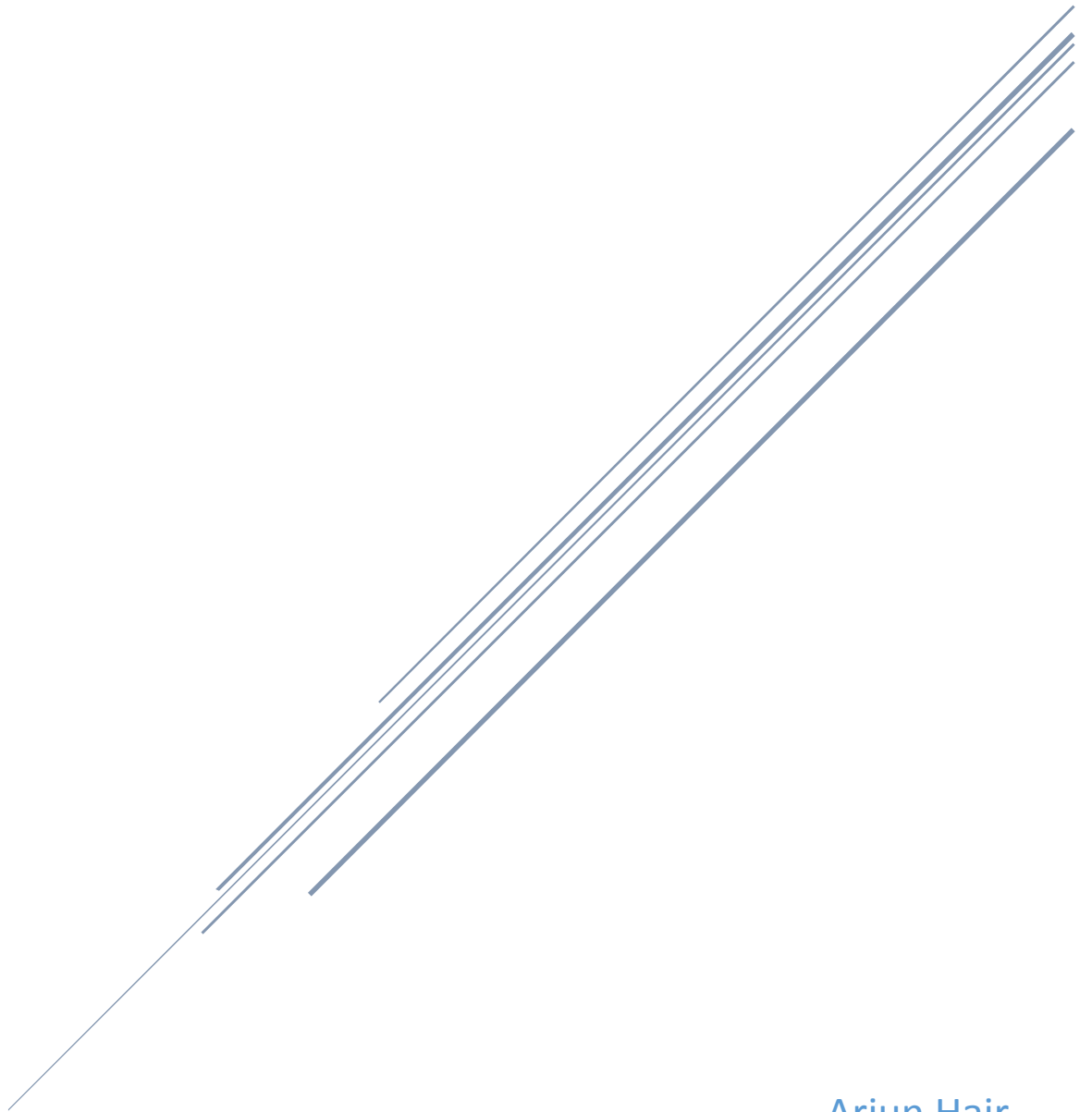


# ANIMATING IMAGINATION

Examining the visualization of philosophy in Ghost in the Shell



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INTRODUCTION

Dr. Susan Schneider, professor of philosophy at the University of Connecticut, argues that philosophical questions are the heart of some of the best science fiction tales, as many of the films in the genre tend to be extended thought experiments.<sup>1</sup> Thought experiments consider a hypothesis for the sake of contemplate its consequences without having to actually perform the experiment (it may be impossible to do so). The philosophy that is interwoven with science fiction narratives is typically revealed through a film's themes and dialogue. Animation provides an opportunity to examine the visual representation of the philosophy of a science fiction narrative. The medium of animation has a unique capacity to represent imagination through imagery, which allows it to "visualize psychosomatic experience to provoke philosophical questions."<sup>2</sup> This unique ability allows for an analysis of how the philosophy of science fiction can manifest itself through a film's visuals.

Animation's ability to visualize one's imagination makes it a useful tool to turn philosophical ideas into imagery. The anime science-fiction film, *Ghost in the Shell* is a prime example of this, as the film clearly visualizes the philosophical backbone of the narrative. *Ghost in the Shell*<sup>3</sup> poses classic philosophical thought experiments such as Cartesian dualism, The Ship of Theseus, free will, and ties it together with the merging of biology and technology. I will

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<sup>1</sup> Susan Schneider, *Science Fiction and Philosophy: From Time Travel to Superintelligence* (Hoboken: Wiley, 2016).

<sup>2</sup> Paul Wells, "Animation and Digital Culture," in *American Thought and Culture*, ed. Martin Halliwell and Catherine Morely (Edinburgh: Edinburgh University Press, 2008).

<sup>3</sup> *Ghost in the Shell*, directed by Mamoru Oshii (1995; Palm Pictures, 1996), DVD.

be analyzing the visuals of various scenes within *Ghost in the Shell* in order to show that the film uses its animation to evoke and demonstrate the above thought experiments.

