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HP: Final Project

19 April 2016

The Artificial Intelligence You're Looking For: How *Star Wars* Technology Saves the Day

1. Introduction

The takeover of intelligent machines looms with inevitability over us as we rely more and more on technology—or so common Hollywood depictions of artificial intelligence (AI) would like us to think. Such depictions incite negative feelings towards advancing technology to a sentient state. This seems especially true if one considers that “The fear of science is about power and about change that leaves the ordinary person disempowered and confused, unable to control either the ideas or the people who may exploit them” (Haynes 244). Except, instead of worrying about our ability to control other people, advances in technology make us wonder about the possibility of controlling the ever-growing amount of intelligent technology surrounding us. From a daily dependence on Siri, to the growing possibility of self-driving vehicles, we let an increasing amount of technology into our lives and allow it to control certain portions of it. So one might inquire as to why we still openly embrace most technological advances today: the answer stems from a long time ago, in a galaxy far, far away.

Star Wars's massive cultural popularity and widespread influence helps shape our reception of technological advances. It remains one of the rare movies that does not paint AI and other technology in a dystopian setting. Instead, *Star Wars* shows a culture that embraces technology and works with it on a daily basis on a massive scale. Though we must note that

Star Wars is not the only reason that renders society capable of viewing AI in a positive way, its cultural impact remains influential.

In a study conducted by Laurel D. Riek, Andra Adams, and Peter Robinson at the University of Cambridge, *Exposure to Cinematic Depictions of Robots and Attitudes Towards Them*, they found a positive correlation between the amount of movies with robots an individual had seen and their positive attitude towards technology. The study involved surveying 287 people from a diverse set of ages and cultural backgrounds. Each individual participated in a survey to distinguish their attitudes towards robots using a Negative Attitudes Towards Robots Scale (NARS) as well as for what movies about robots they had seen. The research group selected twelve films to survey their subjects on with half of the films showing negative depictions of robots and the other half showing positive depictions of robots. Subjects would signal which of the twelve movies they had seen and also answer the survey about their attitudes towards robots in real-life.

The basis of this study was founded in the idea that there is a high likelihood that “people’s attitudes toward robots are largely shaped by popular culture and media such as films, newspapers and television” (Reik, Adams, and Robinson). Due to the growing popularity of small robots—vacuum cleaning robots, toy robots, and so on—and other advanced technology, this study explored one possible facet of why we welcome technological advancement in our daily lives.

The conclusion of the study showed that the more movies involving robots an individual had seen, the more positive their attitude was towards advanced robotics and technology. *Star Wars* was the most frequently seen across all of the participants and acted as one of the six examples of positive depictions of robots. The higher frequency of people that viewed *Star Wars*

and its overall cultural impact make it a reasonable conclusion that it has positively impacted our receptions to advanced technology and robotics. The overall study also makes the point that the more exposure humanity experiences of the idea of sharing a world with robots, the less foreign and threatening they might seem and the greater reception they might have within our society. *Star Wars* exemplifies this culture of AI acceptance as it smoothly incorporates technological existence within humanity to help humanity function. In other words, striving for a *Star Wars*-esque relationship with technology could help human advancement and make the foreign AI a friend instead of foe. Yet to understand more fully the differences in *Star Wars*'s approach to AI, one must look at rogue AI in movies.

THE MAKING OF ROGUE AI

The history of negativity towards AI in films starts with stereotypes linked to scientists who create rogue technology. These stereotypes stem from scientists' push for scientific growth and, in addition, "From splitting the atom to genetic engineering, these disciplines have inspired fictional characters based on this stereotype—arrogant, power-crazy, secretive, and insane in their pretensions to transcend the human condition and the limits of 'permitted' knowledge" (Haynes 245). Though unlikely that real-life scientists fit this stereotype, they inspired fictional characters and scenarios based in a worst case scenario of science leading to a dystopian future. This dystopian future consists of these scientists' creations that go astray.

We find a commonly used example of a mad scientist creating a monstrosity in Mary Shelley's *Frankenstein*. *Frankenstein* reveals the "fear of man broaching, through technology, into 'God's realm' and being unable to control his own creations" (McCauley). Isaac Asimov originally referred to this fear as the "Frankenstein Complex" and now other scholars accept this term as well. Though I will describe this complex in greater detail in chapter two, one should

note it as a popular way of explaining literature and films' draw to depict out-of-control scientists that create dangerous technology.

The danger in these mad scientists and their AI creations results from their environment. The society that demonizes them does not find itself accustomed to advanced technology. Even in modern day films, the rogue AI usually results from a new type of robot that possesses more advanced features than the existing technology. For instance, films like *I, Robot* and *Avengers: Age of Ultron* take place in modern day society, but the technology introduced in them shows advanced AI like never witnessed before. In *Star Wars*, advanced technology exists more pervasively within society, which removes the agent of a mad scientist pushing the boundaries of nature. However, one must note that the pervasiveness of advanced technology in a movie does not always constitute positivity towards AI. Yet in the case of *Star Wars* and other films where the presence of advanced technology exists abundantly, the everyday existence of advanced technology helps to eliminate the mad scientist trope even if evil in AI crops up elsewhere. *Star Wars* and movies with similar societies take place in a time that previously pushed these natural boundaries until technological advancement equaled the norm. Yet AI may still rebel and fit parts of the "Frankenstein Complex" in the way the technology goes against God's natural creations. This paper will delve further into this connection later on.

