

T. R.
KADIR HAS UNIVERSITY
INSTITUTE OF SOCIAL SCIENCES
M.A. PROGRAM IN COMMUNICATION

HUMAN-ROBOT RELATIONSHIP IN ANIME
FILMS

M.A. in Communication Sciences

EMİR SOMER

İstanbul, 2010

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ABSTRACT

HUMAN - ROBOT RELATIONSHIP IN ANIME FILMS

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Masters Program in Communication Studies

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Isaac Asimov is best known for his works of science fiction and for his popular science books. Much of Asimov's fiction dealt with the relationship between robot and humans and the impact upon both parties, though most particularly humans. He established three laws of robotics. According to these laws, the main theme which constitutes the robot is “to obey”. Cyberpunk anime titles explore the world of human and robot relationship in detail. These two concepts have a line separating them. Day by day this line between the human and the robot vanishes and anime is the most distinct medium to display this vanishing point. This study explores this process of vanishing in three stages. Robotization of the human helps him to eliminate his imperfections and maximize his efficiency in every field. Robot empathizes with man in humanization of the robot. It develops a will of its own. It gains the ability to think. Humanization of the human through the robot aims to get the human to define himself. Humans will achieve the robot's advantages but will not lose any human attributes in the process.

Key Words: Human, Robot, Anime, Prothesis, Japan, Apocalypse

ÖZET

ANİME FİMLERİNDE İNSAN – ROBOT İLİŞKİSİ

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İletişim Bilimleri Yüksek Lisans Programı

Danışman

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Isaac Asimov bilim kurgu alanındaki çalışmalarıyla ve popüler bilim kitaplarıyla ünlü bir yazardır. Asimov'un kurgusu çoğunlukla insan üzerine olmakla birlikte robot ve insan arasındaki ilişkileri ve bu ilişkilerin iki grup üstündeki etkileriyle ilgilidir. Kendisi Ben, Robot adlı kitabında üç robot yasasını yayınlamıştır. Bu yasalara göre robotu oluşturan ana tema itaat etmektir. Siberpunk animeler robotlar ve insanlar arasındaki ilişkiyi detaylı bir şekilde inceler ve bu iki kavramı ayıran bir çizgi mevcuttur. Gün geçtikçe insan ve robot arasındaki bu çizgi kaybolmaya başlıyor ve anime bunu gösteren en belirgin medya olarak karşımıza çıkıyor. Bu çalışma çizginin yok olmasını üç bölümde inceliyor. İnsanın robotlaşması onun hatalarını gidermesine ve her alandaki verimliliğini arttırmasına yardımcı oluyor. Robot insanla empati kurarak insanlaşmaya başlıyor ve hür iradeye sahip oluyor. Düşünme yeteneğini kazanıyor. İnsanın robot üzerinden tekrar insanlaşması kendini tanımlamasını amaçlıyor. İnsanlar kendi özelliklerinden ödün vermeden robotların avantajlarına sahip olmaya çalışıyor.

Anahtar Sözcükler: İnsan, Robot, Anime, Protez, Japonya, Kıyamet

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INTRODUCTION

Many anime titles rely on cyberpunk movement. The starting point of my thesis is the robot concept in cyberpunk animes. Cyberpunk movement foresees that each day man becomes more unseperable from technology and prothesisises. When cyberpunk authors foretold this analysis we didn't even posses half of the technology we have now. Technology is a term widely used in Isaac Asimov's books. When he coined the term "robot," cyberpunk movement was beginning to evolve. Asimov is considered a master of the science-fiction genre. Much of Asimov's fiction dealt with the relationship between robot and humans and the impact upon both parties, though most particularly humans. He established three laws of robotics. If we take these points from Asimov's robot conception, the main theme which constitutes the robot is "to obey."

Day by day the line between man and robot vanishes and anime is the most distinct medium to display this vanishing point. In this context, in my thesis, two key terms will be used frequently: Robotization and Humanization. Humanization is the process of making or becoming human, act of giving human qualities to; act of making human. Whereas, robotization is the automation, mechanization; process of turning something or humans into a robot; act of turning a person like a machine in performing work or responding. This study explores the relationship between the human and the robot in three chapters.

Robotization of the human: What man will achieve from robotization is that he will eliminate his imperfections and he will maximize his efficiency in every field. Robot is designed to do everything more accurate and efficient than man. This is why man struggles to be robotized. For example, in the anime *Spriggan* (1998), the

protagonist Yu Ominae uses a battle suit that allows him to overcome extraordinary opponents. Mecha, also known as meka or mechs, is a broad genre of walking vehicles which are usually controlled by a pilot. Most mecha animes contain human characters that pilot giant mechanical robots to accomplish their tasks.

Humanization of the robot: Robot empathises with human and develops a will of it's own. Humanization of the robot gives it the ability to think. In *Animatrix* (2003), the humans attempt to teach sentinels some of the positive traits of humanity, primarily compassion and empathy. The ultimate goal of this project is to help the intelligent machines develop free will in order to overcome their original "search-and-destroy" programming, rather than reprogramming it by force. In *Roujin Z* (1991), a state of the art robotic bed is linked to the brainwaves of an elderly patient. The bed then evolves and develops it's own personality.

Humanization of the human through the robot: The aim of this chapter is to get the human to define himself. incorporating certain values of the robot into the human body but at the same time not losing his own free will makes up a being with maximum efficiency and without errors. Humans will achieve the robot's advantages but will not lose any human attributes in the process. A lot of anime portrays robotics in an incredibly strong light, acting as a medium between technology and human. No matter the perspective within a particular anime, it's treatment is always mature and multi-faceted.

