether it should be seen as something that prolongs the life of the human race, depends on how the technology will be executed and used. As long as the technology making cyborgs a possibility has yet to exist, it can and will prove challenging to determine whether merging purely biological human beings with intelligent machines would prolong or shorten the human race's longevity. Part of the reasoning behind this is that there is a degree of uncertainty regarding how it should be done, with what intention and purpose, and how it would impact human lives.

## **Human + machine = posthuman?**

As discussed earlier, Hayles believes that the posthuman era is upon us already. Even though her view on cyborgs might describe a prototype rather than an actual cyborg, it is an interesting fact that technology is becoming a vital part of our lives in so many different ways. There are endless indicators that the relationship between humans and machines have become ubiquitous, and the importance of technology in society will only continue to grow.

Even though Hayles makes it clear that the posthuman can be a biologically unaltered human in interaction with machines, humans continue to interact and engage with technology in new ways on a regular basis. Therefore the idea of letting the machine become a permanent part of the body may not be a far-off distant thought, especially as machines grow even more intelligent. In other words, cyborgs may become a part of what it means to be posthuman - and according to Hayles, an increasing number of the world's population could be considered cyborgs already.

## **Posthumanism as an umbrella term**

According to Francesca Ferrando, "'Posthuman' has become an umbrella term to refer to a variety of different movements and schools of thought" (Ferrando, 2013, p. 26). In other words, posthuman does not just refer to one single, specific idea. In contrast to Hayles, Ferrando believes the term has at least seven definitions and therefore has become an umbrella term.

The article begins with an introduction, where Ferrando, first of all, explains that "'posthuman' has become a key term to cope with an urgency for the integral redefinition of the notion of the human" (2013, p. 26). This may indicate the reason of origin for the term posthuman or posthumanism - a need to redefine what it means to be human. Ferrando's explanation makes sense as intelligent machines become more and more intelligent parallelly with the machines making an increasingly significant and vital impact on our lives. Humans may still be just humans, but which at an increasing level continue to find new ways to interact with machines. The machines play an unmistakably ubiquitous part in our lives,

becoming a part of us in many different ways - and therefore, it could make sense that man and machine will become one in the future. If that is the case, then Ferrando may very well be onto something in stating that what it means to be human is to be reinvented - thus the need for the term posthumanism.

Ferrando states in her article that “[h]uman enhancement is a crucial notion to the transhumanist reflection” (2013, p. 27), and interestingly mentions the notion of mind upload. This is interesting as mind upload is seen as one of the (perhaps science fiction inspired) ideas as to how to turn humans into cyborgs; by uploading the human brain into a machine body. It could also be an indication that perhaps transhumanism has a view on technology that is more closely fitting to the idea of cyborgs than the one of posthumanism.

Another important point made by Ferrando in her article is that “Posthumanism is a post-centralizing, in the sense that it recognizes not one but many specific centers of interest; it dismisses the centrality of the center in its singular form, both in hegemonic as in its resistant modes” (2013, p. 30). Hayles wrote about how posthumanism, and perhaps the combination of man and machine, could potentially pose a threat to the human race in terms of humans not being the superior species anymore. If interpreting this quote by Ferrando through the same perspective, it becomes apparent that posthumanism does not centralize the human (or any other species). This could indicate that the human race will take on a less critical role in the future, even if it does not necessarily mean that intelligent machines would take over the world or become superior to humans. Whether this, as suggested by Hayles, leads to doomsday for the human race as ‘humans‘ may become superfluous when compared to intelligent machines would be difficult to conclude, but it might justify the concerns she expressed and the questions raised.

The post-centralization of humans appears to be an essential factor in terms of antihumanism. While antihumanism is about decreasing the importance of or even doing away with what is assumed to be humans and human lives, the concept of post-centralization is harder to grasp. Humans throughout thousands of years have regarded themselves as a race of much greater importance than any other species, yet Ferrando writes about a world where such preeminence no longer exists - perhaps will intelligent machines contribute to equality in a

sense no human thought possible. Ferrando does, however, seem to express somewhat of skepticism towards whether this would be a positive change in the lives of humans as it could be considered antihuman - and may make the human race somewhat superfluous compared to the intelligent machines. Antihumanism will be a central theme later on in this thesis when discussing works of science fiction.

In summary, despite Ferrando's expressed concerns, she also described some of the rather positive sides of posthumanism. One of the positive sides, underscored by Ferrando, regards the possibilities for humans as posthumans. "Posthumanism is a philosophy which provides a suitable way of departure to think in relational and multi-layered ways, expanding the focus to the non-human realm in post-dualistic, post-hierarchical modes, thus allowing one to envision post-human futures which will radically stretch the boundaries of human imagination." (Ferrando, 2013, p. 30). In other words, Ferrando believes that posthumanism will provide humans with a future that will expand upon and challenge human imagination. This indicates that perhaps the future of humans will be far more than anyone today can imagine, and that in the most positive of ways. With how technology is moving forward, and new ways to interact with technology seem to be introduced relatively often - even as parts of our bodies, there is no need to question whether this will continue on into the future. However, it becomes apparent that there are different opinions regarding whether this is for the human species' best interest and longevity.

### **Philosophical jungle**

Posthumanism may be viewed as a philosophical way of conceiving a human future, where humans no longer are just mere original humans. This could involve humans in interaction or combination with intelligent machines, where cyborgs could be an example of what it could mean to be posthuman. Posthumanism was invented due to how humans seem to - and are likely to continue to - find new ways to interact with and become increasingly dependent on technology, and thus some saw a need to reinvent what it means to be human.

According to Francesca Ferrando, the term posthumanism has become somewhat of an umbrella term representing several different ideas and views (and which has at least seven definitions to it). Hayles, on the other hand, chose to focus on and explain posthumanism itself rather than look at all the terms under the posthuman umbrella.

Posthumanism is usually seen as humans benefiting from interacting with an intelligent machine to such a degree that the machine might become a part of us. As stated by Hayles, the human could be posthuman while remaining an unaltered, biological human being. However, it would appear that the main focus might lie on the combination of man and machine into e.g., cyborgs and merging machines with biology.

There are several risks included in letting intelligent machines merge together with humans, as mentioned by both Ferrando and Hayles. Ferrando talks about post-centralization and antihumanism, while Hayles expresses concerns regarding humans' importance if machines become superior. If looking at these two together, it would appear that even though some may find posthumanism the most natural step of succession for humankind, there are definitely issues that need to be addressed.

However, these issues may prove difficult to discuss. A reason why could be that uncertainty exists regarding how humans will be or become posthuman, why and with which intentions, and how this would impact the lives of humans. As looked at by Ferrando, it seems that there is much debate regarding the future and whether posthumanism is a step in the right direction. Despite this, both Hayles and Ferrando seem to see great potential in posthumanism, and that if executed the right way, the worries of antihumanism and fear of decreasing human importance will not be relevant.

Ferrando does not mention cyborgs as much as Hayles does. However, while writing about transhumanism, Ferrando does mention several technologies, including mind upload. As mentioned above, mind upload is a futuristic and perhaps somewhat science fiction inspired idea, which could serve as one of the possible ways of creating cyborgs in the future. This means that both Hayles and Ferrando seem to believe that cyborgs could be part of what it would mean to be posthuman sometime in the future. This means that transhumanism

believes cyborg-realization technologies to be more critical - and perhaps even necessary, while posthumanism instead sees cyborgs as a possibility rather than a necessity. In a way, transhumanism takes the hopes of technological advancement one step further than what posthumanism does and seems to possibly gather ideas similar to those of science fiction works (which will be analyzed and discussed in the next chapter). Additionally, some posthumanists believe we have always been cyborgs, while transhumanism views cyborgs as an advanced technological being of the future.

Posthumanism is important for cyborgs as it explains how the invention and implementation of cyborgs could further utilize machine intelligence and bioengineering to enhance human potential further. A possibility defended by Hayles and discussed above, is that the posthumanist condition could apply to biologically unaltered humans (posthumans do not need to be cyborgs). Additionally, there is also little doubt that humans look more and more for new ways to interact with and become one with machines, both logical engines (e.g., artificial intelligence) and biomachines. Therefore, cyborgs could be seen as part of the posthumanism thoughts and ideas, and the next evolutionary step for the human race.

## **Opening the umbrella**

It is time to take a look at various interpretations of the word posthuman or posthumanism. This section will include different views on posthumanism written by other people, which will be explained, to be compared and discussed later. After this, the word posthuman will be defined in terms of this thesis, just as how the cyborg chapter ended with its own definition seen in the light of what was discovered throughout the chapter.

In *A Dictionary of Critical Theory*, Ian Buchanan views the term as “[t]he critical perspective that the age of humanism has come to an end. [...] the dividing line between human and non-human or animal is difficult to delineate in the first place and highly permeable too” (Buchanan, 2010, “Posthumanism”). Naturally, the age of humanism would end when the age of posthumanism arrives. The rest, too, sounds familiar and similar to the beliefs of Hayles and Ferrando. The dividing line, as Buchanan calls it, is highly likely to become even more

blurred in the times of posthumanism and can definitely be seen in relation to cyborgs (as well as Donna Haraway, which is mentioned by Buchanan himself in the definition itself).

Another way of explaining the term can be found in the book titled *What Is Posthumanism?* by Cary Wolfe. In this book, Wolfe states that “posthumanism in my sense isn’t posthuman at all - in the sense of being “after” our embodiment has transcended - but is only *posthumanist*, in the sense that it opposes the fantasies of disembodiment and autonomy, inherited by humanism itself” (Wolfe, 2009, p. xv). This is quite interesting, as Wolfe here separates posthumanism, posthuman, and posthumanist from each other. The quote can be interpreted as a way to underline the importance of humans while also disregarding the idea that disembodiment has to be the next evolutionary step for humans. Posthuman, perhaps, to Wolfe, is too much of a way of discarding what it means to be human (in the traditional sense) - and therefore has a preference towards the idea of posthumanism rather than becoming posthuman. It should be noted that Wolfe appears to agree with - and quote - Hayles a significant amount. Another interesting aspect is that Wolfe seems to relate somewhat to the skeptic aspects of Ferrando - even though his concerns may not be stated explicitly.

## **Closing the circle**

Throughout the chapter, several interpretations of the term posthuman have been explained and discussed. Haraway’s and Ferrando’s views were compared and contrasted, alongside other definitions of the posthuman term.

There is a strong link between cyborgs and posthumanism. They are both indications of what the human future could look like when humans will be more than just mere humans - and are likely to be a combination of man and machine. In a way, cyborgs are an example of what posthumanism (and even more so, transhumanism) could look like in practice. More specifically, it becomes clear how technological theories from transhumanism seem inspired by science fiction, i.e., mind upload - which will be looked at later on in the thesis, both in the transhumanism chapter and when analyzing works of science fiction.

The definition of posthumanism adopted in this thesis will be the following: Posthumanism is what will happen when humans are so dependent on machines that they become a part of what it means to be human. The machines do not need to become a permanent, inseparable part of the human body physically for this to happen, as noted by Hayles. However, in transhumanism, there is more weight on how the machine will become a part of the human in every possible way. This means that posthumanism could mean cyborgs, but it does not have to. Transhumanism, which focuses on technology reminiscent of science fiction, is more likely to include cyborgs definitely. All in all, both transhumanism and posthumanism theories could lead to a future of humans and machines fused together as a cyborg.

The Table 1 below summarizes the various flavors of posthumanisms.

**Table 1 - Types of Posthumanism**

<b>Type</b>	<b>Description</b>
Philosophical posthumanism	The idea of a further evolution from being mere biological humans, which today works as an umbrella term with many variations of it existing.
Transhumanism-oriented posthumanism (technological focus)	Essentially, transhumanism advocates a more explicit focus (and more concrete ideas) on the importance of advanced technology, e.g., bioengineering, robotics, A.I., and genetic engineering, as compared with other variants of posthumanism.
Post-centralization posthumanism	An idea that in the future, humans will not stand as the central species on Earth. It borrows ideas from radical ecology and



	antipecism.
Antihumanist posthumanism	A view that goes against the traditional ideas about humans, e.g., enlightenment and theological views of what it is to be human. Relevant to the idea of post-centralization.
Metahumanist posthumanism	An attempt to build bridges between posthumanism and transhumanism, and possibly acknowledging the classical humanist heritage (e.g., enlightenment philosophy). It critiques some of the fundamentals of being human, similarly to antihumanism.

# **Transhumanism**

## **Conflicts and contradictions**

The previous chapter explored posthumanism and how it is an umbrella term with many variations, where some of them contradict each other. In this chapter, it is time to look at how diverse the term posthumanism can be by exploring various transhumanism interpretations and views. It is important to note that some authors tend to mix the two terms of posthumanism and transhumanism together, while some see transhumanism as a subcategory of posthumanism. Some posthumanist ideas tend to project a future where humans are more than just mere humans, while other posthumanist ideas explain how humans have been posthumans for a long time already. In other words, being posthuman does not necessarily have to involve the use of advanced technology merged with humans to create cyborgs; cyborgs are just one example of what the future could look like. In contrast, transhumanism often has advanced technology as a central focus, with ideas reminiscent of the ones found in science fiction, and views cyborgs as a possibility that currently belongs to the future.

This chapter will aim to explore transhumanism in contrast to posthumanism and in relation to cyborgs. The goal is to enhance further the diversity of the posthuman umbrella from the previous chapter and bring out the contradictions and tensions found within the world of digital philosophies relating to cyborgs. The chapter also aims to work as a bridge towards the next part of the thesis devoted to science fiction film analyses.

## **The importance of transhumanism**

The transhumanism ideas of today are ways of imagining the future of the human race. There are many reasons why the ideas are of importance; Newton Lee believes that “[T]he Internet is here to stay and technology continues to evolve. Therefore, human beings must also evolve to become smarter and wiser in order to keep up” (Lee, 2019, p. 6). No one can deny how technology rapidly evolves, but Lee expresses a concern that maybe humans soon cannot keep up. If this were to happen, it would make sense that merging humans and technology together, using the best of both worlds, would be a way to make humans smarter. However,

the problem is apparent: Technology evolves at an incredibly fast pace (and has done so for decades), but we do not yet have the technology needed to become cyborgs - and even if we did, how do we know whether that would be a step in the right direction? In this case, transhumanism would be both a blessing and a curse - a blessing because it provides a utopian solution and a curse because the solution is not possible in practice today. The technological future is coming towards humanity at full speed, but humanity might not be ready - which could turn the utopian idea into a dystopian world in practice. The solution to this, according to Lee, is that we will have to make ourselves ready by becoming transhuman. He does not mention the possibility of slowing down the technological evolution, which could imply that becoming transhuman is an evolutionary step he applauds.

