Through the looking glass: Ghost in the Shell, transhumanism, and transcendence through the virtual

Shalet, D.

Through the Looking Glass: Ghost in the Shell, Transhumanism, and Transcendence through the Virtual

In the late 20th and 21st centuries religion and science are either at odds with one another or academics are trying to reconcile their differences. This is of course illustrated in the works of Ian Barbour (1974, 1998, 2000) John Polkinghorne (1995, 1996) and Paul Davies (1992) to name a few. This debate gained a foothold in the later part of the 20th century with the advancement of computers and the dawning of virtual, simulated, and augmented realties. As popular as this debate was, it took a rather Christo-centric approach. This is not surprising given the fact that most of the academics involved were scientist *cum* theologians. That said, science and religion have had a rather intimate yet 'rocky' relationship since the publication of the Draper-White thesis in the 19th century. Harrison refers to the thesis as follows and argues that it was the ideas presented within the thesis that "perpetuated the myth" of science and religion at war:

> Largely as a consequence of the efforts of those who sought to promote the political fortunes of "science," there emerged the historical thesis of an ongoing science religion conflict—a view epitomized in the now unfashionable histories of Andrew Dickson White and John Draper. A good sense of the general tenor of these works can be gleaned from their titles, respectively, *A History of the Warfare of Science with Theology in Christendom* (1896) and *History of the Conflict between Religion and Science* (1875). The enduring legacy of this group, however, has been the perpetuation of the myth of a perennial warfare between science and religion (Harrison 87, 2006).

This subsequently gave rise to the misconception that 'science/religion' were always at war and remain so--a view that is still held by many today.

Scholars like Polkinghorne (1996) demonstrate inclusivity by including an overarching divine creator in his proposal. A creator that is in essence the m Christian God, but who is n in different guises throughout all faiths. Though this may seem positive on the surface, this attitude often detracts from unique cultural beliefs and practices rather than strengthens them; thus, presenting a 'whitewashed' account of this conflict as well as proposing a problematic fallacy that this incompatibility is *universal* in nature. Though it can now be argued that the

Catholic Church no longer has issues with science—in fact science is now regarded by the Catholic Church as a cultural sphere that can inform religion and vice versa—this is not the case for all Christian denominations. For instance, *Young Earth Creationists* who believe the earth was created around 6,000 years ago have no room in their beliefs for the Big Bang and Darwin's Theory of Evolution—though Ken Ham is putting his own 'scientific spin' on his beliefs by proposing the concepts of 'historical science' and 'operational science'. This is a direct result of a literal interpretation of the bible and more indirectly—the problems that arose from the Draper-White theses and the Galileo Trials (need reference).

Though the relationship between science and religion is something that is debated within Christianity and has been for centuries, this disharmony does not exist in all religions. For instance, there is no such conflict in Buddhism. The Dalai Lama's (2003) statement on the other hand, suggests that this is not entirely the case:

> Our dialogue has provided benefits not just for science, but also for religion. Though Tibetans have valuable knowledge about the internal world, we have been materially backward partly because of a lack of scientific knowledge. Buddhist teachings stress the importance of understanding reality. Therefore, we should pay attention to what modern scientists have actually found through experiment and through measurement the things they have proved to be reality (His Holiness the 14th Dalai Lama 2003, n.p).

This connection with *divine reality* is illustrated in the Japanese *anime Ghost in the Shell* where technology, like cybernetics, is often used to bring one closer to the divine, shifting the traditional understanding of this debate (i.e reconciliation) to one that is mutual and harmonious. Though it can be argued that Barbour found ways to make both science and religion mutually inclusive, for this to have been possible a perceived disharmony needed to exist between the two in the first place. Though these debates are gaining less momentum in the 21st century then in the late 20th, the relationship between Christianity and Science remains uneasy and is still contested. This article will propose that popular culture can be used as a tool to inform an audience of ongoing debates within science and religion with special attention paid to *Ghost in the Shell*. The two main debates up for discussion are--1) the compatibility of science and religion and 2) transhumanism *as* religion. In order to begin this discussion, there are two aspects of this article that must first be defined—*Ghost in the Shell* and *transhumanism*.

What is Ghost in the Shell?

Masamune Shirow's manga, *Ghost in the Shell* (which will be referred to from now on as GiTS) is a 'cyberpunk' classic of the 1990's. It focuses on a fictional counter-cyberterrorist organisation led by Major Motoko Kusanagi known as Section-9. The series as well as the films focus on the main protagonist, a government agent—*cum*—wizard class hacker who hunts down cyber-criminals in Newport city, a futuristic city that is an imagined Neo-Tokyo/Neo-Hong Kong hybrid. This classic manga was made into an anime by Mamoru Oshii and became a cult hit in the mid-90s, following close on the heels of other cyberpunk classics like Gibson's *Neuromancer* and Ridley Scott's dystopian masterpiece— *Bladerunner*. Its popularity fuelled the production of several feature length animated films as well as two *anime* series, with a third rumoured to be in production (Spry <u>2017, n.p</u>)). It regained popularity in 2015 following the news that Scarlett Johansson was signed on to play the main protagonist in the live action version of the *anime*. It was released in Japan in March 2017.