WHAT IS ANIME ?

Anime is actually a shortened version of the word "animation" and refers to the distinctly unique Japanese animation. Popular anime examples include *Pokemon* (1997), *Dragonball Z* (1989), *Naruto* (2002) and *Bleach* (2004).

While the earliest known Japanese animation dates from 1917, and many original Japanese cartoons were produced in the ensuing decades, the characteristic anime style developed in the 1960's notably with the work of Osamu Tezuka and became known outside Japan in the 1980's. Most of the time, anime comes from a manga - Japanese comics.

The manga are sold in anthologies, either weekly or monthly and have a big number of readers. They are cheap and disposable items. As with anime, manga has a huge selection of genres for all age groups, manga for businessmen, women, boys, girls, romance, fashion, adult titles, sports and more. It's a huge industry in Japan, and very popular. Anime, like manga, has a large audience in Japan and high recognition throughout the world.

Many commentators refer to anime as an art form. As a visual medium, it can emphasize visual styles. Joseph Tobin's research shows that the styles can vary from artist to artist or from studio to studio. Some titles make extensive use of common stylization: *FLCL* (2000), a six episode series, for example, has a reputation for wild, exaggerated stylization. Other titles use different methods: *Only Yesterday* (1991) or *Jin-Roh* (1999) take much more realistic approaches, featuring few stylistic exaggerations; *Pokemon* uses drawings which specifically do not distinguish the nationality of characters (2004: 88).

While different titles and different artists have their own artistic styles, many stylistic elements have become so common that people describe them as definitive of anime in general. However, this does not mean that all modern anime share one strict, common art-style.

Many anime have a very different art style from what would commonly be called anime style, yet fans still use the word anime to refer to these titles. According to Martin Webb, generally the most common form of anime drawings include exaggerated physical features such as large eyes, big hair and elongated limbs and dramatically shaped speech bubbles, speed lines and onomatopoeic, exclamatory typography (Webb 2006).



Figure 1: Various anime drawing styles

The influences of Japanese calligraphy and Japanese painting also characterize linear qualities of the anime style. The round ink brush traditionally used for writing kanji and for painting, produces a stroke of widely varying thickness.

Jonathan Gladden states that unlike American cartoons, anime is not strictly intended for young children. Quite the contrary, there is an entire anime subset devoted strictly to older viewers, as well as all the maturity levels in between. Anime and manga represent a highly developed art form which surpasses western comics in their quality of artistry, social comment and adaptability to people of race, genders and social economic groups. It is a transformative art form that builds on Japanese traditions and ethnicity, but is constantly adapting to the ever changing context of Japanese popular culture (1997: 1). Anime also displays some cultural differences. For example, casual nudity is accepted in Japan so shows rated for young teens might feature some content that American parents might feel was mildly suggestive.

Some of the most interesting anime explore the implications of technologies that blurs the distinctions between machine and person. In contrast to American explorations of advanced technology as in *The Matrix* (1999) and the *Terminator* (1984) films, which subsume all the issues under the absolute good vs. absolute evil and happy ending tropes, anime deeply explores the moral and spiritual ambiguities of life and culture in a world pushed over the edge by rampaging technological progress.

CHAPTER 1: ROBOTIZATION OF THE HUMAN

1.1 Introduction to Robotization of the Human

The term “robot” exists in close relationship with human. Every device that man has created helped him accomplish tasks faster, easier, and more efficiently. Spears has enabled man to hunt, he used stone based devices to grind food, the wheel made transportation faster and easier but the line drawn by the term “robot” became clear with the industrial revolution.

The movement started in United Kingdom and soon affected the whole world. From 18th to 19th century there were major changes in agriculture, manufacturing, mining, and transport. According to Roger Beck the on set of the Industrial Revolution marked a major turning point in human history; Nearly every aspect of our daily lives was eventually influenced in some way. In the later part of the 18th century, a transition in parts of Great Britain's previously manual labour and draft-animal-based economy towards machine-based manufacturing started. It began with the mechanisation of the textile industries, the development of iron-making techniques and the increased use of refined coal (1999: 35). Simple or complex machines were beginning to take their places in factories. These machines were able to produce more, faster and minimize errors in production. At first the machines functioned together with man. Day after day the people transformed into labourers. The term “labourer” is closer to the term “robot”. For example carpenters, weavers and butchers all used to be masters of their professions but labourers were only doing the tasks they are assigned to in order to complete the whole assignment just like robots.

For a time the labourers and robots had a common point. It was the term “obey” because labourers only had the knowledge of the tasks they were assigned to do. The reason for the labourers to obey is because they have certain materialistic and moral needs, on the other hand machines function without any moral needs. Not only can the robot work more shifts than the human, but it takes no coffee breaks, does not call in sick on Mondays, does not become bored, does not take vacations. It is immune to government and union regulations on heat, fumes, noise, radiation and other safety hazards.

As a result of this situation, the robots began to increase in number and the labourer population started to diminish. Factory owners had the best interest out of this but the remaining labourers had to work even more and without question so they were becoming more robotized day by day. To maximize profits and efficiency, every expense about the labourers were minimized and factories were heading for robotization. For the labourer to compete with the robot, his only option was to work like a robot.

