# CHANGES IN THE CONCEPTUALIZATION OF BODY AND MIND IN JAPANESE POPULAR CULTURE, 1950 - 2015

by

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# Abstract

This dissertation investigates changes in the conceptualizations of technologically-enhanced beings and bodies in contemporary Japanese science fiction anime, manga, and literature. These stories/images and real-life transitions make us consider such issues as what constitutes the body, how the body is now changing, and what the relationship between the body and the self/mind might be. In order to understand ourselves and contemporary conditions and issues, which occur in specific relation to differences inherent in each body—sex, race, disability, disease, and so on—it is essential to analyze these changes in body notions as contemporary visual media themselves critique and discuss them.

Emerging from a close reading of texts from the 1950s to the 2010s, and utilizing theories from Donna Haraway, Yōrō Takeshi, and others, this project argues that, since the 1950s, Japanese popular culture has created a wide range of imagined technological bodies, the depiction of which engages with important philosophical and ethical questions. In addition, although some works from the 2000s and 2010s present sentient beings that are essentially bodiless, we see a generally steady trend toward an emphasis on the importance of the material body, as well as increasing monism as opposed to Cartesian dualism. Another trend exposed

through this study is the surprising persistence of the categories of sex, gender, and sexuality, even in depictions that are otherwise radically posthuman.

# Preface

This dissertation is original, unpublished, independent work by the author, Yuki Ohsawa.

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# Acknowledgements

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# Chapter 1: Introduction

> Body drift is everywhere in society and culture. Images of the corporeal body are the key visual language of contemporary politics.
>
> – Arthur Kroker, *Body Drift*–

As human beings, we have defined ourselves in terms of having "bodies," yet conceptualizations of the body are constantly changing. Recently, advanced technology has supplemented the human body, creating a range of possibilities. On the one hand, advanced technology can permit our bodies and lives to change for the better; on the other, it can lead the human body into a great deal of trouble. Technology is also a source of great influence on many works of science fiction,[1] whose visions of advanced technology have created images of new types of bodies. In turn, fictional narratives, especially science fiction with its innovative imaginations of embodiment, have inspired the people who create advanced technology.

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[1] According to *Oxford Dictionaries*, the definition of science fiction is "fiction based on imagined future scientific or technological advances and major social or environmental changes…" (*Oxford Dictionaries Language matter*, *s.v.* "science fiction," Accessed March 30, 2016, http://www.oxforddictionaries.com/definition/english/science-fiction.)
However, Richard Treitel's definition is even more apt as this project explicit traces changes in technologically-enhanced bodies. Treitel writes that, "Science Fiction is the literature of change. When a culture is undergoing a lot of changes due to scientific advances and technological developments, and expects to undergo more, it's hardly surprising if stories about these changes become popular as a way of expressing people's feelings (optimistic or otherwise) about change. Note that the changes may be in our ability to control the world, or just in our understanding of it." (Richard Treitel, "Definitions of what Science Fiction is and is not" in *What is ScF?* Accessed March 30, 2016, http://www.treitel.org/Richard/sf/sf.html.)

These stories/images and real-life transitions make us consider such issues as what constitutes the body, how the body is now changing, and what the relationship between the body and the self/mind might be. In order to understand ourselves and contemporary conditions and issues, which occur in specific relation to differences inherent in each body—sex, race, disability, disease and so on—it is essential to analyze these changes in body notions as contemporary visual media, such as manga and anime, themselves critique and discuss them. These forms of popular media are a rich source of information about the changes under discussion in social discourse and the social imagination at a given moment.

This dissertation will examine mainly manga and anime, not just as entertainment, but also as important texts worthy of consideration for those interested in discourses and conceptions of the body. As Sharalyn Orbaugh argues regarding one of the anime directors we will discuss here, "for Oshii, film is a kind of *performed philosophical speculation*. [His films] function to highlight and enact his *theories* regarding technobiopolitics" (emphasis added).[2] Like all texts

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[2] Sharalyn Orbaugh, "Cult Film as Affective Technology," in *Science Fiction Double Feature: The Science Fiction Film as Cult Text*, ed. J.P. Telotte and Gerald Duchovnay (Liverpool: Liverpool University Press, 2015), 84.

produced in response to specific cultural or historical ideas, some anime and manga should be considered as important visual media containing philosophical messages. Specifically, the materials that I have chosen for analysis concern themselves with the ways in which technology transforms the body—into new, hybrid forms, or into technology itself. The narratives and visual expressions of these texts propose answers for the question of who controls the body, and offer interpretations of the meaning of the body. For example, as we shall see in Chapter Two, in early postwar Japanese robot anime, such as *Testujin 28 gō* (Gigantor) and *Mazinger Z*, humans control robots and other forms of technology. Two categories of bodies—the human and the robotic—exist separately, and one controls the other: the two types of body exist within a hierarchical power structure.