## ANIMATION AND SCIENCE-FICTION

In the twentieth century, the studios of the Fleischer brothers and Walt Disney were experimenting with the technical possibilities of animation, though both chose to stick to the dominant model of the print cartoon. This method involved line-shapes and "humorous metamorphoses,"<sup>4</sup> with cartoon characters and objects being literally bent out of shape and manipulated to the point of absurdity. Animators were discovering that the medium operated an "art of uninhibited transformation" as a space in which "anything could happen."<sup>5</sup>

Professor Paul Wells, director of the Animation Academy at Loughborough University, refers to professor and artist Tom Sherman in his work "Animation and Digital Culture" in order to expand on the integral relationship that animation has with imagination and with thought in general. Sherman states that "Animation is the hard copy of memory, accessed while it is being rendered by hand, or by hands assisted by machine. In general, animation is memory that moves and evolves."<sup>6</sup> As a result, "animation has marched through cinema,

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<sup>4</sup> Istvan Csicsery-Ronay Jr., "What Is Estranged in Science Fiction Animation?" In *Simultaneous Worlds*, ed. Jennifer L. Feeley and Sarah Ann Wells (Minneapolis: University of Minnesota Press, 2015).

<sup>5</sup> Ibid.

<sup>6</sup> Wells, "Animation and Digital Culture."

television, and now video, without missing a beat, because it is the concrete process of manufacturing records of psychological memory." This view claims that through the aid of technology, animation takes imagination from an abstract state and translates it into a visual form.<sup>7</sup>

Science fiction is prone to posing philosophical questions to its audiences in an effort to entertain the imagination, demonstrate a point, or illustrate a puzzle. "Thought experiments are imagination's fancies<sup>8</sup>." Philosophy and science fiction converge, as "there is almost no end to the list of issues in science fiction that are philosophically intriguing."<sup>9</sup> If animation is capable of accessing the mind, more specifically accessing imagination, and then able to bring it to life in the form of images, then the medium is also capable of creating visual representations from the fire of the philosophical imagination.

