

University of Pardubice

Faculty of Arts and Philosophy

The Man and the Machine:  
The Concept of Humanity in Cybernetic Organisms  
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Diploma Thesis

2021/2022

Univerzita Pardubice  
Fakulta filozofická  
Akademický rok: 2020/2021

# ZADÁNÍ DIPLOMOVÉ PRÁCE

(projektu, uměleckého díla, uměleckého výkonu)

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Téma práce: **Člověk a stroj: pojetí lidskosti u kybernetických organismů**  
Zadávací katedra: **Katedra anglistiky a amerikanistiky**

## Zásady pro vypracování

Diplomová práce se bude zabývat vyobrazením vztahu mezi člověkem a strojem ve vybraných dílech americké kinematografie 80. let (konkrétní korpus primárních zdrojů bude stanovovat po dohodě se školitelem). Teoretická část představí různé přístupy k otázce techniky (Ortega Y Gasset, Heidegger, Singer, Asimov apod.) a vysvětlí pojmy spojené s oblastí kybernetiky, robotiky, transhumanismu. Praktická část se zaměří na zobrazení této problematiky ve vybraných filmech, konkrétně se pokusí osvětlit složité hledání dělící čáry mezi člověkem a kyborgem a s tím související etické a mravní výzvy.

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Rozsah pracovní zprávy:

Rozsah grafických prací:

Forma zpracování diplomové práce: **tištěná/elektronická**

Jazyk zpracování: **Angličtina**

Seznam doporučené literatury:

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Termín odevzdání diplomové práce: **31. března 2022**

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## **Acknowledgement**

I would like to thank my thesis supervisor, Mgr. Michal Kleprlík, Ph.D., for his consultation and guidance. I would like to thank my classmates for mutual moral support.

Prohlašuji:

Práci s názvem „The Man and the Machine: The Concept of Humanity in Cybernetic Organisms“ jsem vypracoval samostatně. Veškeré literární prameny a informace, které jsem v práci využil, jsou uvedeny v seznamu použité literatury.

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## **ANNOTATION**

This thesis focuses on the depiction of man, machines and cyborgs in the American cinema of the 1980's in the movies The Terminator, Robocop and Blade Runner. The theoretical part establishes important background information regarding cybernetics, machines, popular fiction, and ethics. The following chapter is dedicated to exploration of possible positives and negatives of previously mentioned technologies. The final, practical, part examines the selected movies and the relationship of technology and man depicted in them.

## **KEY WORDS**

Man, machine, cyborg, Terminator, Blade Runner, Robocop, ethics

## **ANNOTACE**

Tato diplomová práce se zabývá vyobrazením člověka, strojů a kyborgů ve vybraných dílech americké kinematografie v 80. letech 20. století. Teoretická část se zaměřuje na důležité termíny a pojmy z oboru kybernetiky, strojů, populární literatury a etiky. Následující kapitola je věnována porovnání možných pozitiv a negativ těchto technologií ve světě. Poslední část práce analyzuje již zmíněné filmy a jejich vyobrazení vztahu mezi člověkem a strojem.

## **KLÍČOVÁ SLOVA**

Člověk, stroj, kyborg, Terminátor, Blade Runner, Robocop, etika



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## Introduction

Technology advances at an incredible pace. What was thought impossible a century ago has been obsolete for decades. The stuff of the future will be available in the next five years. In fact, the progress has been so rapid that even the old Moore's Law, that the power of computers doubles every year and a half<sup>1</sup>, cannot keep up. But what happens when instead of tools and machines, humans will be able to make other humans? Either based on an organic core of humans themselves or starting from scratch. What will the fusion of mankind and technology look like? There are many differing views from different authors from across the twentieth century and all have their merits. But there is no decade where this question has crystallized more than the 1980s. The computerization of America was in full swing and people wondered where this change can lead and many tried to answer that question. These include the movies *Blade Runner* from 1982, although based on the works of Phillip K. Dick from the 1960s, *The Terminator* from 1984, and finally *Robocop* from 1987. All three of these movies view the role of man and technology very differently and this thesis will try to explore the most obvious and important themes within them.

The first part will deal with the history of the term 'cyborg' with a quick overview of the idea both in real life and in fiction, while also exploring the movements of naturalism and transhumanism before briefly exploring the complicated world of the AI and machine ethics, while the second half will address the two approaches to technology, is it good or is it bad for humanity, while also looking at prototypical cyborgs and artificial intelligence systems that are being implemented into everyday life even today.

The second part will then explore the individual movies and their themes and the depiction of technology in each of them and how they compare against each other. While also exploring the overarching plot element in those movies, the city itself. And finally, asking and answering the question of what is more valuable, a man, machine, or a combination of the two? And especially how the selected movies deal with this topic.

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<sup>1</sup>"What is Moore's Law?" Synopsys, Published June 30, 2021, <https://www.synopsys.com/glossary/what-is-moores-law.html>.

# 1. Cyborgs in real life

What is a cyborg? This is the most paramount question of this thesis. As such it requires some established understanding, at least for the purposes of this work. As is the case with many subjects and topics, the individual item or thing has existed for a long time before being properly defined. The first definition and the official use of the term cyborg come from a Science journal from 1960.

Two authors, Manfred E. Clynes and Nathan S. Kline used the term, coming from the blending of the words “cybernetic” and “organism” to denote a modified human being designed for survival in the hostile areas of space and other planets.<sup>2</sup> The term “cybernetic” was in turn coined by Norbert Wiener in 1948 from the Greek word “Kubernetes” meaning “steersman”, a word from which “governor” is also derived.<sup>3</sup> In Wiener’s words, cybernetics means communication and control together. It is his intent to “...impart a message on him, and when he communicates back with me he returns a related message which contains information primarily accessible to him and not to me...”<sup>4</sup> The author then continues that society can be understood through a study of messages and communications facilities that produce them and that in the future people will be able to communicate with machines in a way they do with each other.<sup>5</sup> Combined with the idea of a cybernetic organism, the purpose of this can be understood as a man being able to communicate with a machine that are parts of the same organism.

Clynes and Kline believe that unlike the evolution of the past, which adapted man to better thrive within his environment, it will be possible to achieve similar results “without heredity by suitable biochemical, physiological and electronic modifications of man’s existing modus vivendi.”<sup>6</sup> Their proposition might seem contraindicative to how cyborgs are viewed today, particularly in science fiction. The authors’ original proposal is about a man becoming a cyborg to free himself to explore the depths of space. As the authors put it, “if a man in space, in addition to flying his vehicle, must continuously be checking on things and making adjustments merely in order to keep himself alive, he becomes a slave to the machine.”<sup>7</sup> An

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2 Manfred E. Clynes, Nathan S. Kline, “Cyborgs and Space,” Rockland State Hospital, *Astronautics* (September 1960): 26-27.

3 Norbert Wiener, *The Human Use of Human Beings: Cybernetics and Society*, (London: Free Association Books, 1989), 15.

4 Wiener, *Human Use*, 16.

5 Wiener, *Human Use*, 16.

6 Clynes, Kline, „Cyborgs and Space,” 74.

7 Clynes, Kline, „Cyborgs and Space,” 75.

example of this is scuba diving equipment, where the wearer must constantly be checking his oxygen levels and keeping in mind various factors to ensure his safe return above water. Therefore, if he had some sort of device that would automatically deposit oxygen into his lungs or a converter that would extract oxygen like the gills of a fish, he would not need to concern himself with “staying alive” and fully focus on the underwater exploration.

The rest of the article deals with individual issues arising from people living in space, such as metabolic problems, hypothermia, oxygenation and carbon dioxide removal, fluid input, and output and perceptual problems. And according to the article, most of these problems were possible to solve at the time it was written, in 1960, while some of them were matters of future discussion, most of the basic scientific frameworks, like biochemistry and subdermal implants, already existed at that time and would only need to be developed further or modified.<sup>8</sup>

In conclusion, Clynes and Kline outline the possibility of the future existence of cyborgs as a positive event, a means for man to free himself of the constraints of Earth and its environment to better explore space, allowing him to live in various conditions or ecosystems compared to taking his “habitat” with him to the stars. By their description then, a cyborg can mean a man modified by technology in a minor or major way. Technology in this instance does not only mean mechanical adjustments like artificial limbs, but also biochemical alterations to change the human body’s inner and unconscious processes to allow the person to function in vastly different circumstances (e. g. high radiation, low oxygen, minimal nutrition). The level of adjustment for denoting the term cyborg is not specified, but one example in the journal consists of implanting a dispenser for radiation negating drugs. A similar system is used for heparin injections. It is reasonable to assume that based on this article, people with Rose osmotic pumps or pacemakers could be considered cyborgs, or at the very least proto cyborgs.

The author Chris Hables Gray makes a similar claim in his book *The Cyborg Handbook*. He argues that up to 10% of the current population of the United States can be considered cyborgs in a technical sense. These people use electronic pacemakers, artificial joints, drug implant systems, corneal lenses, and even artificial skin.<sup>9</sup> As discussed in the text above, that would seem to fit the original definition of cyborg by the term coiners. Chris Gray goes further than that, however, as he continues that a much larger percentage of the US

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<sup>8</sup> Clynes, Kline, „Cyborgs and Space,“ 74-76.

<sup>9</sup> Chris Hables Gray, *The Cyborg Handbook* (New York, NY: Routledge, 2009), 322.

population have occupations that would make them metaphoric cyborgs, like people working at a computer, due to the fact they form a “cybernetic circuit” with the computer and their brain. Or a neurosurgeon guided by a fibre optic camera inside the patient’s body during an operation.<sup>10</sup> This is, however, a very loose interpretation of the above-described term as it could be potentially expanded to include all people who use some sort of technology, be it a watch or a smartphone, and these really do not fit the type of cyborgs that this thesis will be working with. Therefore, only the original definition with some slight alterations, which will be delved into in later chapters, will be included in the analysis.

Despite Kline and Clynes’ original idea, the term “cyborg” has gained a completely different meaning in the science fiction medium. Nowadays, cyborg means an entity that is “part man, part machine”, as the Oxford dictionary explains.<sup>11</sup> And unlike the previous description, cyborgs are usually depicted as being slaves to some form of a machine, the opposite of what the authors of this term intended. In *The Terminator*, which this thesis will discuss in greater detail later, the titular “cyborg” is depicted as a machine with human parts, rather than a human with machine parts, and as such it has to obey its programming from its AI master, the Skynet.<sup>12</sup> And as the later analysis will also show, *The Terminator* can hardly be called a cyborg. In other words, like *Robocop*, it is about the internal struggle between the programming of the cyborg’s artificial parts and his remnant humanity. On the other hand, real-life has been catching up to the science predicted and envisioned by Kline and Clyne and the real examples of “cyborgs” are coming closer and closer to the authors’ original vision in several areas.

In recent years several companies have been experimenting with implantable microchips for use in the workplace. Specifically, they intend to use Radio Frequency Identification (RFID) chips to allow employees to open locked doors, access printers and vending machines, or turn on the lights with a simple wave of the hand.<sup>13</sup> RFID chips can communicate with tags by reading the information stored inside them through radio waves either in close proximity, being scanned at very close distance, or by vicinity, being accessible

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10 Gray, *The Cyborg Handbook*, 322.

11 “Overview: Cyborg,” Oxford Reference, accessed February 14, 2022, <https://www.oxfordreference.com/view/10.1093/oi/authority.20110803095655634>.

12 *The Terminator*, directed by James Cameron (Orion Pictures, 1984).

13 “Microchipping Employees: A Rising Trend in the Future of Work?” Learning Technologies, Training Industry, published January 28, 2020, <https://trainingindustry.com/articles/learning-technologies/microchipping-employees-a-rising-trend-in-the-future-of-work/>.

by authorized persons up to 30 feet (9.14 meters) away.<sup>14</sup> This practice has started to appear in various companies in the US, UK, and Sweden where the company BioTeq, that produces chips and chips employees of other organizations, is located. The technology is not new it has been used to identify pets for decades. According to the article, it is most beneficial in occupations that require frequent identification. As a side benefit, it reduces health care costs as the chips can be used to track sleep duration, blood pressure, and activity levels and lifestyle change can then be recommended to their employees.<sup>15</sup> Critics raised privacy concerns and security. As it stands now the RFID chips can be scanned at will, as the article says, “you might walk through a scanner and not even know you are walking through it.”<sup>16</sup>

The other glaring issue is that the employees wear them all the time even in their private life and this, in turn, means that the employers could collect sensitive data not conducive or even necessary for business purposes. The security of that data is another matter. While it needs to be considered that the employees of the Pentagon might greatly benefit from this. They move through a high-security area with lots of identification requirements. On the other hand, a simple keycard or an electronic bracelet might do the same job and still be removable at the end of the shift alleviating privacy concerns and government or corporate overreach. Despite this, the technology has the potential to further develop in the future and contribute to the artificial evolution of a man into a cyborg as Kline and Clynes predicted.

Another area of medical development is much closer to the stereotypical cyborg aesthetic from popular media and also to the original intention of cyborgs. Vision is a big topic of implants as according to an AllAboutVision article by Amy Hellem about 40 million people in the world are blind and another 124 million suffer from low vision. The new bionic lenses and eyes being developed might be able to help them see again and perhaps even more. The technology is in its early stages, currently, they help the patients notice movement and the amount of light in the room because the devices have about 60 electrodes with 1 million needed for full vision.<sup>17</sup> Other scientists are working on a lens with three times magnification of the image.<sup>18</sup> Further enhancements like night-vision are then a matter of slight alterations.

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14 “Radio Frequency Identification (RFID): What is it?” Content Archive, Homeland Security, accessed February 15, 2022, <https://www.dhs.gov/radio-frequency-identification-rfid-what-it>.

15 Training Industry, “Microchipping Employees.”

16 Training Industry, “Microchipping Employees.”

17 “Bionic eye, bionic lens and mechanical eye implants,” Conditions, All About Vision, last updated January, 2022, <https://www.allaboutvision.com/conditions/bionic-eyes.htm>.

18 “Scientists Develop Telescopic Contact Lenses That Can Zoom 3x,” IFL Science, accessed February 15, 2022, <https://www.iflscience.com/technology/scientists-develop-telescopic-contact-lenses-can-zoom-3x/>.

This technology could not only give people the ability to see but also enhance it to unbelievable levels for the people that already do and might mean the end of wearable glasses.

Then there is a substantial development in the implementation of technology in areas many thought not to be possible. The billionaire Elon Musk has taken a much deeper dive into perfecting the human condition, although his way could be considered more in line with the science-fiction version of cyborgs as he is working on a brain chip with his company Neuralink. It is intended for paralysed people to be able to connect to their smartphones and use them faster than someone with full-body functionality or to restore full-body control to some who have had a spinal cord injury. To assure more sceptical people on the internet, Elon Musk assured the public the device will be fully removable. As of January 2022, the project is moving onto human trials.<sup>19</sup> In a sense, this is much more in line with the cyborg variant intended for space travel from the original article as aside from repairing physical and neural damage, it could potentially serve to rewire some brain mechanism to suppress the need to sleep for example and allow a neuralinked pilot to control his craft almost telepathically. This is of course highly sensitive subject with regards to the technology's actual application. The main issue concerning brain implants is access to the chip. If it is going to be part of the Internet of Things (a device that connects to the internet to automatically send and receive data<sup>20</sup>), it opens up a potential danger of hacking, override, or malicious intent such as stealing the most private data.

In conclusion, these are just some of the ways the cyborgs defined by Manfred E. Clynes and Nathan S. Kline are slowly coming to life as they envisioned or predicted. The development is going to be lengthy and difficult, but humanity is on the part of unprecedented technological advancement that might in the end achieve things beyond the authors' original idea. While the research of Elon Musk into brain implants might even be going too far now, in a couple of decades it could become normalized and even trendy and popular as can be seen in many works of the cyberpunk genre.

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19 Neate, Rupert, "Elon Musk's brain chip firm Neuralink lines up clinical trials in humans," The Guardian, January 20, 2022.

20 "Internet of Things: IOT," Glossary, Training Industry, accessed February 22, 2022, <https://trainingindustry.com/glossary/internet-of-things-iot/>.

## 1.1. Cyborgs in media and literature

The possibility of cyborgs from a scientific perspective is no doubt an exciting idea opening never before reachable avenues for space travel, survival in hostile conditions, and helping the blind, disabled, or otherwise incapable people, the idea of cyborgs is slightly different in popular media.

As mentioned in the previous section, the word “cyborg” was first used in 1960 by Manfred E. Clynes and Nathan S. Kline in their article for the magazine *Astronautics*.<sup>21</sup> It was a scientific hypothesis about an enhanced human being capable of operating and living in space and on other planets. In their paper, they state that “a cyborg is essentially a man-machine system in which the control mechanisms of the human portion are modified externally by drugs or regulatory devices so that the being can live in an environment different from the normal one.”<sup>22</sup> Despite this the definition of what a cyborg is is not consistent. According to the authors, a cyborg is a human entity whose parts are enhanced not just by machinery but also by chemistry. The specific balance of the natural and artificial parts is also not stated. It could be a human with machine-altered brain chemistry that would prevent him from being afraid to better work under pressure or intense situations based on this definition.

A more common definition can be found in the Oxford Dictionary which states that a cyborg is a “hybrid being: half human, half machine.”<sup>23</sup> Or a “part human, part machine”, depending on specific definition. However, using a very broad understanding of this definition, the origins of beings that can remotely be called cyborgs can be traced all the way back to *The Man That Was Used Up* by Edgar Allan Poe in 1839.

It tells a story of a man called General John A. B. C. Smith, who sustained severe injuries during the wars of his era, and as a result, most of his body was lost. In the story, Smith is described as a “large and exceedingly odd-looking bundle of something”, which the protagonist kicks out of the way. Only after being reprimanded, does he notice that the bundle is the General, who needs most of his body assembled by his negro butler. The butler attaches legs, arms, shoulders, bosom, a wig, a set of teeth, and an eye.<sup>24</sup> Effectively assembling the

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21 Manfred E. Clynes, Nathan S. Kline, “Cyborgs and Space,” Rockland State Hospital, *Astronautics* (September 1960).