Karl Marx wrote that once adopted into the production process of capital, the means of labour passes through different metamorphoses, whose culmination is the machine, or rather, an automatic system of machinery. This automaton consisting of numerous mechanical and intellectual organs, so that the workers themselves are cast merely as linkages. It is the machine which possesses skill and strength in place of the worker, is itself the virtuoso, with a soul of its own in the mechanical laws acting through it (1973: 692).

Also according to Springer, during the Industrial Revolution, when people's lives were radically transformed, widespread optimism that machines would bring

progress was accompanied by anxiety about technology's potentially destructive powers. The fear evoked by machines was exacerbated by their sheer magnitude; they were often huge and loud and they thrust, pumped, and turned with an aggressive persistence. Their power was palpable and visible (1996: 99).

The seriousness of the situation can be explained further in examples: According to Otto Friedrich, Christopher Redman and Janice Simpson's research, in a plant outside Turin, the Italian firm of Digital Electronic Automation is trying out its first new Pragma A-3000. The \$110,000 robot is assembling a compressor valve unit from twelve separate parts. Its two arms can do totally different jobs at once. When it picks up a slightly defective gasket in its gray steel claw, it immediately senses something wrong, flicks the gasket to one side and picks up another. The Pragma produces 320 units an hour, without mistakes, and it can labor tirelessly for 24 hours a day. That makes it roughly the equivalent of ten human workers (Simpson, Friedrich and Redman 1980). This example explains the human's urge to work like a robot. As technology progresses the machine replaces the human at an increasing pace.

The same research shows another example: Near Golden, Colo., at the Department of Energy's Rocky Flats plant, a technician pushes a red button marked request transfer. Behind a 10-in.-thick concrete wall, a pair of claws reaches out to grasp a stainless steel container filled with pink powder, then lifts it into a furnace where it is baked at 950° F until it turns into a nondescript gray button three inches in diameter. Such a button could be worth \$100,000, for the job of this robot, which goes into regular operation in a few months, is transporting reprocessed plutonium, one of the most toxic substances known to man. Until now, this dangerous task has

been done by men in elaborate space suits. The robot, which knows neither weariness nor boredom, also knows nothing of danger (Simpson, Friedrich and Redman 1980).

The military is betting millions that technology can turn soldiers into superhumans. Homayoon Kazerooni, a mechanical engineering professor at the University of California, Berkeley and his colleagues have made what may be the world's most advanced motorized exoskeleton. The Defense Advanced Research Projects Agency , DARPA, regards exoskeleton technology as promising enough to deserve a \$50 million, 5 year commitment to fund Kazerooni's lab and others. The agency awarded first-year grants under the program. Ephraim Garcia, manager of the new DARPA program quotes: “Exoskeletons may one day give U.S. soldiers a crucial advantage as warfare becomes increasingly urban” (Weiss 2001). Besides their military uses, Garcia notes, exoskeletons could also help civilians, from disabled people and construction workers to rescuers working in fires and natural disasters.

1.2 Examples from Science Fiction Movies

Real world aside, robotic exoskeletons are most familiar from science fiction and comic books. In Robert A. Heinlein's 1959 novel *Starship Troopers*, swift, merciless warriors in powered suits wreak havoc on their enemies with missiles and hydrogen bombs.



Figure 2: Marvel Comics' Iron Man

Four years after Heinlein's book came out, Marvel Comics introduced the character *Iron Man*, a rich industrialist encased in a homemade iron exoskeleton that enables him to lift tons at a time, fire deadly radiation beams, and even fly. In the film *Aliens* (1986), Sigourney Weaver as Lt. Ripley straps herself into an industrial loader, like a forklift with legs, to battle the hideous, mucus-covered alien queen.



Figure 3: Ripley and the exoskeleton from Aliens

Some movies portray and analyze mankind's urge to be robotized even further. In *Robocop* (1987), we witness a tale of law and order in a crime ridden New Detroit in which a lone lawman is hardwired into a cybernetic carapace. New Detroit is threatened not by lawless gunmen but by lawless corporations that buy and sell essential city services like stock commodities and manipulate the lawful and lawless forces in the city to their own ends.

Robocop's tale begins through the failure of the Omni Consumer Products, OCP, to control its experimental technology, technology intended to abolish crime in New Detroit. The failure of the ED-209 police robot creates an opportunity for the testing of the Robocop program, which requires for its CPU a biological system, a human brain. The human subject for this program is also provided by OCP, although in a less direct way. After Alex Murphy, a cop and the protagonist, is crucified by a gang of outlaws, his body is picked up for use in the Robocop program. Murphy's identity is erased by the mechano-medical transformation that creates Robocop. He begins to systematically bring to justice those responsible for his death.

He's a cyborg and his effectiveness as a lawman is greatly increased by his cybernetic additions, especially his ability to link directly with police computers and thereby access their vast data stores. Robocop is the sum of a data bank of police experience, quick reflexes, expert programming, the latest technology and research.

As Julia Codell explains: He is our bodies as artifact, the sum of our labor and the reward for it. He is the one who saves, serves and protects us and our bodies and the extension of our bodies, our private property. Such created objects also alter the knowledge and expectations we have of our own bodies transformed by clothes, eyeglasses, hearing aids, implanted joints and organs, cars, appliances. The extent of

our physical transformation can be underestimated; not only do we see, hear, feel better or run faster, but our artifacts present and define our reality. They speak us and the world (1989:10).

