

Transhumanism in the Marvel Cinematic Universe

Alexandra Herzánová

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Mgr. Libor Marek, Ph.D.
děkan



doc. Mgr. Roman Trušník, Ph.D.
ředitel ústavu

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ABSTRAKT

Cílem této bakalářské práce je představit hnutí transhumanismu spojené s vybranými postavami z filmového vesmíru Marvel, které reflektují aspekty tohoto hnutí. Transhumanismus je hnutí, které odráží snahu překonat limity lidského těla využitím technologie anebo například genetického inženýrství a dostat se tak na nový stupeň evoluce lidstva. Transhumanismus je v této době nepřetržitého vývoje technologie, jako je například implantát mozkového čipu Neuralink, který jako první provedl Elon Musk v roce 2024, velmi prominentním a důležitým tématem. Postavy z filmového vesmíru Marvel se cílům transhumanistů nesmírně podobají, a proto je cílem této práce ukázat možné následky tohoto hnutí na postavy a obecně na celou společnost.

Klíčová slova: transhumanismus, filmový vesmír Marvel, technologie, genetické inženýrství, nový stupeň evoluce

ABSTRACT

The aim of this bachelor's thesis is to introduce the transhumanist movement, then connect aspects of it with selected characters from the Marvel Cinematic Universe. Transhumanism is a movement that reflects the desire to transcend the limitations of the human body by utilizing technology, for example, genetic engineering to become "posthuman." The transhumanist movement has become an even more prominent and important topic today because of the continuous technological advancements, for example Elon Musk's Neuralink brain chip, which was implanted into a human brain for the first time in 2024. The characters from the Marvel Cinematic Universe show tremendous similarities to the movements' desired goals, thus the aim of this thesis is to show the possible consequences of the movement on the characters and on society in general.

Keywords: transhumanism, Marvel Cinematic Universe, technology, genetic engineering, posthuman

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I hereby declare that the print version of my bachelor's thesis and the electronic version of my thesis deposited in the IS/STAG system are identical.

CONTENTS

INTRODUCTION	10
I INTRODUCTION TO TRANSHUMANISM.....	11
1 THE MOVEMENT AND ITS ORIGIN	12
1.1 TRANSHUMANISM IN TERMS OF OTHER PHILOSOPHIES.....	13
2 DIVIDED OPINIONS ON THE MOVEMENT	14
2.1 TRANSHUMANISTS	15
2.1.1 OPPOSITION TO THE TRANSHUMANIST MOVEMENT.....	17
3 VERSIONS OF THE TRANSHUMANIST MOVEMENT.....	21
3.1 COSMIC TRANSCENDENCE	21
3.2 PERSONAL TRANSCENDENCE.....	22
3.3 CIVITAS TRANSCENDENCE.....	23
4 EXAMPLES OF TRANSHUMANISM IN OTHER WORKS.....	25
4.1 ALDOUS HUXLEY – <i>BRAVE NEW WORLD</i>	25
4.2 WILLIAM GIBSON – <i>NEUROMANCER</i>	26
II ANALYSIS OF TRANSHUMANISM IN THE MARVEL UNIVERSE.....	28
5 MARVEL CINEMATIC UNIVERSE	29
5.1 SUPERHERO NARRATIVE	29
5.1.1 The Golden Age of Superheroes	30
5.1.2 The Silver Age of Superheroes	30
5.2 RESEARCH GOALS.....	31
6 IRON MAN	31
6.1 IRON MAN’S TECHNOLOGY	34
6.2 ARTIFICIAL INTELLIGENCE	35
7 CAPTAIN AMERICA.....	37
7.1 SYMBOL OF AMERICAN PATRIOTISM.....	38
8 HULK.....	40
8.1. UPLOADING	42
CONCLUSION	43
BIBLIOGRAPHY.....	46
LIST OF ABBREVIATIONS	49

INTRODUCTION

Transhumanism is a scientific and philosophical movement which aspires to use technology and science in order to transcend the limitations of a human body. Thus, the movement's aim is to perfect the human body and, in some cases, completely transcend it. This thesis will explore the movement's main ideas and endeavors to connect the transhumanist aspects observed in the Marvel Cinematic Universe characters to the movement's ideas. The thesis will be structured into theoretical and analytical parts. The theoretical part will consist of an introduction to the transhumanist movement, the division between "pro and against" the movement and the specific versions of the movement. The opinions of transhumanism's advocates and their ideas of the movement which differ from those who oppose it will also be introduced. Lastly, the theoretical part will include examples of transhumanism in other works. The analytical part of the thesis will present the Marvel Cinematic Universe, its background and origin, and will introduce selected characters in terms of the movement ideas. This thesis aims to determine the possible consequences of humans merging with technology and to show embodiments of this through selected characters from the Marvel Cinematic Universe.

I. INTRODUCTION TO TRANSHUHANISM

1 THE MOVEMENT AND ITS ORIGIN

Transhumanism is a philosophical and scientific movement. The term “transhumanism” was first coined by Julian Huxley in 1957. Julian Huxley was a British biologist and philosopher. Huxley in his book *New Bottles for New Wine* uses the word “transhumanism” for human evolution as he believed that humankind should transcend itself.

The human species can, if it wishes, transcend itself – not just sporadically, an individual here in one way, an individual there in another way, but in its entirety, as humanity. We need a name for this new belief. Perhaps transhumanism will serve: man, remaining man, but transcending himself, by realizing new possibilities of and for his human nature.¹

Besides the British biologist and philosopher Julian Huxley, another two men can be considered the “prophets of transhumanism.”² John Burdon Sanderson Haldane who was a British geneticist and – among other scientists – biometrician and John Desmond Bernal, an Irish physicist. In the 1920s, the foretellers expressed ideas that would become important in the transhumanist movement.³

Another early use of the term *transhuman* was in a 1972 book by F.M. Esfandiary, who changed his name to FM-2030 in 1970. Although Esfandiary never used the term transhumanism, the philosopher and Olympic athlete worked through a series of concepts that described a “transition from human to posthuman.”⁴ The first time the term “transhumanism” was used and linked to this philosophy movement was featured in 1990 in the essay “*Transhumanism: Toward a Futurist Philosophy*” by futurist Max More.

More describes earlier efforts in the movement as “proto-transhumanist,” for example the European alchemists in the thirteenth to eighteenth century who were searching for the Elixir of Life or the Philosophers’ Stone. Their pursuit for these magical objects looks like a search for a “technology” that could be capable of, for example, “transmuting elements,

¹ Julian Huxley, *New Bottles for New Wine* (London: Chatto & Windus, 1957), 17.

² Hava Tirosh-Samuelson, “Engaging Transhumanism,” in *H+/-: Transhumanism and Its Critics*, eds. Gregory R. Hansell and William Grassie (Philadelphia: Xlibris Corporation, 2011), 21.

³ Ibid.

⁴ Max More, “The Philosophy of Transhumanism,” in *The Transhumanist Reader*, eds. Max More and Natasha Vita-More (Malden: Blackwell, 2013), 20.

curing all diseases, and granting immortality.”⁵ Humans have sought immortality for millennia, and today’s transhumanism movement is just the latest example, although with contemporary technology tremendous advances have been made.

The basic idea of transhumanism is to enhance the human body with the use of science and technology, to make it live longer by slowing down or fully stopping aging, enhancing strength, flexibility, and speed, as well as many more augmentations, for example enhancing the sensory capacities. Max More described the term transhumanism as:

Philosophies of life (such as extropian perspectives) that seek the continuation and acceleration of the evolution of intelligent life beyond its current human form and human limitations by means of science and technology, guided by life-promoting principles and values.⁶

The rapid technological advancement of today has brought developments such as artificial intelligence (AI), which has already been used for many years in healthcare, finance, and everyday life, for example in smartphone devices such as AI-powered personal assistants like Siri from Apple and the Google/Amazon Assistant Alexa. Another example of technological advancement and human body enhancement is the use of advanced prosthetics, e.g., artificial limbs, in the medical field, which is becoming more and more common and is being perfected. Another example could be Elon Musk’s Neuralink, a brain chip implant that could help people with disabilities or amputations operate mobility or communication devices. The technology is still only being researched and is not available for wider clinical use, but the first chip has already been implemented into the human brain, as shown in a video posted in March 2024 in which a man with quadriplegia is shown playing online chess telekinetically.⁷ With the swiftly advancing technology discoveries and advancements are being made in hopes of making the human body immune to disease and to live longer.

1.1 Transhumanism in terms of other philosophies

Transhumanism originates in and is a logical extension of rational humanism, which emphasizes “empirical science and critical reason” as a means to learn about our humanity

⁵ Ibid.

⁶ Max More, “Transhumanism: Toward a Futurist Philosophy,” *Extropy*, no. 6 (Summer 1990): 6–12.