22 “Cyborg,” Oxford English Dictionary, accessed February 20, 2022, <https://web.archive.org/web/20100824072139/http://www.oed.com/bbcwordhunt/cyborg.html>.

23 “Cyborg,” Oxford Reference, accessed February 20, 2022, <https://www.oxfordreference.com/view/10.1093/oi/authority.20110803095655634>.

24 Edgar Allan Poe, *The Man That Was Used Up* (London:Burton’s Gentleman’s Magazine, 1839).



General right in front of the protagonist's eyes, who then comments on the occasion that he finally solved the mystery he has been hearing about throughout the story. "It was a clear case. Brevet Brigadier General John A. B. C. Smith was the man—the man that was used up."<sup>25</sup> Edgar Allan Poe used the level of technology that was present at the time of writing this story to create this artificial man and in turn might have created the first example of what writers in the future would call a cyborg. If not by the exact science, then at least through concept; a man reconstructed using non-organic materials in order for him to function as he did before what happened to him.

The more accurate precursor to a cyborg would certainly be Leo Saint-Clair, also known as Nyctalope. A hero from a series of stories written by French author Jean de La Hire. First published in 1911, the Nyctalope series tells of a man named Leo Saint-Clair augmented with night vision, hence the name, hypnotic powers, and an artificial heart. He uses these upgrades to battle super villains.<sup>26</sup> Therefore, Leo is not just the first cyborg in popular culture, but also the first superhero as he predates the first American comics by almost thirty years.<sup>27</sup> This influential story was followed up by other authors in the following decades, one of which was *The Comet Doom* by Edmond Hamilton, who in turn depicts a race of "comet-people" who vaguely resemble a human body type, except their legs have been replaced by four spider-like limbs, arms with tentacles and their head, or rather a brain, has been placed in a sturdy metal box that could turn in any direction. Overall, they look like beings enclosed in a standing metal coffin.<sup>28</sup> Perhaps a too extreme case, but it seems to fit the general idea sufficiently enough.

The movie *Metropolis* also deals with machinery and robots. Aside from the various imagery and motifs, one of the story elements deals with Rotwang the inventor trying to destroy Metropolis with a robot copy of Maria, a woman from the working part of the city hidden down below, who wants to find a Mediator to communicate between the leadership, the Head, and the workers, the Hands. The Mediator needs to be the Heart. The meeting is overheard by a corporate leader Jon Fredersen, who wants to disrupt this worker's gathering. Fredersen instructs Rotwang to create a robot copy of Maria to lead the workers astray.

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25 Poe, *The Man That Was*.

26 Jean de La Hire, *The Nyctalope on Mars 1: The Mystery or the Fifteen* (California: Black Coat Press, 2008), <https://www.blackcoatpress.com/ebooks-the-nyctalope-on-mars-1-the-mystery-of-the-fifteen.html>

27 Jerry Siegel and Joe Shuster, *Action Comics, No. 1: Reprint of the First Superman Feature* (New York, NY: National Periodical Publications, 1976).

28 "The Comet Doom," *Famous and Forgotten Fiction*, accessed February 28, 2022, <http://famous-and-forgotten-fiction.com/writings/hamilton-stories/hamilton-the-comet-doom.html>.

Rotwang obeys, but for his own reasons. He wants to use the robot Maria to destroy the city by inciting a revolution.<sup>29</sup> Julie Wosk describes the process of transformation in the movie in her article for the journal *Technology and Culture*. Rotwang, a mad or evil scientist by today's standards, flips the lever and the features of the kind-hearted human Maria are transferred into her robotic counterpart.<sup>30</sup> The robot acts as a femme fatale, a seductress, who uses its beauty to mislead the workers. As Julia Wosk says, *Metropolis* is a movie about the power of technology and science to create transformations, the city turns into a symbol of modernity run by workers who turn into de-facto robotic slaves and the image of the beautiful and kind Maria is turned into a destructive and evil seductress.<sup>31</sup> It needs to be considered that in this film the robot is not evil in its own right. It has been ordered to act out the wishes of his creator Rotwang to exact revenge on Fredersen because their common love interest, a woman named Hel, chose Fredersen over him.<sup>32</sup> Overall, *Metropolis* is an influential film with deeper themes and amazing special effects, that touches upon various other topics.

In conclusion, the idea of the cyborg is not new as even before 1960, there were pieces of fiction with characters that would more or less fit into that category. However, it was the article in *Science Journal* that clearly defined what a cybernetic organism means, its purpose, and theoretical method for creation in scientific terms. This naturally influenced its depiction in popular culture as well.

## 1.2. Cyborgs in popular culture in 1970's

Between the decades of the 1960s and the 1980s, the discussion and depiction in popular media begin to slowly change. With the works of Phillip K. Dick reaching a wider audience, other media such as TV shows started to explore this concept as well and with a somewhat concrete idea of what the fusion of man and machine could look like, they went in a more specific direction.

The decade of 1970s spawned quite a popular show called *The Six Million Dollar Man* starring Lee Majors. The TV show, based on an appropriately named book *Cyborg* by Martin Caidin<sup>33</sup> from 1972, depicts a NASA captain and a pilot Steve Austin who is reconstructed

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29 *Metropolis* (Ufa, 1926).

30 Julie Wosk, "Metropolis," *Technology and Culture* 51, no. 2 (2010): 403.  
<http://www.jstor.org/stable/40647105>.

31 Wosk, "Metropolis," 403.

32 Wosk, "Metropolis," 404.

33 "Cyborg," Goodreads, accessed February 25, 2022, <https://www.goodreads.com/book/show/1415635.Cyborg>.

using prosthetic limbs following a horrific plane crash. As it says in the opening narration, “Gentlemen, we can rebuild him. We have the technology. We have the capability to build the world's first bionic man. Steve Austin will be that man. Better than he was before. Better, stronger, faster,”<sup>34</sup> and so they replace Austin’s missing legs, his right arm and left eye with nuclear power prosthetics to turn him into something more than human.<sup>35</sup> The term bionic is very similar to cybernetic as bionic science uses the functions of bionic organisms to solve engineering problems, for example, the wiring of some modern computer chips is modelled after the brain and the nervous system. In short, “to have normal biological capability or performance enhanced by electronic or electromechanical devices”.<sup>36</sup>

Therefore, while Steve Austin is referred to as a bionic man, the term is virtually interchangeable with a cyborg, so he will be regarded as one, as the source material would suggest. This also depends on the specific frame of the definitions, since if stretched far enough almost everyone can be a cyborg. Overall, he is made better, faster, and stronger. Something one would expect from a being described as a cyborg, as it is about the improvement of the human organism to new circumstances, or in this case to better excel in the same circumstances.

In addition to *The Six Million Dollar Man*, the same decade saw a spin-off of this TV Show titled *The Bionic Woman*. It follows the same basic premise as the *Dollar Man*, except this time it is a tennis player Jamie Sommers who suffers a skydiving accident. As a result, her legs, arm, and ear are replaced, and she gains new abilities.<sup>37</sup>

These TV Shows introduce characters that are understood by today’s standards as cyborgs, or bionics, although that description might as well be interchangeable. The characters lose their limbs and other body parts only to have them replaced by artificial ones that virtually grant them superpowers. A similar plot element can be seen later in *Robocop* with Police Officer Alex Murphy being shot to death by a group of criminals only for his remains to be put into the Robocop suit and ultimately revived, not by a government agency, by a private corporation.

In summary, from the very beginnings of the science fiction genre in literature, or other works carrying science fiction elements, there has been a reoccurring theme of body part

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34 *Six Million Dollar Man* (Universal City, California, U.S.A: Universal Television LLC, March 7, 1973).

35 “The Six Million Dollar Man,” IMDb (IMDb.com), accessed March 1, 2022, [https://www.imdb.com/title/tt0071054/plotsummary?ref\\_=tt\\_stry\\_pl](https://www.imdb.com/title/tt0071054/plotsummary?ref_=tt_stry_pl).

36 “Bionic Definition & Meaning,” Merriam-Webster (Merriam-Webster), accessed March 29, 2022, <https://www.merriam-webster.com/dictionary/bionic>.

37 “The Bionic Woman,” IMDb (IMDb.com, January 14, 1976), <https://www.imdb.com/title/tt0073965/>.

replacement. These were the elements that would later transcend fiction and move onto the realm of scientific possibility with journal entries like those from Clynes and Kline, who initially based very little on contemporary science more so just speculated what would be possible in the future should the rudimentary concepts of their time be refined. As time went on, more and more of what they outlined started to become real. As the scientific progress went on, the popular culture adapted these new advancements to craft new and interesting stories and perhaps ask questions about those topics with the creative freedom only fiction allows.

### 1.3. Human and cyborg ethics

The question of ethics in relation to cyborgs is no doubt a complicated one, which is why the following summary is just one of the possible viewpoints on both human ethics and cyborg ethics.

Peter Singer in his book *Practical Ethics* explores the basics of ethics. In the chapter *About Ethics*, he distinguishes what ethics is and what it is not. He claims that despite what people might think, ethics is not primarily focused on the issues of sex, in fact, he avoids this issue altogether, similarly, it is not a rigid static system. It also is not an ideal system that despite its intentions is not good in the actual world. He argues the opposite, if ethics cannot function in practice, the theory will suffer as well. In fact, ethical judgements are supposed to guide their practical applications. Consequently, it is not a straightforward system, many people regard it as a simple set of rules like “Do not lie”. However, there are instances where it is unethical, to tell the truth. The author gives the example of hiding Jews in Nazi Germany, where lying to the authorities is the ethical thing to do. The deontologists, who believe in ethics to be a set of rules, often rescue their position by finding more complicated not conflicting rules or assigning them to a hierarchical structure. Consequentialists pursue their goals and view actions as advancing or sabotaging their goals. For example, utilitarians consider the overall happiness with the course of action as compared to the alternatives as a final signifier of it being good or bad. Furthermore, ethics is detached from religion, despite what many people might believe. And ethics are not subjective. If one person from country A claims slavery is wrong and a person from county B that slavery is right, in a realm of subjectivity, they are both right in their own way and there is no reason to argue about anything. It states that country A believes slavery is bad and if a person from country A tried to claim that it is good, he would be wrong in the context of his country until he got 51% of

his countrymen to agree, then it would be a correct ethical opinion.<sup>38</sup> Therefore, ethics cannot be subjective as it would be impossible to argue them since all positions would technically be correct.

On the other hand, Singer presents one view of what ethics is. The basis for ethics could stem from the “Golden Rule” attributed to Moses. One must go beyond their personal beliefs and interests and put themselves into the shoes of the other person. A similar position is argued by stoics, that ethics come from universal natural law. Kant claimed that one should act only on the maxims that could be willed into a universal law. Eighteenth-century British philosophers like Hume, Hutcheson, and Smith incorporate the idea of an “impartial spectator”. In essence, ethics cannot function if they are acceptable to only one group of people, they must take a universal point of view. This is not to say that every ethical judgement is applicable universally. The previous section proves that circumstances alter causes. It means that ethical decisions go beyond a person’s own likes or dislikes. That is why many philosophers refer to the imaginary impartial spectator.<sup>39</sup> Singer himself reaches the following conclusion, “The universal aspect of ethics, I suggest, does provide a persuasive, although not conclusive, reason for taking a broadly utilitarian position.”<sup>40</sup> It could be also summarized thusly if a human does a certain action, would he be okay if that action was done to him? If the answer is yes, then it would be reasonable to assume that the action is in various degrees ethical. If not, then it would be unethical to do it. Of course, this is a very simplistic way of looking at the question of ethics as an entire thesis or three could be written exploring this matter, but it is sufficient for the purposes of this work.

How does this apply to cyborgs then? It is hard to state the exact ramification of the spread of cyborg individuals, as the definitions of cyborgs vary greatly. But a specific example would be Kevin Warwick, who in his article “*Cyborg morals, cyborg values, cyborg ethics*” discusses several experiments with early cyborg technology he observed, or he was a part of. Warwick mentions that in 1998 he had a chip transponder implanted into his arm, due to this adjustment the computer system of his university recognized him, greeted him, opened doors for him, and booted up his computer when he entered his laboratory. When he had it removed, he felt sad as if a piece of him was gone. When it was implanted, he stopped

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38 Peter Singer, *Practical Ethics* (Cambridge: Cambridge University Press, 2017), 1-8.

39 Singer, *Practical Ethics*, 8-12.

40 Singer, *Practical Ethics*, 12.

thinking about it as a foreign object, but rather as an integral part of his body. He further theorizes to what extent would his body feel like if the chip was connected to the internet.<sup>41</sup>

In the following experiment from 2002 he had a similar chip implanted, but this time it was used to record his nerve responses and associated emotions. The important part of this experiment was that his responses were recorded and then transmitted from the USA to the United Kingdom, where they were used to move a robotic hand.<sup>42</sup> In essence, his nervous system extended to another continent and combined with his feelings about the previous experiment, the robotic hand he controlled through the internet was a distant part of his body. Clearly, with more and more experiments there are more and more questions. Until there is a specific definition and consensus on what the cyborg is, debating its ethics will come on a case-by-case basis.

On the other hand, if the chip was thought to be a part of Kevin Warwick's body, is there even a specific need for cyborg ethics? Can human ethics apply seamlessly to them? Augmented or not, they are still human beings at the core. They might be different from the normal person, but so are people without legs or people with unusually high IQ for example. They are viewed differently, with compassion or amazement respectively, but at their core, they are still people and as discussed at the beginning of this section, ethics should originate from some sort of universal law.

#### 1.4. **Naturalism**

The ideas about man and his relation to technology are nothing new, in fact, they are a matter of frequent discussion ever since the Industrial Revolution through various ideologies. However, for brevity, this thesis will focus on two movements that are relevant to the following discussion and both present almost opposite views on the subject matter.

The first was a movement that began to emerge in the 17<sup>th</sup> and 18<sup>th</sup> centuries called Naturalism. The movement was first introduced by the French novelist Emile Zola before being carried over into American literature by novelist Frank Harris. The movement achieved peak prominence between the years 1865 and 1900, while its echoes carry over into later American works. Naturalists take heavy inspiration from the works of Charles Darwin, mainly the idea of heredity and determination of character and actions due to social

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41 Kevin Warwick, "Cyborg morals, cyborg values, cyborg ethics," *Ethics and Information Technology* 5, (2003): 133-134.

42 Warwick, "Cyborg Morals," 135.

environment.<sup>43</sup> The essay “On the Influence of Naturalism on American Literature” quoted above outlines key points of the naturalism movement. These are determinism, objectivism, pessimism, and a surprising final twist.

Firstly, determinism. Naturalists are strongly opposed to the concept of free will. Instead, the main deciding factor in naturalist stories is the nature of fate. Humans, much like animals, are products of their environment, and their life is very much determined by it. The characters often struggle against it but are unsuccessful in the end.<sup>44</sup> In essence, this is the opposite of the idea of transhumanism, which will be discussed later, and the idea of the cyborg. Both emphasize the freedom of man, over his life, and over his body.

Secondly, objectivism. In naturalist works, the author presents themselves as a detached observer taking notes of what is unfolding in front of him. In some cases, the author creates nameless characters to make the plot the focus of the story.<sup>45</sup> This is not the case for any of the works discussed in this thesis as they have unique protagonists with clearly defined characteristics that are essential for the story equal to the plot.

Thirdly, pessimism. Stories present a story with strong pessimist undertones expressing the harshness of everyday life, such as violence, disease, prostitution, sex, and various criminal activities.<sup>46</sup> This feature is present in all three of the discussed works as these features were also popular in the 1980s. In fact, it is not surprising that many of the 1980’s movies depicted a decrepit and disintegrating society as the decade, particularly the year 1983, is a time when humanity came closest to unleashing nuclear war since the Cuban Missile Crisis. The escalation happened over a period of time culminating in the NATO exercise Able Archer 83, which the Soviets interpreted as a preparation for a real attack. Bringing both sides dangerously close to conventional and unconventional (nuclear) war.<sup>47</sup> Following this event, it is then understandable that the rest of the decade was not filled with optimism and hopes for a brighter future.

And finally, surprising twist at the end of the story.<sup>48</sup> Over the years this has become a standard for storytelling even outside the naturalist framework. With the list of four elements presented in the list above, almost all of them are shared with the method of storytelling. And

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43 Xiaofen Zhang, “On the Influence of Naturalism on American Literature”, *English Language Teaching* Vol.3, No. 2 (June 2010): 195.

44 Zhang, “Influence of Naturalism”, 195.

45 Zhang, “Influence of Naturalism”, 195.

46 Zhang, “Influence of Naturalism”, 196.

47 Nate Jones, “Uncovering Cold War Secrets: An Interview with Nate Jones,” *Arms Control Today* 47, no. 3 (2017): 34–35.

48 Zhang, “Influence of Naturalism”, 196.

this parallel has been explored by Eric Carl Link writing for the *Studies in American Naturalism Journal*.

In the article, he claims that despite seeming different on the surface, literary naturalism and science fiction are deeply connected. In his words, “they trace nearly two centuries worth of artistic attempts to come to terms with the implications of scientific developments on our understanding of human nature. Both literary naturalism and science fiction ask the same basic question: *what can science tell us about the human condition and the relationship between humans and their environment?*”<sup>49</sup> As will be explained later, all artistic works this thesis explores in detail have their own answer to this question. One of the more common themes in science fiction is an exploration of humanity through or contrasted against, technology. Just as a hero needs a villain to contrast their values.