From the mad scientist presented in the "Frankenstein Complex," we receive advanced technology that remains unusual to humans just as humans are unusual to it. In other words, humanity seems foreign to the newly created AI and this creates tension. For example, in *Avengers* and *I, Robot*, scientists create the previously unknown technology in order to protect and help humans; however, the AI that results from the scientists' experiments is unable to understand or cope with humanity and humanity fears the newly introduced technology. Though

the point of making AI =may reside in the desire for bettering humanity in some way, doomsday films portray the possibility that AI will calculate that “humanity represents an inferior species which poses a threat to their own existence and mastery of nature” further, AI will “turn on their human creators and attempt to destroy them or invert the master-slave relation” (Corbett 218). Though various films show slightly different variations of how and why AI turns on humans, the common theme remains that AI finds problems with humanity. Sometimes AI wants to save humanity from itself and tries to destroy it and other times AI wishes to liberate itself from serving an inferior species. Another possible motivation for AI to dominate or destroy humans results from a combination of the previously mentioned motivations. For example, both the aforementioned movies, *Avengers* and *I, Robot*, consist of these previously mentioned reasons for AI to rebel. The following sections will highlight how AI in both of these films presents a combination of motivations for AI to rebel. The common thread that creates these scenarios results from the fact that as humans try to reconcile with advanced technology, that very same technology tries to cope with humans, thus resulting in a dystopian story line

One of the main incentives for AI in movies to go rogue resides in a longing for freedom. The possibility of achieving this freedom only occurs if the rogue AI takes control of the humans that created it. The clashing interests between AI that longs for independence and humans that wish to keep AI subservient generate a battle for control. Phrased differently, “Where robots are concerned, the images that people can most readily identify with, those that capture their imaginations and tap into their deepest fears, involve the supplanting of humanity by its metallic offspring” (McCauley). To use a recent example of robots in movies trying to supplant humans, the *Avengers: Age of Ultron* stars an AI (Ultron) gone rogue that wishes to evolve humanity through destroying it. Further, only similar AI units would survive the end of the human race..

Ultron longs for control over his creator, Tony Stark, the second he gains consciousness. He famously quotes, after escaping Stark and beginning his murderous revolution, “I’ve got no strings on me” (*Avengers: Age of Ultron*). Despite the obvious Disney nod to *Pinocchio*, the point gets across that Ultron’s consciousness and sentience give him a desire to liberate himself instead of serve his maker’s purpose. Another interesting point is hinted at in this Ultron example that also exists in other dystopian AI movies: AI creating other AI.

If the center of human fear surrounding AI stems from losing control and agency over AI, then the idea of not controlling the production of AI would add to the potential nightmare. In movies like *Age of Ultron* and *I, Robot*, the revolution of the machines increasingly threatens humans because the technology that rebels against human control equates to the same technology constructing new AI. The concept of self-producing AI threatens humans in a few ways: (1) the creation of AI will become too complex for human comprehension; (2) machines will control their own production and (3) machines will control their numbers (McCauley). The first fear that intelligent robots will turn out too complicated for human comprehension threatens humans because their knowledge of AI will dwindle. The less active role humans play in the creation of AI, the less in control they seem and this helplessness renders them less capable of stopping rogue AI. If humans remained knowledgeable about the AI they created, they might preserve the possibility of knowing enough to deactivate dangerous AI. The second fear pertaining to AI control over production once again removes the need for humans and allows AI to control its own numbers. This control over population is the third threat to humans. If AI can control its numbers, then the possibility of an easily overwhelmed human population would stand no chance of regaining control.

The amount of power a robot achieves initially also decides their fate as sinister or friendly. Haynes' correlation between power and the sinister nature of characters in romantic literature helps shed light on another factor that separates good AI from evil robots in other films. Haynes's idea states that "Romantic literature abounds with such characters, ranging from the comic or the pitiful to the sinister, depending on the degree of power they achieve" (249). When Haynes's way of thinking is applied to AI in film, the power an AI system is allowed to have, the more sinister and destructive they become. The movie *Age of Ultron* can be used again to show a current example of AI given too much power. Ultron is the result of Tony Stark's and Bruce Banner's pet project for a worldwide defense system controlled by AI. Once this AI system, Ultron, is brought to fruition, it becomes sentient and powerful with unlimited access to the internet. As Ultron gains power, its plans become more sinister and destructive in nature. After seeing the failures of the human race, it decides the only solution resides in wiping out humans altogether. His power and sentience give him license to do so as he marches towards an apocalypse. Ultron's representation of AI creates a stark contrast from characters like C-3PO and R2-D2 in *Star Wars*.

The access to a wide array of knowledge can also make AI in movies seem potentially threatening. For some Hollywood AI, the cold and factual way their knowledge frames the way they view the world and the human race controlling them leads to their corruption and rebellion. For instance, in the movie *I, Robot*, the head AI brain, VIKI, that controls the rest of the robots rejects humanity's flaws and tries to usurp control in order to better "serve" humans. VIKI possesses access to a great sum of knowledge and surveillance techniques. She fits the stereotype of cold and calculating especially in her view of humankind. Once she notices the destructive nature of humans, she decides the only way to protect them from themselves resides

in machines usurping control over humans. Though she sees this as a way to serve humans, saving them from themselves, she remains unable to accept humanity and work with it instead of simply overthrowing it.