Lee presents three views of possible scenarios for humanity that may underlie transhumanism visions. The first view considers recent technological developments as a fundamental threat against humanity and its environment and advocates returning to earlier stages of civilization in terms of technological advancements (mentioning the Amish lifestyle). The second view advocates continuing living as we do now despite “existential risks that may lead to human extinction” (Lee, p. 8). The third option is to transform humanity into what he refers to as “a technological brave new world of transhumanism.” In other words, Lee believes that we either have to move backward, stay still evolutionary-wise, or become transhuman. The way he presents these options, it is clear that he is certain transhumanism is the way to continue on - as the other options involve an old-fashioned or retrograde way of life or a way of living that comes with a risk of human extinction in his opinion. However, at least at this point, Lee offers no thought on how he imagines the world of transhumanism, which could indicate conflict and uncertainty when it comes to what it would look like.

Transhumanism is not necessarily a difficult word to define. Still, it can be a challenging concept to grasp because of the various themes and focuses - including contradictions and conflicts with each other. According to Natasha Vita-More, transhumanism is about “the conviction that the lifespan be extended, aging reversed, and that death should be optional rather than compulsory” (Vita-More, 2019, p. 49). Such a belief-based project is, indeed, revolutionary, as death is an inevitable event in the life of humans. Immortality has been something humanity has strived after throughout history, with countless myths surrounding

the possibility. However, in the world of transhumanism, the idea of immortality and optional death is discussed as a real possibility offered by revolutionary engineering. It is only logical that the term transhumanism can be challenging to understand thoroughly when the concept presents ideas that conflict with core ideas of biology where death is a certain event in every human life. This raises many questions regarding how transhumanism can promise immortality or a significant increase in the longevity of humans when state-of-the-art biology deems it impossible.

Vita-More, however, does offer some insight into what a transhumanism program could include. She states that “artificial intelligence be used to help improve human level decision-making, that nanotechnology resolve environmental hazards, that molecular manufacturing stop poverty, and that genetic engineering mitigate diseases” (p. 49). In other words, there are many aspects of our human lives that could be improved upon by technology. This is, of course, nothing new - even thousands of years ago, humans created tools to better their lives. What is different is that she speaks of tools that, as of today, are not powerful enough to do as she suggests - and still does not explain how humans will become immortal as transhumans.

Both with Vita-More and Lee, some of the same problems seem to occur - the fact that their ideas sound promising and perhaps even utopian, but they do not offer much insight into how exactly they would work in practice or how to bring them into our lives. They also seem to explain the importance of transhumanism differently. Lee believes transhumanism is necessary for the human race to keep up with technology and not go extinct. Vita-More, however, wishes for immortality and a utopian world. In a way, they could be seen as two different ways to voice the same opinion. Still, one could also say that Lee fears human extinction while Vita-More dreams of utopia through the use of technology - and thus, their beliefs contradict. Is transhumanism the only way for the human race to survive, or is it just another word for further improving human lives through a more advanced relationship between humans and technology?

## Issues

However, not all views and opinions regarding transhumanism are the same - or even remotely the same. People have conflicting ideas that contradict, and it could seem confusing or even frustrating that they are all gathered under one term - transhumanism.

Previously in this chapter, we have seen how views can both appear similar and at the same time contradict each other. It is now time to dive further into different thoughts and ideas by different people.

What is transhumanism? According to Kate Levchuk, transhumanism is “a philosophy for strong, happy and ambitious people who could not care less about what happens to their souls after their bodies turn to ashes” (2019, p. 77). This could be interpreted in many different ways. Levchuk could be meaning to say that transhumanism is a vision and a program for people who want to live longer lives than what humans today are biologically capable of. That said, transhumanism could also be interpreted as not being targeting everyone, as it is further supported by her claim that “[t]ranshumanism is not an ideology for poor, hopeless and depressed” (2019, p. 77). By stating this, she expresses a belief that transhumanism is not necessarily to be considered an evolutionary step for the human species. Because if so, it would be strange if only some humans were to evolve in that direction. Or is she suggesting that we split into two species, one remaining like today’s humans and the other one evolving into transhumans?

Either way, transhumanism, as suggested by Levchuk, will be something very different from the lives we are used to. Imagine a world where we are all cyborgs or, in other ways interacting with technology more advanced than the one science fiction dreams of today. Levchuk puts it this way: “Transhumanism is capable of shattering the very foundations our everyday reality is based upon” (Levchuk, 2019, p. 82). Transhumanism would change our lives in ways we could not imagine, but she also appears to express a concern that perhaps it is not a positive change.

## Consequences and conflicting views

So what could transhumanism lead to? Should the human race prepare for the doomsday that has been predicted so many times before, or will transhumanism only end our lives as we know them? “An ultimate end of such a materialistic Transhumanism realization will be a destroyed Planet which will be uninhabitable for both biologically immortal humans and newborn generations” (Levchuk, 2019, p. 86). This could be a frightening thought, that through transhumanism, the result could be an Earth that is no longer inhabitable. Science fiction has a long time ago come up with a solution - moving to another planet. That is beside the point, though, because what Levchuk first and foremost does here is express fear towards a possible consequence of transhumanism realization.

Other thoughts on transhumanism are more philosophical than the ideological views presented by Levchuk. Newton Lee, as quoted earlier, states that “transhumanism seeks to ask the right questions in order to discover the meaning of life and the purpose for living as individuals and in a society as a whole” (Lee, 2019, p. 321-322). This shows how several classical philosophical questions are expected, allegedly, to be answered through transhumanism - both whether immortality is possible and, if so how, and what the meaning of life is. Even though these two views do not directly contradict each other, they illustrate how people have different expectations and ideas of transhumanism that do not necessarily go together. E.g., Lee states that “transhumanism supports significant life extension and quality of life improvement achieved through the progress of science and technology” (Lee, 2019, p. 332). In other words, transhumanism could be imagined as a utopian idea of how humans will become immortal and discover the meaning of life.

Most transhumanist visions may be less ambitious than some of the radical and extreme views described above, e.g., as they conceive transhumanism as a novel way of improving human lives. “Transhumanists are *hyperhumanists*: human beings should have right to life and health without time limit if this becomes scientifically possible even if it is “unnatural”” (Coernelle, 2019, p. 462). It should be noted, nevertheless, that Coernelle also speaks of immortality. However, what is interesting here, is the contrast of how he believes humans should have the right to a life without a time limit, i.e., immortality - when currently a

human's death is the most certain event in their life. His statement contradicts human biology at the advantage of technological advancements, which seems to be the case for many transhumanist beliefs. Even though there are many variations of transhumanism, and some of them tend to contradict each other, they share ambitious expectations about the power of technology to bypass and surpass certain biological aspects of humanity.

Immortality is frequently viewed as possible, and the war against aging could end according to some transhumanists, with a radical enhancement of human longevity as seen above. Lee also believes in the possibility of eradicating diseases. Such visions and beliefs rest on various assumptions in the transforming power of science and technology, and moves transhumanism into what could be considered as pseudo-medicine and quasi-religion. Another less oniric aspect of transhumanism is the prospects of offering humans with disabilities new kinds of prostheses - not of the kind available today, but augmentative prostheses that make humans capable of performing things that regular (pure biological) humans are not capable of. The main focus here is to improve the body so that human lives could be prolonged and better their quality of life. As simply stated by Augilar, “[w]ith transhumanist technologies, we can improve our quality of life” (Augilar, 2019, p. 497). That statement might be accurate, but it relies heavily on the verb ‘can’ - because it implies a possibility, not a certainty, or any form of technical or scientific guarantee. Many of the transhumanistic views promote better lives for humans, but how can one be sure when the ideas of transhumanism would include and result in are so diverse - and even contradict each other?

The opposite of improving upon the human body through pseudo-medicine would be the direction of mind upload. Mind upload is one of several theories explaining how one could leave the human body behind because it is the soul that matters - reminiscent of spiritualistic representations of the self but from a more technological perspective. According to Ahamed, Madan, and Singh, mind upload could “have a potential to enhance human conditions in every possible way, even ending aging” (Ahamed, Madan, and Singh, 2019, p. 707). Naturally, if we no longer have physical, biological bodies that could fail us, that could end aging and lead to immortality. However, it would also potentially mean redefining what it means to be human and what a human is.

Furthermore, there is the idea of the processing mind, comparing the brain to a computer. This is even a further step in the technological direction away from the ideas of the self. Even though the ideas might seem similar, they also contradict because one has roots in philosophy and the other in science. However, the processing mind and mind upload are also quite different, as the latter may as well be more of an idea inspired by science fiction than a scientific theory. Besides, mind upload is more about saving the lives of those who are about to pass away or of someone who has already passed, bypassing or undoing death instead of preventing the possibility - providing the opportunity of life after death in an alternate life form.

Mind upload, processing mind, and the self could all be seen as the same basic idea: They all have the mind and the within as their focus. However, one sounds like a science fiction idea, the second a scientific idea, and the third a philosophical way of thinking. This separates them from each other and causes tension as well as contradictions. Like the biomedical ideas, one of the main goals is to achieve immortality - but by leaving the biological body behind instead of enhancing it. This creates a problem because would it matter that we could be immortal if we are no longer humans? Or do we redefine what a human is so that we can still be considered as such?

Likewise, the biomedical ideas have conflicts with immortality as well - because, e.g., the prosthesis aims to better the quality of life while immortality is about prolonging human lives into the indefinite. A longer life does not necessarily mean a happier or better life, and thus the two views may very well not be compatible with each other. This has been brilliantly put by Jeffrey Zilagy: “Would you rather live 150 years in a sick state or 100 years in a super healthy state? Most people would choose the latter because healthspan really determines the quality of our lives” (Zilagy, 2019, p. 611). A good and healthy life is, to most people, likely to be favored over a prolonged life - yet many transhumanists promote transhumanism because it could lead to immortality. If humans prefer a happy life, and death is an inevitable part of our biology, why should we strive for immortality if it could contradict both happiness and what it means to be human? Perhaps a quest to solve all mysteries and problems, immortality, and the meaning of life - but at what cost? Is a longer life that is more productive for society indeed an indisputably better life, despite fears of e.g., overpopulation?



Levchuk’s ideas are reminiscent of eugenics because she states that transhumanism is not meant for everyone and thus contradicts the concept of transhumanism as the next logical evolutionary step for humanity.

Transhumanism conveys a rich and heterogeneous mix of ideas that frequently can both seem similar and contradicting at the same time. The Table 2 below summarizes the various flavors of transhumanisms.

**Table 2 - Types of Transhumanism**

<b>Type</b>	<b>Description</b>
Eugenic transhumanism (philosophical)	Ideas that build upon transhumanism as an ideology where only the privileged members of society have the opportunity to become transhuman. The opposite of evolutionary transhumanism.
Spiritual transhumanism	The survival of the soul or the “self” is what matters. The body tends to be considered as a container, envelope, or “hardware.” Contradicts biomedical transhumanism (see below) as it focuses on the soul or the Self and not the body, which tends to be viewed as of secondary interest.
Immortalist transhumanism (mixing philosophy with biomedical)	Transhumanism is primarily an endeavor to end the war on aging. The ultimate goal is to make humans capable of living forever or, at least, achieve considerable longevity. Somewhat conflicts with flavors of transhumanism targeting pure mind upload as they are two different ways of making humans immortal.
Biomedical transhumanism	Various more or less radical modifications that aim at improving the natural human body, e.g., by inventing prostheses that allow for more than the inherited biophysical abilities of humans. It assumes decisive breakthroughs in bioinformatics, A.I., and biology. It contradicts mind upload as it considers the human body being

	worthy of improving instead of discarding it.
Cognitive transhumanism (e.g., mind upload)	The self, mind, or identity of the person is considered as software or dynamic information processed by the ‘bioware’ of the brain. It builds on a realist (digital or biological) and functionalist preconception of the mind and self, and treats the brain and neural system as some kind of computer processing information. One of the most well-known examples of cognitive transhumanism is the science fiction-esque idea of mind upload, where the goal is to provide an opportunity to leave the biological body behind by uploading the mind into a machine. The approach is reminiscent of spiritual transhumanism but in a technological version. It shares commonalities with immortalist transhumanism but is instead concerned with saving “selves” than necessarily prolonging humans’ biological life span.
Evolutionary transhumanism (avoiding human extinction)	The idea that transhumanism is the next logical evolutionary or post-evolutionary (e.g., defeating natural evolution) step for the human race. Believes that humans must become transhumans to keep up with technology and for the human species not to go extinct. It may conflict with eugenic transhumanism.

# The cyborgs' function in societal critiques

## Analyzing *Metropolis* and *Alita: Battle Angel*

Sometimes, science fiction and research borrow ideas from each other. The following chapters aim to show similarities between works of science fiction and the digital philosophy discussed earlier on. A film within the science fiction genre “features a technology beyond the reach of contemporary science” (Bordwell, Thompson, and Smith, 2017, p. 328), whereas a cyborg is an example of such technology. Donna Haraway wrote that “the boundary between science fiction and social reality is an optical illusion” (Haraway, 1991, p. 149), highlighting how the worlds of fiction and reality entwine.

This chapter aims to explore how two works of science fiction represent cyborgs and which changes the cyborg brings to society. Serving as an introduction to science fiction, this chapter aims to build bridges between the theories discussed in previous chapters and the two works of science fiction - *Metropolis* and *Alita: Battle Angel*. The chapter will analyze how the two films may exemplify what posthumanism, transhumanism, and antihumanism could look like in practice. Among other aspects, this chapter aims to explore some of the various representations of technology and cyborgs that were briefly discussed in the previous chapters - which have been brought to life through the science fiction genre.