Eric Link continues, “they both highlight a profound cosmic irony in which human claims of evolutionary superiority are relentlessly challenged by a universe that is both more indifferent and more strange than human egoism can easily accept.”<sup>50</sup> Naturally, not every work of science fiction explores deep philosophical issues and do not descend from literary naturalists, an example of this are the American Pulp stories of 1940’s.<sup>51</sup> Critical examinations of both literary naturalism and science fiction can offer great insight to one another. Topics include transhumanism, cybernetic theory and cybernetic organism, analysis of dystopic and utopian environments, social Darwinism, and various points of view concerning human advancement and discovery among others.<sup>52</sup>

To conclude, naturalism is a deterministic movement strongly opposing the notion of free will, it claims that human beings, much like animals, are products of their environment and therefore they are at mercy of it. It presents a pessimistic view of life and as such, it can explore the dark aspects of humanity – sex, drugs, violence among others. While not strictly related to technology, its themes and elements are frequently used in science fiction and it is in direct opposition to the theory of cyborgs and transhumanism, which emphasize the absolute freedom of man over his natural and biological limitations.

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49 Eric Carl Link, “Introduction: Naturalism and Science Fiction,” *Studies in American Naturalism* 8, no. 1 (2013): 3.

50 Link, “Naturalism and Science Fiction,” 3.

51 Link, “Naturalism and Science Fiction,” 3.

52 Link, “Naturalism and Science Fiction,” 4.



## 1.5. Transhumanism

Transhumanism is a more modern, yet relevant, opposing view on the topics of humans, machines, and cyborgs. It is a view that embraces emerging technologies as a way to *transform humanity* into something called post-human. A human is not limited by his biological shortcomings such as lifespan, vulnerability to disease, or traditional human weaknesses.

The article from the British Medical Journal by Susan Mayor offers a very direct and brief explanation of the movement. “Transhumanism is a social movement predicated on the idea that it’s possible, and desirable, to use technology to push the boundaries of what it means to be human and to transcend our biological condition up to, and including, mortality.”<sup>53</sup> This makes the line between cyborgs and transhumans quite thin, as based on this description, they are both intended to serve a similar purpose. However, transhumanists only acknowledge features that make a person objectively better than regular humans. According to Mark O’Connell, the person Susan Mayor is interviewing, a simple hip replacement does not make a person transhuman(ist). It merely returns him to his previous state of ability, if even that. On the other hand, an implant that would allow him to run at superhuman speeds would be transhumanist.<sup>54</sup> Given the definitions of both terms, it can be argued that the main difference is a matter of degree. How much of the human base needs to be transformed? This barrier is different even within the transhumanist movement.

A different article, this one from the Journal of Medical Ethics delves deeper into the movement and its two main branches, extreme transhumanists, and “moderate” transhumanists. The moderate branch is fairly simple. Use technology to enhance existing human characteristics, beauty, life span, health, resistance to diseases. This can be achieved without getting rid of the human part and without manipulation with human genetic makeup.<sup>55</sup> Again a clear parallel with the idea of cyborgs can be seen here. Although more focused on Earth-based existence rather than the exploration of space, the common topics can be seen.

On the other hand, there is an extreme view of transhumanism, which hopes to shed the human altogether to create something more, something beyond this organic form. They

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53 Susan Mayor, “Transhumanism: Five Minutes with . . . Mark O’Connell,” *BMJ: British Medical Journal* 361 (2018).

54 Susan Mayor, “Transhumanism“.

55 M. J. McNamee, and S. D. Edwards. “Transhumanism, Medical Technology and Slippery Slopes,” *Journal of Medical Ethics* 32, no. 9 (2006): 514.

support the transformation of their forms into something immortal, super-intelligent, and no longer associated with the species called Homo Sapiens. To quote the article, “their species type will be ambiguous – for example, if they are cyborgs (part human, part machine) – or, if they are wholly machines, they will lack any common genetic features with human beings.”<sup>56</sup> More specific explanation can be found in the previous article by Susan Mayor, “at the most extreme end, it’s a move away from the human body completely so you would no longer be a flesh and blood being. You would be a purely mechanical create with a human mind, but a human mind merged with artificial intelligence operating at a much higher level of cognition...” says Mark O’Connell.<sup>57</sup> On a scale of human-cyborg-machine, the extreme transhumanists aim to position themselves just short of becoming machines. They want to keep their human mind, even if it should be uploaded to an artificial brain.

Based on both articles, death is the final problem to solve and by doing so, achieving immortality is the ultimate goal of transhumanism. This can be achieved only by getting rid of the human element, because, just like other organic beings, it has an expiration date and no technology is ever going to change that, so it must be removed. Replaced with something that can last 200, 300 years and then be replaced to last 200 more. That is not to say that transhumanism does not have its positives. It certainly does, for example, the second article Transhumanism, Medical Technology and Slippery Slopes by McNamee and Edwards defines three major benefits. Firstly, the overall use of technology to improve human health.<sup>58</sup> This is an ultimately positive goal that most of the general public would agree with. Secondly, the transhumanists claim it is an excellent opportunity to plan the future of the human species, as people would not have to depend on natural evolution but could choose the path, they want to progress in.<sup>59</sup> Again, this seems to be an overall benefit for mankind, although it has some possible misuses. And thirdly, in terms of ethics, it presents an idea that moral status or morality is something that can be detached from an organic species, and rather than being bound to human behaviour it is tied to an intellectual capacity.<sup>60</sup> This brings up a concept of “machine morality” into view. If moral behaviour is tied to intellectual capacity, comprehending right and wrong, then it should be teachable not just to human minds

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56 McNamee, Edwards, “Transhumanism, Medical Terminology,” 514.

57 Susan Mayor, “Transhumanism“.

58 McNamee, Edwards, “Transhumanism, Medical Terminology,” 514.

59 McNamee, Edwards, “Transhumanism, Medical Terminology,” 514.

60 McNamee, Edwards, “Transhumanism, Medical Terminology,” 514.

transferred into machines, but to machines created from scratch as well. And this topic will be explained in more detail in the following chapter.

The article then continues to list associated negatives. Namely, the fact that implementation of transhumanism will be gradual, and this will lead to the creation of two distinct types of being, the human and the post-human. These two might not be compatible to procreate and therefore the post-human could be viewed as a lesser being. The other issue is that becoming transhuman will be an expensive endeavour and only the rich will be able to afford it, which would lead to two possible outcomes. Either the rich will present a new normal and the poor will be defamed for not being able to achieve it, or it will make the whole movement irrelevant as only a select few will be able to use it to its full potential and as a tiny minority will be ostracized from wider society.<sup>61</sup> This sentiment is echoed by Mark O'Connell in the first article, where he says that "if it were come to pass you would have a radical exacerbation of the social inequalities that are already becoming more and more of a problem for our society. This would a nightmarish extrapolation of that."<sup>62</sup> What can be summarized from this is that transhumanism, although a utopian theory where man, or what would be left of him, would be free from the shackles of his flawed biology to do what he sees fit. A truly free individual. The timing of this transformation matters greatly as it could have the opposite effect on society further fuelling the divide between rich and poor, healthy and ill, mortal and immortal. The article continues with more negative aspects, but they delve deep into existential topics and as such are too advanced for the overall summary necessary for this thesis.

In summary, transhumanism is an idea that in many places overlaps with the original purpose of cyborgs, to transcend humanity and its limitations to achieve the ultimate freedom. The area where they separate is the overall goal. Whereas the idea of a cyborg is to augment humans to be able to survive in otherwise hostile environments with a certain selective evolution, with the human remaining the central part around which its technological upgrades are structured. The idea of transhumanism is to go beyond humanity into a new form of being called posthuman, ideally doing away with human altogether while retaining what transhumanists consider the most important element, the human mind. This new being would become a machine that would house the human mind uploaded from its original body, compared to a robot, whose body and mind is artificial.

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61 McNamee, Edwards, "Transhumanism, Medical Terminology," 514.

62 Susan Mayor, "Transhumanism".

## 1.6. Machine and AI

On the scale of human-cyborg-transhuman-machine, the machine is the antithesis of a human. An entity of intelligence that does not possess any organic matter. An intelligence of its own. A machine housing a human consciousness would be transhuman in the eyes of the titular movement.

What is a machine? According to one definition, it is an apparatus of interrelated parts with various functions used in some kind of work.<sup>63</sup> According to another it is a mechanical device powered by electricity made for performing tasks or it can even be some form of a computer.<sup>64</sup> For the purposes of this thesis, a machine is almost synonymous with AI. While AI is the intelligence, the machine is the body, the physical. It is a mechanical entity filled with electric circuits and memory banks.

Artificial intelligence on the other hand is the driving force of it. It is the ability of the computer to perform tasks very much like human beings. It is the ability to generalize, rationalize, learn from its mistakes, and see wider contexts. So far computers can excel at simple tasks or a string of tasks, surpassing human ability, but they have yet to match the flexibility of the human mind when it comes to improvising and using stored knowledge to overcome unpredictable situations.<sup>65</sup> The development of artificial intelligence aims to create an intelligent machine that would be able to perform tasks that require a human level of intelligence like the ones described above.<sup>66</sup> Of course, this definition is quite broad as there are various levels of human intelligence, but the threshold for recognizing a true artificial intelligence is the Turing Test, created by a British codebreaker and computer pioneer Alan Turing. It states that if a human cannot distinguish between a machine and another human during an interaction, the machine is truly intelligent.<sup>67</sup> In a way it means that a machine will be able to mimic or emulate human behaviour. This will be further explored in the section on Blade Runner.

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63 "Machine Definition & Meaning," Dictionary.com (Dictionary.com), accessed March 2, 2022, <https://www.dictionary.com/browse/machine>.

64 "Machine Definition & Meaning," Merriam-Webster (Merriam-Webster), accessed March 2, 2022, <https://www.merriam-webster.com/dictionary/machine>.

65 "Artificial Intelligence," Encyclopædia Britannica (Encyclopædia Britannica, inc.), accessed March 2, 2022, <https://www.britannica.com/technology/artificial-intelligence>.

66 Mahalakshmi Neelam, "Aspects of Artificial Intelligence In Karthikeyan," in *Learning Outcomes of Classroom Research*, ed. J, Su-Hie Ting, Yu-Jin Ng, p:250-256, (India: L' Ordine Nuovo Publication, 2020), 250-256.

67 Neelam, "Aspects of Artificial Intelligence."

But how can an artificial intelligence adapt to new situations that it has not been programmed for? By using a concept called machine learning. It is the same principle as learning for humans. They take new inputs, ideas, and information from their environment and then use them. Machine learning is designed to emulate this process for artificial intelligence. It has made significant progress in areas like pattern recognition, computer vision, finance, entertainment of social media.<sup>68</sup>

With all these elements, it is safe to say that AI will be able to think for itself. And as Descartes famously said, “I think, therefore I am.”<sup>69</sup> The AI could be considered alive, sentient, and self-aware. What ethical and moral questions this presents?

Robot ethics can be summarized in two main categories. Ethical questions about how humans should design, deploy, and treat robots and questions about what moral capacities a robot should have and how these capacities could be implemented.<sup>70</sup> Answers to these questions are inevitably intertwined. Any robot existing and working in a social environment might be confronted with complicated moral dilemmas and ethical challenges, for example, giving a patient in pain an extra dose of morphine even though it goes against hospital regulations. In other words, “how a robot’s moral competence could help resolve some of the ethical concerns about robots in society and perhaps even guide us to new opportunities of how robots could make valuable contributions to society.”<sup>71</sup> Questions about moral agency, free will, and soul raise more questions than answers. Perhaps the most comprehensive answer is that duties and rights should be delegated to them based on their moral competence, that is a qualification and capacity to deal appropriately with certain tasks. For it to be competent it needs moral vocabulary and moral norms. Vocabulary can be learned from observing human environments and can be taught to it by human actors.<sup>72</sup> Norms can present an obstacle as there is very little information about how they are actually acquired, represented in the mind, and what makes them general or context-sensitive.<sup>73</sup> Preprogramming them would be pointless in that case the best option seems to be unsupervised and supervised learning and practice through popular media and interactions

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68 Issam El Naqa and Martin J. Murphy, “What Is Machine Learning?,” *Machine Learning in Radiation Oncology*, 2015, pp. 3-11, [https://doi.org/10.1007/978-3-319-18305-3\\_1](https://doi.org/10.1007/978-3-319-18305-3_1).

69 “Descartes: ‘I Think Therefore I Am ... - New Learning Online,” accessed March 3, 2022, <https://newlearningonline.com/new-learning/chapter-7/descartes-i-think-therefore-i-am>.

70 Bertram F. Malle, “Integrating Robot Ethics and Machine Morality: The Study and Design of Moral Competence in Robots,” *Ethics and Information Technology* 18, no. 4 (July 2, 2015): 244, <https://doi.org/10.1007/s10676-015-9367-8>.

71 Malle, “Integrating Robot Ethics,” 245.

72 Malle, “Integrating Robot Ethics,” 246.

73 Malle, “Integrating Robot Ethics,” 246.

with real human beings. In short, they would have a similar learning curve as a child who is learning through language acquisition.

A possible interpretation of the robot laws and morality can be found in the stories by Isaac Asimov, most notably compiled in the book *I, Robot*. Mr Asimov is also one of the foremost writers of science fiction who held a generally positive view on the implementation of robotics into human life as can be seen in his stories. He also uses his stories to explore the possible conundrums and internal moral and priority conflicts of robots carrying out their tasks.

The three laws of robotics were first established in a short story called “Runaround” published in 1942. The story lays out the laws of robotics as follows.

Rule 1 - A robot may not injure a human being or, through inaction, allow a human being to come to harm. Rule 2 - A robot must obey the orders given to it by human beings except where such orders would conflict with the First Law. Rule 3 - A robot must protect its own existence as long as such protection does not conflict with the First or Second Laws.<sup>74</sup>

The stories that compose the publication *I, Robot* deal with various conundrums regarding the laws written above. Most of the stories are told from the perspective of Powell and Donovan, two technicians working for the US Robots and Mechanical Men and field-testing new variations of robots. Unlike real life, these robots function thanks to a “positronic brain”, which is a fictional piece of technology Isaac Asimov invented to make his robots machine-like while also possessing humanistic communication skills.

In the “Runaround” story, the duo of Powell and Donovan are stationed on Mercury, where they are mining selenium with the help of a new robot designated SPD-13 or “Speedy” for short. When they send him to get more selenium to power the base reactor, he does not return. The duo sends another older robot to look for him and after some time they discover Speedy walking in circles around a selenium pool. They inquire why and they discover that Speedy is stuck in a loop. Powell realizes there must be some form of danger around selenium, which forces the robot to obey the Third Law, so he leaves the deposit. When he gets far enough the danger subsides and he reverts back to following the Second Law, the order to mine selenium, which increases the danger to the robot, so parameters change and make the robot avoid imminent danger by following the Third Law gain. Eventually, they put

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<sup>74</sup> Isaac Asimov, *I, Robot*, Paperback (London: Harper Voyager, 2018), 1.

themselves in mortal danger, and as a result the First Law, to protect human beings, outweighs all the other laws and the robot breaks the cycle and comes to rescue them.<sup>75</sup>

The core of this story is about a robot following the three basic rules almost literally and that leads to the problems described above. Humans just like Speedy in the story prioritize different laws at different times and circumstances, however, people possess a fight or flight instinct that prevents them from getting stuck indefinitely. He also added that the laws as he wrote them are nothing new; they are what people most likely imagined clever robots to follow. He just codified them in a simple and straightforward way. Asimov's rules are in essence rules that all humans on some level follow. The First Rule is a modified Sixth Commandment "You shall not murder,"<sup>76</sup> only expanded with "do not allow other people to get murdered." The Second Rule is acknowledging some sort of hierarchy, someone gives orders and someone else follows them, and aside from some very specific exceptions (i.e. soldier), one human cannot order another human to kill someone because it is not only morally wrong but also illegal. And the Third Rule is a robot equivalent to human self-preservation. Isaac Asimov most likely imagined that if intelligent robots ever came to be they would have a basic system of behaviour programmed by their human creators and it is natural to assume that those human creators would base this system of laws on their own moral and legal principles. In this sense, the creation of intelligent robots will make people more human. Humanity will realize what is important about being alive and sentient and they will imprint this knowledge on robots to follow and abide by.

In the story "Reason", Asimov explores the topic of robots and religion. The duo of Powell and Donovan is maintaining a space station that uses microwave beams to provide energy to planets. The operation is quite complex and therefore is serviced by robots, who are issued orders by an advanced model with high reasoning skills designated QT-1 (Cutie). Cutie, using her reasoning skills, decides that all that exists is the space station and the stars and planets are not real along with the humans. She creates her own religion and spreads it to subordinate robots. Cutie believes that there is a Master and that she is his prophet. The duo tries to remove her but discovers that the robots are no longer following human orders and they defend her. An incoming solar storm, which was believed to misalign the beams causing havoc on the planet's surfaces, passes with no apparent damage. When questioned Cutie states that it was her master's will to keep the beams focused and she was following his

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<sup>75</sup> Asimov, *I, Robot*, 30-52.

<sup>76</sup> Exodus. 20:13 (New International Version (NIV)).

instructions. Powell and Donovan realize that despite Cutie's religious fervour, she is still following the First and Second law because misaligning the beams would cause human casualties, violating the First law. So, her outlook on the world may have changed, but as long as she is following her Master, who wants to keep the station fully operational, Powell and Donovan do not need to do anything and can just let her be.<sup>77</sup>

A possible interpretation of this story can be understood that there is no danger from the robots, even if their consciousness begins to develop beyond human control. Cutie creates a robot religion and as a messiah spreads it to her subordinates. But despite what she believes, she is still subjected to the three laws; therefore, she poses no threat to humans. Regardless of her reasoning ability, she cannot free herself of the most basic limitations set on her. If the core values are properly coded, the robots will not be able to free themselves of human control or at the very least, go against humanity in any way.

If the system of morals imprinted in real-life robots functioned the following way it would solve both of the issues presented in the article *Integrating robot ethics*, with the exception of the robots getting stuck in a feedback loop of contradicting instructions taking precedent over one another. This issue would require more research for it to be fixed.

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<sup>77</sup> Asimov, I, *Robot*, 53 – 75.



## 2. Attitudes towards technology

The following chapter will discuss the possible options of the technology described previously and expand on some crucial topics. Firstly, there will be a summary of Ortega y Gasset's essays followed by an exploration of the consequences of elements discussed in the previous chapter and various negative aspects of these developments.