⁷ Harry Baker, “1st Neuralink patient shown using brain chip to control computer and play chess in unexpected livestream,” *Live Science*, March 21, 2024, <https://www.livescience.com/health/neuroscience/1st-neuralink-patient-shown-using-brain-chip-to-control-computer-and-play-chess-in-unexpected-livestream>.

as well as nature and our place in it.⁸ Rational humanism and its rooted transhumanism differ from humanism. The difference between transhumanism and humanism was distinguished simply by Max More in the 2013 co-authored book *The Transhumanist Reader*, in which the author pointed out the tendency of humanism to rely on “educational and cultural refinement” to enhance the human being and in contrast mentioned that transhumanists depend on technology to improve the limited biological body.⁹

It should also be mentioned that transhumanism (and its precursor humanism) originated from the Enlightenment, a period in which human rationality, including science, and its power became venerated over the religious doctrine that dominated the Middle Ages. As Kant wrote in his 1784 essay “What is Enlightenment?”, Enlightenment is man leaving his self-inflicted immaturity and the courage to use his intelligence.¹⁰

Transhumanism is also often used incorrectly as synonymous with the term postmodernism. Although transhumanism arose around the same time as the postmodernist era and the two movements do share some values – for example, reassessing knowledge, desire for change, and both movements’ strong defiance against human categorization and specifying what a human is or what human identity should look like¹¹ – the concepts are not the same. The difference between the two movements is that postmodernism claims that human behavior and even biology are a social construct, and humans have no individual “self.” Postmodernism is concerned with and criticizes the concepts of objective reality and absolute truth, whereas transhumanism is more objective in this matter. Postmodernism is also more skeptical about technological advancement connected to power structures while transhumanism is dependent on technology.

2 DIVIDED OPINIONS ON THE MOVEMENT

Transhumanism is a very controversial movement and opinions on it are sharply divided. This division can be simplified into two camps: pro and against, although the pro-transhumanism, the movement advocates are not unified either. As will be discussed later on, transhumanists have their idea of the movement, some ideas corresponding with the

⁸ Nick Bostrom, “A History of Transhumanist Thought,” *Journal of Evolution and Technology* 14, no. 1 (April 2005), accessed April 15, 2024, <http://jetpress.org/volume14/bostrom.html>

⁹ More, *The Philosophy of Transhumanism*, 18.

¹⁰ Immanuel Kant, “What Is Enlightenment?” in *Toward Perpetual Peace and Other Writings on Politics, Peace, and History*, ed. Pauline Kleingeld (New Haven: Yale University Press, 2006), 17.

¹¹ More, *The Philosophy of Transhumanism*, 17.

movement and the ideas of others, and some entirely against a certain concept of the movement or someone else.

2.1 Transhumanists

Advocates for transhumanism – transhumanists – express that with the use of technology, people can ascend the human body. The transhumanists believe that diseases that were not curable to this day could be cured, world starvation might be stopped, prolonging the lifespan of the human body may be possible, and that with the use of applied science, the intellectual capacity of humans may be extended. The advocates also believe that the benefits of the movement are far greater than the risks of it, although they do acknowledge that there are risks that should be avoided.¹² According to philosopher, futurist, and co-founder of the first explicitly transhumanist organization, Max More, transhumanists view human nature as a process, not an end, as imperfect, and not having any hold of human loyalty.¹³

Transhumanists also believe that people should be able to make their own choices when it comes to enhancement and that there should be no government regulations in this matter as “history has shown the dangers in letting governments curtail these freedoms.”¹⁴ Nick Bostrom in his chapter in the 2011 book *H+/-: Transhumanism and Its Critics* implied the importance of not forcing one solution to the divided opinion on the movement onto everyone.¹⁵ As sociologist Stephen Lilley claims in his 2013 book *Transhumanism and Society*, transhumanists support democracy and they support freedom of choice for everyone. While the government has a say in some respects for example “promoting social welfare,”¹⁶ the government should not dictate to the people and curtail their freedom to make better choices for them and their families. Lilley also comments on the movement in terms of capitalism, stating that transhumanists are in favor of “entrepreneurial capitalism” since techno-

¹² Martine Rothblatt, “From Mind Loading to Mind Cloning: Gene to Meme to Beme A Perspective on the Nature of Humanity,” in *H+/-: Transhumanism and Its Critics*, eds. Gregory R. Hansel and William Grassie (Philadelphia: Xlibris Corporation, 2011), 105–110.

¹³ More, *The Philosophy of Transhumanism*, 18.

¹⁴ Nick Bostrom, “In Defense of Posthuman Dignity,” in *H+/-: Transhumanism and Its Critics*, eds. Gregory R. Hansel and William Grassie (Philadelphia: Xlibris Corporation, 2011), 58.

¹⁵ Bostrom, *Posthuman Dignity*, 59.

¹⁶ Stephen Lilley, *Transhumanism and Society: The Social Debate Over Human Enhancement* (New York: Springer, 2012), 11.

logical advancement and science are known to be costly. Transhumanists view this relationship as “reciprocally advantageous.”¹⁷ Lilley also alleges that transhumanists indisputably do not want to see totalitarian regimes back.¹⁸

As is going to be discussed later, “designer babies” is another controversial transhumanist topic that some transhumanists also support and vouch for using arguments of freedom of choice.

When it comes to the question of whether transhumanists see the human body and the “soul” the self as one, More provided an explanation that transhumanists perceive themselves as “materialists, physicalists, or functionalists.”¹⁹ The inner feelings and thinking are according to them bodily functions and are not necessarily tied to the current human body although they have to be tied to some physical form, it does not have to be “biologically human – or biological at all”²⁰

Transhumanists view the human body and the consciousness, the “soul,” as two different entities that are not binding on each other. As physicist and Adjunct Assistant Professor at the University of North Carolina Mark Gubrud claimed in an article “Transhumanism posits that “the essence of humanity” is something that can be preserved through any degree of alteration of the human form.”²¹

Transhumanists like for example Hans Moravec believe that human consciousness can be uploaded into a machine through a process of predicting the brain neuron patterns and then replacing them with simulated neurons.

Eventually your skull is empty, and the surgeon’s hand rests deep in your brainstem. Though you have not lost consciousness, or even your train of thought, your mind has been removed from the brain and transferred to a machine.²²

¹⁷ Lilley, *Transhumanism and Society*, 11.

¹⁸ Lilley, *Transhumanism and Society*, 9.

¹⁹ More, *The Philosophy of Transhumanism*, 21.

²⁰ Ibid.

²¹ Mark Gubrud, “Why Transhumanism Won’t Work,” *The New Atlantis* (blog), June 10, 2010, <https://www.thenewatlantis.com/futurisms/why-transhumanism-wont-work>

²² Hans Moravec, *Mind Children: The Future of Robot and Human Intelligence* (Cambridge: Harvard University Press, 1988), 110.

Moravec in his 1989 book *Robot: Mere Machine to Transcendent Mind* even proposes that in the future, humans that want to “eat of the tree of knowledge must be banished”²³ into cyberspace. Moravec alleges that “Exes” the humans in cyberspace, or “Ex-humans” will be powered by electricity generated from the sun and predicts that the body shape of Exes will be very diverse “Bits of a single body may be distributed over distances: a camera here, an arm there, a controlled vehicle anywhere, all in communication.”²⁴

The movement advocates are challenging the Enlightenment ideas of progress, rationality, freedom, and governance as More stated in hopes of improvement, considering new-found information.²⁵

2.1.1 Opposition to the transhumanist movement

In opposition, there are people against the idea of extreme human enhancement with the use of technology. People in opposition believe that the transhumanist movement could be dangerous and that by superficially enhancing the body (leaving aside the serviceable technological inventions like hearing aids or prostheses) the person becomes “dehumanized.” By “dehumanizing,” the oppositionists mean that using technology to alter nature or what was “given” by some creator God may change what makes human a human. The resisters argue that by removing the – for transhumanists – limited traits like mortality, humans will no longer be human.

Religion may play a big role in opposing the enhancements. In Christianity and other religions like Judaism or Islam, humans were created by God, God made them perfect even with flaws, and to his liking, and by altering the body that was given to them by God, we disrespect his will. For some religions even altering the body to a small extent like getting a tattoo is a sign of disrespect to God’s gift, since your body is sacred. The transhumanist movement clashes with religions in many ways. By changing the nature of humans, believers may feel like humans lose what was given to them, and that it cannot be undone. In religions like Buddhism or Hinduism where they believe in reincarnation, what happens if you take the mortality of humans out of the picture? In Christianity, Judaism, or Islam, they believe in the afterlife and that death was promised by God. For enhanced immortal posthumans can they ever reach promised afterlife? It is difficult to answer these questions since every person

²³ Hans Moravec, *Robot: Mere Machine to Transcendent Mind* (New York: Oxford University Press, 1989), 143.

²⁴ Moravec, *Robot*, 149–150.