Surrounding its launch was a major 'whitewashing' debate with many fans angered by the fact that *'the Major',* as the character is referred to in the film, was played by a 'white American' actress rather than a Japanese actress (Rose 2017, n.p). Though a very current and understandable reaction to the contemporary 21ˢᵗ century climate, what is intriguing about these protestations is that *GiTS* focusses on the gender and biological sex of its protagonist— a cyborg—who can take any body or form they please. In the words of Donna Haraway, "the cyborg is a creature in a post-gender world; it has no truck with bisexuality, pre-oedipal symbiosis, unalienated labour, or other seductions to organic wholeness through a final appropriation of all the powers of the parts into a higher unity" (Haraway, 1991) The character's potential for *fluidity* is much more apparent in the 1995 film where Kusanagi is drawn as androgynous. In contrast, in the *anime* series there is less room to question the characters sex as she is drawn as a *hyperfeminine* form; one that is far more reminiscent of the *manga* rather than the film. However, one cannot deny the female body hold a great significance to Kusanagi herself as was her biological sex and the last remnants of her pre-cyborg/human identity. The ability for Kusanagi to possess any material form that 'she' pleases illustrates the transhuman and posthuman themes interwoven throughout the series.

What is Transhumanism?

The intellectual movement known as transhumanism is credited to Max More who labelled it in his 1990 essay titled "Transhumanism: Towards a Futurist Philosophy" (More 2013, 9 and 11). This is evidenced by Tirosh-Samuelson who states that "in the 1980s, philosopher Max More formalized a transhumanist doctrine, advocating the 'principle of extropy' for continuously improving the human condition" (Tirosh-Samuelson 2011, 23). Transhumanism is a philosophical and scientific belief that humans will transcend the limits of their physical bodies through the adoption of technological advancements. These advancements could take many forms: physical (cybernetic limbs); mental (advanced brain function through computational processing); and medical. It must be noted that transhumanism is a sub-class of posthumanism:

> Posthumanism is traversing the current human condition to eliminate the things that are considered human nature. In other words, a post human state is where humans and genius machines are completely integrated so that it's difficult to discern what's human. According to posthuman transcribers, the post human project will change the current perspective of everything considered human, as information patterns that are limiting the potential of humans will all be unlocked. The focus of Posthumanism is therefore on function as opposed to form. (Charkraborty 2017, n.p)

Though the above may be the case in generalized terms, Bostrom (2001) states that "we lack the capacity to form realistic intuitive understandings of what it would be like to be posthuman". Though post-human theory plays an integral role in understanding Kusanagi's quest for enlightenment (Ibid). That is to say that Kusanagi becomes more than human and cybernetic when she merges with the puppet master. The film describes this as the birth of a more advanced species, an evolution of sorts. It is here where we see echoes of Nietzche's *ubermensch* a new species of human that will evolve and become far better than its predecessors. (Sorgner, 2009).

Ghost in the Shell: **Posthumanism, transhumanism, myth, and religion**

For individuals like Tom Koch the transhumanists' vision of perfecting the human body is nothing more than a modern manifestation of eugenics. He states that, "today's enhancement enthusiasts promise is just the old eugenics pitch, tarted up: bad science and bad policy

promoted as deliverance for some" (Koch 2010, 697). On a slightly less pessimistic note, James Hughes suggests that transhumanism has inherited "the internal contradictions and tensions of the Enlightenment tradition" (Hughes 2010, 622). Even though he believes that it requires "irrational validation" and that it "validates technocratic authoritarianism" he suggests that due to the beliefs in the transcendent power of technology and human capability, transhumanism has the potential of generating new theologies and religious belief (Ibid). This is in spite the fact that Max More, the founder of Extropianism, touts it as a philosophy rather than a religion (More 2013, 9). That said, scholars like Robert Geraci hold similar views to Hughes on the potentiality of transhumanism as religion and has found links between transhumanist motifs—like the *singularity* and the *Mind Fire* concepts imagined by Morevac and Kurzweil —and Judeo-Christian apocalyptic myth. Kurzweil believes that the singularity will be a time, in the not-so-distant-future when technology has evolved to the point of human transcendence (Kurzweil 1999 and 2005) and Morevac's believes this *Mind Fire* will be the event that will take place when technology has gained this ability and humans are able to upload their consciousness into cyberspace (Moravec 1988 and 1999) As proposed by Geraci these two concepts anticipate "…that advances in robotics and AI will create a paradise on Earth before transcendent Mind escapes earthly matter in an expanding cyberspace of immortality, intellect, moral goodness and meaningful computation" (2010, 25)

In his *Apocalyptic AI* (2010), Geraci uses these similarities to prove his hypothesis. He suggests that because there are apocalyptic elements to transhumanism, and it propagates its own myths and doctrines, that it is a religion (Ibid). He argues that the *Mind Fire* is very similar to the Christian *rapture* because it is an event that indicates the end of physical human existence, as the human minds will be uploaded into a virtual, perfect world; with the physical world being analogous to *samsara* and—the virtual—*nirvana* (Ibid). That said, it differs from the *rapture* in quite a significant way. Instead of humans ascending to heaven, both body and soul, during the *Mind Fire* their consciousness is uploaded into a supercomputer (Ibid). This event puts one in mind of the first iteration of the Matrix, as explained to Morpheus by Agent Smith in the *The Matrix Reloaded* (2003). Agent Smith asks Morpheus, "Did you know that the first Matrix was designed to be a perfect human world? Where none suffered, where everyone would be happy…" Though it can be argued that the concept of the *Mind Fire* is more science fiction than science fact, science fiction

often depicts the 'fine line' between technology and religion. This is especially the case for transhumanist and post humanist themes as illustrated in *Ghost in the Shell* (*GiTS*).