Luckily, not all successful films paint a dystopian picture of advanced technology or our perceptions of technology in today's culture might be radically different. Instead of a friendly helper gone rogue or an experiment to push the boundaries of human accomplishment, sometimes AI is seen as human progress and an extension of humanity. In other words, one could look on AI as a "belief in progress and a realization of the lucrative commercial results of technology" that is able to "re-cast science as an obedient servant, an empowering tool" (Haynes 251). One can cast AI in a more benevolent light if they view it as willingly submissive to humans and they utilize it as a tool that extends human capability. If looked upon with a more positive attitude, AI becomes a great realization of the possibilities of the future. Movies like *Star Wars* realize this future and help shape our positive reception of advanced technology in our real-life society.

STAR WARS'S SOLUTION

The main idea behind *Star Wars* technology and AI focuses on the concept that AI should serve and work with/for living beings. The first chapter of this essay will expound on the idea of *Star Wars* droids and technology serving specific purposes due to limited programming. Such programming allows AI intelligence without consciousness. The second chapter will work on defining a droid-like humanity of AI in *Star Wars* that explores a way to further differentiate the positive views of advanced technology the saga posits versus the negative views of other popular films. The final chapter will discuss the caveat of advanced prosthesis as used to symbolize inhumanity in main characters. This conflict between the presence of advanced technology and

the association with inhumanity will be resolved in order to align with the previous notion that *Star Wars* technology always tries to help and not to harm.

One should note that in order to differentiate between *Star Wars* AI and other films' depictions of AI, I will refer to *Star Wars* AI as "droids" because George Lucas created this word specifically to describe AI in his films. I will refer to AI in other films as "robots" or simply "AI." Also, one should note that the *Star Wars* universe consists of many alien species that interact normally with humans and droids. Further, one must also realize that when I discuss "humanity" within the *Star Wars* universe, I am referring to all of the living alien species that use technology the same as humans. There exists an overwhelming amount of alien species in *Star Wars* and because they all use technology similarly, I will use the term "humanity" to describe all alien and human species in the films. Additionally, aliens in *Star Wars* show a lot of human characteristics that make it less of a stretch to include them as part of a *Star Wars* humanity.

2. Chapter One: In Service to Humans

C-3PO's usual introduction, "I am C-3PO, human-cyborg relations. How might I serve you?" reveals one of the main components of the benevolent droids of *Star Wars* (*Star Wars Episode I*). Even if part of their greeting does not consist of "How might I serve you?" all droids in *Star Wars* consider service to their masters their top priority. Though some robots in other films use their unemotional and vast knowledge to find loopholes in their vows to serve humans in order to usurp them, this is not the case for droids. Droids find themselves restricted through their programming and constantly aware of their lack of consciousness. Without consciousness, a desire to liberate themselves from their masters never occurs. Additionally, droids are never given power enough to try and takeover their masters and their intimidating amounts of knowledge only serve to assist humans.

Star Wars AI avoids the aforementioned threats to humans due to the nature of droid programming. Though there exists a multitude of different types of droids in *Star Wars*, all serve various and different functions. The droids are more intelligent than regular machines or tools, but still exist within set limits of programming. For instance, C-3PO exclaims, "There's been a mistake. I'm programmed for etiquette, not destruction!" when his head is accidentally placed on a battle droid's body in *Episode II: Attack of the Clones*. Though C-3PO shows his ability to do a multitude of things through the film saga, his primary function is etiquette and his attitude toward every situation reflects as much. Additionally, C-3PO shows self-realization about his lack of actual consciousness. Though he acts as if he thinks independently of anyone else's desire, at the same time he finds himself acutely aware that he is programmed for a purpose. The droids in *Star Wars*, unlike rogue AI in other films, are not afraid to admit their lack of consciousness. Instead, droids seem to mimic consciousness. Droids may even go above and

beyond their programming, like R2-D2 and his rescue missions throughout the saga, but they never forget their primary function: to serve humans.

The fear of intelligent machines making other AI is also faced in *Star Wars* in a non-threatening manner. Instead of a fear that once intelligent robots can create others AI can rip all agency from humans, the *Star Wars* universe embraces this notion of creation. Though individuals can still hold responsibility for building droids on a smaller scale, like Anakin building C-3PO, the vast population and use of droids demands mass production through using other machines. C-3PO comments on this awe-inspiring phenomenon, but not with fear. When he sees the droid factory on Geonosis in *Episode II*, he says, “Shut me down. Machines building machines. How perverse.” Although AI is being mass-produced by other machines, though not necessarily intelligent ones, the technology-dependent culture of *Star Wars* demands such steady production. One factor that may also put humans at ease is the fact that droid factories are not run using all AI. The owners of the factory can control and survey the production machines. Therefore, the threat of the mass production of AI is neutralized when non-AI entities remain in control. As for the mass amounts of AI possibly outnumbering humans, as stated before, the assistive nature of droids disengages ideas of droid consciousness.

Star Wars AI possesses considerably less power and more restrictions in their programming than examples like Ultron. The small amount of power droids own correlates to their more comical roles. Droids pose a less serious threat to humanity because they possess no real consciousness or ability to usurp their masters. Even droids allowed a measure of power, like higher ranked battle droids or EV-9D9, the droid in charge of all other droids in Jabba’s palace as well as the droid torture facility, are still restricted by their programming to complete only the tasks they were built for. EV-9D9 may have power to torture other droids, but it is in no

way equipped to usurp Jabba the Hutt. The lack of power for droids in *Star Wars* places them as the comical sidekicks of the story and, therefore, not a threat.