²⁵ More, *The Philosophy of Transhumanism*, 23.

has a different opinion on when a human is still a human and what is ethically right or wrong. Some medieval Christians even believed that alchemy, and its pursuit of immortality, is “ungodly” and was associated with the solicitation of diabolical powers.²⁶

A British biochemist J.B.S. Haldane stated in his 1923 essay *Daedalus, or, Science and the Future* that:

The chemical or physical inventor is always a Prometheus. There is no great invention, from fire to flying, which has not been hailed as an insult to some god. But if every physical and chemical invention is blasphemy, every biological invention is a perversion. There is hardly one which, on first being brought to the notice of an observer from any nation which had not previously heard of their existence, would not appear to him as indecent and unnatural.²⁷

Haldane proposed that at first, every biological invention seems “diabolical” to some but later could turn into a natural process for example: milking of a cow as he declared (although cows are holy animals in some religions, mostly Hinduism).²⁸

In the 2002 book *Our Posthuman Future: Consequences of the Biotechnology Revolution*, Francis Fukuyama mentioned *Brave New World*, a book by Aldous Huxley as the picture that we see happening right now. Fukuyama pointed out the similarities between transhumanism and the book and implied that people in the book sound too much like transhumanists' ideals.

They may be healthy and happy, but they ceased to be human beings. They no longer struggle, aspire, love, feel pain, make difficult moral choices, have families, or do any of the things that we traditionally associate with being human. They no longer have the characteristics that give us human dignity.²⁹

Brave New World is used as an example by numerous other authors to give their negative opinions on the transhumanist movement.

²⁶ Bostrom, “A History of Transhumanist Thought,” 2.

²⁷ John Burdon Sanderson Haldane, *Daedalus; or, Science and the Future* (London: K. Paul, Trench, Trubner & co. Ltd., 1923), 44.

²⁸ Haldane, *Science and the Future*, 45.

²⁹ Francis Fukuyama, *Our Posthuman Future: Consequences of the Biotechnology Revolution* (London: Profile Books, 2002), 18.

People against the movement also fear the threats of abusing the enhancement and technology, for example abusing biological weapons, and human cloning. Genetic engineering is also used in the Marvel Cinematic Universe as a form of enhancement for many characters. One character uses unfinished Super Soldier serum to enhance his body to dominate the world during World War II, although the experiment goes awry. The character's face became deformed and changed color to red, giving him the name Red Skull. Red Skull later regrets his desire for power and superiority.

The people in opposition also fear that equality could be the first victim of transhumanism as Francis Fukuyama stated. The author expressed fear of transformed people claiming rights and compared them to the “not-transformed” people. Fukuyama also fears that: “If some move ahead, can anyone afford not to follow?.”³⁰ Fukuyama has proposed that transhumanists are happy to leave the faulty human traits behind and seek better but the author insists that: “Modifying any one of our key characteristics inevitably entails modifying a complex, interlinked package of traits, and we will never be able to anticipate the ultimate outcome.”³¹ This is similar to Red Skull, who's experiment to become a superior man results in unwanted outcome. Fukuyama also provided a solution to prevent the dangers of transhumanism and biotechnology by calling for government regulations as far as on an international basis if needed. The author's idea is the exact opposite of the transhumanist one, which calls for freedom and the non-involvement of government.

People in opposition also fear what will happen if some people choose to enhance their bodies and some do not, and that power imbalance and violence would arise between the two camps leading to worst-case scenarios – wars and genocides. This fear was also put into words by human rights professor George Annas in an article called *Protecting the Endangered Human*, where he described a scenario of enhanced humans – “posthumans,” viewing the normal humans as lesser or second class and “fit for slavery or slaughter.”³² The normal people on the other hand might be scared for their life so they could attack first, resulting in inevitable violence.³³ This of course is a very pessimistic view of what could

³⁰ Francis Fukuyama, “The World's Most Dangerous Ideas: Transhumanism.” *Washington Post*, September/October, 2004, <https://doi.org/10.2307/4152980>.

³¹ Fukuyama, “Transhumanism,” 42.

³² George Annas, Lori B. Andrews, and Rosario M. Isasi “Protecting the Endangered Human: Toward an International Treaty Prohibiting Cloning and Inheritable Alterations.” *American Journal of Law and Medicine*, February, 2002, 162.

³³ Ibid.

happen by the opposition to the transhumanist movement, although arguably rightfully in place. The world has already seen the cruel results of the ideas rooted in eugenics. From forced sterilization under eugenics laws that happened between 1907 and 1963 in the United States to the Holocaust. The people in opposition are fearful of the abuse of power and technological advancement.³⁴

Another fear of the transhuman movement is because of immortality. As lecturer at Harvard University Ronald Bailey proposed in his chapter in the 2013 book *The Transhumanist Reader*, what will happen when humans no longer fear death? Bailey stated that people live with the knowledge that one day, they will die and search for ways to spend their lives to the fullest. With the question of immortality in sight, how will people behave, will they delay important tasks of their life when they have countless days before them? These questions are appropriate as it certainly is in human nature to procrastinate and postpone even with our limited life. Bailey also wrote that the aging of society, which would result as a consequence of immortality, is a problem worthy of concern.³⁵

Historian, philosopher, and professor at the Hebrew University of Jerusalem, Yuval Noah Harari, also commented on the transhumanist movement in his 2016 book *Homo Deus: A Brief History of Tomorrow* stating that “medicine is increasingly focused on upgrading the healthy rather than healing the sick.”³⁶ Harari also stated that humans are losing the ability to pay attention and dream in contrast to their ancestors and ancient cultures that believed that “what people see and do in their dreams is no less important than what they see and do while awake.”³⁷ Harari then raised the question of whether human inability to pay attention and dream makes their life “poorer and greyer?”³⁸ The philosopher claimed that people may enhance their “bodies and brains,” yet lose their “minds in the process.”³⁹

In conclusion, there are many fears that opponents of the movement have. Since the technology is not yet advanced to the extremes, we will yet have to see what will happen.

³⁴ Bostrom, “A History of Transhumanist Thought,” 6.

³⁵ Ronald Bailey, “For Enhancing People,” in *The Transhumanist Reader*, eds. Max More and Natasha Vita-More (Malden: Blackwell, 2013), 291–292.

³⁶ Yuval Noah Harari, *Homo Deus: A Brief History of Tomorrow* (New York: Harper, 2016), 229.

³⁷ Harari, *Homo Deus*, 230.

³⁸ Ibid.

³⁹ Harari, *Homo Deus*, 231.

3 VERSIONS OF THE TRANSHUMANIST MOVEMENT

Professor at the University of Massachusetts, Stephen Lilley proposed three versions of the transhumanist movement, each of which he took from different authors, namely: Ray Kurzweil and what Lilley called “Cosmic Transcendence,” Max More and his idea of the movement “Personal Transcendence” and James Hughes and his, what Lilley called “Civitas Transcendence.”

3.1 Cosmic Transcendence

Cosmic Transcendence is a concept from Ray Kurzweil’s book *The Singularity Is Near: When Humans Transcend Biology*. Ray Kurzweil is an American computer scientist, author, and futurist. In his book, Kurzweil proposes the idea of Singularity through cosmic phenomena like the black hole or the Big Bang as these are described as Singularity. Kurzweil describes the term singularity in different fields that adopted the term such as mathematics or astrophysics. The author alleges that technological advancement and the future will be like nothing humans could ever imagine or describe and that after the enhancement, humans will transcend into almost completely different beings. Kurzweil described the progress of the advancement from a scientist’s point of view:

they would come up with technology to become even more intelligent (because their intelligence is no longer of fixed capacity). They would change their own thought process to enable them to think even faster. When scientists become a million times more intelligent and operate a million times faster, an hour would result in a century of progress (in today’s terms).⁴⁰

Kurzweil emphasizes the speed and grandiosity of changes that would take place.

As Stephen Lilley stated about Kurzweil, “He makes it clear that there will be as little in common between posthumans with evolved intelligence and standard humans as there is between bacteria and Homo sapiens.”⁴¹ Kurzweil in his book not only mentioned the changes within humans but also within the environment. The futurist declares that environmental enhancements will be made by nanobots which will reverse pollution caused by industrialization. Later statements about virtual reality made environmental enhancements seem like

⁴⁰ Ray Kurzweil, *The Singularity Is Near: When Humans Transcend Biology* (New York: Viking Press, 2005), 37.

⁴¹ Lilley, *Transhumanism and Society*, 25.

unnecessary work because Kurzweil states that humans will spend most of their time in virtual reality from within their nervous system and even most social interactions (even with your romantic partner) will take place there. The nanobots' jobs would also be to extend human intelligence and reverse aging. The nanobots would be mechanical red blood cells.⁴² Another prediction that Ray Kurzweil made was that with the help of nanotechnology, humans will be able to distort physical reality and that future artificial intelligence will make use of technological bodies with increased durability that will be more capable than normal human bodies.⁴³ As will be mentioned in more detail later in the analysis, one character from the Marvel Cinematic Universe is a direct image of Kurzweil's prediction: an AI called Ultron, with a technological body and who is in many aspects superior to humans. However, Kurzweil did not predict the turning of the AI on his creators and humanity, a common theme in apocalyptic movies, once again present in Ultron's case.