What makes *GiTS* special in illustrating the harmonious connection between science and religion is its distinctly Japanese themes and their compatibility with transhumanism. It also gives one a unique perspective into how the science/religion relationship is viewed through an Eastern lens. This is summed up quite well by Bolton, Csicsery-Ronay Jr and Tatsumi who state that:

> Cyberpunk, which was often derided by Western science fiction critics for being cartoonish, immediately appealed to a Japanese sensibility that had been nurtured on science fiction manga and Japanese animation. The results were texts that synthesised the main themes of both Japanese and Western postmodernist science fiction—the breakdown of ontological boundaries, pervasive virtualisation, the political control of reality—as well as their artistic media…the effects of new "global" Japanese science fiction continue to propagate…(Bolton, Csiscery-Ronay Jr. and Tatsumi 2007, ix).

The main protagonist in *GiTS* is Major Motoko Kusanagi who is a fully cybernetic being apart from her brain which is supposedly biological. 'The Major' as she is often referred to in the series, as well as the live action film (2017) struggles with whether she is human and has a soul. This is intimately linked to the questions—can a machine possess a soul, and what is *soul*? In the context of *GiTS* the soul is often referred to as a 'ghost'. It is in this interplay between 'soul and machine' where posthumanist themes and religious ones intersect. Also evident is that Eastern beliefs, especially Buddhism and Shinto (*Kami-no-michi*) beliefs that appear in GiTS seem to be far more accepting of the science/religion relationship than their Western counterparts. To elaborate, from a rather generalised Christian perspective—the soul is purely a human gift. That is to say that no other sentient creatures possess one, let alone an inanimate object. Where *Kami-no-michi* beliefs differ is that all objects, animate and inanimate, possess a spirit. These spirits have a range of characteristics from: happy to angry; benevolent to malevolent; young and old; helpful and unhelpful. Regardless of the characteristics of the spirit, it gives 'life' to the object. This is expanded upon by Morris Low:

6

American researchers' preference to focus on artificial intelligence (AI) and virtual reality as Christian beliefs in salvation in purified unearthly bodies encourages a disembodied approach to information. In Japan, in contrast…Buddhism and Shinto beliefs of *kami* (deities) being manifested in nature allow even robots to have a spirit" (Low 136, 2009).

The difference is not only in the concept of the soul, but in how the duality of mind and soul are understood and dealt with. This is evidenced more thoroughly in the work of Yoshiko Okuyama, *Japanese Mythology and Film*. Okuyama suggests that because the director of *Ghost in the Shell Innocence*, Mamoru Oshii is Japanese, there is less of a an emphasis on Cartesian duality in terms of the human body and soul which, "…appears to be a polar opposite of the film's anthropomorphic belief" and more of a focus on "human characteristics attributed to insentient beings" (Okuyama, 191). In questioning the existence of a soul in a machine, one is moving into territory closely related to the transhumanist vision for the future; especially if these machines are partly human. *GiTS* deals quite extensively with concepts such as supercomputers, nanotechnology, VR (virtual reality), SR (simulated reality) and AR (augmented reality) not to mention augmented humans, cyborgs and perhaps closer to home (at least to the home of some transhumanists) concepts such as 'the singularity' and the *Mind Fire*. This is illustrated quite beautifully in the films as well as the series by the 'deep dives'—into cyberspace—that Kusanagi often engages in, not only for work but for pleasure. Moreover, these films question the future relationship between man and technology which is at the heart of transhumanist thought, as illustrated by the Transhumanist Declaration (More 2013, 54-55).

Cyborg: the human golem

One concept of transhumanism that plays a key role in *GiTS* is cyberization. The verb cyberizing is used a great deal in *GiTS* to explain the process that humans go through to mechanize themselves. This is a usual occurrence, even for those that have very little money. That said, the poorer population tend to have rather rudimentary implants, like 'skinless' prosthetic limbs. This is in stark contrast to the Major's state-of-the-art prosthetic body and the cyber-brains that tend to be the norm for those with money (*Stand Alone Complex: 2nd Gig*). Though this is an interesting envisioning of a transhuman/posthuman future, as these advancements enable individuals to live more complete lives, they come with their own set

of complications. These include things like cyber-brain hacking and the hijacking of cybernetic bodies. This is summed up more succinctly by Okuyama who states that "the cyborg mythology of *Innocence* insinuates that the world of advanced technologies is fraught with dangers that threaten human existence" (Okuyama 2015, 200). The age-old tropes related to such advancements, like technology 'spinning out of control' or falling into the proverbial 'wrong hands' are still apparent here but seem much more sinister when such advancements are anticipated by movements like transhumanism. This is supported by Lyden who suggests that "…our fears about the future are also sometimes expressed through the fear that our technology will destroy us. This may take the form of nuclear or biological holocaust brought about by environmental carelessness, the development of doomsday weapons…or general scientific hubris…" (Lyden 2003, 205).

Regardless of these negatives, *GiTS* provides one with several possibilities. The most fundamental, to this essay, is that cyberization may lead to greater spiritual enlightenment. This is described by Chipman (2010) as a "mythology of cyborgs". It is "…a new genre [that of the cyborg myth (added by author)]…which fits our time of technological revolution" (Ibid). Though the potential for greater spiritual enlightenment may exist, cyberization raises many questions in *GiTS*. Most notably is the likelihood of transcendence and 'faith' in a society where people are both human and machine and have lost the core principals of what it is to be human and what it is to have faith in a divine creator.