These two films have been chosen because despite being released almost 100 years apart, *Metropolis* (Fritz Lang, 1927), and the more recent film *Alita: Battle Angel* (Robert Rodriguez, 2019), feature some major similarities. *Metropolis* was a revolutionary film of its time and stands as an early introduction to the idea of cyborgs in cinema, while *Alita: Battle Angel* is an excellent example of how films today represent the cyborgs. The films have several themes in common, e.g., having a female cyborg playing a major role, the cyberpunk aesthetic, and how the fictional worlds of the two movies both consist of a poor worker's city below and a rich city above. These two works also feature some interesting differences worth discussing. The most obvious difference is that *Metropolis* only features a single cyborg, while *Alita: Battle Angel* features many cyborgs. Furthermore, *Metropolis* does not explain

the technology behind the cyborg (the *Maschinenmensch*), while *Alita: Battle Angel* offers some fascinating glimpses.

While the following chapters will involve different themes (focusing on ethics and mind upload, respectively), all the film analyses will endeavor to answer the same questions through the use of posthumanist and transhumanist typologies from the previous chapters. The first question is the most fundamental: How does each film deal with the relationship between technology and humans, and the combination of technology and human into one being (cyborg)? The second question is derived from the answers given to the first question: How are the consequences of this combination of technology and human into one being - the cyborg, exposed in these works of science fiction? These questions aim to show how science fiction imagines cyborgs will be created in reality (and what society might look like afterward), and which consequences humanity might face following the implementation of cyborgs.

*Metropolis*, at first, may seem to act as a critique of society at the time (the 1920s), with the film displaying social class differences and traces of the great depression. However, critics have debated whether this focus is deliberate. The film is a classic work of science fiction and has inspired countless movies since its release. A *Maschinenmensch* (Machine-Man), which could be considered a cyborg due to its combination of advanced technology and human biology, plays a central part in the movie's plot.

*Alita: Battle Angel* is similar to *Metropolis* in many ways, e.g., in the strive for a better world and the binary construction of cinematic space regarding social class. Alita is a cyborg and the movie's main character, but the film features many different cyborgs and different combinations of man and machine in contrast to the one cyborg in *Metropolis*. This indicates that cyborgs have been around for a longer time in Alita's universe and might offer the viewer more long term consequences of cyborg implementation compared to *Metropolis*.

# Metropolis

*Metropolis* has not only been of importance years and decades after its release but also at the time of release: “[I]t needs to be stressed that the impact of *Metropolis* in 1927 was enormous: hardly an article in the papers did not make reference to it, including a fair number of cartoons and parodies” (Elsaesser, 2000, p. 22). The movie has inspired many movies and shows an early example of what a combination of man and machine could look like, how it could be created, and for what use (and with which consequences). Therefore, *Metropolis* deserves its spot in this thesis when analyzing and discussing science fiction movies featuring cyborg technology. Because of the impact the film has had, it also makes sense to put it as the first movie to be analyzed.

The movie was directed by Fritz Lang and written by him together with his then-wife, Thea von Harbou, who had a book published in 1925 upon which the film was based. The book was likely written with the intention of the two of them turning it into a movie together. There are some differences between the book and the movie, such as the film lacking most of the occult aspects found in the book, but this is not significant for the analysis in this thesis.

*Metropolis* is a world with a poor workers’ city below ground, where only the rich people live above. The workers operate the machines giving power to the city above but are being used as if they are soulless machines themselves. A cyborg is created to prevent a rebellion, resembling a woman the workers look up to - but the inventor decides to use the cyborg to encourage rebellion instead, causing great destruction before the cyborg itself is destroyed. The movie displays interactions between human and machine, as well as cyborg and human, and shows the viewer some possible consequences of cyborg technology (and technology in general). The most important characters of the film are: Fredersen - the inventor of Metropolis, Freder - the son of Fredersen with empathy for the workers, Maria - Freder’s love interest whom the workers look up to, Rotwang - the inventor of the Machine-Man, and of course, the Machine-Man itself - the film’s cyborg who looks identical to Maria.

## **Analyzing Metropolis**

Before the movie begins, this particular version shows an intertitle informing the viewer about how the original version was lost but that some of it resurfaced and has been restored. This could have an impact on the analysis of this thesis as there have been released different editions of this movie, of various lengths. To clarify, the version analyzed in this thesis will be the re-release from 2010, which at the moment of writing is the most complete version known to exist (even if there still is footage known to be missing). It is essential to state the version of the movie that this analysis is based on, as previously released versions may lack parts of scenes that will be analyzed or have different text on the quoted intertitles.

### **Man and machine**

The movie opens with an image of a city - Metropolis. The following clips are shots of various machinery at work in the workers' city underground and are placing technology at the core of the film's storytelling.

As the workers change shifts, they walk in lines reminiscent of the military - almost mechanically and automatically, as if the machine operators were machines themselves. The workers are shown as tools of tools; the workers appear to be tools for making the machines (which are also tools) work, meaning that the machines need to be operated by humans to function as intended. Especially as the workers both work and live underground by the machines, and the master of the city seems to think of them as mere machine helpers who belong underground, the workers here could be interpreted as biological tools for the technological tools. Regardless of class differences, it becomes clear that instead of technology simply helping humans, humans must also assist and operate the technology for the technology to work as intended. One does not have to watch more than a few minutes of the movie to get a clear exposition, in the plot and in visual means deployed, of the relationship between humans and technology and how meaningful this relationship is for the storyline.

The machines in the workers' city are dependent on humans operating them and watching over them at all times. Workers have become slaves of the machine as watching over and operating the machine is of the highest priority, even above the worker's wellbeing. Technology, as depicted, thus is endowed with absolute power over humans due to the importance of humans constantly watching over and aiding the machines for them to work as intended. Then, a special class of overseers, industrial lords, is depicted as maintaining the necessary power superstructure allowing this exploitation of masses to perpetrate. The relationship between workers and machinery could be seen as an endless circle of humans and machines in interaction. The working class is forced to feed and maintain the machines to improve the lives of the rich living above ground. The worldview of *Metropolis* operates with a layered society involving a cruel division of work and corresponding monopolization of power by the capitalists; the poor are meant to aid technology to improve the lives of the rich.

Eventually, the human-like robot is presented, advancing the relationship between man and machine by blurring the lines separating them - the *Maschinenmensch*, Machine-Man, cyborg. In the 1920s, the term cyborg was not invented yet - neither was cybernetics, part of the inspiration for the cyborg, as explained in the cyborg chapter of this thesis. The word robot was relatively new as well, but the "robot" does not necessarily cover the creation in *Metropolis* well as it only explains the machine part. Therefore, it makes sense that they decided to call it a Machine-Man - and might have been one of the first words invented to describe a being that is both man and machine. Thus, human interaction with technology advances further as the two merge together into one - "technology is embodied in a female robot" (Huysen, 1981, p. 223). The robot's gender and stolen looks from Maria, a woman looked up to by the workers, is not at all a coincidence. This allows the Machine-Man to be trusted by the workers and for them to admire her, which is a necessary step behind the plan to gain power over the workers.

The Machine-Man uses its power over the workers to get them to rebel and to destroy the machines. At last, they destroy the Heart Machine, which is the most important machine of them all. This is a parallel the story builds between humans and machines, where the most crucial machine is named after the most vital organ in the human body. Ruining the Heart Machine causes a flood and risks many lives - most notably the workers' own children.

Freder and the real Maria rescue them, and the robot is being burned (and thus revealed to be a robot) by the workers due to the damage it caused. The technological Machine-Man destroys technological machines at the hands of humans, leading to humans destroying the Machine-Man when they realize what they have done. “[T]he witch could be burned at the stake and, by implication, technology could be purged of its threatening aspects” (Huysen, 1981, p. 236). The comparison of the Machine-Man being burned to how witches were burnt offers an obvious parallel, and a very gendered act, again highlighting that the Machine-Man is female. Still, it is important to note how many lives are put into the hands of the Machine-Man throughout the film. Technology became a threat in several ways, both to the workers’ lives and the lives of their children. The way the Machine-Man gained so much power both with the upper class and workers could even hint at post-centralizing posthumanism, which again could pose a threat created by technology.

A relevant aspect related to the theme is whether technology is a tool for humans or if, instead, humans are a tool for technology - or more ensnaringly, the humans are tools of a tool as suggested at the beginning of this analysis. This is particularly present in the scene where the Machine-Man is being burned and destroyed in the film. This part of the plot also shows how much power the cyborg has over the people and could perhaps be considered the most remarkable example of antihumanism in the film. The film, considered as a whole, may not be considered fundamentally antihuman, as the struggle of the protagonists leads to reinstating a human condition. However, the danger of and subsequent fear of dehumanization of society, as represented through intentions disclosed in Machine-Man, could be viewed as antihuman. As pertinently asked by Elsaesser: “Rotwang’s bachelor machine: malevolent robot or empowering cyborg?” (2000, p. 52), the Machine-Man could both be seen as an evil, antihuman being, and as a powerful cyborg that shows the potential of technology and human as one. The Machine-Man was used for disruptive purposes only, as the being merely did as told by Rotwang, but in that also lies a potential to use cyborgs for better purposes.



## Cyborg

Rotwang's intention behind making the robot is to recreate Freder's dead mother, Hel. An intertitle quotes a part of the dialogue: "Isn't it worth the loss of a hand to have created the man of the future, the Machine-Man?!". This shows how Rotwang, the inventor, not only created the robot to revive Hel - but how one could also discuss whether he believes humankind's future lies in becoming one with technology. One interpretation could be that Rotwang invented a posthuman being - and possibly even thought becoming posthuman would be the correct next step for humanity. "I want to be a machine" is a saying attributed to Andy Warhol. It could have been the alternative motto of *Metropolis*, making Lang's supposed anti-humanism look more like an anticipated posthumanism" (Elsaesser, 2000, p. 51). Elsaesser, too, makes a connection between posthumanism, more specifically antihumanist posthumanism, and *Metropolis*. He also indicates how one could see the movie from a posthuman perspective, wrapped in an antihumanism disguise. This means that the film's posthuman tendencies could be seen as antihuman (i.e., against traditional human ideas and values) because the posthuman being wants to destroy human lives rather than improving them. This means that the film could be seen as antihuman as well as posthuman, e.g., because of the intentions behind the robot's creation and how the machines powering *Metropolis* are seen as more important than the health and wellbeing of the workers.

The next dialogue presented on another intertitle is also relevant for this analysis on the combination of man and machine in *Metropolis*: "Give me another 24 hours [...] no one will be able to tell a Machine-Man from a mortal." Rotwang is not satisfied at having built a robot; he wants the robot to look exactly like a human and perhaps even imitate a human - what would today be considered a cyborg. The decision to create a machine that so closely resembles a human shows a change in the movie from humans operating machines, to machines imitating and resembling humans. It is also important to note that the cyborg is the main feature of the film that creates the futuristic atmosphere typical for science fiction, as the other machines seem to be based on the technology of the 1920s while the cyborg certainly is a futuristic idea.

The Machine-Man goes through a change so that it resembles Maria, in hopes of destroying her reputation as the workers clearly look up to her. This is an essential part of the story because this is where the plot of the movie finally decides to take a step further and combine machine and man into one; From machines and humans working together, to a human-resembling robot, to then a machine and a human becoming one being - a cyborg. In other words, the story moves from humans interacting with machines to a human and a machine becoming one. This is where transhumanism becomes relevant. Antihumanist and post-centralization posthumanism are seen in *Metropolis*, but here we see an example of transhumanism as well; human and machine become one to form the Machine-Man, a cyborg. Even though we may not identify traces of immortalist or cognitive transhumanism in *Metropolis*, we do find traces of the general concept of transhumanism.

The scene where Rotwang transforms the robot into a cyborg is seen as iconic, especially considering the time when the film was made. The mise-en-scène consists of Rotwang, standing over Maria, who is laid down inside a capsule. In the background, the Machine-Man is seated - and sixteen wires are connecting Maria's capsule to the chair of the Machine-Man to transfer her looks. By hooking the real Maria up to the robot, Rotwang is able to transfer her looks to the machine with incredible accuracy so that no one will be able to tell them apart. This is somewhat reminiscent of the transhumanism idea of mind upload, only that instead of uploading her brain into the machine, he is uploading her facial features and body. The detail is important because since the robot resembles Maria instead of looking like a machine, they trust the robot thinking it is the real Maria. In other words, it is the resemblance to the Mother-like figure of Maria that makes the workers trust the Machine-Man and thus gives it the power needed to execute Rotwang's plans.

Freder's father, Fredersen, wants the cyborg to destroy Maria's reputation to prevent a rebellion from taking place, while the inventor wants it to destroy Metropolis. The intentions of creating new technology may be precisely the opposite of what the technology may be taken into use for. Therefore things do not go according to Fredersen's plan - but according to Rotwang, the inventor's, plan. This shows a conflict of interest; people are driven by different motives and thus will want to use technology for other usages when put in charge of it. Fredersen's main priority is to keep his city safe and functioning while Rotwang is after

revenge over Frederesen, and thus Rotwang goes against their agreement on using the cyborg to destroy Maria's reputation in favor of destroying *Metropolis* instead.

Except for Freder, no one else seems to suspect that the Maria encouraging rebellion is not the real Maria - or that the woman could be created from technology. However, none of the workers had ever seen a machine that looked like a human before, so it would not necessarily make sense for them to think of her as a Machine-Man instead of a human. One could say that the Machine-Man would pass the Turing Test, but only because the workers did not know that it was possible to create a combination of man and machine, and thus would not suspect it to have been done either. If they knew it was possible, or if it were normal to have cyborgs walk among them even, they might have been a lot more suspicious as the sudden eagerness for rebellion and destruction should have seemed out of character for the real Maria who encourages peace. Elsaesser believes that "the undisputed star of the film has become the robot, no longer called by that name, but morphed into the 'replicant' and 'cyborg' [...] now a post-human, post-gender figure" (Elsaesser, 2000, p. 57). This explains how the Machine-Man was seen as a mere robot when the movie was released, but as technology has moved along, it is now considered to be not only a cyborg - but also posthuman and postgender in a way that is reminiscent of the views expressed in Donna Haraway's *A Cyborg Manifesto*. The main themes in *A Cyborg Manifesto* could be considered cyborgs, feminism (or even women in general), and identity - all of which also stand central in *Metropolis*, emphasized by the social class differences.