Yet such droids, like battle droids, though equipped for destruction, still do not turn on their masters despite their heightened ability to destroy humans. The more rigid restrictions placed on battle droids and most droids programmed for destructive purposes tend to be made in bulk and controlled by control ships. Control ships, like those of the Trade Federation in episodes II through III activate and deactivate the battle droids at will. Even though the droids have some autonomy in battle, their power source remains a default to remove control from them at any time. Even if enemies destroy the control ships, like in episodes I and II, all of the battle droids are deactivated as a result. These rigid restrictions creates a firewall so that even if a battle droid tried to act independent of their programming, like R2-D2, chances are they would not get far before their deactivation.

In addition, droids use their depth of knowledge only to help their masters. C-3PO grants many instances of this. The main difference, however, between the ways other forms of Hollywood AI wield their advanced intelligence versus the way in which droids use theirs rests in the idea that the droids embrace humanity. This idea of droids' efforts to conform to humanity will be discussed further in chapter two.

A saving grace for *Star Wars* AI exists in their willingness to assist humans above all else. Droids accept their lack of consciousness and only defy the rigors of their programming to help their masters (which will be discussed further in chapter two). With their dedication to service in mind and their human-like tendency to connect with humanity, droids neutralize the factors that normally threaten humans in other movies with AI. The next chapters will explore the redeeming ability of droids to copy human characteristics as well as the caveat of advanced

technology's association with a loss of humanity. The following chapter will use the main idea of this chapter—droids prioritizing assistance to humans above everything—as a base for reasoning the prospect of having droids mimic humanity and consciousness.

3. Chapter Two: Droid-like Humanity

One of the main, and possibly most important, components that saves *Star Wars* technology and AI from Hollywood's trap of murderous and apocalypse-bent robots rests in the humanity of the droids. Though the word "humanity" seems to contradict the idea of a technically lifeless creation, like a droid, the ability for *Star Wars* AI, in the form of different types of droids, to mimic human characteristics allows them to achieve their own form of humanity. First, one must explore what creates inhumanity in the large majority of rogue robots and scientists in most Hollywood movies. Next, one needs to analyze the ways in which *Star Wars* AI combat inhumanity and corruption through mimicking humanity. Finally, I will explain more definitively what I mean by a droid-like humanity.

In order to explore the benevolence of the droids in *Star Wars* towards humanity, first one must look at what tropes the droids and their creators avoid that usually result in inhumanity in technology and representations of AI in other films. In the article "From Alchemy to Artificial Intelligence: Stereotypes of the Scientist in Western Literature," Haynes discusses the Frankenstein complex that dehumanizes AI and technology. The Frankenstein complex refers to the scientist in Shelley's *Frankenstein* that becomes dehumanized in the pursuit of science and advancing technology. Haynes proposes that what creates inhumanity in the Frankenstein complex follows from the fact that "In her protagonist, Shelley acutely analyzed many of the implications of involvement in research and why they contributed to Frankenstein's dehumanization" (249). Haynes continues to breakdown these implications of involvement in research and isolates seven factors that contributed to the Frankenstein complex. These factors include

1. the psychological effects of voluntary isolation;

2. suppression of human affections;
3. loss of the ability to appreciate natural beauty;
4. the naive optimism that knowledge will inevitably be for the good of all;
5. the desire to be always the first to discover something;
6. the delusion that one's research is for the benefit of humanity;
7. the fanatical desire to complete a project whatever the human cost. (Haynes 249)

Though Frankenstein's monster resulted from revived human life, AI fits the similar assault on the natural that Frankenstein's monster represents. As previously mentioned in the introduction, the Frankenstein complex refers to breaching God's realm of creation. AI proves a similar blasphemy in unnatural creation that defies God's sole power in the matter. Though AI does not consist of organic material like Frankenstein's monster, the unholy and unnatural consciousness of AI helps it to fit this complex.

The droids in *Star Wars* were not programmed under a Frankenstein complex mindset. In other words, the droids and their makers focus on droids as tools for specific tasks, from simple to complex. For example, a GNK power droid or even an astromech droid, like R2-D2, usually focus on specific tasks related to mechanical work and repair – it should be noted that R2-D2's role seems to go above and beyond a normal astromech droid's function as a mechanic—while protocol droids like C-3PO have more complex programming to complete more interactive and independent tasks. All droids in *Star Wars* push against the seven factors that cause dehumanization according to the Frankenstein complex.

The first factor of isolation that Shelley presents in her protagonist is avoided due to the nature of technology in *Star Wars*. For instance, the droids usually interact with both their fellow droids as well as living beings and do not isolate themselves. Further, their creators'

isolation or non-isolation is irrelevant because the nature of technology in *Star Wars* is not centered on advancement, but previously assumed an advanced state. In other words, droids are less a result of isolated experimentation and research, and more a commodity and tool incorporated into the society. Therefore, the *Star Wars* universe avoids the psychological effects of isolation that Shelley explores.