However, anime in the 1990s start to show a new type of body: a hybrid, formed from the merger of two or more organic bodies, and /or a combination of artificial entities. In short, there is no longer a boundary between the two different bodies/entities, but the question of hierarchy between the component parts does sometimes still arise. In addition, the 1990s' stories focus much attention on the brains of those bodies. For example, since the 1990s, the term "cyberbrain" *(dennō)* has become popular; this has happened in conjunction with the

increasingly popular discussions of neuroscience in the Japanese media.

In other words, since the 1990s, some science fiction anime and manga have depicted posthuman characters to show the necessity of changing the contemporary conceptualization of the body—that is, to argue that the relation between the *modern* (as opposed to postmodern) body and mind do not fit the current posthuman situation, which, as I shall discuss in detail in Chapters 2 and 4, includes such beings as cyborgs and other technologically-enhanced bodies.

In recent years advanced technology has become capable of using inorganic matter to vary not only the body's exterior, but also its interior. Yōrō Takeshi, an emeritus professor of anatomy at Tokyo University, and highly knowledgeable about both neuroscience as well as Japanese social history, proposes several reasons why the human body has been supplemented with advanced technology in the Japanese context. His specialty is the neurology of the human body, and he discusses in depth something we may identify as one of the universally foundational features of the way humanity defines itself: the function of the human brain as well as the relationship between the brain and the body. Given this universality as a central feature of his work, I employ Yōrō's biological perspective when I discuss the human body as a biological and material object. However, his work also touches on central aspects of Japanese social history

as well as Japanese thought and the cultural and historical influences on Japanese ideology, and so I also employ his perspectives on Japanese culture, thought, and society when I specifically argue the relationship between the body and mind in the Japanese context.

According to Yōrō, since the Edo period, Japanese people have tried to exclude evidence of the body's unruliness and "naturalness," such as disease and death, from society, and attempted to control and rule their bodies, because the human brain neither likes nor reacts well to unexpected and uncontrollable things.[3] Yōrō calls this situation, in which the brain controls and rules the body to create a controllable city/society, a "brain-regulated society" *(nōka shakai)*. As we shall see, many science fiction manga and anime in the postwar period have explored and often critiqued the ramifications of this sort of "brain-regulated society."

Yōrō argues that a fundamental problem with the way Japanese people have conceptualized the body has led to problems in many historical periods. (Although the "brain-regulated society" is a phenomenon of all developed nations to varying extents, Yōrō focuses his argument on the way it has particularly affected *Japanese* society at specific historical moments.) Because of the conditions and effects of this "brain-regulated society," and

[3] Yōrō Takeshi, *Nihonjin no shintaikan no rekishi* (Kyōto: Hōzōkan), 61.

the lack of a corresponding ideology of the importance and centrality of the body, Japan developed the Kamikaze Special Attack Forces during the Second World War, but has not even now been able to develop a full understanding of individualism, he contends.[4] He goes on to argue that even after WWII we can still see the persistence of the ideology of bodily sacrifice in society, such as in the phenomenon of *karōshi* (death from overwork), as well as in popular culture, such as in the specific features of characters like Tetsuwan Atom (*Astro Boy*).[5] As Yōrō argues, Japanese society has lacked an ideology of the body, even though Japan has developed complex and functional conceptions of the mind, such as "wakon" (Japanese soul) or "Yamato -damashii" (soul of Yamato).[6] In other words, Japanese society and intellectuals have not yet

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[4] Yōrō Takeshi, *Yuinōron* (Tōkyō: Chikumashobō, 1998), 253.