### **Further discussion of Metropolis**

The film displays some frightful consequences of technology, but where most of the horrible consequences can be traced back to a human instead of the machines themselves. The rebellion and the flood it results in can be blamed on Rotwang's intention behind the Machine-Man or on the class differences that the technology contributes to, but in either case, it is the humans that are in charge of their society. The Machine-Man is invented entirely by Rotwang, and it is he who decides to use it to influence the workers to destroy the machines. Frederesen only wants to use the cyborg to prevent rebellion, and even though it could be

discussed whether the prevention would be for the common good, Fredersen's motives are not as extreme and do not contain the same great risk of taking lives as Rotwang's. Even though Rotwang and his Machine-Man might be the only ones losing their lives, he puts many workers and especially their children at risk. Whether Rotwang knew of the flood that would be caused by destroying the Heart Machine or not, he still wanted to use his newly invented technology for his own good only and seemed not to be too concerned with what could happen to others. Elsaesser explains this as "an inventor creat[ing] an artificial human being that brings disaster to all concerned" (Elsaesser, 2000, p. 52). It is not the false Maria, the Machine-Man, who wants to do anyone harm - the cyborg is merely doing what Rotwang tells it to do and thus puts Metropolis, the worker's city, and everyone in the worker's city, at risk. The workers have become tools of another tool - the Machine-Man, this time because they believe the machine is a human that they trust.

*Metropolis* shows how technology might impact human lives. The Machine-Man is intended to destroy Maria's reputation but ends up destroying so much more at Rotwang's will. For Fredersen, the master and inventor of Metropolis, this could be terrible news as his hard work is ruined. For the workers, it could mean the start of a better life in a job that values them as humans even though the machines were their livelihoods. It could mean more equality for society - i.e., no more dividing them into workers below ground or rich people in the city above. One could argue that in *Metropolis*, the technology contributed to or even created the class differences because the workers had to aid the technology while the rich people above were the only ones actually to benefit from it. However, the end scene shows great promise in that the work of the cyborg, despite the damage it caused, might have brought the workers and their master closer together through the work of Freder and the real Maria. Huyssen sums this up perfectly: "What remains is the serene view of technology as a harbinger of social progress" (Huyssen, 1981, p. 236). In other words, implementing the technology (i.e., the Machine-Man) did potentially lead to a better society, but it also involved risking many lives and them having to destroy Machine-Man because of the damage it did.

The film's way of dealing with the combination of man and machine into a disaster-bringing cyborg might express a fear regarding future possibilities with technology. Technology can lead to disaster, especially if the inventor intends not to use the technology for the common

good. However, as written by Elsaesser and quoted earlier on, the cyborg in *Metropolis* is, by the audience, looked up to as a star more than it is feared. Elsaesser explains that “by the turn of the century we have ceased to fear technology as invasive [...] men and women seem happy to acquire as prosthetic extensions of their selves all manner of technical devices” (2000, p. 57). Perhaps humans have become so accustomed to technology being ubiquitous and evolving so rapidly that what once was considered scary now seems relatively normal, an observation which appears to be true to this day. It appears that instead of fearing technological advances and their potential negative consequences, Elsaesser believes humans are embracing new technologies. However, that does not necessarily mean that possible negative impacts should not be taken seriously or that *Metropolis* cannot still serve as a relevant warning almost 100 years after its release. Even though technology has advanced tremendously since *Metropolis* was released, the discussions the film inspires are just as relevant today.

*Metropolis* shows the viewer an example of what a cyborg could look like, but the aspects are more closely related to posthumanism than transhumanism, and the Machine-Man can be regarded as both post-centralization and antihumanist posthumanism. The transhumanist aspects are somewhat lacking, partly because of how the cyborg (Machine-Man) technology is not explained in detail, and how the machine borrows Maria's looks only - opposite of mind upload, where one uploads the mind. The main focus of transhumanism is to improve upon the human species through e.g., making immortality possible, while the purpose of the Machine-Man is to make people believe it is human so that its intentions of destruction are easier to fulfill. In a way, the Machine-Man's intentions could be seen as a contrast to transhumanism. The Machine-Man would rather be viewed as an anti-human creature that disregards traditional human values - primarily because of how it causes destruction to the workers' source of income, which almost kills their children. In other words, the Machine-Man can be seen as a display of antihumanism and an example of what posthumanism could look like but contrasts with several ideas of transhumanism. The Machine-Man can be considered transhuman because of the general concept of merging man with machine. Still, none of the more specific ideas from transhumanism (such as mind upload or immortality) are found in *Metropolis*. The Machine-Man bearing Maria's looks to

gain power to the point of being worshipped is also reminiscent of how Donna Haraway built bridges between cyborgs and feminism.

## **Alita: Battle Angel**

*Alita: Battle Angel* (hereafter *Alita*) was released almost 100 years after *Metropolis* and features technology that is a lot more advanced, but what is relevant to talk about is the similarities shared by both movies. Both movies feature impressive special effects and techniques, are set in the future, have a female cyborg playing a significant role, and show the viewer someone (*Alita* and *Fredersen*, respectively) fighting to do what is right rather than what is expected of them. *Metropolis* displays revolutionary technology with the *Machine-Man*, while *Alita* contains many different combinations of man and machine. The difference is that *Metropolis* shows the creation of one cyborg and the consequences of it, while in *Alita*, cyborgs have existed for centuries and seem to be as common as pure biological humans - showing the viewer more long-term consequences.

*Alita* is directed by Robert Rodriguez. The story is inspired by a manga series, *Gunnm* (or *Battle Angel Alita*), from the 1990s created by Yukito Kishiro - along with a video animation, *Battle Angel*, from 1993 directed by Hiroshi Fukutomi. The 2019 movie was announced already in 2003 but was delayed as producer James Cameron was working on other projects.

The story of *Alita* takes place in the year 2563. The world consists of an industrial city below and a rich city above in the skies, showing significant class differences. Technology has advanced at a fast pace, but it seems humanity itself is not as different from today. The main differences in society are brought on by technology and how humans and technology merge together. Cyborgs exist in many various forms, from people who are cyborgs as a means to survive losing part of their bodies by replacing said body parts with technology, to people who are cyborgs to gain superhuman abilities - e.g., to become advanced weapons. Doctor Ido, a *cybersurgeon* who saves human lives by turning them into cyborgs, finds *Alita*'s head and upper torso at the scrapyard. He decides to wake her back up and make her whole by giving her a full body. She does not remember who she is, despite that her human brain is

intact. This makes her a cyborg, despite her body being pure technology, her brain is pure biology. She has a human brain, but a technological heart and body. Alita strives to rediscover her lost identity, and through her, the viewer is introduced to both battles packed with action and battles of morality.

## Analyzing Alita

### Cyborgs

As Alita and Ido walk around the city early on in the film, it appears to be just as normal to be a cyborg as it is to be a pure biological human. Some prostheses look rather mechanical, while others look more human-like - and some simply look incredibly high tech or have built-in weapons. It becomes clear that these prostheses do not just replace lost body parts, but it makes the person able to do things they never could do as a biological human.

Some of the people in Iron City are humans, some are humans with machine body parts, and others just have a human head and a body created purely from technology. There are also beings created purely from technology. All of these share the city and create a type of balance. However, it becomes apparent that the technology has just as many advantages as it has disadvantages, the same way that some people are good and others are bad. There is always a cop and a thief, or in this case, criminals taking cyborg body parts for selling on the black market and *Hunter Warriors* (bounty hunters) trying to kill those criminals. However, some criminals appear to be protected by the system and have no bounties on them even though they should have, suggesting that the system might be corrupt. Most of the cyborgs resemble human beings, and many seem to only be humans with prostheses like one could see in 2020 as well. However, others look like monsters, have six legs, or have built-in weapons. For example, players in the sport of *Motorball* rarely resemble humans much. Then there are also beings like Alita, resembling a human but with various human-superior abilities that seem reminiscent of biomedical transhumanism. There are also cyborg dogs, i.e., dogs with technological body parts. In other words, some of the cyborgs are cyborgs to save their lives or because they lost an arm or a leg - while others are cyborgs for the human-superior benefits it grants them. This means that there are two main reasons why a human in the world

of *Alita* would become a cyborg: for survival purposes or for gaining abilities pure biological humans could never be capable of.

Alita turns out to have superior fighting skills, far from what any normal human could do. She is an example of what cyborgs make possible. During a fight, she gets flashbacks to her previous life, showing that she was created for that purpose. “Alita blossoms from being an innocent to carrying the weight of the world around her on her shoulders, as she discovers something to fight for” (Haden, 2020, p. 314). By fighting, Alita both recovers long lost memories and realizes that she might have the abilities needed to make the world a better place. If reunited with the body that matches her cyborg core, Alita would once again be an example of the most advanced cyborg weapon ever created. It becomes clear that just as many cyborgs use their human-superior opportunities for evil as for good, and Alita was one of them. The reason Alita is so strong is partly because of her cyborg core and heart combined with her technological body, and partly because she also has a human brain that knows a long lost art of fighting techniques. This suggests that humans may reach their highest potential only when combining the best of biology and technology together, reminiscent of the theory from posthumanism saying that this combination is the next evolutionary step for humanity to improve. It is also similar to the ideas of evolutionary transhumanism, even though the film clearly displays that many humans are still pure biological beings.

In contrast to *Metropolis*, the scene where the main character is turned into a cyborg (or in Alita’s case, brought back to life) is not a groundbreaking one. Perhaps because in *Metropolis*, it was revolutionary, while in *Alita*, Ido is just doing his job as a *cybersurgeon* and not anything out of the ordinary. Instead, one could call one of her fighting scenes or *Motorball* races iconic - because that is what is revolutionary about her. Being a cyborg is normal in Alita’s world. One of the most iconic quotes is when Alita is taking distance from her past by saying, “I do not stand by in the presence of evil.” The quote is very much related to her identity and shows how, despite being a cyborg, she is also very much human. “Alita has the strongest cyborg body in the world. But she has the softest heart in the world. Her humanity and feminist can be seen through those details in the film” (Peng, 2019, p. 3). Despite Alita perhaps being the most remarkable example of the difference between mere



human and cyborg, she at the same time proves herself to be a very relatable character as if she were just human.

### **Relationships between humans and cyborgs**

Another interesting scene and dialogue exchange happens after Alita is reunited with the kind of nanotechnology body she was meant to have 300 years prior. “Does it bother you that I’m not completely human?” Alita asks her romantic interest, Hugo, to which he replies that she is the “most human person [he] ha[s] ever met.” This offers an insight into the fact that if humans become one with technology, it does not have to mean losing what it means to be human. In some ways, Alita can be seen as a contradiction to the Machine-Man; as put by Peng, “her humanity moved the people around her and changed them” (Peng, 2019, p. 5). Perhaps, as suggested by Ferrando, a redefinition of what it means to be human is needed, but it does not have to involve people losing their identities. However, Alita might be an example of how who we are, our identities, might be stored in our biological brains (e.g., in information such as memories). Thus, it would not necessarily matter if our bodies are partly made from technology in the future. Alita also, at one point, asks Ido if a human can love a cyborg, which he confirms is possible, meaning that cyborgs are human enough to be in relationships with pure biological humans.

### **Changes brought on by cyborg technology**

The most apparent difference in the world of *Alita* in 2563, compared to our world today, might be societal. Society is clearly divided into poor workers below and the rich above, where the poor work to serve the rich, which could be interpreted as a critical reflection on society today. In the film, this was brought on by a war where cyborgs were a crucial weapon, with Alita being the only one of the cyborg weapons to survive so she could be revived centuries later. In her strive for recovering her lost identity, she remembers that she used to be a Berserker - meaning “a cyborg from Mars that invaded Earth 300 years ago” (Haden, 2020, p. 314). That war was also the reason she went from human to cyborg weapon prior to the film’s plot, indicating that even though there exist both friendly and evil cyborgs

in 2563, there is a possibility the technology was initially invented for destructive purposes. One could also say that when Alita is brought back to life, she gets to experience the long-time consequences of the post-apocalyptic world the war she (and the other cyborg weapons) fought in amounted to.

Another significant change in the world of *Alita* that may not be as obvious is that Earth has become deserted. Alita herself is from Mars, showing that humans have instead settled elsewhere in the universe. The reasons for this are not explained in-depth, aside from mentions of the war that Alita fought in. This, again, shows major changes to society and societal structure, and exemplifies how technology has advanced significantly.

Because of how much power cyborgs can have compared to mere humans (such as through becoming lethal weapons), one could consider the society of *Alita* to show traces of post-centralization posthumanism. Because not everyone is a cyborg, it cannot be regarded as an evolutionary step for the human race (evolutionary transhumanism), and therefore cyborgs and humans are not the same species in that sense. This means that because cyborgs seem more dominant in their abilities than humans, humans no longer stand as central, at least not on their own. One could argue, however, that cyborgs are a variant of humans in a way reminiscent of eugenic transhumanism, and therefore the two cannot be separated clearly enough for post-centralization posthumanism to be a valid observation.

However, the implementation of cyborg technology did not only change the dynamics of society. Allowing people to become cyborgs also works as a way of prolonging life and cheating death by enabling people to become cyborgs instead of dying when something life-threatening happens. In the film, Hugo is to be killed as he has a bounty on him after stealing body parts from cyborgs for money. Instead of letting him die, Alita tricks the system; She beheads him and keeps him alive by connecting his head to her heart, which runs on nanotechnology. This allows him to stay alive for the time it takes her to get him to Ido so he can give Hugo a cyber body. Hugo thus gets to live on through becoming a cyborg instead of dying. This is an example of live-saving biomedical transhumanism.

Hugo becoming a cyborg does not make him immortal, but it prolonged his life and gave him a second chance. In other words, the humans in *Alita* have an opportunity to extend their lives by becoming cyborgs. Still, it does not make them immortal, and it seems many humans go through their lives without becoming a cyborg. This shows that in the world of *Alita*, cyborgs are not an evolutionary step for humanity as not all humans become cyborgs, and therefore cyborgs appear to be more reminiscent of eugenic transhumanism. Becoming a cyborg enhances human abilities and might prolong lives, but not everyone sees the need to become a cyborg. Because of how enhancing the body is in focus, the cyborgs in this film could also be linked to biomedical transhumanism.