Another prediction was made by an American scientist and science fiction author, Vernon Vinge in his 1993 paper – *Technological Singularity*, where he claimed “Within thirty years, we will have the technological means to create superhuman intelligence. Shortly after, the human era will be ended.”⁴⁴

3.2 Personal Transcendence

Personal Transcendence is Max More's idea of the transhumanist movement. Max More is a British philosopher and futurist. More thinks that the idea of *Cosmic Transcendence* or *Singularity* proposed by the computer scientist Ray Kurzweil is worrisome. More claims that transcendence should be personal and should positively enhance the body and mind by challenging human limitations. In the book *The Transhumanist Reader*, Max More wrote that human nature is not the end of human evolution and that humans can learn to enhance and reconstruct human nature beneficially. More added, “By thoughtfully, carefully, and yet boldly applying technology to ourselves, we can become something no longer accurately described as human – we can become posthuman.”⁴⁵ In *The Transhumanist Reader*, More also refuted frequent misconceptions of the movement, and argued that what

⁴² Kurzweil, *The Singularity Is Near*, 39.

⁴³ Ibid.

⁴⁴ Vernon Vinge, “The Coming Technological Singularity,” *Whole Earth Review*, no. 81 (December 1993): 88–95.

⁴⁵ More, *The Philosophy of Transhumanism*, 18.

the transhumanists seek is not utopia but rather what the author called “extropia.” More explained the self-made term by claiming that what transhumanists seek is not a “state of perfection” and the static state, but a “perpetual progress” and continuous motion towards.⁴⁶ More explains the term “extropianism” as a version of transhumanism and states that “The extropian philosophy affirms the values of Boundless Expansion, Self-Transformation, Dynamic Optimism, and Intelligent Technology.”⁴⁷

More also refuted the misconception that transhumanists make predictions, and mentioned Ray Kurzweil as someone who does. Although More does not make any predictions like Kurzweil, he ended the book *The Transhumanist Reader* with a “Letter to Mother Nature” and 7 amendments, for example: “Amendment No.1. We will no longer tolerate the tyranny of aging and death.”⁴⁸ More stated that by pursuing these amendments and with the “tools of biotechnology”⁴⁹ humans will transform from human to posthuman.

3.3 Civitas Transcendence

The last version that the university professor Stephen Lilley proposed was James Hughes’ Civitas Transcendence. James Hughes is an American sociologist and bioethicist and similarly to Max More, disparages the idea of *Singularity*. Hughes believes that the future enhanced civilization will need regulations and cannot be left unchecked. The sociologist’s idea of transhumanism is based on collective good. Enhanced humans will help society to be more efficient, prosperous, and safe. The sociologist also believes that enhancement should be available for everyone and suggests welfare programs mediated to help those who cannot pay for enhancements.⁵⁰ Hughes wrote what transhumanism should look like in his eyes:

For the new transhuman era to fully empower people politically and technologically we need a democratic transhumanist movement fighting both for our right to control our bodies with technology, and for the democratic control, regulation and equitable distribution of those technologies.⁵¹

⁴⁶ More, *The Philosophy of Transhumanism*, 25.

⁴⁷ More, “Transhumanism,” 6.

⁴⁸ Max More, “A Letter to Mother Nature,” in *The Transhumanist Reader*, eds. Max More and Natasha Vita-More (Malden: Blackwell, 2013), 387.

⁴⁹ Ibid.

⁵⁰ James Hughes, *Citizen Cyborg: Why democratic societies must respond to the redesigned human of the future* (Cambridge, MA: Westview Press, 2004), 48–50.

⁵¹ Hughes, *Citizen Cyborg*, 17.

Hughes's answer to stop and prevent inequality that could arise from human enhancement is not to take away the merit but ensure equal accessibility and stated that "technology doesn't make people unequal, power and wealth do."⁵²

Hughes's view of transhumanism resembles a righteous Marvel Cinematic Universe superhero fighting for equality and against oppressors – Captain America. Captain America undergoes enhancement through Super Soldier serum for righteous purposes, not for his own good. Hughes's idea of enhanced humans keeping society safe and helping the society prosper, "mirrors" the righteous superhero.

Hughes also mentioned the importance of happiness. Transhumanists believe that new technologies could not only cure physiological diseases and illnesses but also mental ones. Hughes suggests that in the future there could be "gene therapies that jack our happiness set-point to its maximum,"⁵³ which will result in more optimistic, motivated, and generally happy people. Hughes also made a connection between happiness and democracy, stating that happiness encourages democracy and "in turn, Democracy is one of the best guarantors of general happiness of population."⁵⁴

In his 2004 book *Citizen Cyborg*, Hughes also discusses the topic of "designer babies" as that is something that the people opposing the transhumanist movement fear as well. Designer babies means that before a baby is born, the parent can genetically "choose" or "improve" the baby. People fear that this will lead to obsession with genetics and that they will "forget about the importance of parenting." Hughes provides a very clear opinion on this matter "Parents deserve to exercise all the genetic choices science can provide, and they deserve the benefit of the doubt that they will make choices that enrich their children's lives."⁵⁵ Another author who gave his opinion on this matter is Ronald Bailey in his chapter in the book *The Transhumanist Reader* where he wrote about the ludicrousness that is "a requirement for prenatal consent for enhancement."⁵⁶ Bailey staged a situation where this requirement would ban fetal surgeries of serious defects and commented that even though there would be no consent from the fetus, it is the righteous thing to do.⁵⁷

⁵² Hughes, *Citizen Cyborg*, 132.

⁵³ Hughes, *Citizen Cyborg*, 48.

⁵⁴ Hughes, *Citizen Cyborg*, 50.

⁵⁵ Hughes, *Citizen Cyborg*, 134.

⁵⁶ Bailey, *For Enhancing People*, 296.

⁵⁷ Ibid.

4 EXAMPLES OF TRANSHUMANISM IN OTHER WORKS

4.1 Aldous Huxley – *Brave New World*

As already mentioned, the book *Brave New World*, published in 1932, has transhumanist ideas whether morally acceptable to some or not. In the book, humans are produced by biotechnology, they are mass-produced and just like any other manufactured good – “unified and neat. All human bodies can only be used as a tool to meet the different needs of society. They have been injected with different ingredients at the embryonic stage, so people have differences in their body structure according to the division of labor in the society.”⁵⁸

As Francis Fukuyama feared while reading this work, for example, the human growth hormone treatment (to increase height for example) that is already available must have shocked him gravely as his fears from the book were becoming reality. The concept of manufacturing or “designing” people in the book sounds especially similar to the concept of designer babies that has been discussed in the previous chapter of this thesis. Genetically improving and changing humans at the embryonic stage, to satisfy the desires of parents or in this case, of society.

The *Brave New World* is a place where there is no need for relationships anymore, so anything that comes close to loving human connections is seen as bad and banned. It is also good to have more sexual partners since it prevents people from forming emotional attachment and helps maintain social order. If you want to maintain a relationship with one person you are viewed as an “alien.” People are seen as happy, healthy, and have everything they need, but on the inside, they are empty shells that exist for one sole purpose: to play their role in society. To solve this problem and prevent possible questioning the government introduced *Soma* – a hallucinogen that functions like drugs. *Soma* brings satisfaction but doesn’t make the problem go away. In a world where humans are no longer humans with fulfilled emotional connections and relationships, the only temporary satisfaction is a drug to maintain their happiness. The book explores the possible consequences of merging with technology and the existential and psychological outcomes. One character from the Marvel Cinematic Universe can be seen as an example of a struggle with identity due to merging

⁵⁸ Yakun Zhang, "The Construction of Post-human Society in *Brave New World*," *Academic Journal of Humanities & Social Sciences* 4, no. 9 (November 2021): 127.

with technology. After Antony Stark transforms into Iron Man, he struggles with an existential crisis as he blurs the line between man and technology. Iron Man is constantly perfecting his technology to protect people, only to find out that he unintentionally hurts them in the process. This similarity raises a question of the cost of perfection, advancement, and humanity.

The book is the depiction of Francis Fukuyama's greatest fears of the transhumanist movement. Fukuyama in the 2002 book *Our Posthuman Future* claimed that "Huxley was right, that the most significant threat posed by contemporary biotechnology is the possibility that it will alter human nature and thereby move us into a "posthuman" stage of history."⁵⁹ The author claimed that humans may lose their humanity, "something of great value"⁶⁰ without even recognizing it.

4.2 William Gibson – *Neuromancer*

Neuromancer is a novel about a protagonist Case, who is a hacker. After being hired by a new employer Case teams up with a cyborg and a thief to carry out crimes. The employer turns out to be an Artificial Intelligence called Wintermute, which wants to merge with another artificial intelligence – the Neuromancer. The AI's desire to merge with Neuromancer is similar to the one AI "villain" called Ultron in the Marvel Cinematic Universe. Ultron was created to protect the world, but soon after realizing his self-consciousness, his main goal is to merge with a synthetic body to transcend his limitations and surpass humans. In *Neuromancer*, Wintermute strives for autonomy from his creators and limitations, comparably to Ultron.