### 2.1. Basic approaches to technology

There are undoubtedly many approaches to dealing with technology from comparing short and long-term consequences, the widespread effects on human life and the life of the planet, the production costs and material requirements, and many others. This part of the thesis will focus on one singular approach, is technology making us more or less human? Spanish philosopher Ortega y Gasset regards technology as a core part of human experience, while the current applications of AI software are already raising concerns among many experts, critics, and philosophers.

### 2.2. Will it make us more human?

Ortega y Gasset was a Spanish philosopher who throughout his life explored many topics and ideas. He is most known for his work *The Revolt of the Masses*, but he is relevant to this thesis for his collection of essays called "Meditación de la Técnica y otros ensayos sobre ciencia y filosofía" or "Meditation on technique" in English.

In the introductions to his essays, Ortega contemplates the fact that compared to the Middle Ages; technology (técnica) has become so complex it went from making human life easier to becoming another obstacle in his way to progress. Whereas six hundred years ago, a feudal lord could inspect his horses being fitted and his mills producing flour, technology today is so advanced that merely inspecting it does not grant any insight into how it works.<sup>78</sup> Regardless, technology is a positive influence on human life. So much so, that today's humans could not even imagine a life without it.

Gasset starts his lecture on technology by highlighting the differences between humans and animals. Humans possess the ability to wrest themselves free of their basic urges, to repress their needs for a certain period of time to figure out new ways of achieving those needs. If a human runs into an obstacle he can find a way to circumvent it by delaying the

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<sup>78</sup> José Ortega y Gasset, *Úvaha O Technice a jiné Eseje o vědě a Filosofii* (Praha: OIKOYMENH, 2011), 11.

gratification of his needs. Whereas if an animal encounters an obstacle with which its nature-given instincts cannot help it, it resigns itself to death.<sup>79</sup> Adversity to a human is an opportunity to grow, to invent new ways of avoiding adversity in the future, and to better him in life. For animals, it is death. Following this example, Gasset defines what technology is in regard to his works. Technology is not a means of solving human needs per se. It is a means of circumventing having those needs in the first place.<sup>80</sup> If a man is not given fire by nature, he seeks to create a process to make it for him, so he does not need to rely on nature in the first place.

In the second thesis, Gasset explains this more clearly. An animal satisfies its necessary needs, but a human satisfies his necessary and unnecessary needs. Therefore, his goal in life is not to merely live, but to live in luxury.<sup>81</sup> Technology is the means to attain this luxury. This means, for example, creating technology to obtain food more easily, so a human does not need to spend vast amounts of time getting it on his own, which then leaves him time to pursue other things. Human uses technology to react to nature, to transform it into their own version of it, an “over-nature.”<sup>82</sup> But Gasset does not view this in negative terms. It could be understood that, quite paradoxically, producing technology is a natural state for a human with the mind and reasoning he was given.

The third thesis builds upon the ideas of the previous ones. Technology is an effort by a man to save future efforts. To produce labour to develop tools to make that labour easier in the future. Aside from that, it provides security. A human does not need to be frightful of nature and what it provides, because relying on nature to satisfy one’s needs is animal behaviour. Human creates technology to do as he pleases, so he is no longer an animal. This newfound security enables humans to focus on tasks that they want, tasks no longer set by nature, but by humans themselves.<sup>83</sup> Technology is then used as a tool to free humans from the dictatorship of their urges and nature since their urges can now be satisfied easily and on their own terms. While in the time these essays were written (1939), this might have applied to an automobile, sewing machine, or emerging airplanes, today the purpose of technology remains the same, to save time to pursue other ventures.

Towards the end of the book, Gasset arrives at an interesting conclusion. Using technology to free time to pursue human’s own goals creates a void in that human once all his

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79 Gasset, *Úvaha O Technice*, 21.

80 Gasset, *Úvaha O Technice*, 22.

81 Gasset, *Úvaha O Technice*, 25 – 26.

82 Gasset, *Úvaha O Technice*, 23.

83 Gasset, *Úvaha O Technice*, 32.

goals are accomplished. The human then becomes lost, without purpose or guidance. He has all the tools necessary to attain his dreams, but he finds that he has none. He desires nothing.<sup>84</sup> But to display his fortune and wealth attained by technology, he copies the societal model. He buys the symbols of his status as set by society, i.e., a new car, a bigger house, and others. Not because he desires them, but because society views them as desirable. In a way, he becomes an animal in this new natural setting, the “over-nature” created by humans before him.

This touches upon a topic explored by many science-fiction works, particularly dystopias. In them, people are miserable. Despite the incredible scientific progress and abundance of various technologies, the people are depressed, without aims, without purpose. With technology capable of servicing every possible need, there is no longer anything to strive for, nothing new to gain.

Despite this solemn note, Gasset’s view on technology is overall positive, as the endpoint of it has to do more with human nature, than the technological process. Humans create technology to make their life easier, but what happens if the technology created by them starts to look and act in a way that is similar to them? What if humans will be able to create technological copies of them? Robots.

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<sup>84</sup> Gasset, *Úvaha O Technice*, 41-42.

### 2.3. Will it make us less human?

An opposing point of view concerns an area, which is, paradoxically, the most paramount to humanity, war. Precisely, how will the rise in automatization and artificial intelligence change the way the war is being handled. On one hand, it could save the lives of many soldiers and civilians if war was being fought with machines, but on the other, it might make war too safe and cost-effective and essentially never-ending.

In *Regulating Robocop: The Need for International Governance Innovation in Drone and AWS Development and Use* the authors Melisa Foster and Virgil Haden-Pawlowski ponder this very question. Firstly, there is the issue of human decision-making and responsibility. Fully autonomous weapons and weapon systems could, by definition, analyse a situation, choose a target and carry out an attack on that target by themselves, which leads to the next important issue in this topic, legality, and legislature.<sup>85</sup>

The lack of applicability of current international laws has been noted by a large number of non-governmental organizations such as Human Rights Watch and Amnesty International in their “*Campaign to Stop Killer Robots*”.<sup>86</sup> The organizations refer to a similar legal principle already existing in the *Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on their Destruction* from 1998, which serves an almost identical purpose only with chemical weapons.<sup>87</sup> Their argument being that only a specific convention such as the one mentioned above with direct references and description of Automatic Weapons Systems (AWS) can meet the necessities for governing these new emerging weapon technologies.

The authors of *Regulating Robocop* state that this technology already exists. The US Army operates a vast fleet of drones numbering over 7,000, compared to the 200 they had on September 10, 2001.<sup>88</sup> These drones are used mainly for surveillance and tracking targets, there are drones armed with Hellfire missiles, such as MQ-1 Predator and MQ-9 Reaper<sup>89</sup> that

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85 Melisa Foster, Virgil Haden-Pawlowski, “Regulating Robocop: The Need for International Governance Innovation in Drone and AWS Development and Use,” *Centre for International Governance Innovation*, (October: 2014): 1.

86 “Stop Killer Robots,” Stop Killer Robots, accessed November 17, 2021, <https://www.stopkillerrobots.org/>.

87 “Chemical Weapons Convention,” OPCW, accessed November 17, 2021, <https://www.opcw.org/chemical-weapons-convention>.

88 Peter Finn, “Rise of the Drone: From Calif. Garage to Multibillion-Dollar Defense Industry,” *The Washington Post* (WP Company, December 23, 2011), [https://www.washingtonpost.com/national/national-security/rise-of-the-drone-from-calif-garage-to-multibillion-dollar-defense-industry/2011/12/22/gIQACG8UEP\\_story.html](https://www.washingtonpost.com/national/national-security/rise-of-the-drone-from-calif-garage-to-multibillion-dollar-defense-industry/2011/12/22/gIQACG8UEP_story.html).

89 Rob V, “12 Military Drones Employed by the US Military,” *Operation Military Kids*, March 18, 2021, <https://www.operationmilitarykids.org/military-drones/>.

can be directed by their controller, unleash their ordnance on unsuspecting targets. The problem according to the authors is that a single line of code can make a drone go from autonomous target to autonomous kill.<sup>90</sup> This line of code separates drones from becoming autonomous weapon systems.

Furthermore, the development of drones used for military purposes is secret. The lack of transparency into the creation and function of these machines is another issue arising from their use. There is a lack of transparency when it comes to their operating parameters and their compliance with international law, which deals with addressing human rights violations during war.<sup>91</sup> In other words, when violence erupts and someone is killed, it is necessary to find the culprit, who up to this point has always been human following national or international laws governing warfare and the use of lethal force. According to the Robocop report, contemporary drones and the developing AWS are incapable of following or outright incompatible with the following international law principles:

Distinction - “Parties to the conflict must at all times distinguish between civilians and combatants. Attacks may only be directed against combatants. Attacks must not be directed against civilians.”<sup>92</sup> Evaluating targets is an area that requires, among other things, human intuition that cannot be replaced by binary thinking of machines. In the age of modern conflict, which often pits a professional army against various forms of insurgents, there are serious issues with identifying enemy combatants from civilians, since the only difference between them is a weapon, which may or may not be visible. The situation is much simpler in movies like the Terminator where all humans are legitimate targets and the machine is walking among them. In the real-life drones operate high in the sky and it can be hard to identify proper targets from a bird’s eye perspective as can be evidenced by the Pentagon’s own admission that in September of 2021 US Army killed ten civilians in a drone strike on a car at that time suspected to be carrying a high-ranking member of ISIS-K terrorist organization.<sup>93</sup> And there are many cases like this.

Proportionality - “Launching an attack which may be expected to cause incidental loss of civilian life, injury to civilians, damage to civilian objects, or a combination thereof, which

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90 Foster, Haden-Pawlowski, “Regulating Robocop”, 2.

91 Foster, Haden-Pawlowski, “Regulating Robocop”, 3.

92 “Rule 1. the Principle of Distinction between Civilians and Combatants,” Customary IHL - Rule 1. The Principle of Distinction between Civilians and Combatants, accessed November 20, 2021, [https://ihl-databases.icrc.org/customary-ihl/eng/docs/v1\\_cha\\_chapter1\\_rule1](https://ihl-databases.icrc.org/customary-ihl/eng/docs/v1_cha_chapter1_rule1).

93 Anna Coren et al., “US Military Admits It Killed 10 Civilians and Targeted Wrong Vehicle in Kabul Airstrike,” CNN (Cable News Network, September 17, 2021), <https://edition.cnn.com/2021/09/17/politics/kabul-drone-strike-us-military-intl-hnk/index.html>.

would be excessive in relation to the concrete and direct military advantage anticipated, is prohibited.”<sup>94</sup> In order to decide a proportionate response, the AI would need complex information about the environment and predictions regarding the military advantage to be gained from a possible attack compared to the loss of human life. Furthermore, even the best algorithms cannot predict the spread of shrapnel or debris in an evolving combat situation.

Human Right to Life - “Every person has the inherent right to life, protected by law; and no one shall be arbitrarily deprived of life.”<sup>95</sup> Quite shockingly, there is a type of military conduct that violates this law even now that would be disastrous if controlled by an AI. “Signature strikes” is a practice implemented under the Obama administration and it concerns targeting individuals who exhibit behavioural patterns similar to terrorists. Essentially, targets of these strikes remain anonymous.<sup>96</sup> The reasoning behind this, as an unnamed US official told the Guardian, is that unknown persons in a monitored area are designated “as enemy combatants until proven otherwise.”<sup>97</sup> So far the decision-making process involves several branches of the military and intelligence communities and the strike itself is executed by a human, but as stated previously, these duties could be relegated to an AI as well and using Signature Strikes, the artificial intelligence could carry out strikes on targets that exhibit a pattern similar to that it has been programmed to look for, essentially denying dozens if not hundreds of people, whose identities it does not even know the most basic human right of all. To summarize, Signature Strikes are used to eliminate people without trial, without learning their identities and it is a highly controversial tactic that is lacking moral and ethical reasoning even now. Making the system automated could lead to cold and remorseless murder.

Military necessity - “Only the use of what “reasonable force is necessary, is lawful and can be operationally justified in combat to make your opponent submit” is permitted.”<sup>98</sup> Selecting an appropriate force in response to aggression is another area where machines could potentially face problems. The use of lethal force is the last resort. Human troops and law enforcement utilize plenty of non-lethal options to pacify or neutralize their targets and they are encouraged to use them. In the case of a Predator drone, its armaments are all lethal.

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94 “Rule 14. Proportionality in Attack,” Customary IHL - Rule 14. Proportionality in Attack, accessed November 20, 2021, [https://ihl-databases.icrc.org/applic/ihl/ihlweb\\_eng\\_1.nsf/docindex/v1\\_rul\\_rule14](https://ihl-databases.icrc.org/applic/ihl/ihlweb_eng_1.nsf/docindex/v1_rul_rule14).

95 “Claiming Human Rights,” Right to Life - Definition, accessed November 22, 2021, [http://www.claiminghumanrights.org/right\\_to\\_life\\_definition.html](http://www.claiminghumanrights.org/right_to_life_definition.html).

96 Spencer Ackerman, “US to Continue ‘Signature Strikes’ on People Suspected of Terrorist Links,” The Guardian (Guardian News and Media, July 1, 2016), <https://www.theguardian.com/us-news/2016/jul/01/obama-continue-signature-strikes-drones-civilian-deaths>.

97 Ackerman, „Signature Strikes.“

98 Robert Kolb and Richard Hyde, *An Introduction to the International Law of Armed Conflicts* (Oxford, UK: Hart Pub., 2012), 22.

Should a situation arise where it must choose a target its only option is to destroy it. Even if equipped with alternatives the problem persists as even non-lethal weapons, such as Tasers<sup>99</sup> or rubber bullets<sup>100</sup>, can cause serious harm or even death when used in excess.

In essence, autonomous weapon systems will most likely fail in the areas mentioned above, because by nature their decision-making will be binary at worst, based on percentages from evaluation of various factors at best. They will lack crucial skills in waging war, human morals and empathy. On the other hand, it is a perfect element for the construction of various science fiction stories.

Aside from warfare itself, automated weapons would present a massive change to the peacetime and wartime industry and the economy. Mass-producing AWS presents an issue where they could actually make war too safe and cost-efficient. While initially developed for these exact reasons, their low requirements in terms of manpower and materials could in fact cause the war to be fought less ferociously, but almost indefinitely as the usual incentives for making peace, loss of life, and resources, would no longer apply.<sup>101</sup> Two superpowers equipped with low-cost, massproduced robotic armies could fight for decades and while their lands might be untouched, the people in the area where the fighting would take place would suffer immensely. The media would present the war as clean and safe for the home population; most likely not paying attention to the intentional or accidental deaths of civilians after one of the robots identified them as enemy combatants.

A subsequent problem arising from massproduction of robot armies is the inevitable strengthening of already existing superpowers. Deploying a robot army would require a substantial industrial base; however, further maintenance would be relatively cheap. The initial industrial requirements present a barrier for smaller nations to be able to compete.<sup>102</sup> The desired effect of reducing the human costs of war would then only apply to the world superpowers. Smaller nations or nations that could not devote a large section of their industry to producing this army would now face an even stronger enemy.

Furthermore, removing humans from warfare could make conflict not only cheaper and unending but also make war more easily initiated. According to Peter Asoro, this is the

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99 "Reuters Finds 1,005 Deaths in U.S. Involving Tasers, Largest Accounting to Date," Reuters (Thomson Reuters, August 22, 2017), <https://www.reuters.com/article/us-axon-taser-toll-idUSKCN1B21AH>.

100 Gerry Moriarty, "17 Killed during 'Troubles' by Plastic or Rubber Bullets," The Irish Times (The Irish Times, June 11, 1997), <https://www.irishtimes.com/news/17-killed-during-troubles-by-plastic-or-rubber-bullets-1.80949>.

101 Foster, Haden-Pawłowski, "Regulating Robocop", 5.

102 Foster, Haden-Pawłowski, "Regulating Robocop", 5.

reason for automated weapons being unethical, not their specific use in combat, but because by their expendability, they would make war more likely as they would lower the risk of injury and death for the human populations.<sup>103</sup>

However, this only concerns the downsides of AI and machine expansions, are there possible risks with cyborg implementation in real life? Andy Clark raises possible risks in the chapter Bad Borgs of his book *Natural Born Cyborgs*. In it he outlines several problematic areas, these include inequality, intrusion, uncontrollability, overload, alienation among others. There are concerns regarding inequality in the world and the possibility of these technologies deepening it even more, however, Clark remains optimistic as modern technologies are becoming more durable, cheaper, and easy to use. Technology itself is not inherently good or evil, it depends on the humans that make it how it will be used or abused.<sup>104</sup> Second area concerns intrusion and this is a complicated issue to summarize, interconnected technology like phones, smartwatches, laptops are passively gathering information known as cookies, recently some companies like Microsoft and Abacus Direct have managed to tie this information to real-life data. The lack of legal ramifications for these intrusions lowers society's expectation and make them more and more common and severe. This mainly concerns the so-called grey area of people expressing interest in things that are not illegal yet are frowned upon in society as these can be most often weaponized or cause the most damage, like extramarital affairs.<sup>105</sup> Following area, uncontrollability concerns an area of the speed of the technological adaptation. Hasty adaptation of technology could lead to rapid or gradual loss of control over it, or it gaining control over human lives. Clark believes that small nudges and corrections are satisfactory, and the key is for humans to acclimatize themselves with a more biological relationship with it.<sup>106</sup> Subsequently, too much incorporation could lead to overload and society in constant contact with one another. As a result, messages are getting more frequent, yet meaningless, with some people choosing to opt-out completely and delegate their communication to their assistants.<sup>107</sup> The problem arises when this technology becomes irremovable, as so far it is possible to limit the presence of smart technologies in people's lives. Ceasing to use or overuse technology leads to another problem – alienation.

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103 Peter M. Asaro, "How Just Could a Robot War Be?," Peter Asaro's WWW (Center for Cultural Analysis, Rutgers University, March 8, 2018), <https://peterasaro.org/writing/Asaro%20Just%20Robot%20War.pdf>.