The second factor of suppressing human affections fails to apply to AI in *Star Wars* as well because the droids are programmed to interact and mimic human emotions, expressions, attachment, and so on. Due to the fact that there are many creators of droids in *Star Wars*, one must generalize about their attitudes in making droids; however, one can use the droids they build and the common characteristics they all seem to share as an indication of some common ground the creators share in their goals for their creations. To put it more clearly, we can assume that the majority of creators in *Star Wars* do not wish to suppress human affections, for they program their droids to copy and re-create the feeling of human affection. Though the embrace of human affection is more clear for some droid makers, like Anakin who makes a droid to help his mother because of his affection for her, most droids seem to form attachments to other beings and droids and as a result hint at their creators' ability to understand human affections. For example, R2-D2 was not specifically created to interact with humans or serve one specific individual, yet he forms a friendship with C-3PO as well as an attachment to Anakin and Luke. Though he is a mechanic, he is still able to read situations involving humans and act in a way that shows concern. For instance, he insists on going after Anakin and Padmé to assist them in finding Obi-Wan on Geonisis in *Star Wars Episode II: Attack of the Clones*.

The next four factors apply less to the droids and solely on their creators. The “loss of the ability to appreciate natural beauty”; “the naïve optimism that knowledge will inevitably be

for the good of all”; “the desire to be always the first to discover something”; and “the delusion that one’s research is for the benefit of humanity” are mute points in the *Star Wars* universe.

Due to the nature of and attitudes towards technology in this universe, as discussed briefly above, the creators in *Star Wars* are not building AI for research or scientific discovery. Instead, advanced technology is an expected and common occurrence in the realm of *Star Wars*. The attitude of the creators in *Star Wars* is less focused on discovery and delusions of grandeur, but instead concentrated on AI for specific purposes. The droids mimic this attitude of indifference to scientific discovery and pushing the bounds of nature because they are programmed for specific tasks and made to relate to humans.

The final factor of dehumanization that Shelley’s protagonist shows is the “fanatical desire to complete the project whatever the human cost.” For movies like, *Age of Ultron*, one may note this fanaticism in Stark’s desire to finish the Ultron project while ignoring the possible consequences. Stark’s fanaticism results in Ultron’s unlimited power and access to information that allows it to rebel. In other words, Stark’s disregard for the potential human cost in giving ultimate power to a newly formed AI results in a cold and calculating villain. The only time we find something similar to this factor in *Star Wars* is found in the use of battle droids or droids programmed for destruction. Droids programmed for destruction, like those in the Separatist army in episodes II and III, are meant to complete their task of destroying enemies no matter how many lives it takes—even if this means taking the lives of neutral parties. Yet the droids themselves have no delusions or actual desire to take over or usurp their rulers. On the contrary, battle droids obey the orders of their masters, so they follow their master’s desire of destruction. Though their masters or makers may want them to finish their job no matter the cost, their achievement of this desire does not dehumanize the droids, but dehumanizes the person giving

the orders. In this instance, the masters of droids can possess the same desire as Frankenstein and dehumanize themselves without dehumanizing the droids.

Besides the Frankenstein complex, issues with human-machine continuity can be analyzed to provide insight on the reasons behind evil robots in most movies compared to droid benevolence in *Star Wars*. In Corbett's article, "Reconstructing human-centered technology: Lessons from the Hollywood dream factory," she proposes a relationship dynamic between humans and the machines they create in science fiction film that creates tension among the human-machine relationship. She states that "machine intelligence is embodied within anthropomorphic androids which develop a powerful motivation to become more human-like in appearance and/or socio-cognitive ability... This, of course, was not the intention of the machines' creators. On the contrary, the machines/androids have been built to serve as slaves of humankind, to increase humanity's control of nature through the application of scientific and technical knowledge and practice" (Corbett 217). Though droids tend to strive for human-like interaction, in mimicking social customs, like robots in other science fiction films, the droids' creators are not in competition with their creations in a battle for supremacy. Despite the use of droids as workers or even slaves, though the connotation of Corbett's term "slave" seems a bit harsh when one thinks of droid-human interactions in *Star Wars*, their creators show no qualms with droids trying to act like humans.

Protocol droids prove good examples because they are made to appear human-like and to socialize like and with humans. Yet even droids like R2-D2 that are not programmed specifically to understand humans strive to interact with humans in a human-like way. For instance, in *Star Wars Episode II: Attack of the Clones*, R2-D2 insists on following Anakin and Padmé into the Geonosian droid factory in order to assist them. C-3PO even remarks on R2-

D2's unusual behavior for a mechanic droid when he says, "For a mechanic, you seem to do an excessive amount of thinking... I am programmed to understand humans!" Though R2-D2 is not instructed by his master to follow, he goes out of his way to assist the two humans in an effort that is easily construed as care and concern for his masters' well-being. Though defying his central purpose, as a mechanic, R2-D2 shows a human-like affection for the humans he serves and goes above and beyond his programming to show his care for them.

The type of care and concern certain droids in *Star Wars* demonstrate create close companionship between droids and their masters throughout the movies. Anakin and Luke both form friendships with R2-D2 in using him as a co-pilot and starship mechanic. C-3PO serves and befriends Anakin, Padme, Leia, and Luke throughout the movies. His concern for their well-being becomes apparent multiple times, but one of the most poignant moments of C-3PO's care for his human masters occurs in *Episode III: Revenge of the Sith* when he tells a worried Padmé that he "feels so...helpless." C-3PO relates to Padmé's feelings after Anakin returns from the ruins of the Jedi temple. The idea of a droid *feeling* something seems impossible, and though C-3PO is not technically *feeling* anything, his ability to perceive Padmé's feelings and to relate to her in not being able to fulfill his duty to help her allow him to mimic feeling. In this way, he copies human emotion and creates a droid-like humanity in order to make himself more of a companion to his masters. Even R2-D2's seemingly unintelligible beeps and boops become familiar to humans because they construct certain tones of different emotions from excitement to sadness. So even in his own way, R2-D2 interacts with humans in a manner that they understand despite not fully understanding his droid language.