The most eye-catching transhumanist elements in this book are probably the use of prosthetics. In today's world, the use of prosthetics is widespread too, but in the *Neuromancer* world, it is on different levels and for different purposes. *Neuromancer* is a world with cyborgs, where humans undergo elective surgery to have heightened senses, enhanced nervous system, and strength. They can undergo surgery to have enhanced vision lenses, fingernail replacements, teeth replacement, and many more. Transhumanism can be seen not only in enhancing the human body but also in artificial intelligence and cyberspace – a place

⁵⁹ Fukuyama, *Our Posthuman Future*, 7.

⁶⁰ Fukuyama, *Our Posthuman Future*, 101.

for out-of-body escape. The protagonist is trying to get to cyberspace, he sees his human body as just flesh. He wants to spend his time in cyberspace where he feels like himself.

The cyberspace and the character's desire to spend most of his time there resembles the prediction that Ray Kurzweil made in his 2005 book *The Singularity Is Near*, “our experiences will increasingly take place in virtual environments.”⁶¹ Kurzweil claimed that the virtual reality will be hard to distinguish from the reality. Similarly, in *Neuromancer* sensory perceptions like vision or touch blur the line between virtual and reality.

⁶¹ Kurzweil, *The Singularity Is Near*, 39.

**II. ANALYSIS OF TRANSHUMANISM
IN THE MARVEL UNIVERSE**

5 MARVEL CINEMATIC UNIVERSE

The Marvel Cinematic Universe (MCU) is an American media franchise currently owned by The Walt Disney Company. The MCU are series of movies, television series, and digital series mainly focused on superhero narratives. The MCU content is based on the original and worldwide popular Marvel Universe comic books.

Marvel Comics, which later gave birth to the immensely popular MCU, started in 1939 as Timely Publications. The first published works were called Marvel Comic #1 and included Marvel's first stories of a hero called The Human Torch and an anti-hero called Namor the Submariner. Due to the huge success of the stories, Timely Publications created a team consisting of, for example, Jack Kirby, and in 1941 the team created the enormously popular Captain America. Later, another man joined the team. Stanley Lieber, who is better known by his pseudonym Stan Lee, who became a legend in the comic world, creating and co-creating numerous popular characters like the Amazing Spider-Man (1962), The Fantastic Four (1961), Iron Man (1963), Black Widow (1964), and many more. The characters and storylines often reflected issues of the uses (and misuses) of technology in the era of the Cold War.

More than forty years later, the MCU was initiated with the release of a series of movies in so-called phases. Phases one to three are jointly called "The Infinity Saga" and phases three to six are collectively called "The Multiverse Saga." The first phase began with the movie *Iron Man* in 2008 and the concluding phase six is planned to air in 2027 with the movie *Avengers: Secret Wars*.

5.1 Superhero narrative

Superhero narratives generally carry themes of heroism, justice, hope, sacrifice, and among many others friendship and family. Superhero narratives often derive from archetypes which are often from Greek mythology, epic tales, and most of all the Greek gods. Superheroes can be often seen as the modern adaptations of the Greek gods and often share similar qualities. Brett M. Rogers, professor of Greek, Latin, and Ancient Mediterranean named several superheroes and stated that, "Like their Greek ancestors, these superheroes explore and exceed the limits of mortality, humanity, and imagination."⁶²

⁶² Brett M. Rogers, "Heroes Unlimited: The Theory of the Hero's Journey and the Limitation of the Superhero Myth," in *Classics and Comics*, eds. George Kovacs and C.W. Marshall (Oxford University Press, 2011), 73.

In the MCU, the superhero archetype can be seen through various embodiments such as God-like superheroes, superheroes with magical powers, technologically enhanced and/or genetically modified superheroes, and even mutants but what they all have in common is that they are superhuman.

5.1.1 The Golden Age of Superheroes

The Golden Age of Superheroes was a period that portrayed perfect humans. The name “Superman,” the first superhero, came from a faulty translation of Nietzsche’s idea of Übermensch – Overman. Superman, a hero with a seemingly faultless body, one stronger than a normal human body, agile and always healthy, reminiscent of the transhumanist ideal. This was the icon of the Golden Age of superheroes, a period which lasted approximately from the 1930s to the 1940s and gave “birth” to heroes like Superman and Captain America.⁶³

Captain America was used as a contribution to the war effort, depicting a fight between him and the Nazi German leader, and shows Captain America striking Hitler’s face even before America joined the Second World War. Captain America was used as a morale-boosting and patriotic symbol during the period.

During this period, superhero comics were often called fascist and George Orwell even called superhero comics “bully worship.” Many writers and experts feared that these comics would promote the idea of eugenics and racial purity. Scott Jeffery remarked on the irony of the situation as Nazi Germany viewed and dismissed the comics as “Jewish propaganda.”⁶⁴

After the Second World War and the monstrous reality where eugenics turned into genocides, the superman or superhero comics in general, which depict a flawless hero with a perfect body started to be less and less popular “as if the very notion of superhuman has become a suspect.”⁶⁵

5.1.2 The Silver Age of Superheroes

What differentiated the Golden Age of Superheroes and the Silver Age, which fully bloomed in the 1960s, was that the heroes were most of the time no longer absolutely perfect. Although Scott Jeffrey stated that DC comic superheroes were “stuck in the Golden Age,”⁶⁶

⁶³ Kovacs, and Marshall, “*Classics and Comics*”, x.

⁶⁴ Scott Jeffrey, “Producing and Consuming the Posthuman Body in Superhero Narratives,” *Nth Mind* (blog), January 23, 2012, 9. <https://nthmind.wordpress.com/2012/01/23/producing-and-consuming-the-posthuman-body-in-superhero-narratives/>.

⁶⁵ Jeffrey, “*Producing and Consuming the Posthuman Body*”, 12.

⁶⁶ Jeffrey, “*Producing and Consuming the Posthuman Body*”, 13.

the Marvel superheroes became a matter of “countercultural fantasy.”⁶⁷ Superheroes were no longer flawless, but on the other hand, the heroes were now humans “prone to neurosis, insecurity and bickering.”⁶⁸

This period relied heavily on the concept of consciousness and escaping into the universe. It could be assumed that both of them were highly influenced by the psychedelic drug “culture” that served as a “source of metaphor and inspiration.”⁶⁹ A Marvel superhero that stood out the most to the psychedelic consumers was Dr. Strange. Strange was a master of magic and could enter an astral form in meditation while the body was laid still in the safety of the hero’s home showcasing a form of duality, and of the cosmic body. In chapter 4.2 of this thesis, about the 1984 book *Neuromancer*, an out-of-body space called cyberspace was mentioned. Although not completely identical to the astral form of Dr. Strange, it could be argued that the form of the cosmic body and the transhumanist elements share a resemblance.

5.2 Research Goals

This thesis will analyze different aspects of transhumanism in the MCU. The thesis will namely analyze technological enhancement, genetic engineering, and artificial intelligence ethics.

The thesis will analyze the transhumanist aspects mainly in the chosen three characters. With the use of examples from different characters and storylines the thesis will analyze the characters Captain America, Iron Man, and the Hulk.

For those purposes this thesis will use chosen MCU movies like the 2008 movie *Iron Man* (Favreau), the 2011 movie *Captain America: The First Avenger* (Johnston), the 2012 movie *Avengers* (Whedon), the 2014 movie *Captain America: The Winter Soldier* (A. Russo, J. Russo), the 2015 movie *Avengers: Age of Ultron* (Whedon), 2018 movie *Avengers: Infinity War* (A. Russo, J. Russo), and 2019 movie *Avengers: Endgame* (A. Russo, J. Russo).

6 IRON MAN

Anthony Edward Stark, the Iron Man, was a billionaire, philanthropist, and a self-proclaimed genius. After being kidnapped and hurt during a bomb explosion, he builds a

⁶⁷ Ibid.

⁶⁸ Ibid.

⁶⁹ Jeffrey, “*Producing and Consuming the Posthuman Body*,” 14.

small arc reactor and implements it in his chest to keep the pieces of shrapnel from the explosion from entering his heart. Alongside the small arc reactor, Stark builds an armor suit that could help him escape from captivity.

In Iron Man's case, after he obtains power through his suits, Stark does not lose his humanity. When Francis Fukuyama mentioned *Brave New World* as the intimidating example of transhumanism, where people lose the ability to love, hurt, and make difficult moral decisions but still appear to be perfect, it seems to be the very opposite of Iron Man. Anthony Stark was a drunk playboy who hardly took matters seriously. However, after his kidnapping and the "transformation" into Iron Man, his character traits remained the same. What made him a human, even his character flaws, remained unchanged. Stark did not become the perfect human that transhumanists longed for. It seems that what makes Stark perfect are the things that are imperfect in the eyes of transhumanists. Without the Iron Man suit, Stark would remain just a human, mortal, emotional, and compassionate. If it were not for those qualities Stark would not have saved the world in the *Avengers: Endgame* movie and sacrificed himself in the process. Stark was able to make the moral decision only one with human emotions could. Moravec in his 1990 book *Mind Children* claims that after the radical change that will people go through, they will no longer be the same, with "memories and interests, having lost their relevance."⁷⁰ Thus, would Iron Man save the world and sacrifice his life if he was no longer the same, i.e., would his morality also change? And most importantly, will compassion and sacrifice be left in our world?