## **Conclusion**

Class differences, corruption, and crime still exist in the year 2563. Class differences are displayed differently, new crimes are being executed, and there are new ways of fighting crime. However, the principles are still the same. The difference lies in technology, or rather the new possibilities of advanced technology in combination with humanity, and the possibilities brought on by the changes in what it could mean to be human. The world appears more dangerous with how some people choose to become dangerous weapons, and because of how it can sometimes be challenging to tell who is part human and who is a robot meant to look like a cyborg. The line between humans, cyborgs, and machines has been blurred out.

In many ways, *Alita* is about a woman trying to remember who she is, about identity, and staying true to herself. Another central theme is survival, as she strives to survive and protect her loved ones. And there, it becomes clear that humans and cyborgs can love each other, both as Father and Daughter, and romantically. Cyborgs simply appear to be a variety of humans, comparable to live alongside pure biological humans. Some of them are cold-blooded murderers, and some kill in the name of justice... And some are just trying to live their lives. *Alita* might seem like a surreal fantasy of what the future might look like, but their world at the same time resembles ours - 2020 is only missing the future technology and some of the changes that technology might bring. Lives in *Alita*'s 2564 can be saved by

becoming cyborgs, demonstrated by Hugo in the film, but that does not mean lives are happier in 2564.

## Discussing *Alita* and *Metropolis*

In *Metropolis*, a rebellion takes place because of how unfairly the ones below ground are treated. In *Alita*, there are no significant signs of rebellion, but many strive for a chance to move to Zalem, the city in the sky. In both, moving to the city above is regarded as impossible. The two films and their respective universes share many similarities in terms of how society functions. However, one noticeable difference is that *Metropolis* only features one being impossible to exist at the time of the film's release (the Machine-Man) - while *Alita* features many. Neither film offers too many details on how a cyborg transformation is done (except *Alita* mentioning nanotechnology), but the principles appear similar. In *Metropolis*, Maria's appearance is transferred to a machine, while Alita had her brain transplanted into a cyborg body. Both were meant for destructive uses; Alita as a weapon and the Machine-Man as a starter of rebellion, both intended to become murderers. However, their difference lies in identity: The Machine-Man is simply controlled by humans (and could be said to have no identity aside from the assumption that it is the real Maria), while Alita is her own person, driven by identity and memory. This is an example illustrating how the Machine-Man is mainly posthuman (antihuman and post-centralization) and only briefly fits the general description of transhuman, while Alita is definitely transhuman with aspects of e.g., biomedical transhumanism and a body made from nanotechnology.

Another contrast between the two films is that *Alita* takes place in a post-apocalyptic world, where a few centuries back, there was a big war fought - the war in which Alita was changed from human to cyborg to become a weapon. *Metropolis* shows an uprising and a rebellion, where the cyborg in the film was created for similar purposes to why Alita was and gave more background as to why the uprising happens. The difference lies in how *Metropolis* shows the short time consequences, which seem to be positive, e.g., a better understanding between the master of the city and the city's workers. In *Alita*, however, long term consequences are displayed and seem more negative, such as how even though technology

has improved, humans do not necessarily live better lives, and the distinction between the rich and poor has increased. This can be interpreted to show that even though the short term consequences are positive, that does not promise humanity a better future or positive long term consequences.

# Utopias as dystopias in disguise

## Preventing murders and creating immortality

In the second chapter featuring science fiction movies, it is time to go a bit more into detail. This chapter aims to identify and discuss a few of the significant issues humanity may face along with the potential implementation of cyborgs, particularly in relation to utopias and dystopias. A utopia, or an intentional community, consists of “five or or more adults and their children, if any, who come to form more than one nuclear family and have chosen to live together to enhance their shared values or for some other mutually agreed upon purpose” (Sargent, 2010, p. 6). However, a dystopia is “identified with the ‘failed utopia’ of twentieth-century totalitarianism [...] it typically means a regime defined by extreme coercion, inequality, imprisonment, and slavery” (Claeys, 2017, p. 5). In other words, the two terms can be considered opposites where a utopia is an ideal world and a dystopia an undesirable world.

This chapter will also feature two films to be analyzed and discussed: *Minority Report* (Steven Spielberg, 2002) and *Elysium* (Neill Blomkamp, 2013). These two films focus on different aspects of society that might change for the worse in the case of cyborg implementation. Both movies also show a world that appears utopian at first but turns out to be rather dystopian upon closer inspection, illustrating how some technologies may not have the positive impact on society that we want them to have.

*Minority Report* shows how an idea that seems utopian - no more murders - might turn out to be dystopian when executed. The idea might be good and worth much money, but no technology is perfect. The *precogs* (*pre-cognitives*) who predict the murders, thus allowing the murderers to be arrested before anyone is killed, can be considered cyborgs. The question is whether it is morally correct to arrest people who technically have done nothing wrong and whether the *precogs* are reliable enough.

*Elysium*, too, seems like a utopian world, where people can reverse aging and no longer get sick. However, people down on Earth are suffering. On closer inspection, it becomes clear

that Elysium is not perfect like the people on Earth have believed - despite their advanced technology. A man is turned into a cyborg to attempt to steal vital information about Elysium in return for a ticket to Elysium, which could save his life. However, he discovers how a world rumored to be utopian might turn out to be at least as dystopian as his own.

## Minority Report

*Minority Report* was released in 2002, directed by Steven Spielberg. The film is based on a short story published in 1956, *The Minority Report* by Philip K. Dick. One of the film's central themes is determinism versus free will, and it is an excellent example of ethical problems we may face in a more technologically advanced future.

The film's story takes place in 2054 and features groundbreaking technology. Three humans have been biologically engineered to become *precogs*. These three *precogs* can predict the future and use their powers to see who will commit murder. They send reports to a special police department called Precrime, making sure the person is arrested before the murder is committed. A man who works in the department, John Anderton, learns that he will be arrested as he is going to murder someone. Instead of accepting this fate, he learns that the most talented *precog* sometimes disagrees with the others and decides to try to find what is called a minority report. A minority report happens when all three *precogs* are not sure the murder will occur, but this is kept secret in favor of the Precrime system's reputation and credibility. In other words, to maintain a zero percent murder rate, innocent people may be arrested just to make sure that the rate is maintained. Because the *precogs* are humans who have been mutated (biologically engineered) to gain abilities other humans do not possess, they can be considered cyborgs.

# Analyzing Minority Report

## Relationship between technology and humans

The world portrayed by the film seems very reminiscent of our world today, only with more advanced technology. In *Minority Report*, humans seem increasingly dependent on technology, and technology is more ubiquitous than ever before. Technology does not seem to have taken over the jobs of humans but has advanced the world so that the possibilities of what humans can do have increased. The Precrime police department is an example of this. Instead of having to do lengthy and costly investigations after a murder has been committed, *precogs* foresee the murders so that the murderer can be arrested before someone is harmed or killed. The *precogs* can predict murders up to four days before the murder will occur, complete with names of the victim(s) and murderer(s), thus allowing enough time and information to find and arrest the supposed murderer-to-be before he or she breaks the law.

Before it is known that minority reports can happen, the system is believed to be perfect. This is an example of people's blind faith in technology. It is said in the film that "if there's a flaw, it's human. It always is." In other words, technology is thought to be perfect, and any mistakes that happen are blamed on humans. This shows that humans have become increasingly dependent and reliant on technology, and that technology has immense power over people. Technological advancements (and perhaps the money these advances can bring with them) are so important that humans might rely more on technology than on other people - and themselves. The belief that the system is flawless and incapable of error when minority reports are possible makes it dystopian. As said by M. Keith Booker, the film is an "effective dystopian thriller" (Booker, 2010, p. xxxi). It does not matter that the idea of no more murder is utopian, as long as the execution and realization of that idea is dystopian.

## Cyborgs

The cyborgs in this film are the *precogs*. These are mutated humans who can foresee murders and thus help prevent them from taking place. The *precogs* are in a pool in a separate room of the Precrime department, hooked up to technology. The *precogs* consist of a female, Agatha, and twin males, Arthur and Dashiell. Agatha is the most talented one out of the three, and the



one who sometimes causes minority reports to happen as she sometimes disagrees with the two others on whether a murder is going to take place or not.

As Anderton explains the technology behind how the *precogs* work, he says, “don’t think of them as human,” with the reasoning that they are much more than that (just like cyborgs). The *precogs* are drugged to keep them asleep without having them fall into a too-deep sleep and keep them working to predict murders at all times. This sounds inhumane and offers another perspective on why it could be easier to think of them as non-human. However, the *precogs* are humans that have been mutated, meaning that to think of them as not being even partly human is not technically correct. This is why cyborg is a fitting way to describe them; they are human, but they are not purely biological humans due to the mutation that gave them their powers.

When Anderton kidnaps the most talented *precog*, Agatha, the viewer gets to know more about her and what being a *precog* is like. She tells him she is tired of the future, which is not surprising as she sees the future only as future murders in her nightmares. In other words, the *precogs* are kept trapped in their nightmares in order to foresee the future murders that will take place and do not have actual lives outside of that. As Anderton gets to the building where the man he is going to murder lives, Agatha tells him he can walk away because he has a choice, despite her visions displaying that he will kill the man. This could be an indication of how even though *precogs* can predict the future, the future does not necessarily have to be written in stone despite there not being a minority report. Precrime sometimes arrests people for future murders, altering the future so murders will not be committed. However, Agatha’s words indicate that the potential murderers may also be able to alter their future as humans constantly make choices that could lead to different alternate futures, which is strange as the creator behind the technology claims the *precogs* are never wrong. Perhaps the *precogs* are never wrong because the murderers are arrested before committing the murders, and therefore cannot not be right as the *precogs*’ visions are seen as definite truths that no one gets a chance to disprove.

The *precogs* could be seen as an example of biomedical transhumanism, just that the purpose is to use them as tools rather than to improve lives. The *precogs* are being used as tools for

humans and society with no lives of their own, instead of being given the chance of living lives better than the average human. In a way, this is an example of biomedical transhumanism gone wrong because the technology is biomedical but does not improve their lives - and neither is it supposed to. In fact, because of how the *precogs* are trapped in their nightmares to predict murders, one could argue that biomedical transhumanism destroys their lives more than it improves their lives. This makes a utopian-sounding idea turn dystopian in *Minority Report*.

### **Consequences of cyborg technology**

Ethics is a major concern with the technology shown in *Minority Report*. Towards the beginning of the film, the viewer is shown how the Precrime department works. The *precogs* predict a murder, and a Precrime police force arrests someone who is supposed to commit murder before they have a chance to do so. As they are arrested for future murder after the police confirm their identity, they claim they did not do anything wrong, and neither were they going to. However, because the *precogs* predicted they were about to murder someone, they are arrested. The ethics of this is challenged in the film by statements such as how the person arrested is not a future killer if the future is prevented from happening. This particular statement was denied with how preventing something from happening does not mean that the event would not happen if not prevented. As Precrime officers discuss metaphysics and paradoxes, they make the logical reasoning behind the Precrime technology make sense, but the ethical aspects still sound unfair.

Today, it is a human right to be considered innocent until proven guilty - but this idea has been discarded in the world of *Minority Report* in favor of keeping the murder rate at a groundbreaking zero percent. The technology that allows this to be possible also shows itself as very invasive towards civilians' private lives. One example of invading privacy is that people's eyes are scanned, e.g., when they enter the metro so that the Precrime unit can find out where they are and track them easily.

It has become so important to prevent murders that they would rather risk arresting innocent people (including people who possibly were not going to kill anyone) and invade everyone's privacy. This allows people to feel safe as they know they cannot be murdered, especially because the possibility of a minority report happening is kept secret. However, it also creates a risk they are not aware of - they could be arrested for a murder they did not even know they were going to (potentially) commit. The fact that minority reports can happen shows that the Precrime system is not as reliable as the police department gives people the impression of and shows itself as another ethical issue, especially because the police department is not being honest. Because of the great lengths they went to to hide the minority reports' existence by destroying the records of them, there is no doubt that it was a conscious decision to keep them a secret from the public. For economic reasons, it is necessary to pretend that the system's most significant weakness does not exist in order to expand Precrime so that the system can be sold to other cities as well.

When Anderton learns he will murder someone, his first thought is that someone has framed him to discover flaws with the Precrime system. This shows that he himself is critical of the system and might suspect that he has been involved in arresting innocent people to make sure all murders are prevented. Anderton is certain the prevision is fake, meaning that he is not going to murder anyone after all, but instead learns about minority reports (that he was not aware of the existence of despite working at Precrime) and hope they are the solution to his case. The woman who created the technology behind the system says she found the minority reports insignificant. However, Anderton asks, "what about those people that I put away with alternate futures?" He realizes that innocent people will sometimes have to be arrested for future murder for the system to work correctly; otherwise, the murder rates will increase above zero again. If Anderton believed he was guilty of a future murder, he could have left the city to elsewhere without a Precrime department, but because he thinks he is innocent, he stays in hopes of clearing his name.

## Further discussion of *Minority Report*

Anderton knows he is supposed to commit murder. Despite claiming that he is not going to because he has no idea whom the man he is going to murder is, and Agatha trying to tell him that he has a choice, he still ends up murdering the man. This could indicate that the *precogs'* visions are correct and that they can predict murder before the murderer knows that they are going to kill someone. However, because murderers usually are arrested for future murder instead of murder, there is rarely a chance for anyone to prove the visions wrong. Generally, there are many reasons for ethical concerns with *precog* technology.

According to Booker, *Minority Report* “explores a number of important ideas, many of them common to dystopian film” (Booker, 2010, p. 193). The main idea forms around future technology and possible consequences, with major themes such as ethics and politics. He further describes Precrime as a “questionable form of surveillance” (Booker, 2010, p. 193), which is where both politics and ethics become important - as well as economic perspectives. Because of how the political system shown in the film can be said to be based more on financial gain than anything, it undermines the importance of ethics when they arrest people who technically have done nothing wrong.

Out of the cyborgs in previously analyzed movies, the Machine Man had no actual personality of its own. In *Alita*, they did, and all of them generally seemed to live better (and often prolonged) lives through being cyborgs instead of humans. In contrast to *Alita*, *Minority Report* shows that the lives of the *precogs* are not at all better than the lives of regular humans. Agatha is the only one the viewer gets to know much about, but she clearly expresses that her life is not a happy life. The film shows a perspective that humans who become technologically advanced beings do not necessarily live happier lives.