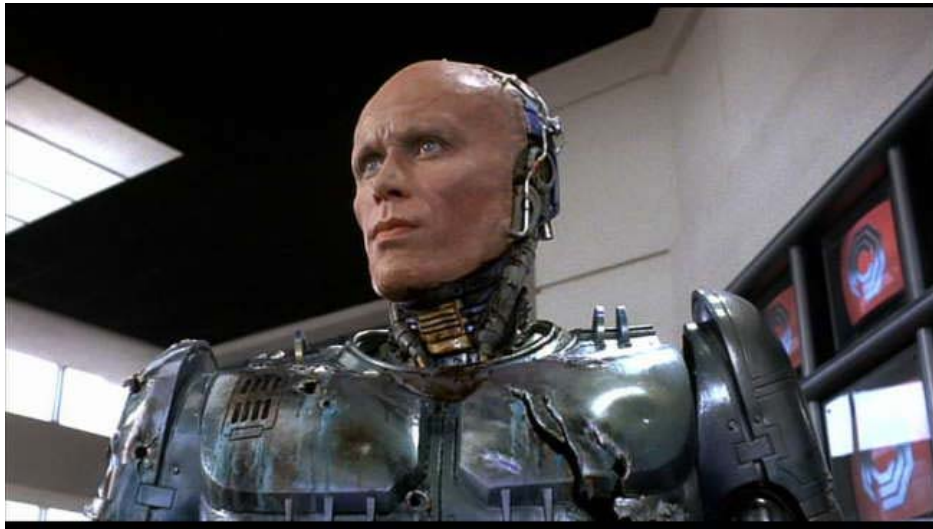


Figure 4: Alex Murphy from Robocop

As Codell points out, the hand is not only the organ of labor, but the product of that labor. It has evolved into an artifact after years of doing a variety of refined work. The most obvious examples of the body's modification into artifact are the vastly faster athletes, stronger and with more stamina, doing more difficult tricks than athletes could do or could conceive of doing before steroids and nautilus machines. Robocop's creation is the pinnacle of our self-definition as artificers. He is the consequence of the artificial hearts, eyes, limbs, grafts with which we have so far healed and replicated ourselves (Codell 1989: 9).

1.3 Examples from Animes

Besides movies, Japanese animation also captures human's urge to be robotized. Katsuhiro Otomo's *Akira* (1988) takes place in a dystopian future where

high tech machinery and weapons overshadow human endeavours. The film opens with an image of present day nuclear holocaust in Tokyo and then quickly flashes forward to Neo-Tokyo in 2019. Susan Napier in her analysis of the film , describes Neo-Tokyo as a place of overwhelming aesthetic and social alienation, a decaying cityscape that is physically fragmenting, at the same time as it's political center is only barely held together by corrupt politicians and enigmatic military figures (2001: 53).

Built around the bombed out crater of old Tokyo, Neo- Tokyo is home to cults, militant groups and motorcycle gangs such as the one to which the two main characters belong.



Figure 5: Tetsuo loses control of his mechanical arm

As a result of a scientific experiment conducted by a group of quasi-military researchers, one of the boys, Tetsuo, begins to develop technologically enhanced telepathic powers, which he ultimately uses for purely destructive ends. Near the end

of the film Tetsuo's arm is destroyed by a satellite beam and he replaces it with metal junk parts.

When his friend asks him what happened to his arm, he answers “ It doesn't look like much but it works pretty good”. We can assume that even though physically disturbing, the arm doesn't bother Tetsuo, on the contrary he enjoys his new limb by complimenting its function. Just at that moment he loses control of his powers and his mechanical arm begins to sprout cables, taking over his body. Tetsuo helplessly succumbs to the bio-mechanical terror that absorbs him.

Spriggan (1998) features the protagonist Yu Ominae fighting extraordinary criminals with the help of a battle suit resembling an armor. This suit allows him to accomplish tasks that are otherwise impossible to do.



Figure 6: Certain examples of mechas

In most mecha anime titles such as *Mobile Suit Gundam* (1979), *Patlabor* (1989), *Neon Genesis Evangelion* (1995), *Escaflowne* (2000), *RahXephon* (2002), *Red Baron* (1994) we witness giant mechas piloted by certain characters. Mecha, also known as meka or mechs, is a broad genre of walking vehicles which are usually controlled by a pilot. Mecha often appear in anime, science fiction, and other genres

involving fantastic or futuristic elements. Mecha are generally, though not necessarily, bipedal, with arms, hands, and usually fingers capable of grasping objects.

A mecha that approximates the shape of a human body allows the use of martial arts movements and swordsmanship, ceremonial acts of honor, saluting, and other human mannerisms that cannot be performed using a tank or airplane. Frenchy Lunning describes mechas as armors for warring purposes, serving as highly technological protective suits for police or armies, as modes of transport and air travel and most significant as containers for spiritual and physical transcendence for the pilots or operators who control them. As visual images, they are nearly always masculine in form, heavily decked out in idealized weaponry, with each giant muscle of the male exaggerated and abstracted into sculptural plates of metal that are streamlined into a dynamic composition of hypostatized masculinity (2007: 268).

CHAPTER 2: HUMANIZATION OF THE ROBOT

2.1 Introduction to Humanization of the Robot

Isaac Asimov is a well known science fiction author and he is also known for his popular science books. His name is among the first ones that comes to mind in the genre of science-fiction. Much of Asimov's fiction dealt with the relationship between robot and humans and the impact upon both parties, though most particularly humans. In science fiction, the Three Laws of Robotics are a set of three rules written by Isaac Asimov, which almost all positronic robots appearing in his fiction must obey. Introduced in his 1942 short story *Runaround*, although foreshadowed in a few earlier stories, the Laws state the following:

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

Most people outside of robotics research have a fairly good idea of what constitutes a robot. It should be made of gleaming or encased in flawless synthetic skin. Often it will have superior performance or thinking abilities. If it carries weapons, it's firepower is always extraordinary. It should have an air of perfection about it, perhaps edged with a little menace. Where did the people get these ideas from ? These impressions are gained almost entirely from science fiction. Asimov's

robopsychologist character Susan Calvin remarks “ They are a cleaner, better breed than we are” (1991: 16).