This juxtaposition is exemplified in the character of Kusnagi who, due to her cybernetic body, is uncertain as to whether she was ever human. As a result of the constant questioning of her humanity, the audience is left contemplating the concepts of truth, existence, and faith in a technological advanced world where spirituality seems to be of lesser importance. Though the notion of soul plays quite a significant part in Kusanagi's relentless inquiry, so does her lack of a human body. Evident throughout the animated series and films is Kusanagi's belief that because she is in possession of a synthetic body, she is incapable of having a soul. That said, when she comes to the realisation that she can hear her 'ghost' whisper, she starts to believe it is her 'ghost' that animates her body. This concept puts one in mind of the golem myth.

To explain, the golem is brought to life by speaking the word of God and placing incantations on a piece of paper that is then placed in its mouth. The words used are *met and*

emet (death and truth) the presence of the name of God as opposed to the lack thereof. One gives life and the other death. Though we are dealing with less conventional ideas of 'religion' especially regarding transhumanism, the cyborg concept strongly resonates with these more traditional religious myths and motifs. "The word itself has its origins in the biblical Hebrew *golem,* 'shapeless form'. …stemming from the Golem experienced by the ancient and medieval Jewish mystics, a 'soulless' man created for esoteric goals" (Glinert 2001, 78). As is suggested by the Talmud, Adam the first man, was in fact a golem as he was moulded by God from dust and clay and was only brought to life when God breathed life into him:

> The day consisted of 12 hours. In the first hour, his [Adam's] dust was gathered; in the second, it was kneaded into a shapeless mass. In the third his limbs were shaped;--in the fourth, a soul was infused into him; in the fifth, he arose and stood on his feet (see Talmud tractate Sanhedrin 38b).

Though the golem is a traditional Jewish concept it resounds quite strongly in Oshii's work, *Ghost in the Shell: Innocence.* When Togusa and Batou first enter the hacker Kim's mansion they are confronted with a doll (it looks very similar to the child's body that Batou transfers the Major's mind into after her physical body is destroyed at the end of the original *Ghost in the Shell* film). At the doll's feet are tiles that spell out the Hebrew word *emet* (in the case of the *anime* it is *aemeath*). After Batou enters the second iteration of the sequence, which the audience is led to believe was altered by an ethereal Kusnagi to provide Batou with the 'truth' of his situation (i.e. he has been hacked) the tiles change to reflect the word *meath.* The link to the golem myth is supported by Okuyama who states that, "the speech of other characters are interspersed with quotations from the Bible…and the Golem myth" (Okuyama 2015, 188). Donna Haraway also makes her link to the 'golem' of Eden (Adam) and the cyborg, though indirectly. "The cyborg would not recognize the Garden of Eden; it is not made of mud and cannot dream of returning to dust."

 The idea of Kusanagi as a golem is not too far reaching as she is in possession of a fully synthetic body (in this case she is a human creation rather than a divine one). Kusanagi, "…searches for the potential divine spark within herself that animates her body" (Napier 2005, 107). Though this is a theme that reverberates in many science fiction stories including one of the classics, *Mary Shelley's Frankenstein,* it is important to take a closer look at what

this myth is conveying to an audience. It very neatly ties into Lyden's suggestion that playing god leads to unfortunate and often negative consequences. When commenting on this very popular sci-fi theme he refers directly to Mary Shelley's *Frankenstein*. That said, although the concept of scientist playing god is somewhat touched upon in *GiTS,* after all scientists put Kusangi's 'ghost' into her body (this is illustrated more clearly in the live-action film), it contains one rather striking difference from *Frankenstein*, the lack of a galvanised corpse. In one version of the transhumanist future, Frankenstein's monster is replaced by a synthetic technological marvel, the cyborg.

How this interlaces with transhumanism is quite clear. The cyborg encapsulates transhumanists' ideals as it brings both biological and technological advancements together to aid the human condition and help individuals to overcome their physical weaknesses. This concept is reflected in the science fiction/transhumanist concept of the 'post-human'. The post-human is an individual who has evolved beyond a human state of imperfection (Bostrom 2008). Kusanagi in many ways epitomizes the transhumanist post-human. According to Geraci"…visions of transhumanism [are] grounded in the desire to become cyborgs, robots, or uploaded minds in reality" (Geraci 2012, 586). Kusanagi exceeds all transhumanist expectations. She is strong both physically and mentally; she's capable of existing in the virtual and physical realms simultaneously; and she displays no human weakness. More importantly, she possesses a 'ghost' despite her mechanical body. There is also an element of the post-human within her when she 'reproduces' with the puppet master to create a more evolved and divine entity. Though Kusanagi is unable to reproduce biologically she can do so technologically and spiritually. This means she has the potential to connect with a divine being, and respectively does so when she links with the 'puppet master'.