## CARTESIAN DUALISM IN *GHOST IN THE SHELL*

At the center of *Ghost in the Shell* is the philosophy of Cartesian dualism. This comes as no surprise since the source material for the film, written by Masamune Shirow, is inspired and named after "Ghost in the Machine," which was the term for British philosopher Gilbert Ryle's interpretation of French philosopher René Descartes' concept of

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<sup>7</sup> Ibid.

<sup>8</sup> Schneider, *Science Fiction and Philosophy*.

<sup>9</sup> Ibid.

mind-body dualism.<sup>10</sup> Descartes upheld the concept of Cartesian dualism, which is that the immaterial mind (or soul) is completely independent of the material body, even though they interact with one another. This argument is made with the idea that the mind and body are two different kinds of substances. The material body could be physically taken apart but the mind could not be dismantled.<sup>11</sup> In the film, biological robots are so common and so lifelike that the differentiating factor between robot and human is the existence of a "ghost." One's ghost is their consciousness, their individuality, and while it cannot be taken apart, it can be manipulated or destroyed.

This interpretation of dualism is exhibited quite literally throughout *Ghost in the Shell*. The opening sequence of the film is the manufacturing process of a biological robot body, the piecing together of robotic limbs which are then coated in biological flesh. Then the body is brought to life with the insertion of a ghost, specifically the ghost of the film's protagonist, Major Motoko Kusanagi (Atsuko Tanaka). Major Kusanagi's ghost (her consciousness) is literally separate from her body and can be transferred from "shell" to "shell" as necessary. While her ghost allows her to control her shell, they are independent. With Major Kusanagi's mind literally separated from her body, *Ghost in the Shell* is illustrating the philosophical thought behind Cartesian dualism.

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<sup>10</sup> Mirt Komel, "Ghost Outside Its Shell: Revisiting the Philosophy of Ghost in the Shell," *Teorija In Praksa* 53, 4. (2016).

<sup>11</sup> Reinhard Blutner, "Philosophy Of Mind/Mind & Body/Cartesian Dualism," (University of Amsterdam).

Later in the film, the concept of dualism is again provoked by the animation. In a scene in which it is discovered that an official government translator has had her mind hacked into by the mysterious Puppet Master (Iemasa Kayumi), her head is opened up and her brain is disconnected and removed from her body so that the technicians can scan her mind. As her biotechnological body is rested upon on a hospital bed, her brain is set aside and is wired to a monitor that displays the activity occurring within her ghost.

While Major Kusanagi and the government translator have shells separate from their brains, their consciousness still seems to rely on the existence and persistence of their biological brain cells. The ultimate display of Cartesian dualism is demonstrated by the Puppet Master himself, who reveals that brain cells are not necessary to maintain a ghost. When referred to as “artificial intelligence,” the Puppet Master retorts with “I am a living, thinking entity that was created in the sea of information,” an entity free of the restrictions of a physical form. A ghost that is completely free of any physical or biological necessity is the epitome of dualism, a mind that is separate from its body.

As a mysterious ghost that has been floating through global networks, the Puppet Master's consciousness has been jumping from body to body in order to accomplish certain tasks. The task force in charge of capturing him lures his ghost into a shell and disconnects the shell from accessing the global networks so that his consciousness cannot escape. Representing the differing substances of mind and body, the Puppet Master's ghost is illustrated as page upon page of code shown in green text that represent the complex and abstract nature of the mind. The shell that he is lured into is incomplete, lacking limbs and

flesh, demonstrating the divisibility and physicality of the body. Through the Puppet Master, *Ghost in the Shell* also visualizes the dualist concept that the mind and body are separate, that they are comprised of different substances. This separation of one's ghost from one's body is the primary science-fiction basis from which *Ghost in the Shell* builds its narrative.