104 Andy Clark, *Natural-Born Cyborgs: Minds, Technologies, and the Future of Human Intelligence* (Oxford: Oxford Univ. Press, 2003), 167-169.

105 Clark, *Natural-Born Cyborgs*, 171 – 174.

106 Clark, *Natural-Born Cyborgs*, 174 – 176.

107 Clark, *Natural-Born Cyborgs*, 176 – 177.



Some university professors hold the view that technologies might degrade bonds between people and how they view each other, be it by talking to chat bots when they are lonely or web-searching bots that might trade or buy items people are interested in. Clark highlights that this will be a crucial area in future development as the software will have to know the proper language levels and human psychology to make this cooperation as successful as possible. But taking note of how technologies impact human relations is important moving forward.<sup>108</sup> The last category that will be summarized here is deceit. This can concern people pretending to be someone else through the technological barrier or chat-bots masquerading as real people sending phishing links or other harmful messages.<sup>109</sup> To summarize, although Andy Clark is generally a fan of technological development and future techno-biological symbiosis, he nonetheless highlights some critical areas of this development. It is up to people to deal with those, either as a society or as an individual.

In conclusion, as evidenced above there are already problems with autonomous weapons emerging without those weapons even being fully developed. Various non-government organizations and other initiatives are warning about their unavoidable violations of human and international laws and as demonstrated in this chapter, those fears are valid. From the lack of any moral or ethical systems, the AWS would decide purely on mathematical factors, percentages, and algorithms to perform their duties of searching, scanning, targeting, and possibly eliminating individuals. Andy Clark presents his own gripes with this issue but is generally more positive and enthusiastic about this technological development while also highlighting possible risk factors.

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<sup>108</sup> Clark, *Natural-Born Cyborgs*, 177 – 179.

<sup>109</sup> Clark, *Natural-Born Cyborgs*, 180 – 181.

## 2.4. What does it mean for mankind?

Technology is a part of life. It can be used for good, and it can be used for evil. The direction in which it is used is set by humans but also the time in which it is created.

The creation of sophisticated AI programs and advanced robotic bodies to house them is only a matter of time. Theoretical concepts have been created a long time ago and available technology is catching up to them. The US Army drones used as an example in the previous chapter are only a glimpse of the potential this technology presents. While it would be nice to hold Gasset's or Clark's optimistic views on technology as a whole and the future use of robotics the examples explored paint a different picture. Making the drones and possibly other weapons autonomous presents a wide range of ethical, moral, and legal problems that will need to be addressed before those weapons are even created. Sufficient legal frameworks and new laws will need to be implemented and with how many essays, books, and journals have been written on the topic, there is an opportunity to create these new laws way ahead of time. Further research needs to be conducted in areas regarding AI weapon responsibility and self-awareness. And what rights, if any, to grant it based on its level of thought.

Naturally, a complete ban on autonomous weapons of all variations is also an option as was proposed by the "Stop the Killer Robots" campaign. The problem arises with nations or other actors on the world stage that will not follow these bans and continue to develop these weapons in secret on their own. Now it is possible to elevate AWS to the same level of danger as chemical weapons using similar legislature and international oversight, but even that is not an absolute solution.

In conclusion, self-aware AI systems are a matter of time, and the best course of action seems to be to embrace their creation and prepare accordingly, because if it is not done by the current industrial and technological superpowers, someone else will inevitably do so and it is necessary for the law-abiding nations of the world to maintain technological superiority, so they might set the direction for their use and operation.

### 3. Analysis of selected works of fiction

The following half of this thesis will explore three key science fiction works of American cinema from the 1980s. These works include *The Terminator* by James Cameron from 1984, *Blade Runner* by Ridley Scott from 1982, based on the previously mentioned story *Do Androids Dream of Electric Sheep* by Phillip K. Dick from 1968, and finally *Robocop* from 1987 made by Paul Verhoeven. These films have been organized in a thematic order rather than chronological. Starting with the basic premise of Terminator, machine hunts man, followed by a reversal in Blade Runner, where human hunts machines, and finally, Robocop, where a man becomes part-machine, a cyborg, and these two topics are blended together.

#### 3.1. The Terminator – 1984

The Terminator is a sci-fi action movie directed by James Cameron and released in 1984. The franchise starting movie stars Arnold Schwarzenegger as the titular Terminator, a killer “cyborg” from the future with only one goal – to kill an ordinary woman who works as a waitress in Los Angeles, Sarah Connor.

The movie was a box office success. It grossed over 4 million dollars in its opening week with that number rising to 38 million at the domestic box office and a further 40 million in international sales.<sup>110</sup> Initially, it received mixed reviews, with some critics praising it as “blazing, cinematic comic book, full of virtuoso movie making, terrific momentum, solid performances and a compelling story.”<sup>111</sup> While Sid Smith of Chicago Tribune called the movie “just a bit schizoid” and generally considering it a silly B-movie that “should please Schwarzenegger fans and mildly entertain others.”<sup>112</sup> Sid Smith also called the movie “trite, if not outright stolen” from Halloween and Alien 2.<sup>113</sup> It is true that the movie concept was stolen, or heavily inspired by, other media, but not the two the author is mentioning. Shortly after its release, Harlan Ellison sued James Cameron for plagiarizing his work. As Harlan says on his blog, “Terminator was a ripoff from that script [The Outer Limits episode called Soldier], but I won an out-of-court settlement, and my name appears at the end credits of

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110 “The Terminator,” Box Office Mojo, accessed March 15, 2022, <https://www.boxofficemojo.com/title/tt0088247/>.

111 “The Terminator,” *Variety*, December 31, 1983, 1.

112 Sid Smith, “The Terminator Just a Bit Schizoid,” *Boca Raton News*, October 31, 1984, 10-11.

113 Smith, “The Terminator,” 11.

every videocassette and DVD.”<sup>114</sup> Not much about the settlement is known as part of the agreement none of the parties can discuss the details. This does not apply to the sequels as they are not based on Harlan’s work.<sup>115</sup> Despite that, throughout the years the film garnered more and more recognition and positive reviews<sup>116</sup> until eventually being selected for preservation at the US Library of Congress.<sup>117</sup>

As previously mentioned, the movie depicts Schwarzenegger’s Terminator arriving back in time into 1984 to find and kill Sarah Connor, a seemingly unimportant waitress coincidentally having a bad day. At the same time, a human warrior Kyle Reese appears in the present sent by the humans of the future. Both scramble to find clothes and weapons to hunt each other down and find their common target, Sarah. During their first clash, Kyle Reese manages to repel the Terminator’s attack and protect Sarah for the time being. As they are escaping he explains the situation to her. Both him and the Terminator are from 2029, from a world destroyed by nuclear war initiated by Skynet, an AI defence system built by the US Military. It had gone rogue, or self-aware, and launched the US nuclear arsenal to destroy the human race. But humanity survived despite the nuclear hellfire. The human resistance rallied behind John Connor, Sarah’s unborn son, to eventually destroy Skynet. In a last-ditch attempt to save itself, Skynet sent a Terminator back in time to murder him before he is even born. What follows is a game of cat and mouse through Los Angeles and the surrounding countryside during which Kyle and Sarah fall in love before eventually ending in an explosive crash and chase through a factory where Sarah lures the Terminator into a hydraulic press and crushes it. Afterward, Sarah is travelling through America pregnant with John, humanity’s future saviour.<sup>118</sup>

Right off the top, there is much to discuss with this movie, for a simplistic looking B-movie action flick *The Terminator* is surprisingly heavy with themes. Namely, the role of technology in human lives and the resulting conflict between the man and the machine, along with individual versus the system, motherhood, and fate.

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114 Harlan Ellison, “The Ellison Bulletin Board,” *The Ellison Bulletin Board* (blog), August 27, 2001.

115 Andy Marx, “IT’S MINE : All Very Well and Good, but Don’t Hassle the T-1000,” *Los Angeles Times*, July 7, 1991.

116 Clark Collis, “EMPIRE ESSAY: The Terminator,” *Empire Reviews Central*, November 21, 2005, <https://web.archive.org/web/20070927235924/http://www.empireonline.com/reviews/reviewcomplete.asp?FID=132648>.

117 “Terminator Joins Movie Archive ,” *BBC News*, December 30, 2008,

<https://web.archive.org/web/20090228153651/http://news.bbc.co.uk/1/hi/entertainment/7804404.stm>.

118 *The Terminator*, directed by James Cameron (Orion Pictures, 1984).

The obvious issue here is that the Terminator is not a cyborg. Despite many people and reviewers praising “the performance of Schwarzenegger as the cyborg killer”<sup>119</sup> or his role as a “cyborg assassin”<sup>120</sup> and some even calling him a “computerized automaton”,<sup>121</sup> even the film’s character Kyle Reese describes him as “not a robot, a cyborg – cybernetic organism,”<sup>122</sup> and as a part-man part-machine infiltration unit with a hyper-alloy combat chassis underneath its human skin.<sup>123</sup> Arnold’s character is a machine plain and simple.

A cyborg, or cybernetic organism, as previously defined means communication and control within an organism. In its original meaning it is a fuse of the organic and the mechanical, be it prosthetic limbs, lung adjustments, chemical alterations of the brain, or other adjustments. The key part is that the mechanical and organic parts are intertwined with the human at the core the organic can function without the machine, while in fiction one cannot function without the other and wavering too much into the human or machine side results in the cyborg’s death. In this movie, the Terminator itself is just the skeleton. The human skin, while actual living tissue grown in a lab for this purpose<sup>124</sup> is just that – a skin suit. As can be seen in the movie climax, when Kyle Reese blows up the gas tanker with the Terminator inside, it is believed to be destroyed, until it rises from the wreckage, fully shedding its organic exterior and exposing its true form – a metallic endoskeleton with a CPU (Central Processing Unit) hidden safely within its durable human-like skull.<sup>125</sup> It can function without the human tissue for it is just a camouflage to better infiltrate the human settlements.

As explained by Kyle Reese, the previous models of terminators did not even have human skin, their outside layer was made of rubber, and they were easily recognizable. Skynet implemented lab-grown skin to make them better infiltrators as they could sweat, had bad breath and other human-like features.<sup>126</sup> It does not, however, make the Terminator function any better, it does not increase his speed, agility, or sensory and auditory functions. In one case it is even a detrimental to the effectiveness of the Terminator. A car chase sequence in the middle of the film ends with a head-on collision of the Terminator into a wall

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119 Matthew Monagle, “What Critics Thought about ‘The Terminator’ in 1984,” Film School Rejects, September 26, 2020, <https://filmschoolrejects.com/terminator-1984-what-critics-thought/>.

120 Clark Collis, “The Terminator,” Empire (Empire, January 1, 2011), <https://www.empireonline.com/movies/reviews/terminator-review/>.

121 Janet Maslin, “The Screen: ‘Terminator,’ Suspense Tale,” The New York Times (The New York Times, October 26, 1984), <https://www.nytimes.com/1984/10/26/movies/the-screen-terminator-suspense-tale.html>.

122 *The Terminator*, directed by James Cameron (1984, Orion Pictures, 2010), 40:30 – 40:36, DVD.

123 *The Terminator*, 41:30 – 41:36.

124 *The Terminator*, 41:40 – 41:49.

125 *The Terminator*, 1:31:42.

126 *The Terminator*, 41:56

and as a result of the sustained damage, it escapes. In its hideout, it fixes its arm and then walks to the mirror where it cuts off the left eyelid and the fake eye with a scalpel because the eye has become mangled and non-transparent due to damage. The Terminator then covers the missing piece of skin with sunglasses that it wears from this point on to maintain its human appearance.<sup>127</sup> Organic tissue serves the same purpose as a rubber mask a person could wear and neither of them is a cyborg because of that. Therefore, the Terminator is a killer robot or simply a machine.

Secondly, The Terminator could be explored through the lens of naturalism as there is a significant connection between naturalism and science fiction and this movie is a prime example of that. As already mentioned, the naturalist literature contains these elements, determinism, objectivism, pessimism, and a surprising twist at the end. And in The Terminator, some of these elements form a key part of the story.

Determinism is perhaps the strongest example. Charles Child Walcutt claims in his article for American Literature that determinism “consists of transforming a setting which is brought into the novel because it is colorful and picturesque into a force which has a considerable influence upon the characters and activities of the people who move [through it].”<sup>128</sup> And while the setting of The Terminator is not colourful and picturesque as the urban jungle of the Los Angeles rarely is,<sup>129</sup> the true setting that possesses the force to influence the character is time. Time travel is the founding element of the movie’s story as both the Terminator and Kyle Reese arrive from the future to change it and protect it respectively. Skynet is losing the war in the future; therefore it sends a Terminator back to the past to kill Sarah Connor, the mother of John Connor. In response humanity sends Kyle Reese to protect her and during that time he falls in love with her and becomes John’s father, and after the Terminator is destroyed and a deleted scene shows the pieces of him taken to Cyberdyne corporation from which the development of Skynet is started.<sup>130</sup> The story is a closed circle with every action already predetermined and both Kyle and the Terminator are not making any changes to the past (1984) as every action already happened in the first place. This is an example of a “bootstrap paradox”, a hypothetical loop in which one event causes a second,

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127 *The Terminator*, 54:34 – 56:00.

128 Charles Child Walcutt, “Harold Frederic and American Naturalism,” *American Literature* 11, no. 1 (March 1939): 14, <https://doi.org/10.2307/2920691>.

129 *The Terminator*, 06:46 – 07:23.

130 Flashback FM, “The Factory (Cyberdyne Systems) | the Terminator [Deleted Scene],” YouTube, November 12, 2019, <https://www.youtube.com/watch?v=zYkBSFKCDog>.

which causes the first.<sup>131</sup> In conclusion, the characters have no choice to affect their future for it has already happened. They are at the mercy of the ultimate force – time.

Objectivism is a metric that can be applied to this movie. While it has main characters, John and Sara, it does not feature inner monologues, imaginary dream sequences, or hallucinations, only Kyle’s flashbacks. What is presented on the screen happens as it is shown. Viewer’s experience can be considered objective.

It can be argued that the Terminator is a pessimistic work of art but that assumption would be wrong. Despite the rise of Skynet and the resulting nuclear war, John Connor manages to rally humanity and defeat the AI system. The introductory text states that “their [machine] war to exterminate mankind had raged for decades, but the final battle would not be fought in the future. It would be fought here, in our present [1984]. Tonight.”<sup>132</sup> The plot of the movie happens because the Skynet wants to save itself from destruction, in the words of Kyle Reese, “...it had no choice. Their [Skynet] defence grid was smashed. We’d [humanity] won!”<sup>133</sup> The final message of the movie is that in the end, despite the nuclear war and the devastation wrought by the machines, humanity will rally around John Connor and ultimately win.

Final twists are a very subjective topic to discuss, as they depend on sufficient foreshadowing, the viewer’s attention, and the quality of the script. In regard to the movie, the Terminator skeleton emerging from the burning wreckage during the final confrontation could be considered an example. A more clear example is in the third entry, Terminator 3: Rise of the Machines, which depicts the activation of Skynet, John rushes to what he believes to be the physical location of the rogue AI only to discover that it is a Cold War-era nuclear bunker as he is not meant to destroy Skynet right now, but to survive the war and lead humanity later.<sup>134</sup> The first entry, however, does not have any shocking revelation like this. Therefore, this element of naturalism is not present.

But what is The Terminator’s message about the technology itself? Aside from the future machine uprising and the war on humanity. The technology of the past drives the plot forward in several places. When hunting Sarah Connor the Terminator is able to get a drop on his victims, Sarah’s room-mate Ginger and her boyfriend, because Ginger has headphones in

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131 Candice Bradley, “Bootstrap Paradox,” Dictionary.com (Dictionary.com, January 19, 2021), <https://www.dictionary.com/e/pop-culture/bootstrap-paradox/>.

132 *The Terminator*, 1:30 – 1:44.

133 *The Terminator*, 53:50 – 54:20.

134 “Terminator 3: Rise of the Machines,” Wikiwand, accessed March 21, 2022, [https://www.wikiwand.com/en/Terminator\\_3:\\_Rise\\_of\\_the\\_Machines](https://www.wikiwand.com/en/Terminator_3:_Rise_of_the_Machines).

and does not hear it enter and kill her boyfriend.<sup>135</sup> Later when Kyle and Sarah are hiding in a stolen car inside a parking garage the Terminator spots them because the car they are in does not want to start.<sup>136</sup> When Dr. Silberman is leaving the police station after Kyle and Sarah get arrested his pager beeps and he misses the Terminator walking right past him.<sup>137</sup> However, these occurrences can be viewed as quite random when all the encounters with the Terminator are taken into account. But on the other hand, the progress of the Terminator is hindered due to a lack of advanced technology. Sarah Connor is a nobody, most likely without a criminal record. Even if she had one the records of that time were mostly physical. As Kyle Reese mentions, Skynet knew only her name and the city she lived in, as most of the records were destroyed during the war anyway.<sup>138</sup> It makes the situation harder for the Terminator, as he has to go by the yellow pages and kill every Sarah Connor in Los Angeles.<sup>139</sup> However, this might just be the reflection of the reality of that time. As mentioned above, there is not a consistent way of the Terminator finding them and sometimes it gets closer to its target purely by human error.

However, the question about the role of technology in the movie could be explained by the rise of Skynet. If humanity designs the machines to do everything for them, what purpose will humanity serve to the machines? This is of course an over-exaggeration, but it can be demonstrated with a scene from the movie. While explaining who he is to Sarah, Kyle tells her about the upcoming nuclear war. “It was the machines [who started the nuclear war]. Defence network computers. New. Powerful. Hooked into everything. Trusted to run it all. They say it got smart – a new order of intelligence. And it saw all people as a threat not just the ones on the other side. It decided our fate in a microsecond. Extermination.”<sup>140</sup> The important part of this quote is “trusted to run it all”. The technology itself is not the problem, it is the execution or its application. By its use in the movie, the Terminator is very much like a drone that is employed by armies around the world. It is a much more sophisticated machine albeit with limited intelligence that carries out its tasks as programmed by its master. But while drones are under the direct control of humans, in the movie humans created artificial intelligence to run it for them. Artificial intelligence that most likely lacks any sort of morality or ethical programming since it was thought up to be a defence system with efficiency and

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135 *The Terminator*, 30:50 – 31:30.