Transhumanism and myth

It has been previously noted that Geraci's argument for--transhumanism as a religion—is based on its connection to Judaeo-Christian apocalyptic myths, with special reference to the *Mind Fire*. It can be argued that this is not only an example of transhumanism as religion but demonstrates the potentiality of a harmonious relationship between science, technology and religion. In the case of Kusanagi the fact that she is a technological marvel does not limit or separate her from the divine but enhances her connection to the *νοῦς* (*nous*) and the

numinous. For instance, the fact that transhumanists' concepts of the post-human (in the case of *GiTS* the cyborg) resonate so strongly with the Judaic golem myth, provides one with more evidence of its proposed religious undertones. This argument is made even stronger by how complimentary transhumanists' beliefs are to Japanese religious practices. For instance, Kusanagi who (for all intents and purposes) is a fully cybernetic being has the potential to obtain 'spiritual enlightenment' through technological means, even though she may not possess a soul. Despite the fact that this concept may be somewhat of an anathema to Christian thought, it is quite acceptable in a belief system like *Kami-no-michi*. The reason for this is that it adheres to the belief that all things, both animate and inanimate, possess *mana*—a supernatural and mystical force (Sugimoto 2010, 264). The myth of inanimate objects taking on lives of their own, in the case of Kusanagi her 'ghost' (spirit), resonates quite strongly and significantly with Shintoism. This is due to its connection to the *kami*. *Kami* are Shinto constructs that one may mistake for gods, though it is imperative that they are not reduced to this. Sakamaki Shunzo defines the *kami* as:

> The term *kami* is applied in the first place to the various deities of Heaven and Earth who are mentioned in the ancient records, as well as their spirits…which reside in the shrines where they are worshipped. Moreover, not only human beings, but birds, beasts, plants and trees, seas and mountains and all other things whatsoever which deserve to be dreaded and revered for their extraordinary and preeminent powers which they possess are called *kami*…they need not be eminent for surpassing nobleness, goodness…uncanny beings are also called *kami*…(Shunzo 1967).

The fact that *kami* are manifested in nature allow even robots to possess a spirit and to become "integrated [into Japanese] society" (Low 2009, 136). The significance of these *kami* and their link to cybernetics as well as *ningyou* (dolls) is quite apparent in *GiTS* especially in *GiTS 2-Innocence* where dolls and androids are often referenced and regarded as having quite similar natures. This is because they are both synthetic inanimate 'shells' that are inhabited by spirits. Dani Cavallaro sums up the importance of dolls in *GiTS* and how this reflects Japanese belief:

> The film is also thematically imbued with other allusions to traditional Japanese culture. Central to its underlying philosophy is the Shinto-based belief that all entities—inorganic, artificial and inanimate ones included—are endowed with

spiritual attributes. The hypothesis is most assiduously promulgated with reference to the *ningyou* ("doll") …Japanese culture has evinced a deep attachment to the symbolic attributes of dolls of countless guises for many centuries… (Cavallaro 2007, 110). (formatting)

This is supported further by Salvador Murguia, "The special respect accorded dolls in Japan is rooted in popular religious beliefs and practices. Since ancient times, it has been believed that sins or illness could be exorcised by transferring them from a living person to a substitute, often a figure made in human likeness" (Murguia 2011, 231). The Japanese deep connection to dolls is exemplified in *Hinamatsuri* or girl's day that is celebrated on the 3rd of March. The festival arose from a folk tradition originating during the Heian Period where young women would craft dolls out of paper and straw and "cast them into rivers—metaphorically cleansing their souls" (Ibid). We also see this belief reflected in the character of Kusanagi, whose 'ghost' inhabits a synthetic human shell. Without this spirit she would be no different than a lifeless, mechanized doll. This is illustrated by Oshii in *GiTS: Innocence* where lifeless androids are imbued with the 'ghosts'' of young women to make them more lifelike.

This belief is not bound to only one Japanese tradition. Yoshiko Okuyama provides us with further evidence of a similar belief held by the Tendai sect of Buddhism, "in the view of *sanzen somoku shikkai jobutsu*, non-sentient beings, including stones, wind, plants, and the rest of non-sentient beings were thought to be capable of being awakened as humans could" (Okuyama 2015, 199). The idea of enlightenment or 'awakening' through technology is also supported by transhumanist thinkers in their visions for the future, as it is only through technology that humans will be capable of transcending the 'physical' self. What is also clearly illustrated in the above examples is that transhumanist motifs fit quite well within the remit of Japanese religious traditions. Furthermore, when accompanying these traditions, transhumanism displays a legitimate belief structure that amalgamates technology, religion and science. Not only is this evidenced through its adoption of an apocalyptic myth, but the envisioning of a future where technology will enable individuals to move beyond the weaknesses of their flesh and the confines of their minds.

To elaborate, one concept that is repeated throughout *GiTS* is the ability of technological creations to transcend the physical more easily than their human associates. This is mirrored in the character of Kusanagi who is always questioning her existence in a world where

'humans' seem apathetic to do so. She does this even though she spends much of her time in cyberspace. *Ghost in the Shell:SSS* describes cyberspace as a 'rhizome', each branch of data and information gives rise to the next. This 'rhizome' in many ways reflects the transhumanist *Mind Fire,* the existence of a limitless realm of data and illumination. It is only through sacrifice of the flesh that humans can reach this technological *nirvana.* Elements of this come into play in *GiTS SAC: 2nd gig* where the anti-hero (antagonist) Kuze works to free refugees from their horrible circumstances by uploading them into the net. Their consciousness is uploaded whilst their bodies are left behind. This mass exodus bears a striking resemblance to the Christian *rapture* with Kuze playing the role of the saviour who leads his people to salvation. One can also see a likeness to the Buddhist *arhat* or *bodhisattva* who shepherds his people towards enlightenment. Like Kusanagi, Kuze is also fully cybernetic and as a result has the capability of existing in both the physical as well as virtual realms.