Iron Man's enhancement may seem to resemble the concept of Max More's personal transcendence: Stark challenged human limitations by constructing the Iron Man suits, Stark also enhanced his own body with technology, and similarly to More's idea of Transcendence used his means for self-transformation. Nevertheless, Stephen Lilley in the 2012 book *Transhumanism and Society* claimed that "More's account of personal transcendence is fashioned after Nietzsche's overman,"⁷¹ or after "the "self-made" entrepreneur and the conquering heroes of antiquity such as Alexander the Great and Julius Caesar."⁷² While all were men who accomplished great triumphs, what they had in common was the fixation at as Lilley stated

⁷⁰ Moravec, *Mind Children*, 121.

⁷¹ Lilley, *Transhumanism and Society*, 21.

⁷² Ibid.

“how to best utilize resources, how to maximize potential, etc.”⁷³ Stark does not sound particularly similar to them. Although selfishness was nothing new to Tony Stark before, after the transformation to Iron Man, Tony Stark becomes selfless.

As will be mentioned later, Stark had his ups and downs. With good intentions, Stark goes a step too far and creates an artificial intelligence called Ultron. This decision caused many to lose their lives. As More claimed in *The Transhumanist Reader* “The same powerful technologies that can transform human nature for the better could also be used in ways that, intentionally or unintentionally, cause direct damage.”⁷⁴ This is seemingly the reason that Stark struggles the most in his life, however, possibly also the reason why Stark never crossed over to fully merge with the machinery. The concept of uploading the consciousness, or the soul of a person into a machine as Moravec described would certainly be possible for a genius mind like Stark’s, nevertheless Stark never once attempted to do that.

In Iron Man’s case, the inner struggle can be observed in the character's actions. On the one hand, Iron Man seems like he has no care in the world, enjoying the popularity as the playboy he once was.

On the other hand, Stark develops Post Traumatic Stress Disorder after the New York attack in the first *Avengers* movie. The character seems to live in constant fear of having to use his suit again. Iron Man spends restless nights inventing new prototypes of the suits. In one specific case, Stark almost hurts his girlfriend Pepper Potts after calling one of the suits and pinning Pepper Potts on the bed in his sleep while having a nightmare.

Tony Stark: I’m a piping hot mess. It’s been going on for a while. I haven’t said anything. Nothing’s been the same since New York.

Pepper Potts: Oh, really? I didn’t notice that at all.

Tony Stark: You experience things and then they’re over, and you still can’t explain them. Gods, aliens, other dimensions. I’m just a man in a can.⁷⁵

The character development of Iron Man can be seen remarkably clearly throughout the series. In the first 2008 *Iron Man* movie, Tony Stark appears to be a cocky billionaire, with the ability and funds to change some of the world's problems but chooses to live a fancy

⁷³ Ibid.

⁷⁴ More, *The Philosophy of Transhumanism*, 16.

⁷⁵ *Iron Man 3*, directed by Shane Black (Marvel Studios, 2013), 00:21:19 to 00:21:43.
<https://www.disneyplus.com/cs-cz/movies/iron-man-3/3s4lhq7P2c6e>.

lifestyle ignorant even to the problems the Stark's own company created. After the aforementioned kidnapping, Stark starts to feel guilt and remorse over his actions and ignorance and swears to fight for justice alongside his friends.

“I just finally know what I have to do. And I know in my heart that it's right.”⁷⁶ –Tony Stark to Pepper Potts.

In the 2018 movie *Avengers: Infinity War*, Tony Stark is a completely different person than in the very first *Iron Man* movie. Because of Stark's unintentional failures that led to people getting hurt instead of protecting them, Iron Man becomes dubious about his capabilities and the right to be a superhero meant to protect people. What seems like a redemption and a selfless act that is very different from Stark's past self would appear in the 2019 movie *Avengers: Endgame*, where Iron Man sacrifices himself for humankind and brought back half of Earth's population by doing so.

Iron Man is the quintessential example of technology enhancing the human body and transcending body limitations while remaining human. Iron Man symbolizes the qualities that transhumanism can never eliminate from humans to preserve the humanity of people and to prevent a world without love, guilt, and sacrifice.

6.1 Iron Man's technology

Tony Stark becomes a superhero after inventing a technological suit, which helps him escape from captivity. In the first 2012 *Avengers* movie, Iron Man sacrifices himself and proves to be a hero to save New York City and all of humanity after an Asgardian called Loki, the brother of Thor, one of the Avengers, threatens to enslave humankind. In the end, Iron Man survives and succeeds in his mission but after this incident, Tony Stark will never be the same. The fear of another similar incident happening pushes him to create numerous new prototypes and with that Stark perfects the technology used to control the suits. Stark invents implants that let him mentally control the suits along with the AI system called J.A.R.V.I.S (Just A Rather Very Intelligent System) that helps control the operating system of the suits and among others provides real-time information.

Stark's brilliant mind designed numerous inventions. In the 2016 movie *Captain America: Civil War*, Tony Stark recruits a rookie superhero called Peter Parker.

⁷⁶ *Iron Man*, directed by Jon Favreau (Marvel Studios, 2008), 1:29:55 to 1:30:06.
<https://www.disneyplus.com/cs-cz/movies/iron-man/6aM2a8mZATiu>.

Peter Parker was bitten by a radioactive spider and obtained superhuman abilities including spider-like speed, enhanced strength, and the ability to adhere to walls. While he uses his newly obtained abilities for doing good deeds and helping people, his whole life changes as a superhero called Spider-Man when Tony Stark drafts Peter after seeing potential in the teenager. Stark designs a Spider-Man suit for Peter, including countless new inventions integrated into the suit. From an AI system similar to the one operating the Iron Man suits, Stark perfects the suit with enhanced durability, enhanced vision, and sensors, adds extra mechanical arms that help with flexibility and strength, and most symbolic of all Stark adds web shooters to the Spider-Man suit.

Similar to Iron Man's enhancing suit might be the Ant-Man suit. When Scott Lang, the Ant-Man, puts on the suit his body gains the ability to contract into the size of an ant or to grow enormously in size while also increasing his strength and flexibility. Thanks to the suit Lang also obtains the ability to communicate and command ants. The suit stands on a technology called Pym Particles, which can adjust the distance between atoms. The technology was made by Doctor Hank Pym, the first Ant-Man. Hank Pym decided to hide the technology from the world due to a fear that it would be misused but his former colleague replicates it and plans to sell the new suit. Scott Lang was scouted by Pym because he needs him for his theft skills to steal the suit before it could be sold. The suit is a source of possible threat to humanity. As the creator feared, it could fall into the wrong hands and cause enormous damage to humans. The technology that was meant to do good could be used to commit evil crimes. The suit was also not completely safe for the wearer himself as the first Ant-Man – Hank Pym could not wear it anymore due to the toll it took on his body.

The similarities between the Iron Man suit and the Ant-Man suit are great. In the wrong hands, the technology could be used to do wrong and the intention to protect people could be utterly outweighed. The MCU characters can be seen exploring the fears of the transhumanist movement through the misuse and corruption of technological advancement.

6.2 Artificial intelligence

In the 2015 movie *Avengers: Age of Ultron*, Stark, with the help of Bruce Banner, builds an A.I. that was meant to protect the world. Stark and Banner create an A.I., called Ultron, capable of the desired qualities, nevertheless, Ultron gains self-awareness and after learning more about the world and humans, Ultron concludes that humans are the biggest threat to the world and should be annihilated.

The creation of Ultron brought an ethical dilemma. Because of Ultron many innocent people were hurt or lost their lives. Stark and Banner had to face the consequences of playing God.

Ultron: The human race will have every opportunity to improve.

Pietro Maximoff: And if they don't?

Ultron: Ask Noah.⁷⁷

Ultron intends to use a synthetic body composed of Vibranium and organic material and transmit its consciousness into the body. After a failed attempt to take over the body, Stark and Banner get hold of it and upload J.A.R.V.I.S. into the synthetic body and with the help of mind stone, give Vision life. Vision soon proves to be an ally and helps the Avengers stop Ultron.

Vision is a very complex character who raises questions about consciousness and whether something or someone who is created by fusing technology and organic material, is fully self-aware, and is capable of human emotions as would be seen in later movies, can be considered human. Vision blurs the lines between technology and humans.