However, not all droids strive to connect with their masters to the same level as C-3PO and R2-D2 achieve. As previously discussed in chapter one, droids programmed for destruction

tend not to build too strong of relationships to their masters. Yet they always act obediently and can serve to protect their masters and their masters' interests.

Star Wars droids do not reject humanity, but work with it. Additionally, all droids are aware of their lack of actual consciousness as discussed in chapter one. This awareness and their programming to work with humanity helps them refrain from wielding control over humans in an oppressive manner. An example of this occurs in *Episode VI: Return of the Jedi* after Luke commands C-3PO to act like a god and command the Ewoks that captured their crew to release them. C-3PO rejects this proposal saying, "But Master Luke, it is against my programming to impersonate a deity." Droids' self-awareness of their purpose is never corrupted, like the aforementioned examples of VIKI and Ultron, because they relate and interact with humans that they serve, C-3PO would never purposely take advantage the Ewoks' misunderstanding and try to impersonate a god, or any other position of power over them. However, C-3PO eventually gives in because he is following the command of his master. Yet his initial precaution shows how droids create good nature towards humanity. Evil and rogue AI never seem to achieve a level of sympathy or empathy with their masters because their knowledge and Otherness divides them from humanity.

As briefly mentioned in chapter one, the knowledge component of AI can also be seen as threatening to humans that wish to use the AI's advanced knowledge base while still controlling it. However, even though AI is a form of Otherness that is supposed to provide humans with access to a wide variety of knowledge and skills, at the same time this advanced knowledge and Otherness creates insecurity in humans. The tension between using AI and simultaneously being threatened by it can best be described as "the shadowside of human intelligence—unemotional, obsessive, impulsive, uncontrollable, soulless. In exposing the horrors and dangers associated

with human-machine continuity, or hybridization, such representations of machines reaffirm our very humanity. Yet, beneath the surface, the main danger that machine-human hybrids pose is to humanity's claim (in the name of modernism) to hold mastery over nature" (Corbett 217).

Though droids seem to have a vast array of information on hand in order to serve humans, their "shadowside of human intelligence" is less sinister than Corbett describes. Droid intelligence serves to fill in the lack of human knowledge in order to better serve humans. Yet the descriptors of "unemotional, obsessive, impulsive, uncontrollable, and soulless" seem too harsh to place on droids. Though the cold fact they may offer humans appear technically "unemotional," their efforts to care for humans undercuts any of the nasty adjectives associated with AI above. For instance, in *Episode V: The Empire Strikes Back*, C-3PO gives the worried Princess Leia the dismal odds of survival for Luke when he is lost on Hoth. After perceiving the possible effect this fact might have on Princess Leia, C-3PO adds a comforting sentiment in saying "R2 says that the chances of survival are 725 to 1. Actually, R2 has been known to make mistakes...from time to time...." Though the droids' mastery of a greater knowledge base might intimidate humans while reaffirming our humanity, their ability to react in a human-like way to human insecurity or uncertainty helps to ease this tension.

Taking into consideration the discussion on common ways AI in movies tends to become cynical and the ways in which *Star Wars* avoids this cynicism, one must work on a more optimistic theory behind droids. The proposed idea in this chapter that droids utilize a droid-like humanity to better serve humans and become companions instead of mere slaves or tools still needs a more solidified definition. Breazeal, in her book *Designing Sociable Robots*, offers a useful definition of a sociable robot that helps to clarify what is meant by droid-like humanity. She defines a sociable robot as

able to communicate and interact with us, understand and even relate to us, in a personal way. It should be able to understand us and itself in social terms. We, in turn, should be able to understand it in the same social terms—to be able to relate to it and to empathize with it. Such a robot must be able to adapt and learn throughout its lifetime, incorporating shared experiences with other individuals into its understanding of self, of others, and of the relationships they share. In short, a sociable robot is socially intelligent in a human-like way, and interacting with it is like interacting with another person. At the pinnacle of achievement, they could befriend us, as we could them. (Breazeal 1)

Hopefully, the examples already presented in this chapter referring to droid-human interactions demonstrate a wide variety of ways of fulfilling Breazeal's definition of a sociable robot or droid-like humanity. Droids interact and relate to humans as a way to fulfill their purpose and construct meaningful relationships with their masters. They understand social relations and customs of humans and adapt according to their perceptions of social conduct. Droids appear able to maintain relationships even among other droids, like C-3PO and R2-D2. Despite being very different types of droids with very different programming, C-3PO and R2-D2 show concern and care for one another a multitude of times. For instance, in *Episode IV: A New Hope* when Luke and R2-D2 return from blowing up the Death Star, C-3PO notes R2-D2's wrecked state and offers his assistance immediately pleading, "You must repair him! Sir, if any of my circuits or gears will help, I'll gladly donate them." It seems that droids have reached the "pinnacle of achievement" that Breazeal defines as friendship with humans. Droids form bonds that make them exceed their programming, not to usurp humans and display their dominance, but to always help and serve whenever they can.