As they are both purely synthetic beings, Kusanagi and Kuze, do not have the same attachment to their bodies as their biological counterparts. For example, Kusanagi is more capable of transcending the world of the physical. This is demonstrated in *Ghost in the Shell* after her battle with the 'Puppet Master'. When all that is left of Kusanagi is her broken cybernetic body she is encouraged by this super AI to leave her broken body behind and join 'him' in the vast realm of cyberspace. Here, cyberspace becomes a metaphorical representation of *nirvana (*Napier 2005, 113*)* where knowledge is vast and only mind exists. This is expounded upon by Kusanagi in the closing line of the film where she stares at the horizon and utters the words, "…the net is wide and infinite".

Defining science fiction: its legitimacy as a vehicle for the science v. religion debate

There are many scholars who emphasise the importance of studying science-fiction; however, it is often argued by these same scholars that it is difficult to define. David Seed is one such scholar. He argues that reducing sci-fi to only one or two definitions is incorrect, especially as there are so many genres within it, and these often come with their own definitions (Seed 2011, 1) comes from different perspectives and traditions- publishers, authors and even literary critics. Seed informs us that Hugo Gernsback described sci-fi as a "combination of romance, science, and prophecy"; that Robert Heinlein saw it as a "'realistic speculation about future events'"; and Darko Suvin believed it to be "a genre based on an

imagined alternative to the reader's environment" (qtd. in Seed 2011). He further adds that it is also helpful to think of it as a mode, rather than a genre, because it is where, "…different genres and subgenres intersect" (Ibid). This is supported by Farah Mendlesohn who suggests this (Mendlesohn 2003, 2). Her reasoning for this is that sci-fi stories play with different plots and concepts (Ibid). That said, unique subgenres do exist under the sci-fi umbrella.

One such subgenre is steampunk. This features steam-powered technology rather than advanced technology and is normally set in the Victorian era. It is reminiscent of the works of authors like Jules Verne and Sir Arthur Canon Doyle. Another subgenre is cyberpunk. Although it makes up a small proportion of the science fiction subgenres it is the focus of this paper. Cyberpunk has made a huge impact in the later part of the 20th century as its, "…high profiles both within and without traditional sci-fi readership…means that it tends to dominate perceptions…" (Bould and Vint 2011, 154). It was chosen for this article because of its popularity, but also due to the transhumanist themes woven throughout it. The most significant of these is the interaction between humans and machines in the creation of the cyborg:

> The roots of cyberpunk are not, of course, purely literary. The 'cyber' in cyberpunk refers to science and, in particular, to the revolutionary redefinition between the relationship between humans and machines brought about by the science of cybernetics…the virtual interchangeability of human bodies and machines is a recurring theme in cyberpunk and intrinsic to its representation of cyborgs. (Cavallaro 2000, 12)

Despite the fact that sci-fi is difficult to define, the popular understanding is that it is a fiction based on an imagined future of technological and scientific advancements. The key word here is *technology*. When trying to understand the popular definition of cyberpunk and its connection to sci-fi, we turn once again to Lyden. He suggests that science fiction is not purely based on the presence of the scientific as "opposed to supernatural explanations, but rather by the distinct set of issues it is usually focused upon, linked to the fact that technological explanations can be given" (Lyden 2003, 202). Though cyberpunk takes many forms, what sets it apart from other sci-fi sub-genres is its focus on a dystopian future often ruled by large corporations. There is also a large emphasis on the evolution, or in some cases destruction, of the post-human condition through technological means (Bould and Vint 2011,

154-164). These advancements resonate quite strongly with transhumanist doctrine and can be found in the Transhumanist Declaration, which champions the right to "morphological freedoms" and using technology to overcome aging, correct cognitive shortcomings, and to help humans escape the confines of planet earth (More 2013, 54-55). It must be noted however that although similar themes seem to resonate between both transhumanism and sci-fi, a number of scholars do not see a clear link between them. An example of two such individuals are Marsen (2011) and Blackford (2011). Though they admit that science fiction and transhumanism share some similarities, they ultimately recognise them as separate forums for expressing similar ideas:

> In this context, we need a conceptual framework in which we can theorize and speculate on those advances, both anticipating and suggesting their possible uses, benefits, risks, and consequences. In other words, we need intellectual and cultural perspectives from where we can observe, think, and talk about these advances. Science fiction is one such forum where technology conceptualized in cultural terms. The group of futurist discourse grouped under the term *transhumanism* is another. (Marsen 2011, 85)

One possible reason for this disassociation is that it is manufactured. That is to say that some transhumanists may want to move away from science fiction because many believe that a transhumanist future is a plausible reality. To elaborate, many transhumanists are trying desperately to champion their cause as a legitimate one. If they were then to associate their movement with science fiction, *fiction* being the emphasised word here, it has the potential of causing substantial damage to the rather serious reputation that they are working very hard to achieve and to uphold. That is not to say that all transhumanists view things in the same way as Marsen and Blackford (2011). Some welcome science fiction authors and films, as it is believed they can popularise transhumanist views. This is suggested by Geraci who writes that "Transhumanists have recognized the power of science fiction to advance their cause and thus welcome sci-fi authors with open arms" (Geraci 2011, 166). *Ghost in the Shell* is a perfect example of how transhumanist themes can be successfully disseminated in film.