[5] "Testunojo Uehata, the medical authority who coined the term, defines *karōshi* as a condition in which psychologically unsound work processes are allowed to continue in a way that disrupts the worker's normal life rhythms, leading to a buildup of fatigue in the body and accompanied by a worsening of preexistent high blood pressure and a hardening of the arteries, finally resulting in a fatal breakdown". Paul A. Herbig and Fredeick A. Palumbo, "*Karōshi*: salaryman sudden death Syndrome" (*Journal of Managerial Psychology*, Vol. 9 Iss 7), 11.
Since 1988, the term *Karōshi* has come into use in Japan. According to the Ministry of Health, Labour and Welfare, in 2014 the number of industrial accident compensation claims was 763, with 242 of these relating to death. The number of the industrial accident compensation claims has remained steady at approximately 800 per year, with roughly 300 deaths, since 2002. It is one of the most serious social issues in Japan.
http://www.mhlw.go.jp/file/04-Houdouhappyou-11402000-Roudoukijunkyokuroudouhoshoubu-Hoshouka/h26noushin.pdf

[6] Ibid., 254. *Wakon* is often used in the same way in *Yamato-damashii*. *Yamato damashii* means "Japanese sprit/soul. One millennium ago, the term originated from cultural antithesis with Chinese learning, and in the last century, it became a talisman for ultra-nationalists." Michael Carr, "*Yamato-Damashii* 'Japanese Sprit' Definitions" in *International Journal of Lexicography.* http://ijl.oxfordjournals.org/content/7/4/279

given the same deep consideration to the meanings/character of the body as they have to the issue of the mind, and have, to a certain extent, precluded the issue of the body from ideological or theoretical development. In Yōrō's words, "we do not exist for our bodies."[7] That is the extent of the ideology of the body in Japanese society, and it obviously contains a number of limitations, contradictions, and oversights. In fact we may even argue that these limitations have made possible some of the egregious misuses of the body, especially in the historical context of WWII (the Kamikaze forces) or the post-war devotion of the salaryman body to the corporate system (*karōshi*).

As Yōrō points out, the human brain prefers controlling everything, including its body. Thus, the brain has tried to eliminate its naturalness through developments in advanced technology.[8] In fact, we can easily find examples of advanced medical technology functioning as a support or supplement to the human body in contemporary Japanese society. Also, quite naturally, since early in Japan's modern period, there have been many more, and vastly different, imaginative depictions of various types of technological bodies in science fiction. Particularly since the 1950s, Japanese popular culture, such as manga and anime, has created a wide range of

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See more detail in Kazai Yoshishige's *Wakonron nōto* (Tōkyō: Iwanami, 1984)

[7] Yōrō Takeshi, *Yuinōron*, 252. *[wareware no nikutai no tameni sonzaisuru wakedewanai]*

[8] Yōrō, *Nihonjin no shintaikan no reskishi*, 61.

imagined technological bodies—robots, transformable bodies, and cyborgs.

However, if the human brain keeps excluding its naturalness, what will be left? Some works from the 2000s and the 2010s explore some of the possibilities or logical extensions of contemporary trends—that is, they present to us sentient beings that have become in fact totally bodiless, living completely in the Internet; beings reduced to a small chip; or beings that retain only a small portion of the traditionally-understood, organic part of the human body—for example a part of the organic brain, reduced to its essential function, such as the visual icon or the voice, with which to "exist" or "connect" to others. In this we see some of the new conceptualizations of the body, which allow us to argue that science fiction stories that explore the characteristics of "the posthuman" center themselves around representations of the body. In fact, in the near future advanced technology may in actuality be able to create those hybrid or even bodiless posthuman characters—similar manifestations of advanced medical technology have already supplemented contemporary human bodies.

Therefore, we need to consider questions around the border between the self and inorganic matter; or, to put it another way, if you keep your brain but have an inorganic body, are you still "you"? How much of your body can be replaced with inorganic or artificial parts before

it is no longer human? Can an inorganic, human-shaped body have a mind and "love" others? What is the relationship between the enhanced/altered body and memory or identity? How can a hybrid body, composed of more than one person/living thing, identify itself? Can a physically bodiless being endowed with artificial intelligence exist as a human if its intelligence allows it to connect to technological devices? Fundamental questions such as these are at the heart of many Japanese SF manga, anime, and novels, including the ones I analyze here.[9]