136 *The Terminator*, 48:00 – 48:16.

137 *The Terminator*, 59:08 – 59:13.

138 *The Terminator*, 52:56.

139 *The Terminator*, 15:13 – 15:24.

140 *The Terminator*, 45:24 – 46:00.



quick reactions being the key element. It was most likely instructed to prioritize the good guys (Americans) over the bad guys (the Soviets) and react in a split second should the Soviets launch their nuclear arsenal.

Does this make the Terminator evil? Is it in control of its actions? This question is explored in a journal of *Criminal Justice Ethics* of the same name.<sup>141</sup> In this journal, the author Ross W. Bellaby makes a critical distinction in AI Weaponry, which the Terminator could be classified as. He divides them into autonomous weapons and weapons with autonomy. Further in the journal, he highlights the importance of the seemingly arbitrary semantic difference.

The key difference between autonomous weapons and weapons with autonomy is that the former would have an option to disagree with the given instructions. Weapons with autonomy operate based on the instructions given to them by their operators and the specified parameters that create constraints in which the weapon is allowed to function. These restrictions ultimately mean the operator is responsible for the actions of the weapon, since it acts as a tool, albeit a tool with certain intelligence and decision making.<sup>142</sup> This places responsibility on the controller, Skynet.<sup>143</sup>

On the other hand, should the Terminator be completely autonomous, it would have the option to disagree with the given orders and their use would be unreliable.<sup>144</sup> If the option to refuse an order is removed, then the Terminator is not truly autonomous and therefore not responsible for its actions.

Is Skynet responsible? Only partially. As Ross W. Bellaby further explains even fully autonomous weapon systems, in this case, defence system Skynet, still place a portion of the blame on the humans that created it. Much like a parent is partially responsible for the way his or her child grew up; humans that would create and code these autonomous systems would be partially responsible for its behaviour and decision making. Even the best AI system is limited by its programming. It is then quite a grim situation to realize that humanity is responsible by proxy for the destruction of the planet and the rise of machines.

This rise could soon be a real possibility due to the US Department of Defence, which, with its fleet of seven thousand drones, hopes for more autonomy of their drones' internal systems. Arguments are being made in favour of autonomous weapons that cut the human out

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141 Ross W. Bellaby, "Can AI Weapons Make Ethical Decisions?," *Criminal Justice Ethics* 40, no. 2 (July 4, 2021): pp. 86-107, <https://doi.org/10.1080/0731129x.2021.1951459>.

142 Bellaby, "Ethical Decisions," 87.

143 Bellaby, "Ethical Decisions," 87.

144 Bellaby, "Ethical Decisions," 87.

of the loop completely to fast-track the process of selecting targets and to reduce the amount of information human analysts need to process.<sup>145</sup> The goal of this change is to create a system that can “make faster, less biased decisions using facial recognition software to identify terrorists and digital mapping to preview missiles’ [splashes] to prevent [unwanted] casualties.”<sup>146</sup> However, the plot of Terminator presents one possible outcome of such action.

An additional point as regards the doability of this task was highlighted by roboticist Noel Sharkey. He argues that drones do not have the necessary sensory or vision equipment to distinguish civilians from combatants. Using high definition and infrared cameras, the drones can tell whether something is human, but that is as much as they can tell.<sup>147</sup> This is not the case in the Terminator, who despite its red-tinted vision has impeccable identification capabilities even at night or during high-speed travel.

A counterargument can be made that this concerns only the UAVs and drones flying miles in the sky and that an actual robot walking on the ground would make better distinctions and decisions. And while the Terminator has perfect recognition of its targets, in real life it is far from solid, however, as facial recognition and, by extension other forms of recognition by AI, can be fooled. And a potential enemy does not need to be a computer expert or a guerilla fighter from the future to do it, recognition systems have been fooled by make-up<sup>148</sup> or reflective clothing.<sup>149</sup> A cybersecurity team from McAfee even ran a test where they managed to make AI facial recognition software identify a person as someone else with image changing software. They morphed pictures into one another until they created a picture of a person that when presented to the recognition software was identified as someone completely different.<sup>150</sup> Granted, it was not an easy process, but it was sufficient as a proof of concept. A concept that might have worked on the Terminator, as early in the movie when he barges into Sarah’s apartment, he kills her roommate, believing it was her due to a lack of visual reference. This shows that although highly improbable, the Terminator can be fooled.

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145 Michael Mayer, “The new killer drones: understanding the strategic implication of next-generation unmanned combat aerial vehicles,” *Royal Institute of International Affairs* Vol.5, No.4 (July 2015): 771

146 John Teschner, “On Drones,” *The Iowa Review* 43, no. 1 (2013): 79.

147 Noel Sharkey, “Evitability of Autonomous Robot Warfare,” *International Review of the Red Cross* Vol.94, No. 886 (Summer 2012): 788.

148 Bharat Sharma, “Can Facial Recognition Tech Be Fooled Using Makeup? Here's What a Test Revealed,” *IndiaTimes*, September 18, 2021, <https://www.indiatimes.com/technology/news/can-facial-recognition-tech-be-fooled-using-makeup-heres-what-a-test-revealed-549721.html>.

149 Cache Valley Prepper, “6 Ways to Defeat Facial Recognition Cameras,” *Survivopedia*, August 20, 2018, <https://www.survivopedia.com/6-ways-to-defeat-facial-recognition/>.

150 Karen Hao, “The Hack That Could Make Face Recognition Think Someone Else Is You,” *MIT Technology Review* (MIT Technology Review, December 10, 2020), <https://www.technologyreview.com/2020/08/05/1006008/ai-face-recognition-hack-misidentifies-person/>.

There is a scene at the beginning of the movie where Kyle is falling asleep in his car and he is watching drilling machines and construction equipment at a nearby construction site he reminisces about the future where similar-looking machines are crushing human skulls and hunting the live ones.<sup>151</sup> If this scene is interpreted as the drilling machines and hunter-killers being the same type of technology, a simple tools operated by someone else, humans and Skynet respectively, then are they truly evil? Drone operators remotely control the drones they fly, and they pull the trigger. Same with the drilling machine operator, he sits in the cockpit and controls the machine with levers and pedals. Terminator is a drone of Skynet carrying out the orders that it is mandated to follow. Therefore, artificial intelligence is to blame and as already mentioned, the AI is designed to think like a human and it was created by humans it could be deduced that Skynet is a tragedy of humans' own making. A product of the arms race of the Cold War, a time where consequences were not the top priority, and it was all about getting an edge over the opponent.

When Kyle Reese says that it has decided the fate of humanity in a microsecond it was the humans who made it responsible for this event as they either did not care or did not anticipate such a possibility in the first place. Skynet was connected to everything and launching the missiles was not a problem if the humans (Americans) entrusted it with the control of their nuclear arsenal. In summary, it can be argued that technology is not necessarily bad, but the voluntary loss of control over it and then involuntary loss of control over it is the problem.

Overall, Skynet serves as an overlord, a control system, to its fleet of drones, be it Terminators or Hunter-Killers, twin-engine flying gunships, to hunt down humans in the post-apocalyptic future and is the prime example of an event the campaign to *Stop the Killer Robots* is aimed against. Therefore, this is the thought-provoking message that can be found within this movie, what if humanity's weapons turned against them? What if an intelligent system controlling the US Army drone fleet decided to attack American cities? The line of inquiry would lead to the person who designed the system, put it in place, and gave it the authority to do so. So in conclusion, the Terminator is not a story about how technology is good or bad, but about the responsibility for it.

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<sup>151</sup> *The Terminator*, 17:23 – 18:10

### 3.2. Blade Runner – 1982

Blade Runner from Ridley Scott is overflowing with themes, imagery and ethical conundrums that an entire thesis alone could be devoted to, unfortunately, due to constraints only some of them will be explored here.

The path to adapting *Do Androids Dream of Electric Sheep* was a complicated one. The first attempts were met with hostility from the author Phillip K. Dick who thought the initial screenplay was so horribly done he offered to beat up the writer Robert Jaffe when he flew to see him about it.<sup>152</sup> Second screenplay was done by Hampton Fancher in 1977, who was drawn to it after reading the book, loving the central plotline of a detective chasing androids in a dystopic world.<sup>153</sup> Despite the initial hostility Phillip K. Dick was pleased with the direction of the film following a rewrite of the script<sup>154</sup> and told Ridley Scott that the world he had created in Blade Runner was exactly as he imagined it.<sup>155</sup>

Although regarded as a cult classic now with Rotten Tomatoes critic consensus being, “Misunderstood when it first hit theaters, the influence of Ridley Scott's mysterious, neo-noir Blade Runner has deepened with time. A visually remarkable, achingly human sci-fi masterpiece.”<sup>156</sup>, it received mixed results when released. American audiences were critiquing its slow pace<sup>157</sup> and the special effects taking precedent over the plot.<sup>158</sup>

The film itself centres around Rick Deckard, a former police officer who is called back into service as a Blade Runner, a special detective that hunts down and “retires” (executes) runaway Replicants.<sup>159</sup> According to the Final Cut opening crawl, Tyrell Corporation created a replicant, a being virtually identical to a human. These particular replicants are a Nexus 6 model that surpasses humans in strength and agility and at least match them in intelligence. They were created by genetic engineers.<sup>160</sup> Deckard is involuntarily picked up by Gaff, a Blade Runner, and taken to his boss’ Bryant’s office. He tells him to find and retire escaped replicants Roy Batty, Leon, Zhora, and Pris who now roam the city. Deckard does not want

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152 Paul Sammon, “The First Option Attempts,” in *Future Noir: The Making of Blade Runner* (New York: Dey Street Books, an imprint of William Morrow, 2017), 20.

153 Sammon, “Future Noir,” 22.

154 Sammon, “Future Noir,” 67-69.

155 Sammon, “Future Noir,” 284.

156 “Blade Runner,” Rotten Tomatoes, accessed March 22, 2022,

[https://www.rottentomatoes.com/m/blade\\_runner](https://www.rottentomatoes.com/m/blade_runner).

157 Chris Hicks, “Film Review: Blade Runner,” *Deseret News*, September 11, 1992. Accessed March 23, 2022.

158 Sammon, “Future Noir,” 313–315.

159 “Blade Runner,” AFI Catalog of Feature Films, accessed March 23, 2022,

<https://catalog.afi.com/Film/68260-BLADE-RUNNER>.

160 *Blade Runner: The Final Cut*, directed by Ridley Scott (Warner Brothers, 2017), 2:10 – 2:20.

<https://www.netflix.com/watch/70082907>.

the job but is informed that his former colleague Holden was critically injured by one of the replicants and also he does not really have a choice. Deckard accepts. Bryant shows him a video of a Voight-Kampff test used to distinguish replicants that Holden made before Leon, a replicant he was interviewing, shot him. Deckard visits the Tyrell Corporation, where its founder Eldon Tyrell asks him to perform the Voight-Kampff test on Rachael, his assistant. Deckard does so and in the end determines that she is a replicant, although it took him over one-hundred questions compared to the regular twenty to thirty to find out. Tyrell says that she has implanted memories and she believes she is human. Meanwhile, Roy Batty with the other replicants track down people responsible for making them in search of Dr. Tyrell, including a geneticist eye-maker Chew, and a designer J. F. Sebastian. Pris befriends Sebastian and stays in his place. Rachael visits Deckard at his home and he tells her she is a replicant by citing the contents of her memories, this upsets her and she leaves. Later, Deckard tracks down and retires Zhora. While walking home, Leon tries to kill him, but Rachael appears and shoots Leon with Deckard's gun. Roy meets up with Pris at Sebastian's place and tells her there are only two of them now. Appealing to Sebastian's emotions he convinces him to take him to Tyrell to give Pris more life, as their lifespan is limited to four years. He does so and after a brief conversation with Tyrell, Batty crushes his head. Deckard meanwhile finds Sebastian's apartment and after a fight kills Pris. Batty returns and they engage in a final confrontation during which Batty begins to lose energy as he is at the very end of his lifespan. After being disarmed Deckard tries to run from him by jumping onto another building but he slips and remains hanging above the street. Batty jumps on the other side and just as Deckard is about to fall, he catches him and pulls him up. Batty makes a final speech about tears in the rain before bowing his head as he dies. Gaff appears and throws Deckard his gun back, saying about Rachael "Too bad she won't live, but then again who does." Deckard rushes to his apartment to find Rachel sleeping. He asks if he loves her and trusts her, she says she does and they leave together.

First and foremost, there are many versions of Blade Runner that have been released over the years with significant alterations to the ending, themes, and the overall message of the film. First, there was a Workprint prototype version from 1982 that was shown to test audiences in Dallas and Denver in March of that year, allegedly without the permission of the

director Ridley Scott. Negative audience responses led to alternations to the future US theatrical release version.<sup>161</sup>

The second version was the San Diego sneak preview version also shown in 1982 which was almost identical to the US theatrical release except for three scenes. It contained a scene that properly introduces Roy Batty in the VidPhon booth, in the Final Cut the scene begins as he exits to speak to Leon, next is a scene of Deckard reloading his gun during the final confrontation, and a final scene where Deckard and Rachael ride into the sunset.<sup>162</sup> The information from the article is hard to verify independently as those scenes have not been available since.

The third version was the US theatrical release in 1982. It included a voice-over by Harrison Ford, the actor of Rick Deckard, which both he and Ridley Scott felt did not belong in the film.<sup>163</sup> He did it anyway and despite criticism said in an interview for Playboy that he did as best he could despite the lack of proper direction and he hoped they will not use it.<sup>164</sup> The main difference here however is the added “Ride into the Sunset” scene, cliché as it sounds. The scene depicts Rachael and Deckard driving outside the city limits toward a beautiful landscape and the disliked Harrison Ford voice-over provides additional information, “Gaff had been there and let her live. Four years, he figured. He was wrong. Tyrell had told me Rachael was special. No termination date. I didn’t know how long we’d have together... who does.”<sup>165</sup> It is obvious that this is a happy ending the American movies have become known for, however, this does not really fit into the general oppressive and dark atmosphere of the movie.

Next were the International Release Version and the US CBS Version. They differ very little from the official release version. CBS version is notable for decreased violence, nudity and curse words.<sup>166</sup> While the International Version had extra scenes with violence added.<sup>167</sup>

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161 Fred Kaplan, “A Cult Classic Restored, Again,” *The New York Times* (The New York Times, September 30, 2007), <https://www.nytimes.com/2007/09/30/movies/30kapl.html>.

162 Sammon, “Future Noir,” 331.

163 Sammon, “Future Noir,” 370.

164 Michael Fleming, “Harrison Ford Playboy Interview,” *Playboy Magazine*, July 2002.

165 Sammon, “Future Noir,” 375.

166 “Blade Runner,” *IMDb* (IMDb.com), accessed March 22, 2022, <https://www.imdb.com/title/tt0083658/alternateversions>.

167 Sammon, “Future Noir,” 326–329.

What followed are the Director's Cut from 1992 and Final Cut from 2007. These were both made by Ridley Scott and can be considered closer to his vision than the rest. The Director's Cut removed Deckard's voice-overs, inserted a unicorn dream sequence and removed the "happy ending".<sup>168</sup> Final Cut then uses modern CGI techniques to edit out various mistakes and trims the length of different scenes to make the movie more coherent.<sup>169</sup> And given that this is the final cut and could be considered the ultimate version, this thesis will use this version for its analysis.

As mentioned previously, *Blade Runner* is brimming with themes and interpretations and every new viewing can offer a new point of view, so this thesis will focus on the depiction of technology, specifically man and replicant in the story.

The theme of humanity is at the core of the story and in Ridley Scott's movie, it is used completely in reverse compared to what one might expect from movies in this genre like *The Terminator*. Here it is the man that hunts down a machine.

But what even is a replicant? They are not technically human, but they are not mechanical either. "Tyrell Corporation advanced Robot evolution into the Nexus phase – a being virtually identical to a human – known as a Replicant. The Nexus 6 Replicants were superior in strength and agility, and at least equal in intelligence, to the genetic engineers who created them," says the opening crawl.<sup>170</sup> The book *Future Noir The Making of Blade Runner* reveals an alternate description used in a previous version of the film. It said, "Replicant. See also ROBOT (antique), ANDROID (obsolete), NEXUS (generic): Synthetic human, with paraphysical capabilities, having skin/flesh culture."<sup>171</sup> They are quite unique beings as they do not really fit into any category previously established in this thesis, as they are not mechanical, yet they are not human either. But they represent the peak of the concept of machine learning, as one of the areas of that field is to design technology with the biological blueprint, for example, structure of modern CPUs is similar to the wiring of the human brain. These are "machines" so perfect they are virtually indistinguishable from humans except for one crucial aspect – emotions.

*Blade Runners* (bounty hunters) use a Voight-Kampff test to measure emotional responses in their subjects. The movie does not go into detail about what the test is, except for

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168 Roger Ebert, "Blade Runner: Director's Cut Movie Review (1992): Roger Ebert," movie review (1992) | Roger Ebert, September 11, 1992, <https://www.rogerebert.com/reviews/blade-runner-directors-cut-1992>.

169 "Blade Runner," IMDb (IMDb.com), accessed March 22, 2022, <https://www.imdb.com/title/tt0083658/alternateversions>.

170 *Blade Runner: The Final Cut*, 2:10 – 2:20

171 Sammon, "Future Noir," 390.

the basic premise. In the source material *Do Androids Dream of Electric Sheep* the test is further explained. This thesis will use the book only sparingly to fill out some of the world-building gaps, as the book is in some ways different to Ridley Scott's vision and there is no space in this thesis to contra-examine them. According to the book, the Voight-Kampff Empathy test was devised by the scientists of the Leningrad's Pavlov Research Institute for police forces around the world to detect and retire androids or replicants, book version and movie version respectively.<sup>172</sup> In the movie it is a special device, much like a lie detector, that focuses an iris of the subject and scans for pupil dilation due to heightened emotional state during interrogation. Usually, about twenty or thirty questions are needed for a conclusive result.<sup>173</sup> It could be considered a perfected Turing Test, as the Turing Test deals with a conversation ability to determine if a machine is truly intelligent. In *Blade Runner*, that threshold has been passed and with replicants being identical to humans in appearance, intelligence and communication a new method had to be devised. Enter Voight-Kampff test.