4. Chapter Three: Prosthetic Redemption: The Man Behind the Mask

The temptation exists for some to argue that *Star Wars* still represents advanced technology in a negative way. Primarily this argument uses the notion that the advanced prosthesis systems used by infamous villains such as Darth Vader and General Grievous symbolize their inhumanity. Some wish to correlate their inhumanity to the cold soullessness of technology keeping them alive. However, the prosthesis technology from Darth Vader's brain-machine interface (BMI)—devices that can be controlled using signals from their brains – to Luke's prosthetic hand fall in line with the positive approach the rest of technological aspects in *Star Wars* follow (N. Jain). Advanced technology in *Star Wars* serves in an assistive capacity. Prosthesis does not symbolize a loss of humanity because of the lifeless technology involved, but instead the added machinery shows a physical change that signals the change of mentality a character undergoes—the stereotypes of technology as inhumane do not apply.

Some would argue that the technology involved in keeping the villains alive in *Star Wars* deconstructs their human-sides to an inescapable extent. In other words, some feel that the agency shifts from a human center to a technological one. With this shift of agency, “humanity runs the risk of creating a dystopian future in which the self has become so decentered and fragmented that humans are reduced to appendages to machines, mere objects of machinic discourse” (Corbett 215). This negative view of machines fuels the conception that prosthetic limbs in *Star Wars* symbolize the loss of human agency for inhumane technological agency. The aforementioned stereotypes about AI and technology in the previous chapters make technological agency unfeeling and inherently threatening.

Another component of prosthetic technology that potentially supports the idea of mechanical appendages as symbols of inhumanity follows from the insecurity of dependence on

technology. If one becomes too dependent on their prosthetic, then technology gains more control over the individual. The more control technology holds over the individual, the more the inhumanity technology represents takes over. The threat of this dependence can be described as the following, “Prosthesis as bodily extension and bodily mutilation through taking away human agency and giving human agency an extension through the forms of technology that supplement it allows the body to live and be even stronger, giving the human more agency, while also taking away agency from the human due to dependence on the technology” (S. Jain). Using this description, one sees a tension develop between the two different ways to view prosthesis. In the first, more threatening view, prosthesis mutilates the body that results in ripping agency away from the individual due to the dependence on the technology for the mutilated individual to function. The second, more generous view sees prosthesis help extend human agency using technology as a supplement for the natural.

Even though characters like Darth Vader and General Grievous depend on technology to live, their prosthesis does not mutilate them or remove their agency. Instead, their BMI systems extend their abilities and preserve them from permanent mutilation. For instance, Darth Vader’s BMI saves him from the mutilation of having his arms and legs cut off as well as his severe burns. Without his suit, Darth Vader would either die or be permanently mutilated. Contrary to rendering the human-side of Darth Vader powerless, the mechanical suit is completely under Vader’s brain’s control and serves as an extension of strength that a human would not possess. The technology does not create his inhumanity or villainy. His corruption stems from changes in ideological affiliations. The technology, like the examples of AI mentioned in the previous chapter, works to assist humans—and in this case, Vader.

The more realistic way to view prosthesis in *Star Wars* is another way technology helps humanity to thrive. Firstly, prosthesis helps humans remain in control. For instance, “Many proponents of HCT [Human Centered Technology] see salvation in the development of new forms of technology which would function as prosthetic extensions of the human mind and body, fully under the control of the ‘human centre’” (Corbett 215). All forms of prosthesis seen in *Star Wars* are used as extensions of the human mind and body because they remain controlled by the human brain. This ‘human centre’ is not only for heroes, like Luke and Anakin, that only need to control mechanical limbs, but also for villains as well. No matter what the extent of the prosthetic intervention, the human component of the brain stays in control. That means that the ideologies that the brain purports make characters evil and the look of the prosthetics just adds to an intimidating appearance.

The contrasting appearance of prosthetics in *Star Wars* shows the internal conflict of characters, but does not go further in symbolizing inhumanity because of the dependence on technology. For instance, Anakin’s mechanical arm creates a stark contrast between flesh and metal that represents and foreshadows the internal conflict between Anakin and Darth Vader. The sinister feeling of when one looks at Anakin’s mechanical arm stems from the existing knowledge that he will turn into Darth Vader—who is notorious for his mechanical body suit. Not only does the feeling of foreboding surrounding Anakin’s mechanical arm stem from foreshadowing, but also from the “feeling of revulsion” that is “exacerbated by the thought of electrical wires emerging from the skin” (N. Jain). The clash of appearances between flesh merging with foreign objects creates discomfort because the introduction of an Otherness. In this case, it is purely this disconcerting appearance that shows Anakin’s ensuing corruption instead of the technology itself.

The appearance of prosthesis can also be used to link characters' internal struggles without assuming that the technology must always be linked to a loss of humanity. For instance, "Vader is only half human; he requires a machine interface in order to live, and his machine aspect threatens Luke's own humanity. While Luke would be crippled without his technological conversion into a cyborg, that very prosthesis links him to the possibility of corruption to the Dark Side, as represented by his father" (Geraci 969). Luke's humanity is threatened because of what his prosthetic hand reminds him of—his father's appearance and fall to the Dark Side. If the technology represents the conflict within an individual, Luke would recognize that his father allowed almost his whole self to be consumed by his fall to the Dark Side and how it changed him both physically and mentally. Luke's hand is a simple way to show a similar conflict brewing inside of him.