John Hamilton explains that in the world of science fiction, robots are mechanical persons or animals. Robots are usually made up of electro magnetic motors and collection of mechanical parts. This way, the robots are able to move around and manipulate their environment. They use high tech cameras, microphones and speakers to see and speak. They are run by sophisticated computers that can evaluate the world around them and make decisions without human guidance. Robots perform tasks that are either too dangerous or too boring for people in future societies. They take orders from the humans they replace (2006:6).

2.2 Examples from Science Fiction Movies

According to Paul Loukides and Linda Fuller, consciously or not science fiction films are most often judged by their futuristic sets, pyrotechnic weapons and ultra-tech machines. Indeed, it is the presentation of an advanced material world rather than the presentation of an advanced human society that is the most recognizable characteristic of the genre. The best science fiction films, however, have always shown more than just superficial fascination with technological gadgets and advancements, using the material creations of science to comment on aspects of human nature. For instance, the futuristic sets of Fritz Lang’s classic *Metropolis* (1927) would have lost their power if the idea they conveyed, that the machines of society devour the men who work them, didn’t have a lasting power of its own. Similarly, the monolithic robot, Gort, of *The Day the Earth Stood Still* (1951) would

lose much of its enigmatic presence if he did not on some level also represent the alien Klaatu's all too human compassion (1993: 216).

Science fiction films and robots have always been in close relationship. From the earliest examples like Fritz Lang's *Metropolis* to more popular, contemporary films like *The Matrix*, science fiction cinema has been able to show us dystopic, apocalyptic and machine filled visions of the future as well as the complicated world of the robots and their relationship with humans. Hollywood films gives us examples of this relationship in detail.

Paul Loukides and Linda Fuller state that in contrast to its reductionistic moral, *Terminator 2* (1991) tries to take the humanization of the robot to incredible extremes. The humanization of the Terminator is attempted by placing the stoic Schwarzenegger in the company of ten year John so that the machine can learn correct moral behavior. "You can't just go around killing people", an exasperated John tells a blank faced Terminator and enlarge his vocabulary with phrases such as "Hasta la vista, baby". They also add that despite it's own constant reminders that the Schwarzenegger is not of biological origin, the movie tries hard to make the viewer forget this very thing, so that the Terminator's sacrifice of itself to insure John's safety appears to be a moral and emotional victory for the "good" robot and humans (1993: 218).



Figure 7: The Terminator

2001: A Space Odyssey (1968) features an artificial intelligence, sentient on-board computer operating the spaceship Discovery called HAL9000. HAL is depicted as being capable not only of speech, speech recognition, facial recognition, and natural language processing, but also lip reading, art appreciation, interpreting emotions, expressing emotions, reasoning, and playing chess, in addition to maintaining all systems on an interplanetary voyage. In the movie, astronauts David Bowman and Frank Poole consider disconnecting HAL's cognitive circuits when he appears to be mistaken in reporting the presence of a fault in the spacecraft's communications antenna. They attempt to conceal what they are saying, but are unaware that HAL is capable of lip reading. Faced with the prospect of disconnection, HAL decides to kill the astronauts in order to protect and continue its programmed directives.



Figure 8: HAL9000 from 2001: A Space Odyssey

2.3 Examples from Animes

Throughout anime history solid examples of the humanization of robots can be seen clearly. *Astro Boy* (1963) is an anime series set in a futuristic world where robots co-exist with humans. Its focus is on the adventures of the titular *Astro Boy*, a powerful robot created by the head of the Ministry of Science, Doctor Tenma, to replace his son Tobio, who died in a car accident. Dr. Tenma built Astro in Tobio's image and treated him as lovingly as if he were the real Tobio, but soon realized that the little robot could not fill the void of his lost son, especially given that Astro could not grow older or express human aesthetics. In one set of panels in the manga, Astro is shown preferring the mechanical shapes of cubes over the organic shapes of flowers. After some time, Professor Ochanomizu, the new head of the Ministry of Science, noticed Astro Boy performing in the circus and convinced Hamegg to turn Astro over to him. He then took Astro as his own and treated him gently and warmly, becoming his legal guardian. He soon realized that Astro was gifted with superior powers and skills, as well as the ability to experience human emotions.



Figure 9: Astro Boy

The short animated feature in *The Animatrix* (2003), *Matriculated* (2003) deals with a group of rebels, one woman in particular. The woman runs into a couple of robots: runners. After a small chase, the woman takes out both of the runners, and one of them gets taken to the camp of the rebels. The goal of these rebels is to attempt to convert this machine to their side. Not by reprogramming it, but making it join their forces out of its own will. They do this by connecting both themselves as the runner to a Mini-Matrix. They get brought into a psychedelic world, in which an illusion is given to the runner that it can rely on the rebels. Slowly, the machine changes from machine into a humanoid-shape. We follow the runner, as it tries to make sense out of the virtual world. In the end, it gets converted.