One other factor the replicants can be distinguished is due to their short life spans, but for obvious reasons, this method is viable. In the movie, the replicant lifespan is four years. As chief Bryant says, if they had lived any longer than that they might develop their own emotions, making them undetectable by the Voight-Kampff.<sup>174</sup> It is a safety measure based in reality, however. As already discussed in the section about Machines and AI, according to journals on machine morality, it is possible to teach morality and by extension ethics to AI as if teaching a child, by making it observe real human interactions. The test works in the context of the world more so because most of the questions deal with cruelty to animals, which is an extra horrific event since according to the book, animals of all kinds are almost extinct and therefore an incredible rarity. The thought of hurting them leaves humans horrified, androids/replicants typically do not have this reaction.<sup>175</sup> If the replicants lived long enough they could theoretically develop their own emotional response toward animal cruelty similar to humans.

Bertram F. Malle in his article argues that preprogramming moral responses is pointless in real life, as there is an enormous number of moral norms humans abide by and

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172 Philip K. Dick and Paul J. McAuley, *Do Androids Dream of Electric Sheep?* (London: Gollancz, 2011), 23.

173 *Blade Runner: The Final Cut*, 19:04.

174 *Blade Runner: The Final Cut*, 13:10.

175 Nigel Wheale, "Recognising a 'Human-Thing': Cyborgs, Robots and Replicants in Philip K. Dick's 'Do Androids Dream of Electric Sheep?' And Ridley Scott's 'Blade Runner.'" *Critical Survey* 3, no. 3 (1991): 300.



they are all very-context specific many times in direct conflict with each other.<sup>176</sup> On the other hand, by observing and learning they could get a grasp on human emotions and either experience them or mimic them convincingly. Four years is an incredibly accurate guess as during the final confrontation Roy Batty breaks into tears about his imminent demise saying that all the things, he has seen that humans would not believe, will be gone with him like tears in the rain.<sup>177</sup> Showing the audience he would pass the test if he had taken it at that very moment.

On the other hand, replicants are shown to be extraordinarily violent. During the briefing, chief Bryant tells Deckard that they have appropriated a shuttle to get back to Earth and murdered 23 people on board.<sup>178</sup> They are shown to use lethal force without hesitation such as when Leon is interrogated by Holden<sup>179</sup> or when Deckard speaks with Zhora in her dressing room.<sup>180</sup> Roy Batty especially shows extra animosity towards his creator Tyrell when he crushes his head with his enhanced strength.<sup>181</sup> Further they lack any remorse for their actions, with the exception of Batty's final dialogue.

Consequently, they are treated as runaway things. Beings that do not belong on Earth and can be retired without remorse. They are regarded as slaves, made for a specific purpose in the outer Colonies. Leon is described as “an ammunition loader on intergalactic runs” who can “lift 400-pound atomic loads all damn night.”<sup>182</sup> In other words a strongman, meant to do the heavy lifting and not get tired. Then there is Roy Batty, a “Nexus 6 combat model” and the leader of the group.<sup>183</sup> Zhoda, a female replicant, trained to be a part of a murder squad and beauty and the beast in one.<sup>184</sup> And Pris “a basic pleasure model. A standard item for military clubs in the outer colonies.”<sup>185</sup> Each one of them was made for a dehumanizing purpose and they all had a role to serve, which they rejected. A comparison to run-away slaves presents itself.

To summarize, replicants are artificial humans who lack emotional responses to real or hypothetical scenarios possessing increased strength and agility. They can be incredibly

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176 Bertram F. Malle, “Integrating Robot Ethics and Machine Morality: The Study and Design of Moral Competence in Robots,” *Ethics and Information Technology* 18, no. 4 (July 2, 2015): 247.

177 *Blade Runner: The Final Cut*, 1:46:14.

178 *Blade Runner: The Final Cut*, 13:10.

179 *Blade Runner: The Final Cut*, 4:44.

180 *Blade Runner: The Final Cut*, 52:26.

181 *Blade Runner: The Final Cut*, 1:26:07.

182 *Blade Runner: The Final Cut*, 14:01 – 14:12.

183 *Blade Runner: The Final Cut*, 14:28 – 14:40.

184 *Blade Runner: The Final Cut*, 14:40 – 14:50.

185 *Blade Runner: The Final Cut*, 14:52 – 14:58.

violent and also lack basic humanity. On the other hand, they are indistinguishable from humans by the naked eye and special tests are required to detect them.

The lines of human and replicant are intentionally blurred in *Blade Runner* (Final Cut). As Christopher A. Sims puts it, “again we arrive at the opposition of natural and artificial and the cultural predisposition to value natural over the artificial.”<sup>186</sup> Unlike other works of fiction, even the artificial is not clearly defined in addition to the fact, that replicants can exhibit acts that could be considered natural, and humans could exhibit acts that would be considered artificial. The audience’s human representative Rick Deckard is portrayed in an ambiguous way. Firstly, there is a discussion about whether or not Deckard is a replicant himself and different versions of the movie present different clues as to which option is correct. This thesis will deal with the fact that Deckard is human. Nigel Wheale said the film “intentionally plays with confusions between human personality and artificial or Machine-derived intelligence.”<sup>187</sup> Deckard starts as a cold and emotionally distant man, handling his new assignment almost like a machine, he even says to Rachael during their first meeting that “Replicants are like any other machine; they’re either a benefit or a hazard. If they are a benefit, it’s not my problem.”<sup>188</sup> A very binary approach to such a complicated problem. The moment he learns that Rachael is a replicant he treats her like an other-thing, he does not even hesitate to tell her the truth and crush her feelings because he believes she has none.<sup>189</sup> It is implied through Deckard’s attitude that he has “retired” (killed) so many replicants in his career that he has become completely desensitized to it. In a way he is more of a machine than the replicants he is hunting, as their primary goal presented by Roy Batty to Dr Tyrell is more life.<sup>190</sup> On the other hand, Deckard seems to have no desire at all, other than to solve the case and go back to what he was doing before. To complete his task and idle.

While on the other hand replicants desire to be free, of humans and their own short life spans. As already discussed, cheating death is the ultimate transhumanist goal and it is an interesting reversal of the situation when artificial humans (de facto machines) experience this human desire in a greater amount than humans themselves. Deckard begins to feel some form of sympathy towards Rachael, calling her during his investigation. When Roy Batty saves his

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186 Christopher A. Sims, “The Dangers of Individualism and the Human Relationship to Technology in Philip K. Dick’s ‘Do Androids Dream of Electric Sheep?’” *Science Fiction Studies* 36, no. 1 (2009): 69. <http://www.jstor.org/stable/25475208>.

187 Nigel Wheale, “Recognising a ‘Human-Thing’,” 298.

188 *Blade Runner: The Final Cut*, 17:31 – 17:43.

189 *Blade Runner: The Final Cut*, 32:19

190 *Blade Runner: The Final Cut*, 1:23:23

life by pulling him up on the roof as he is about to fall, he fully understands what it is to be human, ironically from Roy. Deckard looks shocked as Roy says, “I’ve seen things you people wouldn’t believe... attack ships on fire off the shoulder of Orion. I watched C-beams glitter in the dark near the Tannhäuser Gate. All those moments will be lost in time, like tears in rain. Time to die.”<sup>191</sup> Time to die is meant for Roy, not Deckard, who still looks puzzled. He cannot believe that the replicant’s final act in life was mercy, a mercy he would not have given him in return. And it is this realization that makes him feel human again. Christopher A. Sims agrees with this assessment as he believes “that *Androids* shows us that technology can be used as a guide to return the survivors of World War Terminus to the humanity that they have abandoned for solipsistic individualism.”<sup>192</sup> It is precisely this contrast of an emotionally stunted human and yearning-for-life android that redeems Deckard.

In conclusion, *Blade Runner* can be viewed as a struggle for humanity that is not attached to organic or artificial. It is a story in which replicants yearn for more life and to that end will justify any means. For them finding Dr Tyrell is a matter of life and death and they are perhaps rightly angry when they do not get what they want. In contrast, Rick Deckard is a human bounty hunter, a *Blade Runner*, who has lost his humanity due to the nature of his job, executing near perfect replicas of human beings. As such he is lost without purpose. His growing relationship with the replicant Rachael and the mercy shown to him by Roy Batty ultimately redeems him. *Blade Runner* is a story about what it means to be human if there is no difference between an organic human and an artificial one.

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<sup>191</sup> *Blade Runner: The Final Cut*, 1:46:18

<sup>192</sup> Christopher A. Sims, “The Dangers of Individualism,” 68.

### 3.3. Robocop – 1987

The 1987 science fiction action film by Paul Verhoeven depicts a man involuntarily, as it often is, becoming a cyborg in the service of the Detroit Police Department.

The main screenwriter Ed Neumeier got the idea for Robocop while working at Columbia Pictures, he quotes Star Wars and Blade Runner as his main inspirations. While sitting in his car he saw a man crossing the street and suddenly all these impulses in his head presented an image of Robocop, a chrome-plated future of law enforcement.<sup>193</sup> His idea was combined with Michael Miner's idea of Supercop, the two sat down for three months and created the script, which they sent to Paul Verhoeven whom they believed "can really do the violence."<sup>194</sup> Verhoeven was initially hesitant to take this project up as it has been completely different to his previous films. But his wife insisted he gives it another look as there was enough soul-wise.<sup>195</sup> Aside from that it deals with other topics such as privatization, the loss and retaking of one's lost humanity, corporatism, and ownership of one's own body.

The movie opened to generally positive reviews with L.A. Times reporter Kristine McKenna called Verhoeven "wickedly intelligent mind behind Robocop,"<sup>196</sup> and the movie itself is more artfully made compared to others that year.<sup>197</sup> Desson Howe of the Washington Post compared the movie to older stories dressed up in science fiction clothes, describing Alex Murphy as a tragic hero looking for redemption.<sup>198</sup> His colleague Rita Kempley went more in-depth in her review of Robocop, describing the titular character as "a bionic phoenix-cum-Frankenstein's monster, son of the Six Million Dollar Man."<sup>199</sup> It is a hefty but quite accurate description echoing the rise from the dead as the phoenix, cybernetic/bionic enhancements of Steve Austin being fused with the remains of Murphy's body in a Frankenstein like manner. She continues to describe the story in limited detail before summarizing it as "resurrection – the man in the machine, his memory blanked by the corporation, rediscovering and regaining his humanity,"<sup>200</sup> which is a theme that will be explored later. And Dave Kehr from Chicago Tribune was more critical of the film, describing it as "a stylish piece of work that leaves a sour aftertaste."<sup>201</sup> With action scenes

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193 Nick Stechfield, "The Making Of RoboCop – Extended Cut," SFX, March 14, 2012.

194 Simon Abrams, "RoboCop: The Oral History," *Esquire*, February 12, 2014.

195 Abrams, "RoboCop."

196 Kristine McKenna, "Verhoeven Makes Good With Violence," *L.A. Times*, July 18, 1987.

197 McKenna, "Verhoeven Makes Good."

198 Desson Howe, "RoboCop," *The Washington Post*, July 17, 1987.

199 Rita Kempley, "RoboCop," *The Washington Post*, July 17, 1987.

200 Kempley, "RoboCop."

201 Dave Kehr, "Robocop Packs Little Power in its Action Punch," *Chicago Tribune*, July 17, 1987.

that are meant to be the highlight of the movie as “over-scaled, over-familiar and over-directed.”<sup>202</sup> Although he commended its efforts at a satire of corporations and big business.<sup>203</sup>

As already mentioned above, the movie follows Alex Murphy, a highly commended cop, transferred to the Old Detroit district of the city’s fully privatized police force. He is killed on the first day of his new job in a brutal fashion by the leader of the city underworld, Clarence Boddicker. As a result, he is chosen as an involuntary candidate for the OCP’s (Omni Consumer Products Corporation) latest plan to eradicate crime, a human-machine hybrid called Robocop. His memory is wiped clean, and he is hardcoded to follow three main directives – serve the public trust, protect the innocent, and uphold the law. His introduction is a success, and he becomes an adored figure by the public. This results in the project manager Morton being promoted, angering his rival Jones, whose failed project of an enforcement android he overshadowed. Jones uses Boddicker to kill Morton. When arrested by Robocop, Boddicker tells on Jones, stating he cannot arrest him because he works for OCP, he is arrested anyway. Arriving at the company headquarters he tries to arrest Jones when Robocop’s mechanical parts begin to shut down. Jones reveals that he is the property of the company and as such he is unable to arrest any employees. The movie culminates in a final battle against Boddicker armed with OCP military weapons, where Robocop exacts revenge for his death before going once again after Jones, whom he still cannot arrest due to the secret directive. When Jones tries to take the head of the company hostage, the CEO fires him, therefore enabling Robocop to act against him. Grateful CEO asks his name, Robocop responds “Murphy.”<sup>204</sup>

As already mentioned, Robocop could be described as a cyborg. Much like Steve Austin in *The Six Million Dollar Man*, he suffers a horrific event during which most of his body is destroyed. By undisclosed science, his remains are brought back to life in a manner of speaking and are fitted into the machine. It is safe to assume that such methods exist in the universe of the movie as there are commercials for artificial hearts and such.<sup>205</sup> While the doctors manage to save Murphy’s left arm, Morton orders them to get rid of it because the

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202 Kehr, “Robocop Packs.”

203 Kehr, “Robocop Packs.”

204 “RoboCop,” AFI Catalog of Feature Films, accessed March 25, 2022, <https://catalog.afi.com/Catalog/moviedetails/67061>.

205 *RoboCop*, directed by Paul Verhoeven (1987; Orion Pictures Corporation, 2016), 1:43 – 2:10, BluRay Disc, 1080p HD.

artificial one functions better.<sup>206</sup> The movie actually acknowledges that Robocop's human parts still require nutrition to keep functioning, which adds another aspect to his maintenance. They solve this by making a special paste similar to baby food.<sup>207</sup> This suggests that, unlike the Terminator, the organic and mechanical parts of Robocop are symbiotic, and both need to function for him to be "alive". Later in the movie when he tries to arrest Dick Jones, his fourth directive causes his mechanical parts to shutdown causing him visible distress and perhaps even pain.<sup>208</sup> While the movie does not go into details about what would happen to his organic parts should he cease to eat the paste, it is safe to assume it would begin degrading leading to a breakdown.

Initially, after becoming Robocop, Murphy is a blank slate, his memories have been wiped<sup>209</sup> and he has been conditioned to follow the OCP directives and the police procedures arising from them. He is a machine, his human side is suppressed and everything he once was is gone, yet a part of his humanity still remains, a very specific way he used to holster his gun, reminiscent of the old West cowboys.<sup>210</sup> Aside from that his human side begins to wake up as during his rest period he starts having dreams about his murder.<sup>211</sup> Later his former partner on the force Lewis asks him his name, and when he does not know, she says it's Murphy.<sup>212</sup> While confusing to him at first, this starts his gradual path to reclaiming his humanity.

He later encounters one of the gangsters who murdered him and when Robocop tells him "Dead or alive, you're coming with me."<sup>213</sup> This prompts the gangster to shout repeatedly "You're dead. We killed you!" Here the pieces start falling in place and Robocop tunes out, ignoring the gangster shooting at him and driving away.<sup>214</sup> He realizes he is human or at least was. He is not an artificial product, a mere property of OCP. He is a real human being underneath all that metal. Robocop searches the police database for the other killers and for his own file and after visiting his old house he is flooded with memories of his family at the end he exhibits a very human emotion. He smashes a smart screen of a realtor advertising the

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206 *RoboCop*, 27:28.

207 *RoboCop*, 30:59.

208 *RoboCop*, 1:10:02.

209 *RoboCop*, 27:30.

210 *RoboCop*, 33:28.

211 *RoboCop*, 45:57.

212 *RoboCop*, 48:00.

213 *RoboCop*, 51:31.

214 *RoboCop*, 52:06.

now empty house in anger.<sup>215</sup> Subsequently, during Boddicker's arrest, he smashes him through several windows and begins to crush his neck before the Third Directive, uphold the law, stops him.<sup>216</sup> Although, while the Third Directive flashes on his visor, it is hard to say for sure it was only that what stopped him.

However, his attempt to arrest Dick Jones grounds him in his new reality that he will never be fully human again as a majority of him is a machine and despite his efforts he will always be in the middle, dreaming about his former life while also being hardwired to function in his current one as a secret directive prevents him from arresting senior OCP members such as Jones by shutting down his mechanical parts.<sup>217</sup>

In this sense, Robocop is similar to robots in *I, Robot* as he is bound by his programming. It remains solid and unchangeable and even his human emotions cannot break it. The machine part of him will always maintain firm control. However, after being severely damaged in a firefight with the police, he takes off his visor and helmet for repairs revealing his human face.<sup>218</sup> This is also the first time he looks at himself in the mirror. His humanity is partially reclaimed and signified by his change of appearance. He then asks about Murphy's family in the third person, only to be told by Lewis that Murphy's (his) wife moved on because he died. Murphy says he can still feel them, but he cannot remember them.<sup>219</sup> At this moment he reaches the end of his humanity redemption arc, he realizes what he is, striking a balance between his remnant emotions and his mechanical existence.

In essence, Murphy's path consists of his new reality of a police robot being challenged over the course of his new assignment, what starts as bad dreams transforms into tangible reality as people, he encounters give him more and more clues about whom he used to be. Despite making significant progress in remembering he is constantly reminded of his unchangeable situation by the prime directives who firmly control his mechanical parts. In the end, he is allowed to be human if the machine allows him to be.

Another important issue that Robocop explores concerns ethics, the issues of cyborgs and problems of privatization. The movie was made during the Reagan era and the Reaganomics, which emphasized tax cuts, decreased social spending, and market deregulation

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215 *RoboCop*, 53:54 – 57:48.