My research focus is on representations of technologically-enhanced beings and bodies in contemporary Japanese SF anime and manga, and so my dissertation will not delve deeply into definitions of modernity and postmodernity as such. Rather, I structure my argument around a distinction between philosophical ideas associated with modernity, such as a dualistic vision of the body and mind, and self and other, as seen in the fundamental question, "who am I?", versus the breakdown of those dualities, a philosophical position associated with postmodernity. In the earliest texts I look at, modern-type dualisms are conspicuous, but later materials actively challenge dualistic structures. There is a discourse implicit here, of course, of the relationship

[9] It goes without saying that science fiction works in other developed nations also address these issues, and that popular texts frequently cross linguistic, cultural, and national boundaries to produce cross-fertilization in the conceptualizations of the mind-body relationship. While my main focus in this study is to trace the conceptualizations of the body in Japanese popular culture, I will also draw attention to some of the *cross-cultural* influences and flows that will be addressed at greater length in future projects.

between the mind and the body, and in fact throughout this dissertation I often use the term, "body," rather than "body-mind," or "mind" because I take the position that the mind and the body share one source. In Japanese we can express this as *shinshin ichigenron*: the belief that the mind comes from the body; the mind and body are inseparable.[10] Theorists of affect and memory, too, drawing on the work of biologists, have stressed that even these intangible elements of human-ness, most often associated solely with the brain/mind, arise from the body more generally.[11] Further, Yōrō's description of the physical origins of the "mind" emphasizes that, because the brain is connected with all parts of the body through the nervous system, mind arises from the body as much as the brain, and the two cannot be separated.[12] My research proceeds from this more monistic sense of the relationship between the body and the mind, and thus, even though I may seem to focus primarily on the "body," my discussion necessarily also considers the (embodied) mind as well.

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[10] According to Yōrō, discussing this topic in neurological terms, a brain and a body cannot be separable because the peripheral nervous system is spread throughout the body, and the brain and the peripheral nervous system work in concert (p. 41). However, the brain has tried to control its body as if a separation were possible. I discuss this further in Chapter 5.

[11] In *The Transmission of Affect* (2004), Teresa Brennan argues that one person's emotion and energies can move to or be absorbed by another. By discussing how our bodies biologically interact and respond, she insists that there is no boundary between the individual and the environment; that is, our bodies are not self-contained. (Ithaca, N.Y.: Cornell University Press), 6.

[12] *Yuinōron*, 41.

In recent years, academic research into cyborg anime has been increasing in North America, especially regarding anime from the 1990s to 2000s. Scholars such as Susan J. Napier, Steven T. Brown, Sharalyn Orbaugh, and Christopher A. Bolton (among others) have focused particularly on two specific anime, *Ghost in the Shell* (1995) and *Ghost in the Shell 2: Innocence* (2004), to discuss cyborg subjectivity and gender, posthuman/technological bodies, the technological uncanny, and the connection between premodern dolls/automata and the postmodern body.[13] In addition, one of the most famous of Tezuka Osamu's anime, *Astro Boy*, has often been the subject of discussion among anime scholars, because of its status as presenting the first and the most outstanding robot character in the genre, which has inspired Japanese robotics scientists[14] and still is widely known both within Japan and globally.[15]

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[13] On *Ghost in the Shell*, see, for example: Susan J. Napier, "Doll Parts: Technology and the Body in *Ghost in the Shell*" (2000); Steven T. Brown, "Machinic Desires: Hans Bellmer's Dolls and the Technological Uncanny in *Ghost in the Shell 2: Innocence*" (2008); Sharalyn Orbaugh, "Sex and the Single Cyborg: Japanese Popular Culture Experiments in Subjectivity" (2007); and Christopher A. Bolton, "From Wooden Cyborgs to Celluloid Souls: Mechanical Bodies in Anime and Japanese Puppet Theater" (2002). In addition to those major publications, a search of Google Scholar turns up many more articles about *Ghost in the Shell* written by people who have little or no expertise in Japanese Studies, showing that its *philosophical* nature has been recognized widely. See, for example, the scholar of political geography, Giorgio Hadi Curti's "The ghost in the city and a landscape of life: a reading of difference in Shirow's and Oshii's *Ghost in the Shell*" (2007); the scholar of evolution and technology, Austin Corbett's "Beyond *Ghost in the (Human) Shell*" (2009); or sociologist Osawa Masachi's "Kokakukidoutai SAC no hēgeru teki shinjitsu" [*Ghost in the Shell SAC*'s Hegelian truth] (2005) and so on.