Major Kusanagi Motoko, the main character of *Ghost in the Shell: Stand Alone Complex* (2003) leads a secret group of para-military police called Section 9

who specialize in investigating cyber-crime. She embodies Haraway's idea that "The machine is not an it to be animated, worshipped and dominated. The machine is us, our processes, an aspect of our embodiment" (1991:180). In the famous first scene of the film *Ghost in the Shell* (1995), when she is told over her internal radio that she has a lot of static on the brain today, she responds, "Yeah, it's that time of the month." According to Sharalyn Orbaugh, as her body is completely artificial, she does not menstruate; "the sexed body as reproductive body has no meaning or, at least, should have no meaning in her cyborg state" (2005: 67).

Other examples from the *Stand Alone Complex* (2003) TV series reinforce this strange link between the imagined body and the reality of life as a cyborg. In Episode 4, we learn that Batou continues to buy and use exercise equipment, even though as a cyborg, he does not need to work out. In other scenes, Batou and other members of the team consume cyborg food, artificial and nutritionally empty sandwiches designed merely to ease the realization that the cyborg body has no digestive functions. These cyborgs remain connected to biological experience.



Figure 10: Major Kusanagi from Ghost in the Shell

Austin Corbett states that the series goes to great lengths in exploring the emergent intelligence of The Tachikoma, or think-tanks but in contrast to Hollywood portrayals which show AI as a vicious competitor and danger to humanity, the Tachikoma, like cyborgs, are treated very differently; although not human, they become Harawayian cyborgs (Corbet 2009). They gain intelligence throughout the first season, in large part due to the interference of Batou, who gives them natural oil.

He encourages the tanks to develop a sense of individuality despite the limitations of their programming: they are designed to synchronize their experiences at the end of the day. Kusanagi at first rejects this developing intelligence as a weakness, dismantling the tanks and sending them back for repair, due in part to her own uncertain identity. According to Corbett her identity as a human is closely tied in to her possession of a ghost, the spirit that is said to be the true source of identity and personhood in the show; the tanks, with their growing individuality based on purely artificial intelligence, seem to challenge this ideal (Corbett 2009). Reflecting her pragmatism, however, once the tanks prove their individuality is an asset at the end of the first season, she relents, granting them full individuality in the second season, through the use of a satellite that records their experiences and memories. The Tachikoma repay this, and become fully human in the last episode of the second season, when they sacrifice themselves to save the refugees from nuclear annihilation.

Ghost in the Shell: Innocence (2004) deeply explores the world of robots and their process of humanization. The mechanical nature of *Innocence* can be explored through certain examples. In the film we see various kinds of crude rag dolls, lifelike but immobile toy dolls, huge mechanical figures of animals and demons and

sophisticated androids with no organic parts but a sort of artificial ghost, giving them a sense of self. We encounter the members of the special security unit Division Nine, familiar from the earlier *Ghost in the Shell* titles. The completely organic Aramaki, head of the division. Near organic humans such as Togusa, whose only cybernetic component is the interface holes in the back of his neck that connect his brain to the Net. Partial cyborgs, whose organic bodies incorporate a couple of prosthesis and complete cyborgs like Batou, who has so many artificial body parts that after he loses his flesh and blood arm in the middle of the film and has it replaced with a prosthesis, his brain may be his only remaining original organic organ. Continuing shortly after where the first left off, after the disappearance of Major Kusanagi, Batou teams up with Togusa to work on a new case, one not very fitting of their anti-terrorism title. A couple of sex dolls have gone haywire and killed their masters, and subsequently themselves. This is nothing all that important looking from the outside, but as they delve deeper into why this is happening, they end up uncovering much more than they bargained for.



Figure 11: Batou from Ghost in the Shell Innocence

Orbaugh states that “in an interview conducted during the final stages of the film’s production, director Mamoru Oshii explains the ideas his screenplays attempts to convey” (2008: 159). He begins by arguing that humans are losing their bodies, have been gradually losing them, in fact, since the acquisition of language by proto-humans. The body that preexists language and thought no longer exists for humans. The body is now just, baggage, while humans live primarily through “ the things they see, things they hear, what comes into them through their heads.” He calls this functionless body the cold body and relates it to the artificial, empty bodies of dolls. This cold body is the state toward which humans are inexorably moving, he says, whether as cyborgs with increasing numbers of mechanical parts or as human terminals, sentient nodes on the networks that make up urban, computerized life (Orbaugh 2008: 159).

Orbaugh states that “Under its cynical postmodern surface, *Innocence* makes the argument that postmodern subjectivity retains important elements of human affect, love and other emotions may still exist even when the organic body does not” (2008:159). This is evident in the scene where Togusa and Batou visit police robot expert Haraway at the crime lab. Both Haraway and Batou evince sympathy for all intelligence artificial creatures used and then discarded by humans, attributing to them significant affect: a justifiable anger at being abandoned. According to Orbaugh, Oshii believed that memory was the key to human selfhood or subjectivity, but now he has concluded that since memory can be fabricated and transferred, it cannot function as the foundation of selfhood (2008:160).

CHAPTER 3: HUMANIZATION OF THE HUMAN THROUGH THE ROBOT

3.1 Introduction to Humanization of the Human through the Robot

In chapters 1 and 2 i showed the urge of the human to be robotized and the humanization of the robot. The last chapter explains the aim of this study. It is to get the human to define himself. In daily life, incorporating certain values of the robot into the human body but at the same time not losing his own free will makes up a being with maximum efficiency and without errors. Humans will achieve the robot's advantages but will not lose any human attributes in the process. There has always existed a line between the human and the robot, we saw this line in science fiction movies and frequently we can see it in Japanese animation but what is different about the line in anime is that it takes it to a point where the line between these two concepts is blurred so much that they nearly fuse with each other. Anime seems to display the blurring of this line better than any other medium.