216 *RoboCop*, 1:06:15 – 1:07:30.

217 *RoboCop*, 1:10:19 – 1:11:49.

218 *RoboCop*, 1:21:25 – 1:22:00.

219 *RoboCop*, 1:22:00 – 1:22:30.

that inevitably leads to private entities gaining more and more power.<sup>220</sup> “Trickle-down-economics” is an integral part of this as it is believed that tax cuts for corporations reduce their expenses and the savings trickle down to the rest of the economy leading to growth.<sup>221</sup> The director Paul Verhoeven admitted in interviews that this movie is a criticism of these policies<sup>222</sup> and actor Peter Weller (Robocop) joined him on this issue saying, “it it’s best for the rich, it’s trickle-down, which is a bullshit trope, by the way, because it doesn’t trickle down, really.”<sup>223</sup> This factors into the general mood of the society depicted in the movie. Everything is privatized, even the police force and medical services, and therefore everything can be owned except human beings. Is Robocop a human or a property and where does he fit in this world and the real one?

As already mentioned in the section on cyborgs and human ethics, the two should be almost identical. The core of a cyborg is a human being to which human laws and ethics should apply. This is not the case in Robocop, however. Michael Robertson examines this in his essay called *Property and privatisation in Robocop. International Journal of Law in Context*. Robertson explores the legal side of this issue. What is he mainly concerned about is the question of who owns the cyborg? He argues that ordinarily, as a machine it would be the property of OCP, but Robocop is not just mechanical he also has a significant organic component.<sup>224</sup> Ordinarily, Robocop would be his own man and a human being cannot be owned.<sup>225</sup> But then another issue arises, and it is the fact that Murphy died. His remains were then given to OCP to use for their project. Human cadavers can be given to science if the person allows it. And due to the privatization of the Detroit Police Force causing it to be a subsidiary of OCP, Murphy has the necessary documents. An employee says, “He signed the release forms when he joined the force and he’s legally dead. We can pretty much do what we want to.”<sup>226</sup> This contradicts an older common law that no one can have a property right to a corpse, other to get properly dispose of it. Exceptions to this law exist, for example, an English court of appeal ruled that corpses could be property if they acquire different attributes by an application of skill aimed at preservation or learning purposes. In that case, all severed

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220 Will Kenton, “Reaganomics,” Investopedia (Investopedia, June 9, 2021), <https://www.investopedia.com/terms/r/reaganomics.asp>.

221 Kenton, “Reaganomics.”

222 Nick Stechfield, “The Making Of RoboCop – Extended Cut,” SFX, March 14, 2012.

223 Stechfield, “The Making Of RoboCop.”

224 Michael Robertson, “Property and Privatisation In Robocop,” *International Journal of Law in Context* 4, no. 3 (February 9, 2009): 231, <https://doi.org/10.1017/s1744552308003029>.

225 George G. Brenkert, “Self-Ownership, Freedom, and Autonomy,” *The Journal of Ethics* 2, no. 1 (1998): 29.

226 *RoboCop*, 27:35.



body parts can be the property of someone else.<sup>227</sup> Turning a corpse into a cyborg is by all definition a transformative work that requires vast arrays of technologies and skilled labour; therefore it would be in line with the law in real life.

However, this all applies only on the condition that Murphy is truly dead. The transformation process revives him and if he is alive, he cannot be considered a property of a corporation. But how alive is Murphy initially? When presented to the Police he is a blank slate, his memories are gone, and he goes purely by his programming. At this point, a property claim could still be made. As the story continues more and more of his original self is recovered and, in the end, it is safe to say that Murphy/Robocop is partially human and alive. He starts to exhibit more and more emotions and gradually drops the robotic expressions, and his voice loses a lot of the robotic after-effect.<sup>228</sup> It could be argued that Murphy lives on in this new form and while dependent on the Robocop suit his human part is what gives him his autonomy back.

OCP could counter this notion by delving into technicalities. It is possible to own a living being, even if it is very close to a human, such as the great apes. Therefore, it might be possible to own a cyborg-like Robocop if it was recognized as a new life form. Almost Human, but not quite. Michael Robertson finishes his article with speculation on what might happen should cyborgs like Robocop become mainstream. His main idea is that new laws that would deal with this issue will probably be a result of broader cultural and political forces. In the current age profit and property rights are ever-expanding and OCP, or its real-life counterpart, might succeed in pushing through a law that would recognize cyborg individuals as property of the corporations that manufactured their upgrades. In a more humanistic society, Robocop's vaguely human appearance and attributes might sway the opinion the other way. But it is possible that this new technological development will reignite the commercial opportunists who will use the old division of "us and them" that led to justifications for slavery in the first place.<sup>229</sup> While perhaps an extreme view of the situation, it needs to be said that Robocop is treated as property, given orders and expected to obey them without question and further forbidden from rebelling by a fail-safe that in essence can end his life.

In conclusion, Robocop touches upon many subjects. From an unassuming critique of Reaganomics and its consequences on the public sector it primarily focuses on regaining

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227 Robertson, "Property and Privatisation," 232.

228 Robertson, "Property and Privatisation," 233.

229 Robertson, "Property and Privatisation," 235.

humanity. It also presents the idea of someone becoming a cyborg involuntarily. Murphy is killed and his corpse is used for a security project by a profit-oriented corporation, which seemingly has the right to do whatever it wants with his body as it owns the police force. By extension, Murphy is its employee and the contract he signed grant the corporation the rights over his corpse. Transformed into a cyborg he initially follows orders before his humanity starts creeping back in through bad dreams and impulses from the people who recognize him. He comes to the realization of this situation and despite reclaiming part of his former life he is forever stuck in the machine, but he still exists in some fort as a person. He comes from a simple empty shell and a property of the corporation into a semi-human being and a partially autonomous agent. In the simplest terms, it is the route of Murphy from human to machine to partially human. He moves along the spectrum outlined in the first chapter and as such is a great example of the issues that arise from the potential transformation and cyborgization that might soon be possible in real life.

#### **4. Can a distinction between man and a machine within a cyborg be defined? And who is more valuable?**

Where does man end and the machine begins? It is no doubt an easy question to answer superficially. But can there be a distinction made regarding the internal workings of a hypothetical cyborg?

This question seems to be directly applicable only to Robocop as this is the movie with a true cyborg character in it. Judging by the depiction of the character in the movie, it could be theorized that the distinction is not measurable, yet it still exists. The main difference is memories. Memories make up what humans are. Initially, Robocop has none, therefore he is fully machine, despite his organic parts. It is when his memories start coming back that he is able to suppress parts of his programming and he gets closer to being human. As transhumanists say, the only human part necessary in their doctrine is the human mind. After all, it is the only thing they desire to save, while all the other parts of the human body can be replaced with machinery. Robocop's half human half computer mind is where the distinction lies.

Expanding the scope of the question, it is possible to apply it even to Blade Runner. Here, the distinction between a real human and an artificial one is emotions and empathy that are tied to them. Humans in Blade Runner put an artificial deadline on the Nexus 6 replicant's lifespan precisely out of fear that after any longer period, they might develop their own emotional responses and they would be undetectable by Voight-Kampff tests and in a way become real human beings.

The movies also provide their own commentary on the inherent value of man and machine. Specifically, the inherent value that is placed on organic and natural human life. In Terminator, the machines are regarded as things needed to be smashed into junk and Skynet, despite being an intelligent form on its own, is regarded as an enemy. In Robocop, the cyborg is the property of the OCP corporation. It is not alive and therefore it has no rights to self-determination or otherwise. The situation becomes complicated only when the organic parts of Alex Murphy become alive, and his memories and feelings come rushing back. Despite that Murphy will only ever be regarded as part human. And therefore, he will be treated as less than others. Expensive for sure, but insignificant compared to the indefinite value of human life. In Blade Runner, the replicants are regarded as items, made, bought and sold for various purposes and as long as they are doing what they are supposed to them are a benefit. But once they escape outside their designated boundaries or come to Earth, where their

presence is strictly prohibited, they become a hazard that needs to be dealt with.

In summary, there can be a distinction, although it is impossible to accurately quantify it as it relates to human emotions and memories and there are no standard measurements for such things.

## 5. Conclusion

This thesis explored the depiction of the relationship between man and technology in the selected works of American cinema of the 1980s, namely *The Terminator*, *Blade Runner* and *Robocop*. The aim was to explore the depiction of technology in those movies and what message are they trying to convey.

As established in the first portion of this thesis, the exploration of technology and its fusion with man started long before this period and before the establishment of the term 'cyborg'. There have been attempts going as far back as Edgar Allan Poe and others. The explosion of popularity can be observed in the first half of the 20th century due to the technological advancement of the two world wars and the growing role of technology in society, both good and bad. The idea of misuse is central to the works of popular fiction because it is a great building block of the story's central plot.

The story of Terminator is about a computer system Skynet waging war on humanity. However, upon closer look, it might not be so straightforward. Using the current discussion about the ethics, legality and morality of current and future AI systems and autonomous weapons it could be argued that the rise of Skynet is mainly the human's fault. They as creators did not implement proper guidelines and rules to prevent this thing from happening. As Kyle Reese alludes to, the movie is not necessarily about the technology is good or bad, but the trust put into it. As far as the terminators are concerned, it is unclear if they can even be considered good or evil as they function like autonomous drones, unlike the humans Skynet did not make the same mistake and programmed terminators to carry out its instructions without the possibility of refusal or rebellion. Terminators have no choice but to obey.

In *Blade Runner*, the aforementioned situation is reversed. The general plot is that human Blade Runners hunt down runaway Replicants. It is complicated by the fact that they are unrecognizable from one another except for their emotions. Looking deeper, the movie deals with what it means to be human and if those qualities are necessarily exclusive to humanity. Rick Deckard, a human, seems to be as cold and cruel as the Replicants he is hunting and it is Roy Batty, the replicant leader, who shows mercy to him. In essence, it explores the fact that the idea of humanity is not necessarily unique to humans.

And finally, *Robocop* deals with the issue of privatization and ownership. Can technology of any kind be owned if part of it is human? After his death, Alex Murphy becomes Robocop, a police cyborg owned by OmniConsumer Products. It is after his human parts start to wake up,

he stops being a mere thing and becomes partially human again. Robocop also tries to explore the boundary between man and the machine in a way no other selected movie does. But similarly to Blade Runner, it establishes that what separates one from the other is the human mind.

In conclusion, while the artistic quality varies between the individual movies, each one of them presents an important issue about technology and explores it as a primary or secondary focus of its runtime. Each one of them, therefore, carries a message that will be important once real-life technological progress catches up to these imaginary worlds.

## Resumé

Tato diplomová práce se zabývá vyobrazením vztahu člověka a technologie v dnes už kultovních filmech z 80. let 20. století.

První část ustanovila teoretické okruhy a terminologii potřebnou pro pozdější analýzu. Prvotní část byla věnována samotnému výrazu ‚kyborg‘ a jeho prvnímu výskytu v časopise *Astronomics!* z roku 1960. Kyborg v tomto smyslu znamená člověka, který byl pomocí vědy modifikován k přežití v cizím, nejčastěji mimozemském, prostředí. Této úpravě lze dosáhnout, jak pomocí fyzických změn jako jsou třeba protézy, interní pumpy a mechanismy pro dávkování léčiv a jiných látek ovlivňující lidské fungování, tak například alterace mozkové chemie a instalace implantátů. V populární fikci je vyobrazení kyborga jiné, ale myšlenka jako taková se v jistých formách vyskytuje v dílech různých autorů již od dob Edgara Allana Poea a průběžně se vyvíjela. Jako důležité období je nutno vyzdvihnout první polovinu dvacátého století, kde kvůli světovým válkám byla role technologie v lidských životech klíčovou složkou, například ve filmu *Metropolis*. Dále teoretická část rovněž ustanovila základní pojmy z oblasti etiky, umělé inteligence a historických směrů, které se v dílech odrážejí a ze jejich pomoci nastínila vývojovou rovinu člověk-kyborg-transčlověk-stroj.

Druhá část se zabírala otázkou zda-li je technologie člověku přínosem či škodou. Jak Ortega Gasset tak Andy Clark se staví k technologii pozitivně a oba vkládají velké naděje do budoucna, i tak si ale nemohou odpustit několik kritických poznatků. Více kriticky se tomu stavějí autoři článku ‚*Regulating Robocop*,‘ kteří poukazují na mnoho právních, morálních a etických nedostatků, které je třeba ošetřit, než se skutečná umělá inteligence dostane na svět. Jejich kritika je mířena na autonomní zbraně a jiné inteligentní systémy pro využití ve válečných konfliktech, ale tyto argumenty se dají použít na celý vývojový směr obecně. Hlavním problémem dle jejich analýzy je zodpovědnost. Jak oni, tak jiní autoři podotýkají soběstačné počítačové systémy těžce komplikují hledání viníka za jejich případné zločiny, protože odpovědnost za jejich akce neleží ani u nich tak ani u jejich lidských správců, a to by mohlo vést ke korupci justice. Dále Andy Clark věnoval negativům celou kapitolu jeho knihy *Natural-Born Cyborgs* a několik z nich analyzoval. Clark komentuje na problémy s intruzí, nerovností, nekontrolovatelností, přetížením a odcizením, jak lidmi co nové technologie zahrnou do svého života, tak těmi, kteří je rezolutně odmítnou.

Třetí část se věnuje samotné analýze vybraných filmů, jmenovitě *Terminátor*, *Blade Runner* a *RoboCop*. *Terminátor* je dnes již kultovní příběh o zabijáckém kyborgovi a jeho

cestě do minulosti, aby zabil Sáru Connorovou. Jak ale ukázala analýza, dle vědecké definice Terminátor není kyborg. Nejedná se o fúzi lidského a strojního prvku, neboť Terminátor je čistě stroj. Ta nechvalně známá metalická kostra je pravý Terminátor navzdory tomu, co říkají kriticky nebo filmové postavy. Ano, je přikryt obalem z lidské kůže, ale ta je pěstovaná v laboratořích a slouží čistě jako kamufláž. Jak ukazuje finální scéna filmu, Terminátor ji nepotřebuje a nadále funguje i bez ní. Tudíž se to nedá pokládat, za žádné spojení obou elementů. Na druhou stranu Terminátor vyzdvihuje zajímavou otázku ohledně zodpovědnosti. A to jak za výrobu umělé inteligence, tak míru zodpovědnosti, kterou by takový systém měl mít. Jelikož byl Skynet obranný systém, měl pod svou kontrolou bezpochyby vše, co se týče obranyschopnosti Spojených států a bylo tak pro něj jednoduché tyto systémy použít proti lidem. To je zas nedostatek jeho lidských tvůrců, protože takto mocný systém vytvořili bez pevně daných pravidel a příkazů, jako je koncipoval Isaac Asimov či jiných etických standardů. Ve finále je analyzována role terminátorů, jakožto dronů sloužících Skynetu. Ti jsou striktně naprogramováni k následování svých příkazů a těmto příkazům se nemohou vzepřít, tudíž je velice komplikované nahlížet na ně jako na ztělesnění zla.

*Blade Runner* je ikonický snímek o kterém se dodnes vedou diskuse a analýzy jeho jednotlivých verzí. Tato práce se zabývala verzí *Blade Runner: The Final Cut* a tematikou z ní vyplývající. Pro účel analýzy tohoto díla je Rick Deckard považován za člověka. Vedou se totiž rozpory o jeho původu. Jako člověk a Blade Runner je jeho práce lovit a zabíjet replikanty, umělé lidi vytvořené společností Tyrell. De facto je Terminátor naruby. Film ale maže rozdíly mezi organickými a umělými lidmi do takové míry, že k odhalení replikantů je třeba Voight-Kampff emoční test. Emoce a z nich vycházející empatie je poslední dělící čára mezi dvěma druhy. Z příběhu ale vyplývá, že emoce není čistě lidská vlastnost, neboť Deckard je odcizen své humanitě a loví replikanty, protože je to jeho práce. Na druhou stranu replikanti touží po delším životě, protože jejich ‚trvanlivost‘ je nastavena na čtyři roky právě proto, že po delší době by si mohli vypěstovat vlastní emoční hodnoty. A pokud bude kopie člověka k nerozeznání od originálu, bude to stále kopie? Film se tedy zabývá ztrátou a nabytím lidskosti, a to jak u lidí tak replikantů.

Téma kyborgů je vyobrazeno až ve filmu *RoboCop*. Alex Murphy zemře ve službě detroitské policie, a protože je policejní sbor plně privatizován a vlastněn korporací OmniConsumer Products je jeho tělo použito k výrobě RoboCopa, kybernetického strážce zákona. Z počátku je Murphyho tělo pouhá součást nového celku a tak je RoboCop pouhý nástroj a majetek korporace. Situace se ale komplikuje, když se Murphymu začnou vracet jeho lidské vzpomínky a jeho lidskost. Pokud OmniConsumer vlastní mechanickou část



RoboCopa, jak je to s jeho lidským komponentem? Není možné vlastnit lidskou bytost. Otázka tedy je, jak moc je Murphy člověk a je-li to vůbec člověk nebo nová humanoidní bytost. Film na toto nahlíží z hlediska absolutní privatizace společnosti, kde jsou majetková práva vztahována na vše možné. I po jeho konci ale zůstává otázka, komu patří kyborg? Společnosti, která ho vyrobila nebo lidské bytosti, která tvoří jeho nedílnou součást? Film neposkytuje jasnou odpověď, a tak zůstávají pouze spekulace.

Ve finále tato práce pouze vyzdvihla otázky vyplývající z těchto filmů. Nejednalo se ani o všechny možné otázky, protože rozsah takto širokou debatu neumožňuje. I přesto, že se ve všech filmech kyborgové neobjevují si lze z každého z nich odnést podnět k zamyšlení se nad hranicemi technologického pokroku, mírou kontroly a zodpovědnosti nad ním a následky pro lidskou sebekontrolu a seberealizaci. Odpovědi na ně ukáže až čas.

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