Conclusion

Derived from this article were a number of key points. The first is that science fiction is a legitimate vehicle for expressing ~~one's~~ hopes and fears for the future. Whether these fears are related to AI taking over the world or humans destroying themselves through a nuclear holocaust, from its beginning's science fiction has prophesized and warned about things to come. That said, what has also been illustrated is that it can be used as a legitimate medium for demonstrating a deep connection between technology and religion and illustrating the harmonious relationship between the two. This is evidenced in *GiTS* through the focus on a cyborg and her 'ghost'. Regardless of the many iterations of *GiTS* Kusanagi, or in the case of *GiTS SAC: 2ⁿᵈ gig* Kuze, are able to ascend to a higher plane of existence because of their technological enhancements. Furthermore, what *GiTS* proves is that religious themes can be played out in popular media, like science fiction film. Enabling certain religious messages and mythologies to be distributed to audiences far and wide. As was pointed out by Geraci, science fiction can be used to 'advance the cause' of beliefs, transhumanism being one example (Geraci 2011, 166). This is further supported by Thomas:

> Films that incorporate the miraculous and the magical also make aesthetic usage of religions material, and some films also revamp older religious stories for new generations of audiences. A large number of anime include religious themes such as these without intentionally inculcating religious sentiment; films that attempt to educe such sentiment from a small but intriguing minority (Thomas 2009, 194)

As was illustrated above, *GiTS* is such a film. It 'revamps' Japanese traditions making them more appealing to a modern audience and does so through inoculating the narrative with transhumanist themes and cyborg myth.

Further assessed was the compatibility between mythology and transhumanist themes. What has been clearly illustrated is that its compatibility with certain myths can be used to strengthen scholars' arguments on transhumanism as a tool to bridge the erroneous gap between religion and science. Currently, one of the strongest arguments put forward is Geraci's which uses the appearance of Judeo-Christian apocalyptic traditions, in the example of the *Mind Fire,* as evidence of the religious plausibility of transhumanism. Through the inclusion of Japanese traditions, Geraci's argument is strengthened even further. That is not

to say that his argument is weak, but merely incomplete; as he only focusses on Western belief to support his hypothesis. Demonstrated by this examination are that Eastern traditions have something quite legitimate and substantial to offer in regards to the compatibility of science and religion and that this can be disseminated through a popular cultural medium.

To elaborate, Buddhism plays a part in the envisioning of the *nirvana* like cyberspace in the series. Though this is touched upon by Geraci (2010) it was only briefly mentioned even though its connection to the *Mind Fire* is also quite evident. Moreover, as was demonstrated in this thesis, Shinto has a great deal to offer as well to the compatibility debate. For instance, through its implementation of *kami* the technological advanced transhuman, in this case the cyborg, will not lose its connection to the divine. This in many ways proves Hughes point as it illustrates the potential of the transhuman for transcendence through the technological. That is to say that regardless of how mechanical humans become, science and technology may provide them with a greater and more direct path to enlightenment.

Bainbridge, W.S. 1986. *Dimensions of Science Fiction.* Cambridge: Harvard University Press.

Barbour, I. 1974. *Myths, Models, and Paradigms: The Nature of Science and Religious Langugage.* London: SCM Press.

—. 1974. *Religion and Science: Historical and Contempoary Issues.* London: SCM Press.

—. 2000. *When Science Meets Religion.* London: SCM Press.

Blackford, R. 2011. "Trite truths about technology." In *H +/- Transhumanism and Its Critics*, by Hansell G.R. and W. Grassie, 176-188. Metanexus.

Bolton, C. Csicsery Istvan Jr. Tatsumi, T. 2007. *Robot Ghosts and Wired Dreams: Japanese science fiction origins to anime.* Minneapolis : Minnesota Press.

Bostrom, Nick. 2008. "Why I Want to be a Posthuman When I Grow Up." *Medical Enhancement and Posthumanity* 107-137.

Bould, M., Vint, S. 2011. *The Routledge Concise History of Science FIction.* London: Routledge.

Carter, M. 2007. *Minds and Computers; An Introduction to the Philosophy of Artificial Intelligence.* Edinburgh: Edinburgh University Press.

Cavallaro, D. 2007. *Anime Intersections: Traditions and Innovation in Theme and Technique.* London: McFarlend.

—. 2000. *Cyberpunk and Cyberculture: Science Fiction and the Worl if William Gibson.* London: Athlone Press.

Chipman, J.S. 2010. "So Where Do I Go from Here? Ghost in the Shell and Imagining Cyborg Mythology for the New Millenium." In *Millenial Mythmaking; Essays on the Power fo Science Fiction and Fantasy Literature*, by J. D. Whitt Perlich. Jefferson: McFarlans.

Collings, H. 1998. *The Golem and Large: What We Should Know About Technology.* Cambridge: Cambridge University Press.

Charkraborty, R. 2017. "What is the difference between posthumanism and transhumanism?" The

Transhumanist. http://thetranshumanist.news/2017/05/21/difference-posthumanism-
transhumanism/

Davies, P. 1992. *The Mind of God: Science and the Search for Ultimate Meaning.* London: Simon & Schuster.

Draper, J. 1875. *History of the Conflict Between Religion and Science.* London.

Fitzgerald, T. 2000. *The Ideology of Relgious Studies.* Oxford: Oxford University Press.

Geraci, R.M. 2010. *Apocaplyptic AI: Visions of Heaven in Robotics, Artifical Intelligence, and Virtual Reality.* Oxford: Oxford Scholarship Online.

—. 2011. "There and Back Again: Transhumanist Evangelism in Science Fiction and Popular Science." *Implicit Religion* 141-172.