Agatha tells Anderton he still has a choice not to commit murder because he has seen his future in contrast to all the other people who were previously arrested for future crimes. Because he knows his destiny, Agatha believes he can change it. This means that perhaps they could have developed a technology allowing people to know their future and see if it changed after seeing it, rather than arresting people without giving them a chance. However,

because Anderton realizes the man he is about to murder killed his son, he wants to go through with it. This in itself shows a flaw with the system because Precrime should have managed to arrest him before the time he was supposed to kill the man. Eventually, the system's reputation is ruined, and thus the Precrime idea is not being sold and expanded to other cities.

*Minority Report* displays the utopian idea of no more murders in a dystopian setting. The future's advanced technology will surely grant possibilities, but these possibilities may not be a good idea to try out. The film dramatically displays several ethical issues with potential future technology and how cyborg lives may not be as happy as they are sometimes made out to be.

The film shows a similarity to *Metropolis* in how the cyborgs are tools for humans and nothing more; they have little of an identity of their own (at least that they get to display) and are not meant to or able to live their own lives. The *precogs* are posthuman in the sense that they are more than mere humans, and a product of biomedical transhumanism as they are mutated humans, but they function only as a tool for the Precrime police. Another similarity is that in *Metropolis*, *Alita*, and *Minority Report*, the most important cyborg (the only, the protagonist, and the most talented one, respectively) is female. In *Minority Report*, society is not as clearly split into a utopia and a dystopia, but it still is; The city trying out the system is a supposed utopia (dystopia in disguise) with no murders, and the rest of the country is displayed as a violent and dangerous dystopia.

## **Elysium**

*Elysium* is a film released in 2013, directed by Neill Blomkamp. The film is similar to *Metropolis* and *Alita* in terms of societal structure split into two, with the rich living above the poor, while also being associated with cyberpunk. However, the film displays potential issues with future technology in a more similar way to *Minority Report*, such as how both films show ethics as a major concern.

The world has been divided into two: Earth and Elysium. Earth is where the poor people with terrible healthcare live; Elysium is where the rich and powerful live. Elysium features revolutionary technology with possibilities to reverse aging and recreate body parts, as well as having eliminated all diseases. Those who live down on Earth dream of going to Elysium, viewing it as a utopia. However, people from Earth never get to go to Elysium and are deported or killed either on the way or as they arrive. The film's protagonist, Max, gets hold of a program that, if rebooted, could turn all inhabitants of Earth citizens of Elysium and decides to get to Elysium's core to make that happen. Along the way, flaws and faults are discovered with the system and technology in use.

## **Analyzing Elysium**

### **Humans and technology**

In *Elysium*, technology has opened up a whole new world of possibilities. The issue is that only the rich and privileged on Elysium have access to these new possibilities. People down on Earth are poor, hospitals are overcrowded, and they are being kept under surveillance by robots. People on Earth view Elysium as a utopia because of the benefits up there, but it turns out Elysium is far from perfect. Most of the people trying to get to Elysium are sick and know that they will die on Earth, while on Elysium, they would be saved.

The civilians going to Elysium in hopes of getting medical help are usually killed by an agent with psychological problems and a criminal record, hired by people from Elysium's government. All of this shows numerous ethical issues. Innocent people are killed for attempting to save their own lives, and the rich keep their life-saving technologies to themselves while also carefully watching over and keeping the people on Earth under control. Only citizens of Elysium have access to groundbreaking, life-saving technologies, and they seem willing to do whatever it takes to keep it that way.

Because of the revolutionary technologies on Elysium that have eliminated all diseases, can reverse aging, and create new body parts, people down on Earth see Elysium as a utopian world. The possibilities of Elysium are very reminiscent of biomedical transhumanism as

well as immortalist transhumanism. Biomedical because they eliminate all diseases and can replace body parts, and immortalist because of the biomedical factors combined with reverse aging (which could be considered biomedical depending on how it is done) indicate that people are much less likely to die. However, immortality does not have to guarantee a happy life, which will be discussed later on.

*Elysium* is an excellent example of a film that “feature[s] a recurring tension between humans and technology” (Ceuterick and Johnson, 2019, p. 94). Because of how the advanced life-saving technology is only available to those in Elysium, the technology solidifies tension between the two places, Earth and Elysium. The tension is especially strong between those on Earth and the technology of Elysium, resulting in the lives of those on Earth being lost instead of saved.

## **Cyborg**

The protagonist, Max, who has wanted to go to Elysium since childhood, is exposed to a lethal dose of radiation at work. He is given five days to live while knowing that on Elysium, they could save his life. He begs for a ticket to Elysium and is told he will get one for getting information from a man from Elysium who is currently down on Earth. Because of how weak Max is, especially due to the radiation, he gets a special suit to take on to make him stronger - and this turns him into a cyborg. He goes through major surgery to become a cyborg, an extensive process. Eventually, he wakes up, now a cyborg, and able to do more than he could before the radiation impacted him.

Max becoming a cyborg is an example of how, despite the people on Earth being poor, their technology is more advanced than today’s technology in 2020. Much of how Earth is displayed in the film will seem familiar for the viewer, like the film’s plot could have taken place in our day and age, but the cyborg technology is a contrast to that. In addition to how people on Earth are poor and those on Elysium rich, Max being unique in his cyborg body is an example of eugenic transhumanism; cyborgs are not too common, and only the privileged

have access to advanced, life-saving technology that is reminiscent of ideas from biomedical transhumanism, such as reversed aging and eradicating all diseases.

### **The problems on Elysium**

Throughout the film, Elysium is slowly shown to be a dystopia rather than a utopia. The inhabitants are wealthy and privileged; they have access to biomedical technology that can both save and prolong their lives, and ensure that their lives are healthy. However, it turns out that Elysium is politically corrupt. The president's secretary says that "there is a political sickness inside of it," that she wants a new president. The secretary proves she is not reliable herself when she uses the agent with a criminal record again after being warned not to do so. This shows that politics is a major problem with Elysium, in addition to killing civilians searching for a better life by wanting to become citizens of Elysium to save their lives.

Max eventually gets to Elysium, having to choose between saving his own life, or doing what will benefit everyone on Earth. After much difficulty, he finally manages to get to Elysium's core. This enables him to reboot the system so that everyone becomes citizens of Elysium, including everyone on Earth. This means that Max ended up doing the right thing, even if that means he himself will die. Once the system finds sick people on Earth, shuttles are dispatched to help them, meaning the people down on Earth finally get access to the advanced technology from Elysium that can save their lives.

### **Discussing the technology of Elysium**

The film shows how technological advances and new inventions may cause more significant class differences to resurface once again, and how they may not improve human lives in general. The people on Earth believe Elysium is a utopia, and it might appear as one from the outside with how people never get sick or old. However, the problems are uncovered one by one - despite the advanced technology. The technology only seems to create differences and disagreements. The bi-societal dynamic of *Elysium* exemplifies how "[t]he uneasy relationship between humans and technology even makes us question the future of Earth and



humanity” (Ceuterick and Johnson, 2019, p. 95). Earth has become a place for only the poor, while the rich have moved on to other places, similarly to the society displayed in *Alita*. Additionally, *Elysium* introduces a world where some of the most obvious aspects of humanity have been eliminated, such as diseases (biomedical transhumanism) and the possibilities of immortality (immortalist transhumanism). Again, we find evidence through analyzing science fiction films that a redefinition of what it means to be human might be needed sometime in the future if we are to replace part of our biological selves with technology.

It also becomes clear that technologies are used more for gaining power and taking control than for improving lives. The movie shows us some benefits that technology can grant us, i.e., longer lives and better health, but also underlines how our use of technology is more important for what impact the technology has on our lives, than the technology itself. A world that, in theory, should be utopian can be dystopian upon closer inspection - no matter how beautiful it looks from afar or how great the technology is. The movie also shows how difficult it can be to make the right choice, especially if that means losing everything - humans are flawed and may not always know or want what is best for the world as a whole.

*Elysium* shows a world divided into two, and the structure is very similar to *Alita* with how the city for the rich is up in the sky. Just like in *Minority Report*, the supposed utopia, where the new advanced technology supposed to improve lives is taken into use, turns out to be a dystopia in disguise because of the flaws of Precrime and the surveillance. *Elysium*, *Alita*, and *Metropolis* all show a world where the rich and poor are clearly divided, and where the purpose of the poor is only to aid the rich. Scott Foundas writes that “Fritz Lang’s influence is particularly evident in “Elysium’s” army of industrious worker bees slaving away on the factory floor” (Foundas, 2013, p. 82), pinpointing how *Elysium* is influenced by and gained inspiration from *Metropolis*. The same dynamic is found in *Alita* as well and functions very well as a critique of society both in 1927 and today.

# Altering fate/saving lives

## Mind upload: questions concerning identity and ethics

This chapter will look at one of the specific ideas as to how cyborgs may be created in the future, called mind upload. This ties nicely in with transhumanism's ideas of mind upload but as seen through a science fiction lens. The chapter will also discuss how cyborg implementation may not only affect humanity and societies like in the previous two chapters but also which issues it could bring into the lives of individuals. Topics such as what it means to be human, and questions regarding identity, will also be touched upon.

This chapter's prominent films are *Replicas* (Jeffrey Nachmanoff, 2018) and *Advantageous* (Jennifer Phang, 2015). Both movies show people faced with difficult moral decisions; these are attempted to be solved by mind upload technology - but one could also argue whether the problems are caused by technology as well. Both movies feature people who want to better their own lives or the lives of people they care deeply about, and which consequences the choices they make lead to.

In *Replicas*, a man loses his wife and three daughters in a car accident. He clones his wife and two of his kids to bring them back, but the joy of having them alive does not last long. The clones are not perfect, secrets are hard to keep secret, and others are interested in knowing how to make robots or clones gain consciousness. The clones are cyborgs, and as his family members' minds are uploaded into the clones, they become an example of cognitive transhumanism.

*Advantageous* tells the story of a woman working for a cosmetics company. She needs to choose between having her mind uploaded into a younger body or to lose her only chance of having a job and keeping the income she depends on to pay for her daughter's tuition fees. Themes such as identity and what it means to be human are explored in this movie, and ideas of how we might have to sacrifice ourselves to technology to become transhuman.

## **Replicas**

*Replicas* is a film directed by Jeffrey Nachmanoff, released in 2018. The movie deals with ethical issues in relation to personal choices, similarly to *Minority Report*, but with mind upload as a way to save lives as its technology of focus.

The world has gotten access to increasingly advanced technology. The protagonist, William Foster, works with cloning humans. One of his current struggles revolves around consciousness in machines. At work, William and his colleagues have figured out how to upload a dead or dying person's mind into a machine body, but the machine (technically a cyborg) does not gain consciousness. Thus, they fail to revive the human back to life through mind upload.

## **Analyzing Replicas**

### **Cyborgs**

The cyborgs in *Replicas* are cloned humans. As a way to revive people who die, the lab William works at uploads their minds into a machine in hopes that they get to live on. This is an excellent example of cognitive transhumanism and, more specifically, mind upload, as dead humans are put into tanks for their minds to be transferred into machines in order to revive them.

However, the process is not a simple one, and at the beginning of the film's plot, they have yet to figure out how to make the machines gain consciousness. This is a considerable flaw in terms of bringing someone back to life; in a sense, it could be compared to a human without consciousness. The program is at the risk of being shut down because of this problem, making it impossible to revive humans properly. This shows how they almost abandoned the idea of reviving humans through mind upload and how it can be incredibly difficult (or even impossible) for us to bypass the laws of biology because there are still many aspects of our body we do not understand. They are able to transfer consciousness into animals, but not humans, and William has trouble understanding why that is. This issue is exemplified at the

beginning of the film when a cyborg rebels against what he has become, thus being seen as a threat, and they have to turn him off as he is a danger to himself and those around him. Eventually, William realizes that the problem is that when the cyborg wakes up, their brains search for a biological body but cannot find one - similarly to when a computer cannot find the hard drive to boot up from. In other words, the cyborgs have trouble realizing that the technological body is their body, to replace the biological body, and thus shows how they cannot fuse a human brain with a machine body and expect it to work automatically. Today we have prostheses that work this way, but if we were to replace the whole body post-mortem to revive someone, consciousness and recognizing the machine body as their own may only be two of many problems arising. Biomedical transhumanism focuses on improving our body by using technology such as prostheses that enhance our possibilities instead of only replacing lost body parts. In *Replicas*, we see this taken to a whole new level as they upload minds into cloned bodies. The cloning that is done to make the people revived as cyborgs look identical to their human selves is reminiscent of a high-technological, more detailed version of the process from *Metropolis* where they also made a cyborg look identical to a specific human being. One would not necessarily say that the Machine-Man is a clone of Maria as it only has her looks, not her personality or identity, but the principle of copying someone's looks to imitate them or make people think they are that person is the same - mind upload or not.

When William's wife and children are killed in a car accident, he immediately decides to save their lives through the technology he uses at work. He sets up an entire lab in his garage, breaking laws to get it running, such as stealing batteries from cars to power the extra electricity he needs. He ends up one tank short, meaning he will have to choose one family member not to revive - a dilemma that proves difficult for him, choosing between his children. He eventually lets go of his younger daughter and erases the memories of her from the rest of his family.

Because he still is unsure of how to make the cyborgs gain consciousness, he is pressured for time as the clones grow in their tanks (if he does not release them when they are complete, they will continue to grow older at a rapid speed), knowing they cannot survive or take the place of his family members without gaining consciousness. Cloning humans like he is doing

to revive his family is illegal, and in addition, he pretends to be his family members online to prevent suspicions from rising regarding his family's whereabouts and activities as they stop showing up to school and work. By the time he finally manages to bring his family back to life as cyborgs, with consciousness, he has broken many laws. The fact that he is the first person to clone humans successfully also hints at eugenic transhumanism - at least for the time being.