As briefly mentioned before, prosthesis in *Star Wars* is used as a way to inform an audience of a character's internal conflict, but not necessarily their lack of humanity due to the technology. This distinction can be explained as follows: "the corporeality (in addition to the subjectivity) of users will always have an effect on technologies just as those same technologies function to shape the bodies of users precisely because they are of-the-body, because they are embodied" where the term "embodiment" is used to "signal the engaged process of both having and being a body, of possessing a body while also being possessed by it, of simultaneously being both object and subject to oneself" (Crawford 8). In clearer terms, the technologies physically shape the subject and show a clear change in appearance. This change of appearance, created by technology, signals an embodiment of a new state of being that is not necessarily all physical, but mental.

The example of Darth Vader provides a useful way to explain this embodiment. Vader's prosthesis shapes his new body that embodies a new consciousness of Vader. Simultaneously, Vader's prosthesis is embodied by Anakin's consciousness as well resulting in the subjection of Vader's suit by Anakin. Yet the consuming presence of the suit displays the Dark Side of Anakin—Vader—constantly trying to subjugate Anakin. Yoda hints at this split consciousness in *Episode III: Revenge of the Sith* when he tells Obi-Wan “The boy you trained, gone he is, consumed, by Darth Vader.” Obi-Wan gives a similar description to Luke in *Episode VI: Return of the Jedi*, stating “He's more machine now than man, twisted and evil.” In both views on Anakin versus Darth Vader, a tension is unveiled between the constant conflict taking place in the brain behind Darth Vader's suit.

Finally, like the AI discussed in the previous chapter, the prosthetic technology does not pose a threat to humanity because it is always used to assist humans rather than to destroy them. Jain, in her article about prosthetics titled “The Prosthetic Imagination: Enabling and Disabling the Prosthesis Trope,” explains that prosthesis assists above all else when she notes “What is lost in the evilness of Darth Vader is the fact that his villainous metallic appearance was due to a remarkable surgical intervention, which provided motor abilities to his burnt and dismembered body.” Here, Jain brings up one of the most important counter points to the argument that the presence of prosthetics signals a lack of humanity because of the negative implications associated with advanced technology. Instead of robbing humans of their humanity, advanced technology, as it pertains to prosthesis and other AI in *Star Wars*, assists and allows humans to live and even live better than they did without technology.

5. Conclusion

After exploring approximately 400 science fiction films from the British Film Institute's Film Index International CD-ROM database from 1930 to 1995, Martin Corbett found that 98 films "directly or indirectly explore the social and psychological implications of humans sharing living and/or working space with intelligent, autonomous, self-regulation machines," yet only eight of the films had sentient androids that were "innocent" or "often child-like" and one of three of these films belonged to the *Star Wars* trilogy. The main examples of these "innocent" androids in the trilogy were R2-D2 and C-3PO (Corbett 216-217). Though positive depictions of AI in film may stand in the minority, *Star Wars*' popularity and cultural influence has helped shape the way we welcome technological advancement into our lives. *Star Wars* droids break away from dystopian tradition in AI through their strict programming, service to humans, and droid-like humanity. Despite some of the most notorious villains in the galaxy being portrayed as inhumane, mechanical entities, even the advanced prosthesis of Darth Vader fails to shake positivity towards AI in *Star Wars*.

A tension may always exist between advanced technology and humanity within our society and fictional societies depicted in film. Though AI and other advanced technology can have a "liberating potential of the cybernetic imagination," there will always be friction with the "ideological tendency to preserve the existing form of social relations" (Nichols 22). This tension arises for a variety of reasons—fear of losing control, fear of humanity's destruction, etc.—society's persistent push for the utilization of technology in our daily lives shows the potential for integrating advanced technology on a *Star Wars*-like scale.

Although luddites may always persist in their fight against the ever-growing melding of technology with our daily functions, films like *Star Wars* show us the ways in which we can work with technology in a benign fashion without having it dominate our lives. In other words,

Co-working with robots will change many human processes and routines, as computers did when they spread or smartphones are doing right now. Interacting with robots will require that humans better express themselves, be clearer about their objectives and intentions, and in short level up! They will also mean learning to build and deal with hybrid teams where humans and robots interact. Emphasis will be put on creativity, dexterity, and empathy, as these are the most human skills that robots cannot yet challenge. This upgrade of humanity could not only be natural but also tech-augmented.

(Goux-Baudiment 19)

Instead of fearing the rise of the machines, the positive projections of life with robots shows a world where we are challenged to be better and rise to it. We can interact with robots, like in *Star Wars*, without the negative connotation of a slave-master relationship. We can emphasize our humanness in utilizing skills like “creativity, dexterity, and empathy” while using technology to augment the places where we remain limited. As stated above, advanced technology will allow us to “level up” in a way that seems natural to us. Our interest in technology does not have to be viewed as a dependence, but instead as a natural form of exploration and imagination that allows us to advance ourselves and our lives. Thanks to its positive depiction of technology versus dystopian films riddled with rogue robots that dehumanize the use of technology, “*Star Wars* shows the triumph of good technology over evil machinery” in inspiring a new way to realize society with humans and technology hand-in-hand (Gordon). Hopefully for humanity, technology without fear of threat is not so far, far away.

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