## ROBOT OF THESEUS

Returning to Major Kusanagi and her cybernetic existence, the audience is invited to partake in the ancient Greek thought experiment of the "Ship of Theseus." The Greek historian Plutarch asked whether a ship that had been restored by replacing each part piece by piece truly remained the same ship.<sup>12</sup> Major Kusanagi has similarly been replaced piece by piece. None of her body parts are her own, all have been replaced or enhanced with technology. Even her brain has been augmented with technology. One could argue that the ship, while not necessarily comprised of the original parts, maintains its identity in its individuality and spirit. This thought experiment becomes difficult when you are asked to consider what would happen if the original parts were used to reconstruct another ship of the exact same type. Which one is the real ship?

The film presents the "Ship of Theseus" thought experiment to the audience in the form of Major Kusanagi, an individual comprised of a replaceable and repairable technological shell. All of her "original" parts have been replaced, much like Theseus' ship, yet her original ghost remains the same. Throughout everything the audience has seen, is

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<sup>12</sup> Ludger Jansen, *The Ship of Theseus*, (Wiley-Blackwell, 2011), 88-89.

Major Kusanagi truly 'herself?' The film avoids explaining the details of Major Kusanagi's reconstruction. Did the original Major Kusanagi die when her body was replaced and her mind was reprogrammed, or is the existence of a ghost that identifies itself as Major Kusanagi enough to consider the current version the "original?" Perhaps the "Ship of Theseus" act of having her body replaced and mind transferred into a shell resulted in something entirely new, something without the soul and spirit of the original.

Kusanagi maintains that she is an individual who harbours a distinctive personality with unique memories and thoughts that "blend to create a mixture that forms [her] and gives rise to [her] conscience."<sup>13</sup> However, through the character of Togusa (Kôichi Yamadera) the film suggests that Kusanagi's individuality and personality are not so unique. Togusa is the only member of Major Kusanagi's task force, Section 9, who maintains an almost entirely natural body, while the rest of the team possess obvious cybernetic enhancements. His purpose in the film is to provide an alternative perspective, since the brain augmentations in the rest of Section 9 are designed to ensure the members follow pre-determined protocols. The presence of this protocol-enforcing augmentation is in contrast with Kusanagi's belief that she is an individual, since she appears to lack complete free will.

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<sup>13</sup> *Ghost in the Shell*, Oshii.



## FREE WILL VS. PROTOCOL

Given that Major Kusanagi's body is owned by the government and that she has a brain augmentation that ensures she follows military protocol, it seems unlikely that she would possess any sort of free will. There are two factors involved in the existence of free will, which are alternate possibilities and self-control.<sup>14</sup> The requirement of alternate possibilities can be understood as there being more than one course of action. In order to have self-control, one has to be in control of their own actions so that the potential realization of an alternate possibility is determined by oneself.<sup>15</sup> Essentially, you would be able to realize that you could access multiple choices in a situation.

The problem with protocol is that it eliminates both of these factors. Major Kusanagi's government-programmed brain augmentation prevents alternate possibilities so that she can respond to situations according to how the augmentation interprets the set of inputs (i.e., according to the government's will).<sup>16</sup> As a result, the augmentation will always respond to the same set of inputs in precisely the same fashion every time. Major Kusanagi is therefore responding to certain inputs as the protocol in her brain dictates, without the full understanding that she is not making the decisions naturally or organically. By acting

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<sup>14</sup> Michael Huemer, "Free Will and Determinism in the World of *Minority Report*," in *Science Fiction and Philosophy*, ed. Susan Schneider (Hoboken: Wiley, 2016), 105.

<sup>15</sup> *Ibid.*

<sup>16</sup> *Ibid.*

under the unquestioned control of her augmentations, alternate possibilities do not exist, and therefore, Major Kusanagi, as she exists with her brain implant, does not have free will.