According to Andy Clark, whatever matters about the human mind must depend solely on what goes on inside his own biological skin bag, inside the ancient fortress of skin and skull. This fortress has been built to be breached; it is a structure whose virtue lies in part in its capacity to delicately gear it's activities in order to collaborate with external non-biological sources of order to better solve the problems of survival and reproduction. It is expert at recognizing patterns, at perception and controlling physical actions but it is not so well designed for complex planning and long, intricate, derivations of consequences. It is both our triumph and our burden (2003:5). What anime does different from all other medium is that it takes the burden

part and tries to eliminate it by trying to vanish the line between the human and the robot.

Anime features a huge diversity of genres. Susan Napier outlines the three main types of anime as apocalyptic, the festival, and the elegiac (Napier 2001: 21). While all three sub genres may be pertinent in one form or another, it is the apocalyptic form that most frequently deals with technology and robotics. Japan's fascination with the apocalypse can be seen in many cyberpunk anime. From the nuclear blast in the opening sequence of *Akira* (1988), the massive alien attacks in *Neon Genesis Evangelion* (1995) or the apocalyptic world destroying sequences in *Final Fantasy* (2001). James Matthews states that "the medium of animation is perfectly suited to the apocalyptic genre, since it has no need for special effects or a large budget to effectively wow the audiences with scenes of mass destruction" (2003: 8). Yet, why is it that anime is better suited for removing the line between the human and the robot than western animation?

The answer lies in the fact that Japan is the only nation to witness an apocalyptic event between man and technology, namely the 1945 atomic bombings of Hiroshima and Nagasaki (Matthews 2003: 8). Interestingly though, the Eastern ideas of the apocalypse are radically different to the wholesale and exaggerated destruction of the world prevalent in Western religious texts.

While Christian views of the apocalypse depict the final struggle between good and evil, punishment for the wicked and ascent to heaven for the good, neither traditional Buddhism nor Shintoism share these or any analogous beliefs (Napier 2001: 40).

3.2 Examples from Animes

Many animes portray robotics in an incredibly strong light, acting as a medium between technology and human. Conversely, like much Western popular culture, many treatments look at the destructive potential technology holds. The distinguishing point though lies in that no matter the perspective within a particular anime, its treatment is always mature and multi-faceted.

For example, *Neon Genesis Evangelion* (1995) centers around a young boy, Shinji, in a time where the world has witnessed an apocalyptic event, the Second Impact. The Second Impact occurs within the arctic circle and the force of the explosion causes a massive rise in sea levels. Twenty years on and Earth is invaded by massive aliens called Angels, giant seemingly indestructible beasts with highly destructive weaponry. The only way Earth can fight back is by using experimental robots called The Evangelion. These robots are powered in part by thought control and as such require specific young minds. Shinji is the second child to be brought into the project to pilot EVA Unit 01, the first operational Evangelion.



Figure 12: *Neon Genesis Evangelion*

As the series progresses, the viewer learns of Shinji's dislike for technology he pilots counterbalanced by the strong link he feels toward Unit 01 through the mind control. Toward the end of the series the viewer starts to learn that the Evangelion units are very similar to the aliens they are fighting; organic beings harnessed by robotic technology and piloted by humans.

Neon Genesis Evangelion (1995) makes an interesting case study, since technology is explored through the mind of a teenage boy torn apart by an unloving father and a reluctant hero in an inexplicable war against an unknown enemy. While Evangelion units are Earth's only hope, the dark and sinister projects behind the technology are portrayed as immoral. Technology as a necessary evil (Matthews 2003: 11).

Another good example is from the mecha anime *Layzner* (1985). *Layzner's* director Ryosuke Takashashi not only stresses highly realistic robots in his anime but also sees the genre as particularly important since it has such an influence on the younger generations. Takashashi's father was killed in the second World War and therefore until high school he could not watch anything that dealt with the war. Later though, he became a director, creating anime that were, by his own admittance, more violent than most. In his article, Schodt states that he felt that robots aided his creativity and said, "The world we portray doesn't really exist but seems as though it could if science keeps progressing. The unknown variables are stimulus to young people's imagination; we use the robots as a bridge to the fantasy world" (Schodt 2003).