The cyborg family Willam creates for himself turns out to be flawed. They make strange mistakes and realize this themselves, have issues relating to identity and memories, and so on. On top of that, they also start to remember the daughter that could not be revived due to him being one tank short, especially because Willam forgot to remove all traces of her from their house. Another issue is the ethical aspect of whether it is right of him to have access to all their memories and to interfere with them as he did when he erased memories of his youngest child from the ones uploaded into their minds. His daughter Sophie starts to have nightmares from the car accident that he forgot to erase, so he goes back to erase them. However, one might discuss whether he is erasing memories relating to the dead younger child and the accident (and removing traces of her from the house) to save his family the pain of remembering, or because he hopes to cover up his own traces of cloning them and committing crimes.

### **Consequences of technology's possibilities**

As mentioned above, William breaks several laws to be able to revive his family as cyborgs. He steals batteries from several cars to power the cloning tanks, committing theft. He pretends to be his family online to avert suspicion, which could be considered a breach of his family's privacy. On top of this, cloning humans is illegal. In other words, he commits several crimes on the path to cloning his family, which is illegal in itself.

Thanks to cloning technology, he is able to revive two of his children and his wife, whether illegally done or not. However, he must also sacrifice one of his children due to not having enough cloning tanks, resulting in a major dilemma for him personally. If it were not for the

possibilities of cloning, he would never have been in the position to have to make such a difficult choice - but neither would he have been able to revive any of his family members. According to Haraway, “[c]ontemporary science fiction is full of cyborgs — creatures simultaneously animal and machine, who populate worlds ambiguously natural and crafted” (Haraway, 1991, p. 149). The cyborgs created in *Replicas* are an example of this, especially as they are not just human minds in machine bodies, but clones of the dead family members grown in tanks in hopes they will become exact replicas once the family members’ minds are uploaded into them.

To save his revived wife and children from the pain, he erases the memories of his youngest child from them, but one could discuss whether this is correct for him to do based on an ethical perspective. His wife catches him later on as he erases his living daughter’s memories of the accident (which he must have forgotten to do before) and confronts him about it. He admits they are clones, and it takes a while for her to understand why he would do that, indicating that she might not be too happy to have been cloned and revived.

Because the cyborgs are flawed as they are not perfect clones of his family, it challenges his happiness when he manages to bring his family back to life as cyborgs. As the clones are not perfect, that can make it more challenging to forget that they are clones, reminding him of the accident and his lost child. The cyborgs suffer from this as well, such as when they do something strange and realize that what they do is out of character for them, which would not have been possible if they were perfect clones. If they were perfect clones, they would not have done anything out of character or realized if they did because realizing could be a sign that they are not truly themselves (indicating they could be a clone).

The process of cloning his family and trying to bring them back to life causes him much emotional stress. One could wonder whether the situation he is put in because of the possibilities offered by new, advanced technology causes him more stress than planning their funerals and accept that he has lost them. If reviving his family was simply impossible like it is today, it would have been a tragic accident, and he would have lost them for good. However, because he hopes to save them, he goes through much extra emotional stress without even knowing if he will succeed in bringing them back to life as cyborgs, or if the

clones will be anywhere near perfect. This shows how new and advanced technologies will bring both new possibilities, and new dilemmas reminiscent of fears expressed by Ferrando, both for society as a whole and on a more personal level.

## **Advantageous**

*Advantageous* was directed by Jennifer Phang and released in 2015. Similarly to *Replicas*, the movie shows how science fiction imagines humans struggling with technological advancements of the future on a personal level.

Protagonist Gwen Koh has two choices: Either she has to transfer her consciousness into a machine (mind upload) to keep her job and be able to provide for her daughter Jules adequately, or she loses her job due to not looking young enough anymore. Gwen works for a biotech cosmetics company, and the newest technology allows people to choose their own bodies for their minds to be uploaded into. Because they need someone to test out this technology, and because Gwen has started looking too old for her job in this world where women over a certain age have trouble finding jobs, she eventually goes through with it. However, the technology is far from perfect; it causes her much pain for a while after the operation and technically results in her own death as her consciousness leaves her old body to fuse with the new body.

## **Analyzing Advantageous**

### **Cyborgs**

Gwen loses her cosmetics job; they believe they need a younger face to represent the company. Gwen looks for a new job and is offered to be a paid egg donor since many women can no longer have children. Gwen ends up not taking this job because she would not be paid for a few months, and that would be too late. She eventually goes back to get her old job back by agreeing to test out their new plastic surgery to make her look younger. However, this plastic surgery does not mean fixing or changing her body - it means replacing it. By

uploading her mind, her identity, and memories into a machine body that looks perfect, she can keep her job and help the company promote the new procedure at the same time. The procedure sounds impressive; it lets people choose their new body from a catalog. However, when someone is uploaded into their new body, it involves the original conscious mind dying. In other words, a copy of the person lives on in the machine body while the person is technically dead. This is why Gwen becomes Gwen 2.0 after the procedure. As Hayles wrote, “the empire of the cyborg is still expanding, and the liberal subject, although more than ever an autonomous individual, is literally losing its mind as the seat of identity” (Hayles, 1999, p. 149). This very well describes what Gwen goes through, as mind upload has just recently become a possibility (but it seems to be expected to become popular), and especially as she before the procedure thinks a lot about identity and what defines a human.

To ensure the product’s success, as she is the first civilian to try, she is told that she will not be able to choose her body. It is then revealed - internally - that the test subjects experience breathing problems and therefore require a shot every two hours for a whole year. Besides, the subjects experience recurring pains. In other words, the process is not as seamless, pain-free, and perfected as the company makes it sound. This shows that the technology is flawed and indicates ethical problems when they know of these issues with the technology without telling people about it. It could also be discussed whether one could regard the procedure as safe or why they do not attempt to improve upon the technology before they have someone test it.

The board of the company had expected Gwen to offer herself to go through the transition. Perhaps they fired her only in hopes she would offer to try out the operation, knowing she needed the job and that no one was better at the job than her? Gwen is told she needs to tell her daughter about the change she will undergo. She is warned about the flaws of the technology and asked to rethink her decision, but Gwen sees it as the only chance to secure Jules’ future as she knows she will not get any other job offers. In a way, Gwen is taken advantage of - she needs to go through with the procedure if she wants to keep her job, and without the job, she cannot provide properly for her daughter.



Throughout the film, and perhaps especially when Gwen tries to decide whether to get the procedure done, identity and what makes us human is a central aspect. Gwen wonders what a human is, or rather what defines us as humans, indicating that she feels conflicted about whether she will still be human as a cyborg. Because of the focus on identity in combination with technology, *Advantageous* “interrogat[es] how technological advance may challenge our ontological understanding of the category of the human” (Miller, 2018, p. 178). This is important because it makes us wonder if cyborgs are a mutation of humans, like in *Minority Report*, or if cyborgs are something else than humans and should be regarded as a whole new species. Again, we see an example from science fiction, where Ferrando’s idea of reinventing what it means to be human becomes relevant. Whether we should decide upon becoming a new species with a new name such as posthuman or transhuman, or redefine what a human is, will perhaps become an important discussion someday.

Gwen goes through with the procedure, thus becoming a cyborg. It soon becomes clear that Jules’ mom’s personality has changed, and for the first time throughout the movie, she seems annoyed with her daughter. Jules then asks, “where is my mother?” - indicating that she does not see her new cyborg-mom as her mom. Jules eventually tries to hit Gwen 2.0 and starts crying as she asks again where her mother is. This shows another problem with the technology because the host does not seamlessly act like the person whose mind was uploaded into its body.

Gwen 2.0 admits to being in pain and feeling anger, and also believes her daughter hates her. Because of the poor relationship between Jules and Gwen 2.0, everything will have been in vain if she does not end up helping her daughter by paying the tuition because of it. The host will believe she is Gwen because she has no other memories than Gwen’s, and does not want Jules to know that Gwen 2.0 is a host for Gwen’s mind - assumingly because this would worsen their relationship even more if she figured out that Gwen 2.0 technically is not Gwen. Perhaps what is illustrated here is the relation between identity and memories. Gwen’s memories affect her identity, and if she could be missing some of her memories relating to her and Jules, this could be why Gwen 2.0 believes that the part of her from Gwen that should care about Jules is not in her. If that is the case, this could explain how Gwen 2.0 acts

differently from Gwen in the beginning but then becomes more like her as she creates new ones with Jules and better understands their relationship.

Gwen 2.0 starts to act more and more like Gwen as time passes, with Jules realizing this and saying, “[she is] starting to sound like her,” which means the host is becoming more like Gwen. Why the host takes time to become more like Gwen is not stated in the film, but it leads to a strained relationship between Jules and Gwen 2.0, with Jules at a point hiding the shots Gwen 2.0 depends on to be able to breathe - making the viewer wonder for a moment if she wants to kill her. This is clearly a vital flaw with the transition, when the host acts so differently from its original person that the most important relationships become strained to the point of almost killing the host. If Jules got to know that Gwen 2.0 is not actually Gwen, but Gwen’s mind technologically put into a machine body through a procedure that killed her mom, the consequences could have been fatal for Gwen 2.0.

One could consider Gwen a woman desperate to do what is best for her child. The world has become a more difficult place to be, and only the younger generations are getting jobs. Gwen had no choice but to become a cyborg if she wanted the best for her daughter, as neither her parents nor her sister were willing to give her the money needed for Jules’ tuition. Jules technically loses her mother, but does it matter with a copy of her that is younger and can keep the job needed to provide for Jules and give her an education? Towards the end of the story, Jules and Gwen 2.0 get along well and even gather with Gwen’s sister’s family, where everyone appears to be happy and have accepted the ‘new’ Gwen. Perhaps it does not matter for anyone but Gwen, i.e., the person transitioning, the one dying. Gwen did not seem in doubt about making this sacrifice for her daughter’s future’s sake, and perhaps as long as the person is willing to transition, it does not matter for anyone else. The 2.0 version of Gwen behaves a bit strangely at first but then becomes an exact copy of Gwen, and as the others accept Gwen 2.0 as Gwen, it will not feel like Gwen is dead to them. This is *Advantageous*’ interpretation of cognitive and immortalist transhumanism that displays how we might have to die to become immortal through mind upload and showing how someone might sacrifice themselves to technology for the sake of their loved ones. However, one could discuss whether mind upload is worth it to immortalize oneself if it means dying in the process while only the contents of one’s mind live on.

## **Consequences of new and advanced technologies**

*Advantageous* shows us a world that feels familiar, but where some aspects have changed for the worse. For example, it is said within the first few minutes of the film that angst and depression have become the norm. This shows that despite all the new and advanced technologies that one would think were implemented to improve human lives, mental health has worsened significantly. Here and there, there are other small indications of the world not being a good place, like a news broadcaster saying there were four explosions that day.

*Advantageous* displays a world where “sophisticated holographic technology has been bundled with mass surveillance” (Miller, 2018, p. 181), technology has become ubiquitous, but the technological evolution is not necessarily to everyone’s advantage.

Technology, however, has been improved upon, i.e., by how they are able to make phone calls and receive text messages without a phone - as if they are inside their heads, with the help of a tiny earpiece. This is an example of a technology that could make lives a lot easier. However, one could also wonder about aspects such as surveillance and ethics regarding this invention, reminiscent of the surveillance technologies found in *Minority Report* and *Elysium*.

Problems have started when it comes to human biology as well; DNA and reproduction are at stake. Gwen’s daughter, Jules, speaks of adopting kids when she is old enough. Humans have difficulties with reproduction, and thus it seems to adopt children might become the norm in the not-so-distant future. However, reproduction issues might cause there to be fewer and fewer children up for adoption, eventually causing the human race to go extinct. The film does not go into depth about why or how these issues have arisen, but perhaps one could imagine radiation being part of it.

Before Gwen transitions into Gwen 2.0, she concerns herself with thoughts of identity and what a human really is. As she loses her job and is unable to get another one, she feels as if she has lost her value. This is increased by the possibility of getting her old job back if she transfers her consciousness into a new body, and at one point, she states that “there must be something in a mere human existence that has value.” In other words, her transitioning into

Gwen 2.0 might indicate that she could not identify that something of value and could be a sign that pure biological humans might be regarded as of less value once cyborgs become a reality. This adds another layer to how technology has taken over many of the jobs previously held by humans and might even indicate traces of post-centralization posthumanism, where humans are no longer the central or most important species anymore.

Commercials are shown as well; they have invented a way to eliminate all diseases one might have by transferring to a body of one's choosing. This could be compared to the idea of mind upload from cognitive transhumanism - a robot with the consciousness and memories of a human. According to the commercial, the process is without losses and close to pain-free - but this is not true. This could also be seen in relation to the previous chapter about utopias and dystopias: The world seems to have become closer to a dystopia than in today's reality and to make up for it, they present a solution that sounds utopian but is more flawed than they are willing to admit, similarly to the technology in *Minority Report*.

## **Mind upload**

*Advantageous*' version of mind upload is different from *Replicas*'. In *Replicas*, mind upload is a way of reviving people who have passed away by cloning them and using mind upload for the clones to gain the person's identity and memories. In *Advantageous*, quite the opposite happens: The person dies as their mind is uploaded into a body of the person's choosing. In other words, *Replicas* uses mind upload to save the lives of those who have already passed away, while *Advantageous* uses mind upload to reverse aging so that people can keep their jobs longer.

The ethical questions are also different. In *Replicas*, it is William's decision to clone and revive his dead family by turning them into cyborgs. As dead people cannot choose whether they would like to be revived or not, others have to make that decision for them without knowing what their wishes are. In a way, one could say William made an egoistical choice by reviving his family, a choice he made for his own sake more than theirs. In *Advantageous*, however, Gwen makes the decision herself - for the sake of her daughter's future. The ethical

questions rather lie in how she had to become a cyborg to keep her job, with the cosmetics company she works for unwilling to admit to the public which flaws the technology has.

Both films are great examples of possible consequences of implementing cyborg technology and of cognitive transhumanism, such as mind upload in particular. The films also show traces of immortalist transhumanism, especially *Advantageous*, that focuses on the need for reversed aging for people to be able to keep their jobs. *Replicas* has a focus on cloning, meaning the film shows aspects of biomedical transhumanism, which *Advantageous* does not have. The host bodies in *Advantageous*, such as the body of Gwen 2.0, are not explained in detail, other than that they seem artificial rather than biological.