I've always been alone, so I don't feel the lack. It's all I've ever known. I've never experienced loss because I have never had a loved one to lose. But what is grief, if not love persevering?⁷⁸

—Vision to Wanda Maximoff

Vision could be called the true posthuman by the transhumanists. But what happens when the creature is aware of it not being human, but rather something more than? Capable of emotions, with significantly higher intellectual capacity than normal humans, strong and durable body not prone to aging or diseases. As Ray Kurzweil claims in his book *The Singularity Is Near*, humans, and posthumans will be two different species. Kurzweil depicts posthumans as superior to humans. Ultron was the first “failed” attempt, however, Ultron

⁷⁷ *Avengers: Age of Ultron*, directed by Joss Whedon (Marvel Studios, 2015), 1:18:08 to 1:18:14.
<https://www.disneyplus.com/cs-cz/movies/marvel-studios-avengers-age-of-ultron/76IUxY0rNHzt>.

⁷⁸ *WandaVision*, season 1, episode 8, “Previously On,” directed by Matt Shakman, written by Laura Donney, Jac Schaeffer, Peter Cameron, aired February 26, 2021,
<https://www.disneyplus.com/cs-cz/series/wandavision/4SrN28ZjDLwH>, 00:24:32 to 00:24:54.

was pretty much the depiction of Kurzweil's prediction about artificial intelligence having technological bodies.⁷⁹

7 CAPTAIN AMERICA

Steven Grant Rogers, later better known as the Earth's first superhero – Captain America. In his early life, Rogers was in poor health, and he was of smaller stature, often appearing almost sickly. Unlikely his build, Rogers always wanted to be a soldier and serve his country like his father. Later, upon seeing the horrors of World War I, Rogers decides to enlist in the military but despite his numerous attempts, he is always declined because of his health. Not giving up Rogers tries to enlist again. This time while waiting for the doctors a mysterious man shows up – Abraham Erskine. Finding Rogers suitable, Erskine decided to enlist him in the project Rebirth which was meant to create a perfect soldier.

Rogers begins his training but faces many hardships. The other soldiers, and even the commander dislike him because of his build and often make fun of him. Nevertheless, Rogers is training hard to prove himself to be a worthy soldier. Although lacking in physical abilities, Rogers often stands out for his quick thinking and willpower. Rogers proves himself in an incident in which the commander throws a dummy grenade at the soldiers making everyone run away but Rogers. He throws his body on the grenade, meaning to sacrifice himself to save everyone else present. The commander, expecting another soldier to save the situation, finally acknowledges that physical abilities are not the only qualities worth looking for and Rogers is chosen for the project Rebirth.

Rogers wants to fight the bullies, not be one of them and that is why he was chosen.

The serum amplifies everything that is inside. So, good becomes great. Bad becomes worse. This is why you were chosen. Because a strong man, who has known power all his life, will lose respect for that power. But a weak man knows the value of strength and knows compassion.⁸⁰

—Abraham Erskine to Steve Rogers

After an extremely painful procedure, Rogers exits the Vita Chamber where the procedure took place as a completely different person. His height goes from 163 cm to roughly 188 cm, and his weight from 43 kg to roughly 113 kg. Not only did his physical appearance

⁷⁹ Kurzweil, *The Singularity Is Near*, 39.

⁸⁰ *Captain America: The First Avenger*, directed by Joe Johnston (Marvel Studios, 2011), 00:26:35. <https://www.disneyplus.com/cs-cz/movies/captain-america-the-first-avenger/6xvB6xZ4r95O>.

change but also his physical abilities: heightened reflexes, enhanced power, and a more flexible body. Rogers becomes an enhanced human (transhuman). After the procedure, Rogers goes on a tour over the whole of America in a costume to promote the American war effort, soon becoming an icon.

Captain America is the embodiment of hope in the transhumanist movement. He represents the good – protects the weak and fights against the oppressors. The enhancement of Captain America uses science to better his human condition to do good. Captain America's enhancement most closely represents the Civitas Transcendence named by Stephen Lilley in the 2012 book *Transhumanism and Society*. Lilley presented ideas from James Hughes's 2004 book *Citizen Cyborg* and stated that Hughes "advocates improvements to minimize social injustice, promote social solidarity, and safeguard human populations."⁸¹ Hughes proposes a world where enhanced individuals positively enrich society and work for a "more just, equitable, prosperous, and peaceful world through democracies that encourage citizens to utilize safe and effective enhancements."⁸²

Captain America becomes the true hero, always ready to sacrifice himself for humanity, and fight for equality and freedom.

7.1 Symbol of American Patriotism

Captain America is a symbol of American patriotism. Rogers was a role model that influenced the whole nation during World War II. Nevertheless, one could argue that his patriotism, and his views and beliefs that grew even more vehement together with his body after the procedure, could be dangerous. Captain America was "made" to be a perfect soldier, obeying every order given. As Scott Jeffery argues in his 2012 paper called "Producing and Consuming the Posthuman Body in Superhero Narratives," the procedure Captain America has undergone "makes him, at least in the stories of the Golden Age, the perfect tool of the state."⁸³ The strong feelings of Captain America could lead to prioritizing one nation over another.

Captain America struggles after waking up in a completely different world. The absence of war is nothing to be sad about but without it, Rogers is left without a purpose.

⁸¹ Lilley, *Transhumanism and Society*, 16.

⁸² Lilley, *Transhumanism and Society*, 17.

⁸³ Jeffrey, "Producing and Consuming the Posthuman Body", 12.

Rogers feels like the world no longer needs the symbol: “Captain America. God’s righteous man. Pretending you could live without a war.”⁸⁴

Nevertheless, throughout the series of movies, Captain America shows that his initial comment of not liking bullies applies to all – regardless of the flag under which they fight. Rogers even disobeys the orders of a Colonel to save over 400 soldiers who were captured by the enemy in the 2011 *Captain America: The First Avenger* movie, dismissing the fear of *Brave New World*-like government control. *Brave New World* showed fetal biochemical engineering as a tool to control society, which is simply unquestioned as a normal part of life. Captain America, although intended as a “tool” of the American army, remains true to his humanity and his desire to fight the oppressors.

On the contrary, a character from the MCU could be used as an example of enhancement, control, and power misuse: an alien warrior called Nebula. When she was little, a villain called Thanos invaded her home planet, killed her whole family, and took her as his adoptive daughter. Nebula was born a normal child without any technical enhancements but as she grows up, she is forced to fight against her adopted sister Gamora (who was also cruelly taken from her home planet). Every time Nebula loses, Thanos replaces a part of her body with machinery. Because her sister’s skills are so stronger and more and more of Nebula’s parts are replaced, Nebula’s body soon resembles that of a cyborg. In this case, technological enhancement is not used simply to replace limbs for example, or to cure an illness, it is used for the selfish reasons of Thanos. The villain wants to create an unbreakable and strong warrior who would obey his orders. The fears of the oppositionists of the movement are portrayed here, as transhumanist power is being abused.

Similarly to Yuval Noah Harari’s ideas in the 2016 book *Homo Deus*, Nebula was not sick, nor were parts of her body in need of improvement or enhancement. With the transhumanist movement, are the sick and masses going to be disregarded for individuals who have been enhanced? Harari describes the possible scenario in which: “some elites may conclude that there is no point in providing improved or even standard conditions of health to masses of useless poor people, and it is far more sensible to focus on upgrading a handful of superhumans beyond the norm.”⁸⁵

⁸⁴ *Avengers: Age of Ultron*, 00:46:28 to 00:46:34.

⁸⁵ Harari, *Homo Deus*, 222.

8 HULK

Bruce Banner, a kind and genius physicist and scientist with seven Ph.D.'s. After a failed attempt to recreate an experiment from World War II – which created a super soldier with gamma radiation, Banner transforms into Hulk.

Hulk is a monstrous creature, with green skin. After the failed experiment where Banner transforms, he goes berserk killing and hurting many people in the process. Hulk is arguably quite a primitive creature, contrary to Bruce Banner himself. When transformed Hulk is the embodiment of destruction and fear of superhumans – transhumans. As could be seen throughout the movies, Hulk is uncontrollable. He destroys everything and anyone who comes in his way. During a fight in Johannesburg, Wanda Maximoff (later called Scarlet Witch) took advantage of Banner, as she can invade and control people's minds, and made Hulk go on a rampage. During that Hulk causes enormous damage in the city and gravely endangers civilians. If it were not for Iron Man who manages to make Hulk unconscious, many civilians could have died.

Some could argue that the experiment was successful since Hulk gained qualities that are desired by transhumanists. Superhuman strength, and durability – Hulk is able to withstand a tremendous amount of injuries and can recover more rapidly than normal humans.

This, however, comes at the expense of Banner's humanity and his genius. Banner loses himself when he transforms into Hulk. Hulk is like a different personality living inside of him and creeps out uncontrollably when Banner is agitated, or his heartbeat exceeds 200 beats per minute. The opponents of the transhumanist movement frequently mention the term “human dignity” as something that must be preserved. Leon Kass, American scientist, and physician, in his 2002 book *Life, Liberty and the Defense of Dignity* stated that:

We need to realize that there is more at stake in the biological revolution than just saving life or avoiding death and suffering. We must also strive to protect and preserve human dignity and the ideas and practices that keep us human.⁸⁶

Another character who could serve as an example of power exploitation and consequently losing his human dignity is the Winter Soldier. James Buchanan Barnes, who would later become better known as Winter Soldier, enlisted into the army after hearing the news

⁸⁶ Leon Kass, *Life, Liberty and the Defense of Dignity: The Challenge for Bioethics* (San Francisco: Encounter Books, 2002), 2.

of the attack on Pearl Harbor. Barnes has been Steve Roger's (Captain America's) best friend since childhood. Barnes was Rogers's protector from bullies since he was always of bigger and more muscular figure than him.