Geraci, R.M. 2010. "Cyborgs, Robots, and Eternal Avatars: Transhumanism Salvation at the Inerface of Brains and Machines." In *The Routledge Companion to Religion and Science*, by J.W.Pterson G.R. and M.L. Spezio Haag, 578-590. London: Routledge.

Gibson, W. 2015. *Neuromancer.* London: Harper Voyager.

Glinert, L. 2001. "Golem! The Making of a Modern Myth." *Symposium: A Quarterly Journal in Modern Literatures* 78-94,

Grassie, W. 2011. "Millennialism at the Singularity: Refletions on the Limits of Ray Kurzweil's Exponential Logic." In *In H+/- Transhumanism and Its Critics*, by Hansell G.R. and W. Grassie, 249-269. Metanexus.

Haraway, D. 1991. "A Cyborg Manifesto." *Simians, Cyborges and Women; The Reinvention of Nature.* Free Association Books.

His Holiness the 14th Dalai Lama of Tibet. 2003."A Collaboratinon Between Science and Religion." https://www.dalailama.com/messages/buddhism/science-and-religion.

Hughes, J. 2010. "Contradictions from the Enlightenment Roots of Transhumanism." *Journal of Medicine and Philosophy* 622-640.

2017. *Ghost in the Shell.* Directed by R. Sanders.

2007. *Ghost in the Shell:Stand Alone Complex--Solid State Society.* Directed by K. Kamiyama.

2004. *Ghost in the Shell: S.A.C. 2nd GIG.* Directed by K Kamiyama.

2002. *Ghost in the Shell: Stand Alone Complex.* Directed by K. Kamiyama.

Koch, T. 2010. "Enhancing Who? Enhancing What? Ethics, Bioethics, and Transhumanism." *Journal of Medicine and Philosophy* 685-699.

Kurzweil, R. 1999. *Age of Machines: When Computers Exceed Human Intelligence.* New York: Viking.

—. 2005. *The Singularity is Near.* London: Viking.

Low, M. 2009. "Technological Culture." In *The Canbridge Companion to Modern Japanese Culture*, by Y. Sugimoto, 130-146. Cambridge: Cambridge University Press.

Lyden, J. 2003. *Myth, Morals, and Rituals: Film and Religion.* New York: New York University Press.

Marsen, S. 2011. "Playing by the Rules--or Not? Constructions of Identity in a Poshuman future." In *H+/- Transhumanism and its Critics*, by G.R. and W. Grassie. Hansell, 84-93. Metanexus.

Mendlesohn, F. 2003. "Introduction: Reading Science Fiction." In *Cambridge Companion to Science Fiction*, by E. and Mendlesohn, F. James, 1-13. Cambridge: Cambridge University Press.

More, M. and Vita-More, N. 2013. *The Transhumanism Reader.* Chichester: John Wiley & Sons Ltd.

Morevac, H. 1988. *Mind Children.* Massachusetts : Harvard University Press.

—.1998 *Robot: Mere Machine to Transcendent Mind*: OUP.

Murguia, S.J. 2011. "*Hinamatsuri* and the Japanese Female: A Critical Interpretation of the Japanese Doll Festival." *Journal of Asia Pacific Studies* 231-247

Okuyama, Y. 2015. *Japanese Mythology and Film: A Semiotic Approach to reading Japanese Film and Anime.* London: Lexington Books.

1995. *Ghost in the Shell.* Directed by M. Oshii.

2004. *Ghost in the Shell 2: Innocence.* Directed by M. Oshii. Produced by M., and Suzuki, T. Ishakawa.

Polkinghorne, J. 1996. *Scientists and Theologians: A Comparison of the Writing of Ian Barbour, Arthur Peacocke and John Polkinghorne.* London: SPCK.

—. 1995. *Serious Talk: Science and Religion in Dialogue.* Harrisburg: Trinity Press.

—. 1996. *The Faith of a Physicist: Reflections of a Bottom-up Thinker.* Fortress Press.

Rose, S. "Ghost in the Shell's Whitewashing: Does Hollywood have an Asian Problem?" The Guardian. https://www.theguardian.com/film/2017/mar/31/ghost-in-the-shells-whitewashing-does-hollywood-have-an-asian-problem

Shelly, M. 1933 (1818). *Frankenstein, or the Modern Prometheys.* New York: E.P. Dutton & Co.

Shunzo, S. 1967. "Shinto; Japanese Ethnocentrism ." In *The Japanese Mind: essentials of Japanese Philosophy and Culture*, by C.A. Moore, 24-32. Hawaii University Press .

Spry, J. 2017 "New Ghost in the Shell Anime Series in Development for 2018." Syfywire. https://www.syfy.com/syfywire/ghost-in-the-shell-anime

Sugimoto, Y. 2010. *An Introduction to Japanese Society.* Cambridge: Cambridge University Press.

Thomas, J.B. 2009. "Religion in Japanese film: focus on anime." In *The Routledge Companion to Religion and Film*, by J. Lyden, 194-213. London: Routledge.

Tirosh-Samuelson, H. 2011. "Engaging Transhumanism." In *H+/- Transhumanism and Its Critics*, by G.R., Grassie, W. Hansell, 19-52. Metanexus.

2003. *The Matrix Reloaded.* Directed by The Wachowskis.

1999. *The Matrix.* Directed by The Wachowskis.

White, A.D. 1896. *A History of the Warfare of Science and Theology in Christendom.* New York.