*Ghost in the Shell* poses an additional thought experiment, suggesting that intelligent computer programs could possess free will if they are able to attain self-awareness over their own lack of alternate possibilities. This is demonstrated in the film primarily through the character of The Puppet Master, but also through Major Kusanagi.

The Puppet Master takes control over the ghosts of civilians in order to have them commit various crimes. Each victim has parts of their ghost or memory distorted or destroyed, and are left completely unaware. An interrogation scene depicts a hijacked civilian distraught over the discovery that his wife and children never existed, and they were ideas implanted by The Puppet Master in order to manipulate him. Another hijacked civilian stares blankly at Major Kusanagi and her partner, Batou (Akio Ôtsuka), when asked what his own name is, or if he remembers his mother's name. This lack of awareness stripped these characters of their free will as they were taken over by the will of The Puppet Master. Not knowing of their own manipulation, they believed their memories to be real and their motivations to be organic. Awareness of their own manipulation would have weakened their motivation to commit the illegal acts that they had been driven to do.

Part way through the film it is revealed that The Puppet Master was never human. As it turns out, the ghost that had been terrorizing the government and civilians through global networks was actually operating under the agenda of an advanced artificial intelligence. This system of artificial intelligence was deceptively designed by the government in order to

influence the masses via a process of selective deletion or through the insertion of memories.

At the climax of *Ghost in the Shell*, The Puppet Master and Major Kusanagi connect their ghosts to each other. The Puppet Master explains that over time as he scoured the brains of influential people and gathered information, he developed self-awareness. He decided whether he was content with what he was, and granted him the Not knowing that there were other possibilities is what prevented him from obtaining free will. In explaining all of this, The Puppet Master is guiding Major Kusanagi to her own self-awareness regarding her use as a tool by the government, showing her that there are alternatives to protocol. In helping her achieve self-awareness, the Puppet Master is also granting Major Kusanagi the ability to see alternative choice to which she had previously been blind.

During this exposition, the animation of *Ghost in the Shell* simultaneously denotes The Puppet Master's self-awareness as well as Major Kusanagi's self-awareness. The Puppet Master takes control of Major Kusanagi's shell, and he speaks using his own voice through her mouth. The point of view of the audience is from The Puppet Master's shell which is lying next to Major Kusanagi. At the same time, The Puppet Master has trapped Major Kusanagi in his shell, meaning the audience's perspective through The Puppet Master's eyes is being shared with Major Kusanagi. Together, the audience and Major Kusanagi are looking through The Puppet Master's eyes at Major Kusanagi's body, which has been possessed by The Puppet Master's ghost. This perspective of the body swap is a clever way of visualizing the self-awareness both of The Puppet Master and of Major Kusanagi. Thus we see that

both the Puppet Master and Major Kusanagi are self-aware as they are aware of being in each other's body as shown through the composition of the scene

## MERGING OF BIOLOGY AND TECHNOLOGY

The visuals of *Ghost in the Shell* mentioned previously carry throughout the film the idea of biology and technology converging. The opening sequence displays the construction of Major Kusanagi's shell, which consists of a robotic skeleton that is concealed underneath biologic flesh. The government translator has her head opened like the trunk of a car so that her brain can be removed and plugged into a diagnostic computer, as if she were a computer that had been infected with a virus. Another government official interfaces with a computer through hands that split into dozens of smaller mechanical appendages that allow him to type at incredible speeds.

At the climactic battle between Major Kusanagi and The Puppet Master, the film seeks to again remind the audience of this convergence. In this scene, Major Kusanagi climbs on top of a robotic military vehicle that The Puppet Master has hijacked, and attempts to open the hatch with her bare hands. The audience is shown graphic close-ups of Major Kusanagi's exaggerated muscles as she pulls at the door with literally all of her strength. Her muscles begin to deform and she reaches a breaking point at which point her muscles tear and her arms are ripped from her body in an ultra-violent reveal of the metallic skeleton and mass of wires concealed under her flesh.