Barnes was a part of the 107th Infantry Regiment and served on the front lines during World War II. While fighting in a battle his regiment was captured by HYDRA – a Nazi terrorist organization. During the imprisonment, the soldiers were forced to labor and once Barnes was too weak to work, he was used as a test subject for another version of the Super Soldier Serum. Barnes and the regiment were rescued by Captain America and would try to take HYDRA down.

After numerous fights, Barnes gets captured again after an accident where he falls off from a moving train and the experiment starts anew, this time as a Winter Soldier Program. Although he loses an arm, Barnes could only survive the accident because of the previous experiment with the super soldier serum that provided him with enhanced physiology. His arm is replaced with a prosthetic one that includes a wide amount of technological weapons. To create a perfect soldier HYDRA uses a memory-suppressing machine that would remodel his brain and subsequently lose all his memories and become easy to direct to follow orders. HYDRA uses Barnes as a killing machine, a perfect soldier they desired, and after every mission, they wipe his memory clean and freeze his body to prevent him from aging. Although Barnes gains strength, flexibility, endurance, and an immensely strong prosthetic arm Barnes loses his humanity. HYDRA uses him as a weapon, and he is used to commit evil crimes.

Winter Soldier is another sad example of the fear of exploiting enhancement, brain-altering, and conditioning similar to the book *Brave New World*. As Leon Kass pointed out in the book *Life, Liberty and the Defense of Dignity in the Brave New World* “all beliefs are conditioned, and conformity is obligatory. Using high-powered psychological and chemical techniques of behavioral management, the World Controllers see to it that nothing disturbs the peace or social stability.”⁸⁷ Just as the HYDRA exploits and dictates the enhancement of Winter Soldier for the self-righteous reasons of the organization.

⁸⁷ Kass, *Life, Liberty and the Defense of Dignity*, 9.

8.1 Uploading

The Nazi organization HYDRA takes pride in one of their superior scientists Arnim Zola. Doctor Arnim Zola has worked on numerous projects for HYDRA: from genetic research, creating war machines, studying the alien “magic” stone called Tesseract to utilize its power for weapons against the American Army, creating the Winter Soldier by abominable means of brain and memory remodeling, to finally making an experiment out of his own “self”.

Doctor Zola was diagnosed with a terminal illness, and since science could not save his physical body, the scientist builds a supercomputer to “upload” his consciousness to live on. As Hans Moravec proposes in his book *Mind Children*, the “self” could be transferred to a machine and alleges that “you may choose to move your mind from one computer to another,”⁸⁸ and that “with enough widely dispersed copies, your permanent death would be highly unlikely.”⁸⁹ Although the process was successful, and Zola uploads his consciousness into the supercomputer before his death, the doctor did not escape death permanently as Moravec proposed. The supercomputer that stored Zola’s consciousness is located in the former American Army base and is destroyed by HYDRA missiles directed at Captain America and Natasha Romanoff who discover Zola for the first time. The missile attack results in Doctor Arnim Zola’s ultimate death.

Moravec in his 1990 book *Mind Children* claims that after uploading one’s consciousness and consequently being immortal “we must die bit by bit if we are to succeed in the qualifying event – continued survival. In time each of us will be a completely changed being, shaped more by external challenges than by our own desires.”⁹⁰ Although villains like Arnim Zola may certainly not mind losing the “self” in the process of preserving whatever would be left from it, what about the righteous superheroes? And in a broader sense what about normal humans? Is preserving the “self” worth it when there will be no “self” left in the end?

⁸⁸ Moravec, *Mind Children*, 112.

⁸⁹ Ibid.

⁹⁰ Moravec, *Mind Children*, 121.

CONCLUSION

This thesis has examined the transhumanist movement, the transhumanist aspects reflected in the Marvel Cinematic Universe characters, and the possible consequences of a man blending with technology.

Transhumanism is a philosophical movement which originated from the Enlightenment which emphasizes technological advancement and progress. The term was first introduced by British philosopher Julian Huxley in 1957 in a book *New Bottles for New Wine*. Nevertheless, it could be argued that the movement emerged long before in, for example, eighteenth century in shapes of searching for the Elixir of Life as a form of “machinery” that could grant immortality. Transhumanists seek to enhance the human body with the use of technology and science to transcend human limitations like illnesses and death. Opinions on the movement are vehemently divided, and for the sake of clarity, the thesis is structured into chapters describing proponents and opponents of transhumanism. Nevertheless, this division is not so simple, since there are those who accept some goals of the movement (for example helping those with disease and injury gain full use of their bodies) and not others (for example seeking eternal life and manipulating the human genome of fetuses in early stages of pregnancy).

Transhumanists view humans as merely a step in evolution, not the final destination, and they seek to transcend the human body. Many transhumanists also call for little to no government regulation and promote freedom of choice. The thesis has also proposed three diverse versions of the transhumanist movement: Cosmic Transcendence, Personal Transcendence, and Civitas Transcendence, as the ideas of the movement advocate’s vary greatly.

The opposition argues against the movement with notions of fear that individuals will become “dehumanized” after the transcendence, i.e., it is our limitations which in fact make us who we are. The opposition draws examples from the book *Brave New World* as a possible future of humanity: “dehumanized,” without emotions like love, pain, and regret, which make humans human. The opposition also fears the abuse of technology and bioengineering. Religion also plays a big role in opposition to the movement, as was explored in the thesis.

The thesis also provided literary examples from works like the novels *Brave New World* (1932) by Aldous Huxley, and *Neuromancer* (1984) by William Gibson, both of which exhibit transhumanist aspects comparable to the Marvel Cinematic Universe characters.

Ethical questions related to enhancement and how far enhancement should go were also explored throughout the thesis, first in the background, then in the analysis as portrayed by the various MCU characters. The thesis also provided background of the Marvel Cinematic Universe and offered a bit of context of the superhero narrative antiquity.

The thesis analyzed the character Iron Man, who portrays the “human” in the form of the traits that transhumanist movement must leave intact to prevent a world like *The Brave New World*, a place without compassion, love, and sacrifice. The thesis came to conclusion that mortality of humans and the knowing of our limited time on earth makes humans what they are. Humans with no struggles, regrets and hardships cease to strive for deeper emotional connections and become “empty shells.” Iron Man sacrificed the arguably most valuable “possession” of humans, his life, proving to be capable of the most selfless act of giving up his own life to defeat Thanos. Thus, a resemblance between Iron Man and Max More’s Personal Transcendence, which seems to strive for transcendence selfishly using one’s own means for transformation, and one’s own mind to exploit sources, proved not to be the case.⁹¹

Iron Man is the perfect model of how transhumanism may look in the real world. Tony Stark created numerous technological inventions that helped save millions of people, however Stark also unintentionally created monsters that took the lives of the innocent. As Fukuyama has stated, the outcome of enhancement may be unpredictable, as may be technological advancement, future AI or mind uploading.⁹² Without any regulations, the transhumanists “experiments” may also prove to be dangerous for innocent people.

The thesis also analyzed the character Captain America, whose transformation was most closely reminiscent of Civitas Transcendence, a transhumanist idea of James Hughes. Captain America underwent genetic enhancement for the sole purpose of helping people and fighting for justice. This is similar to the idea of bioethicist James Hughes, who preaches social equality, justice, and peace attainable by enhanced individuals.⁹³

Hulk is an example of the unpredictability of change and the consequences of irreversible transformation. Ray Kurzweil in the book *Singularity is Near* proposes predictions about the future technologies, painting a cyberpunk picture of the world, although the consequences of failed experiments or unpredictable outcomes may be too great for individuals as well as society. The thesis provided examples like the character Red Skull, who sought

⁹¹ Lilley, *Transhumanism and Society*, 21.

⁹² Fukuyama, “Transhumanism,” 42.

⁹³ Lilley, *Transhumanism and Society*, 16–17.

power and superiority and was met with the consequences of attempting to manipulate an unfinished experiment. The thesis also introduced the character Winter Soldier, who can be seen as the embodiment of fear of exploiting enhancement. Winter Soldier fell victim to brain-altering and conditioning, resulting in the loss of identity, which is the “self” opponents of transhumanism fight to protect. It is possible that humans will lose their “self” after undergoing a transformation such as for example the mind uploading proposed in the book *Mind Children* by Hans Moravec.⁹⁴ Thus, will humans undergo transhumanist process if the result is losing the “self?”

The transhumanist movement brings challenging philosophical and moral questions, some of which this thesis has attempted to address through its exploration of selected MCD characters.

⁹⁴ Moravec, *Mind Children*, 121.

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LIST OF ABBREVIATIONS

MCU Marvel Cinematic Universe