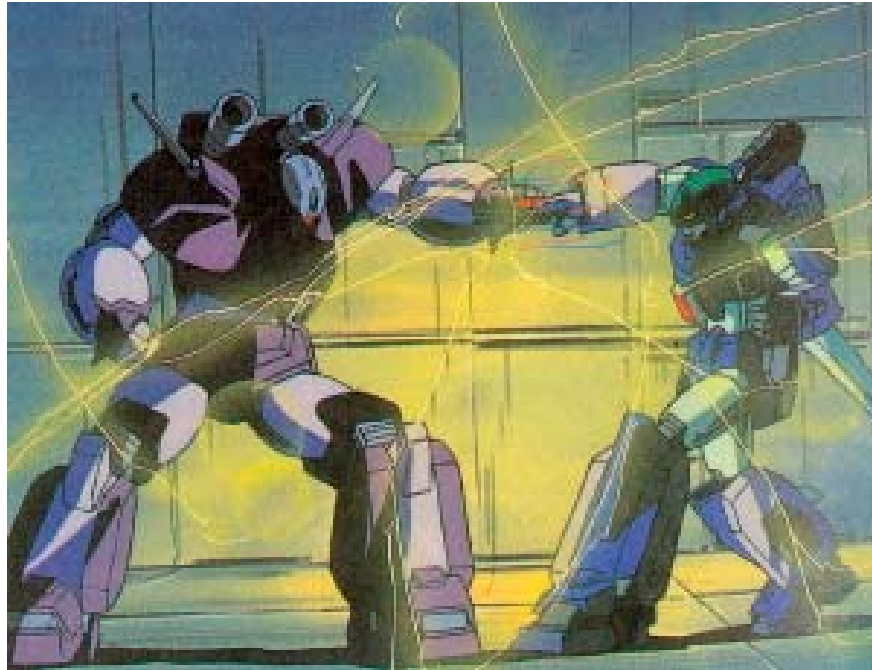


Figure 13: Layzner

In Japan, one of the earliest manifestation of the positive take on robots was *Astro Boy*, the creation of Osamu Tezuka. *Astro Boy* was conceived as a robot of the twenty first century created in the likeness of a young boy who had died in a traffic accident. A 100,000 horsepower machine powered by nuclear fusion, he was an adorable mechanical superhero who bravely battled the forces of evil on behalf of humanity. In Tezuka's world, robots like *Astro Boy* communicated and coexisted naturally with human beings. The fact that robot protagonists like *Astro Boy* have been able to win such a broad following in Japan certainly seems to testify to a special attitude toward technology on the part of the Japanese. In fact, more than most peoples of the world, the Japanese have embraced technology without ambivalence as a partner and ally, evincing a nearly unshakable faith in its ability to improve human life. This tendency is examined critically in an essay by Tachibana Takashi.

As Tachibana puts it, “Thanks to *Astro Boy*, Japan has become one of the most robot-friendly nations in the world, and Japanese workers raised few objections to the introduction of industrial robots into the workplace” (Japan Echo 2003). According to Asakura Reiji, those who grew up with the virtuous *Astro Boy* (1963) seem prepared not only to see industrial robots replace human labor in the workplace but also to welcome humanoid robots into their homes as personal assistants and companions. The market potential of such a product has lured a number of Japanese corporations to invest heavily in the development of bipedal robots (Reiji 2002).

The world of *Astro Boy* (1963) is a positive one filled with humans and robots working along side each other in a harmonious balance. The enemies in this utopian worldview are usually vengeful, power hungry humans, and rarely another robot. This optimistic futurism towards robots has changed little since *Astro Boy* made his debut long years ago. In the West, popular media and science fiction in particular has focused on cautionary tales concerning artificial life forms.

Guyver: The Bioboosted Armor (2006) takes the human body to another level. It shows that by sharing it with an alien host, the human body goes beyond it’s capacity without sacrificing any sign of intelligence or control. A test type Zoanoid, a human transformed to a powerful monster, disguised as a normal man, escapes from an organization called the Chronos Corporation with a bag containing three items called the Guyver Units. Chronos soldiers attempt to recover the units from the test-type but are unsuccessful; the test-type is discovered with a grenade in his possession and uses the grenade, killing himself and scattering the Guyver Units around the area. Meanwhile, two young high school students, Sho Fukamachi and Tetsuro Segawa come across one of the lost Guyver Units. Curious as to what the unit is, Sho

accidentally activates the unit which then merges with him, becoming Guyver Unit I. Now, Sho must fight for his life and those that are close to him against Zoanoids sent by the evil Chronos Corporation that are in pursuit for the Guyver Units.



Figure 14: Guyver

The merging of the unit and Sho creates a being faster, stronger and more powerful than an average human. What is different about this fusion is that rather than enhancing the human's capacity through external means, like a mecha, the alien host becomes one with the human body and it functions as an extension of it. This way, Sho doesn't rely on an external power source. He fights by himself and the alien host augments his strength, taking the body beyond its natural limits. The host provides certain weapons for Sho to use in combat. The weapons act as prothesis.

They aid him in defeating his enemies easily and effortlessly. While inside the armor, Sho does not lose his consciousness or control of his muscles. He uses his body beyond its boundaries and reaches another level as a new being.

CONCLUSION:

Robots are able to produce more, faster and minimize errors in production. Every machine that man has created helped him accomplish tasks faster, easier and more efficiently. The reason for the robotization of the human is to go beyond his limits so he creates objects that alter the knowledge and expectations we have of our own bodies transformed by clothes, eyeglasses, hearing aids, implanted joints and organs, cars, appliances. The human who sees the prosthesis as necessary for raising his own being, stops being himself with the addition of the prosthesis to form a new being who establishes his existence on the boundary between the two. The most obvious examples of the body's modification into artifact are the vastly faster athletes, stronger and with more stamina, doing more difficult tricks than athletes could do or could conceive of doing before steroids and nautilus machines. Robots perform tasks that are either too dangerous or too boring for people in future societies. They take orders from the humans they replace. As Donna Haraway explains "The machine is not an it to be animated, worshipped and dominated" (1991:180). The machine is us, our processes, an aspect of our embodiment.

Robot empathizes with human and develops a will of its own in the fictional world. Humanization of the robot gives it the ability to think. This way the robot becomes more like human thus the line between the human and the robot becomes blurry. Anime takes this blurring further and explores the human's urge to be robotized without losing any human attributes in the process. Japan, being the only nation to witness a real apocalyptic event, has the ability to reflect apocalyptic and technology based future views more convincing than any other nation in the world.

Japanese animation is the nation's choice of medium to show these futuristic views and human – robot relationships.

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