Mind upload is one of the science fiction-esque ideas of cognitive transhumanism, and as seen in this chapter, it would allow humans to do incredible things; reverse aging, choose a new body from a catalog, and perhaps even become immortal. The changes to society and human lives brought on by these technologies would be beyond our imagination, even though *Replicas* and *Advantageous* help us visualize some of them.

# Conclusion

## Concluding thoughts

Both the digital philosophy and the science fiction films discussed in this thesis express concerns related to our technological future. Some transhumanists believe we have no choice but to become transhuman to keep up with technological evolution and see transhumanism as not only a logical but a necessary step for the human race not to go extinct. On the other hand, science fiction helps illustrate the ideas associated with combining our bodies with machines and reminds us of what could go wrong.

Science fiction shows us a world of possibilities and ideas about how the future could look like. Some of the films show dystopian worlds, while others show a world that looks utopian but is really a dystopia in disguise. *Metropolis* shows how technology can turn people into mere biological tools for technological tools; *Alita* illustrates how future technological advancements may not make the world a better place. *Minority Report* shows groundbreaking technology that prevents murders but with several major ethical concerns, while *Elysium* tries to tell us that we would not necessarily be happier even if diseases no longer existed. *Replicas* is an example of how tricking death through mind upload could both be flawed and bring difficult choices, and *Advantageous* shows how the possibility of uploading one's consciousness into a machine could introduce a new level of identity but also induce new mental health issues.

Several of the typologies from the posthumanism and transhumanism chapters become relevant throughout the analyses of science fiction films. *Metropolis* shows a being that is posthuman with antihumanist and post-centralization posthumanism tendencies and also touches upon the general idea of transhumanism. *Alita* illustrates biomedical transhumanism as well as post-centralization posthumanism, and hints at both evolutionary transhumanism and eugenic transhumanism without either of the contradictory typologies being a proper fit for the society. *Minority Report* features biomedical transhumanism. *Elysium* contains examples of biomedical transhumanism, immortalist transhumanism, and eugenic transhumanism. *Replicas* shows what cognitive transhumanism (mind upload) and

biomedical transhumanism could look like in practice, and hints at eugenic transhumanism. Finally, *Advantageous* features the most examples of typologies in practice of them all; cognitive transhumanism (mind upload), biomedical transhumanism, eugenic transhumanism, and immortalist transhumanism. This highlights how theories from digital philosophy can be visualized and brought closer to reality through science fiction. All six films analyzed are dystopian and help identify some of the consequences and issues both society and individuals may face regarding cyborg implementation (that can possibly be applied to other advanced technologies of the future as well). Some of the most significant consequences identified and discussed in this thesis are societal challenges such as increased class differences, ethical issues (e.g., surveillance), and problems related to the definition of human and human identity.

Regularly, we welcome new technologies into our lives, technologies that are meant to make our lives easier and better. But do we stop and think about, at what cost? Science fiction tends to show alternate dystopian futures that often include technology that is flawed or have other issues related to its implementation. Most of the films may not seem realistic, but when some of them, such as *Alita*, takes place over 500 years into the future, no one could tell which film's plot is prospective and may be or become realistic, and which is absolutely imaginary and phantasmatic. For certain, we do not know where the future is headed, but there is no reason to believe that new technologies will not keep being invented, that human-machine interaction will only become more advanced, and our lives will become more entwined with technology. The remaining question is whether these changes will be truly disruptive.

We may have to redefine what it means to be human, whether the new species is called posthuman or transhuman or something entirely different. Permanently and profoundly merging ourselves with technology may not be an unfounded idea, given the fact that prostheses already exist and steadily widen the agency of their user. However, if we were to start replacing our currently perfectly functioning body parts with technologies radically enhancing personal and collective possibilities, that would be different - we would become cyborgs.

Irrespective of whether one is for or against the idea of cyborg implementation, this thesis highlights how critical thinking about cyborgs and projecting oneself and humanity into possible futures is vital. Prospective, projections, modelization, and imaginative process, e.g., fiction, may support the intuition that no matter if a newly invented technology seems to improve our lives and make them so much easier, the consequences may not make it worth welcoming into our lives after all. However, long term consequences can be challenging to predict, and perhaps this is why science fiction should not be purely disregarded as fiction but rather seen as an entertaining way to show us concerns regarding what the future could actually look like. Suppose we are to give up part of our biology, and of our DNA, in favor of technology someday. In that case, we need to be absolutely sure this will improve our lives and bring positive changes to society - and science fiction seems skeptical about whether that will be the case.

## **Future opportunities and unanswered questions**

This thesis shows clear bridges and similarities between ideas found in digital philosophy and works of science fiction. Modern philosophers, computer scientists, and science fiction all imagine a future where humans and machines become one, no matter if they choose to refer to this being as a cyborg or something else. This thesis clarifies that science fiction tends to show the viewer how theoretical ideas that sound utopian may turn dystopian in practice as they are put into use. These include the future of medicine, which has been referred to as biomedical transhumanism, as well as the possibility of immortality that immortalist transhumanism focuses on - eliminating one of the most necessary steps of biology and humanity all together. It can be difficult to imagine a future where our lives and even our bodies are so different that we might need to redefine what it means to be human or become an entirely new species such as cyborgs. In the future, we might need to discuss whether to reinvent what a human is, or whether we want to be seen as a new, separate species under another name.

Many questions and issues arise from thoughts about what the future might look like. Will we become one with machines? Will humanity evolve together into a new species as



evolutionary transhumanism suggests, or will only the rich and privileged have the chance as eugenic transhumanism suggests? Immortalist transhumanism dreams of using technology to bypass laws of biology and eliminating death, but there are no guarantees that a longer life means a happier life. *Metropolis* shows a world where a cyborg is used for purposes of destruction that risk many lives. *Alita* and *Elysium* display worlds where Earth is deserted or only inhabited by the poor. *Minority Report* shows ethical issues rooted in a utopian idea that is a lot more flawed than they are willing to admit. *Replicas* and *Advantageous* focuses on showing the viewer that even if immortality was made possible, the technology could be flawed and bring us issues that we have difficulties even imagining today - ethically and personally.

The goal of new technologies is usually to improve our lives somehow by making them simpler and happier. Through digital philosophies and works of science fiction, we see concerns expressed when it comes to whether this statement is true for all technologies. More surveillance, ethical issues, increased class differences, split societies, and personal dilemmas are all possible consequences of implementing cyborg technology. However, one or more of these consequences raise concerns concerning innumerable new technologies. How far are we willing to go for technology, for science? When technology evolves at the rapid speed it does today; there is no way to know the long-term effects and consequences before implementing these technologies and welcoming them into our lives. Transhumanism expresses ideas way beyond our biological code, thoughts of leaving behind the body by uploading our minds into machines, hopes for immortality, and reversed aging... But at what cost, and for which consequences? Then again, some of the philosophers cited believe we have no choice, that we need to merge ourselves with machines to prevent going extinct, because of how technology is catching up to our intellect. Is this a sign that we should slow down technological evolution, or a sign that the best future for humanity lies in becoming one with technology?

Whether humans will become posthumans, transhumans, cyborgs, something else, or stay human is difficult to predict. Either way, this thesis shows how and why not all technological improvements will improve human lives, and identifies and discusses some of the possible consequences of cyborg implementation. This thesis also shows the importance of science fiction concerning theories from digital culture and digital philosophies. Science fiction helps

us illustrate and imagine alternative futures that sometimes are closer to the way science pictures the future than what we are aware of. Even though science fiction is intended as fiction, the works analyzed in this thesis show similar ideas to the ones found within science and philosophy, and help identify potential issues related to future technologies.

# Bibliography

- Aguilar, David. 2019. "My Transhumanist Story of Overcoming with LEGO." In *The Transhumanism Handbook*, edited by Newton Lee, p. 491-498. Cham: Springer.
- Ahamed, S., P. Madan, and A. K. Singh. 2019. "Transhumanism in India: Past, Present, and the Future." In *The Transhumanism Handbook*, edited by Newton Lee, p. 701-716. Cham: Springer.
- Booker, M. Keith. 2010. *Historical Dictionary of Science Fiction Cinema*. Lanham: The Scarecrow Press.
- Bordwell, David, Kristin Thompson, and Jeff Smith. 2017. *Film Art: an Introduction* Eleventh ed. New York: McGraw-Hill Education.
- Buchanan, Ian. 2010. "Posthumanism." *A Dictionary of Critical Theory*. Oxford: Oxford University Press. Retrieved 20.01.2020.  
<https://www.oxfordreference.com/view/10.1093/acref/9780199532919.001.0001/acr9780199532919-e-540?rskey=8qNVAX&result=540>.
- Clarke, Julie. 2002. "The Human/Not Human in the Work of Orlan and Stelarc" in *The Cyborg Experiment: The Extensions of the Body in the Media Age*, edited by Joanna Zylińska, 33-55. London: Continuum.
- Claeys, Gregory. 2017. *Dystopia: A Natural History*. Oxford: Oxford University Press.
- Clynes, Manfred E. and Nathan S. Kline. 1960. "Cyborgs and space." *Astronautics*, September 1960. Retrieved 24.09.2019.  
<http://web.mit.edu/digitalapollo/Documents/Chapter1/cyborgs.pdf>.
- Coernelle, Didier. 2019. "How to Organize a Moonshot Project for Amortality: Scientific, Political, Social and Ethical Questions." In *The Transhumanism Handbook*, edited by

- Newton Lee, p. 455-464. Cham: Springer.
- Elsaesser, Thomas. 2000. *Metropolis*. London: British Film Institute.
- Ferrando, Francesca. 2013. "Posthumanism, Transhumanism, Antihumanism, Metahumanism, and New Materialisms: Differences and Relations." *Existenz* 8 (2): 26-32. Retrieved 02.12.2019. <https://existenz.us/volumes/Vol.8-2Ferrando.pdf>.
- Foundas, Scott. 2013. "Back to the Future for Blomkamp." *Variety*, Aug 06, 81-83. Retrieved 01.11.2020. <https://search-proquest-com.pva.uib.no/docview/1429232780?accountid=8579>.
- Haden, Sara. 2020. "Building Their Own Ghost in the Shell: A Critical Extended Film Review of American Live-Action Anime Remakes." *History in the Making* no. 13 (2020): 307-316. Retrieved 06.10.2020. <https://scholarworks.lib.csusb.edu/cgi/viewcontent.cgi?article=1151&context=histoin-the-making>.
- Haraway, Donna. 1991. "Science, Technology, and Socialist-Feminism in the Late Twentieth Century" in *Simians, Cyborgs and Women: The Reinvention of Nature*, 149-181. New York: Routledge.
- Hayles, N. Katherine. 1999. *How We Became Posthuman: Virtual Bodies in Cybernetics, Literature, and Informatics*. Chicago: The University of Chicago Press.
- Huysen, Andreas. 1981. "The Vamp and the Machine: Technology and Sexuality in Fritz Lang's *Metropolis*." *New German Critique*, no. 24/25 (1981): 221-237. Retrieved 04.10.2020. doi:10.2307/488052.
- Lee, Newton. 2019. "Brave New World of Transhumanism." In *The Transhumanism Handbook*, edited by Newton Lee, p. 3-48. Cham: Springer.

- Lee, Newton. 2019. "In Search of Super Longevity and the Meaning of Life." In *The Transhumanism Handbook*, edited by Newton Lee, p. 313-354. Cham: Springer.
- Levchuk, Kate. 2019. "How Transhumanism Will Get Us Through The Third Millennium." In *The Transhumanism Handbook*, edited by Newton Lee, p. 75-88. Cham: Springer.
- Miller, T. S. 2018. "Precarity, Parenthood and Play in Jennifer Phang's Advantageous." *Science Fiction Film and Television* 11 (2): 177-201,357. Retrieved 14.11.2020.  
<https://search-proquest-com.pva.uib.no/docview/2055194027?accountid=8579>.
- Peng, Qingyue. 2019. "The Humanity and Feminism of Robots in Sci-fi Movies ---Take Alita: Battle Angel (2019) as an Example." Retrieved 05.10.2020.  
[http://papers.iafor.org/wp-content/uploads/papers/ecah2019/ECAH2019\\_52221.pdf](http://papers.iafor.org/wp-content/uploads/papers/ecah2019/ECAH2019_52221.pdf).
- Sargent, Lyman Tower. 2010. *Utopianism: A Very Short Introduction*. New York: Oxford University Press.
- Thweatt-Bates, Jeanine. 2016. "The Cyborg Manifesto" in *Cyborg Selves: A Theological Anthropology of the Posthuman*, 15-40. Surrey: Ashgate Publishing Limited.
- Vita-More, Natasha. 2019. "History of Transhumanism." In *The Transhumanism Handbook*, edited by Newton Lee, p. 49-62. Cham: Springer.
- Wells, Joshua J. 2014. "Keep Calm and Remain Human: How We Have Always Been Cyborgs and Theories on the Technological Present of Anthropology." *Reviews in Anthropology* 43 (1): 5-34. Retrieved 25.09.2019.  
<https://www.tandfonline-com.pva.uib.no/doi/full/10.1080/00938157.2014.872460>.
- Wiener, Norbert. 1948. *Cybernetics: or control and communication in the animal and in the machine*, Fourth printing 1985. Cambridge: The M.I.T. Press.
- Wolfe, Cary. 2010. *What Is Posthumanism?* Minneapolis: The University of Minnesota

Press.

Zilahy, Jeffrey. 2019. "Pragmatic Paths in Transhumanism." In *The Transhumanism Handbook*, edited by Newton Lee, p. 605-612. Cham: Springer.

## **Filmography**

Blomkamp, Neill (TriStar Pictures). "Elysium." Film. 2013.

Lang, Fritz (UFA). "Metropolis." Film. 2010 re-release of the original from 1927. Retrieved 30.04.2020. <https://www.youtube.com/watch?v=AvtWDIZtrAE>.

Nachmanoff, Jeffrey (Di Bonaventura Pictures). "Replicas." Film. 2018.

Phang, Jennifer (Good Neighbors Media). "Advantageous." Film. 2015.

Rodriguez, Robert (20th Century Fox). "Alita: Battle Angel." Film. 2019.

Spielberg, Steven (20th Century Fox). "Minority Report." Film. 2002.