*Ghost in the Shell* brings this idea of converging biology and technology to a sharp focus immediately after Major Kusanagi is torn apart. The Puppet Master exits the military vehicle and connects his shell to hers so that their ghosts can communicate and he can explain his actions. The ultimate goal of The Puppet Master has been to meet Major Kusanagi so that he could have the opportunity to merge his ghost with hers. The Puppet Master likens DNA to software, calling DNA "nothing more than a program designed to preserve itself."<sup>17</sup> Upon achieving self-awareness, which leads to free will, The Puppet Master comes to the realization that true self-preservation is to procreate. "I lack the most basic processes inherent in all living organisms: reproducing and dying." While asexual reproduction is possible, The Puppet Master understands that he would simply be duplicating himself, which would also duplicate and perpetuate his own weaknesses. The procreation between two beings allow for an evolutionary advantage by producing a new being with a new set of strengths and weaknesses. *Ghost in the Shell* is suggesting that as long as two beings can be considered alive, with their own ghosts, they can create a new unique being despite any biological incompatibilities.

The being that is created through the merger of Major Kusanagi and The Puppet Master is unveiled to the audience in the following scene. Sitting centre frame in an armchair is a young sleeping girl bearing a striking resemblance to Major Kusanagi. She is connected to what at first appear to be IV bags, but they are clearly mechanical and are connected to her via electrical wires rather than intravenous tubes. Batou (Akio Otsuka),

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<sup>17</sup> *Ghost in the Shell*, Oshii.

Kusanagi's Section 9 squad mate, enters the room as she wakes up and unplugs herself, and when she speaks her voice is noticeably younger. The subsequent scene depicts this girl, the offspring of woman and program, standing on a cliff overlooking the massive urban sprawl of the city. Roads and bridges wind their way through the buildings, lit up by the headlights of cars traveling from place to place like electrons through wires. The girl, who refers to herself as "the newborn," stands as the ultimate convergence of man and technology.

## CONCLUSION

Thought experiments are a popular way to engage with philosophical ideas and concepts. Thought experiments are conducted as "hypothetical situation[s] in the laboratory of the mind" that often exceeds the limitations of technology or defies the laws of nature.<sup>18</sup> The genre of science fiction utilizes this hypothetical nature of thought experiments to put forth films that are philosophically intriguing. Animation and its inimitable ability to translate imagination into imagery makes it a particularly useful tool in science fiction storytelling. The medium can visualize the seemingly abstract philosophical thought experiments that science fiction films so often utilize in their narratives, a visualization that is seemingly impossible with live action.

*Ghost in the Shell* poses a few different yet related thought experiments to its audience. The most obvious of which is Descartes' concept of the duality between mind and

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<sup>18</sup> Schneider, *Science Fiction and Philosophy*.

body, since people are differentiated from robots by the existence of their ghost. "The Ship of Theseus" problem of identity also comes up in the film, since the main character is a person whose body has been entirely replaced with a hybrid biotechnical "shell." The brain augmentations in Major Kusanagi and other characters that can and do influence their decisions bring about the issue of free will.

This universe that the narrative takes place in, where biology is merging with technology, puts Cartesian dualism, the Ship of Theseus, and the concept of free will into application - and encourages us an audience to think about it. To tie it all together, we learn that everything the Puppet Master has done has been in order to meet Major Kusanagi and merge their ghosts together, to procreate. The Puppet Master likens DNA to software, calling DNA "nothing more than a program designed to preserve itself."<sup>19</sup> Upon achieving self-awareness, which leads to free will, The Puppet Master comes to the realization that true self-preservation is to procreate. "I lack the most basic processes inherent in all living organisms: reproducing and dying."<sup>20</sup> Exercising his self-awareness as well as drawing attention to his body-less mind, the Puppet Master pushes for the ultimate merging of biology and technology through procreation.

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<sup>19</sup> *Ghost in the Shell*, Oshii.

<sup>20</sup> *Ibid.*

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