[14] One of the most famous Japanese robot creators, Takahashi Tomotaka, mentions in an interview that the contemporary real-life concept of robots in Japan has been heavily influenced by Astro Boy (NHK Co-productions, "The century of Astro Boy"). Asada Minoru of Osaka

In Japan, cultural studies scholars such as Ueno Toshiya and Tatsumi Takayuki have examined cyborgs, robots, and other posthuman entities in connection with what they argue is Japan's particular relationship with the posthuman: Ueno identifies a thematic (and ideological) trend that he calls "techno-orientalism" in postwar animation, and Tatsumi discusses the figure of the "Japanoid" in popular culture.[16] However, none of these scholars, in Japan or North America, has focused on the conceptualization of the body and its changes through the 1950s to the 2010s, as I do here.

In addition, some Japanese researchers, supported by the Japanese government, have analyzed Japanese "gigantic robot" anime to show how they have developed in the context of Japanese society[17]; however, this work often reflects what we may identify as the government's aim of emphasizing Japanese-ness in order to put the national Japanese "brand" onto robot

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University and Fukuda Toshio of Nagoya University have similarly cites Astro Boy as an inspiration for their eventual careers in robotics.

[15] According to *Zusetsu Tesuwan Atomu* (*Diagram: Astro Boy*, 2003), between 1956 and 2003, nineteen versions of *Astro Boy* were published. That clearly shows that Astro Boy has been very popular in Japan. And in 2009 David Bowers directed a U.S./Hong Kong animated film production of *Astro Boy*, voiced by Hollywood stars like Charlize Theron and Nicholas Cage, suggesting its popularity and influence outside Japan as well.

[16] Ueno Toshiya, "Japanimation and Techono-Orientalism" in *The Uncanny: Experiments in Cyborg Culture*, ed. Bruce Grenville, (Vancouver: Arsenal Pulp Press, 2002), 223-235. Tatsumi Takayuki, "Gundam and the Future of Japanoid Art" in *Mechademia vol 3: Limits of the Human* (Minneapolis: University of Minnesota Press, 2008), 191-198.

[17] See, for example, Hikawa Ryusuke, "Japanese Animation Guide: The History of Robot Anime." (2005), 1-9.

anime—despite the fact that the research actually shows that Japanese robot anime have been deeply influenced by western science fiction.[18] In contrast to the government's tone of Japanese exceptionalism, in this study I discuss such *universal* issues as gender and heterocentrism that appear in robot anime (and manga), because of the extent to which forms of Japanese popular culture have become widely disseminated in the world, and have provided opportunities to discuss those issues—normative sex and gender, and heterocentrism—among not only Japanese but also non-Japanese audiences as well. In addition, this study focuses on the changes of conceptualizations of the body, including the relationship between body and mind, to expose self-understanding/self-conceptualizing in each period, thereby contributing not only to the scholarship of science fiction manga and anime, but also to social and cultural research on the way Japanese audiences and creators have imagined the projected future of the body and mind relationship, and organic and inorganic matter relations.

One of the aims of this dissertation is to analyze Japanese popular culture—anime, manga and literature—to reveal the persistence of gender ideology (including biological sex and

[18] Hikawa Ryusuke, "Japanese Animation Guide: The History of Robot Anime." Commissioned by Japan's Agency for Cultural Affairs, Government of Japan. Compiled by Mori Buiding Co., Ltd. (2013), 1-9.
http://mediag.jp/project/project/images/robot_animation_report.pdf

sexuality) even in complex representations of the posthuman condition. I argue that even philosophical anime, which deeply explore the possibilities of the posthuman, have not gone beyond the categories of gender, sex, and sexuality, even though they have engaged with the new conceptualizations of the body. In other words, my work reveals the contradictions of the posthuman body; for example, one fundamental aspect of the robotic/cyborg body is that it has excluded naturalness, such as sex organs, which function in pregnancy and giving birth, so that reproduction may be completely controlled (or eliminated). However, at the same, these non-sexed posthuman characters are often portrayed in ways that remain strongly gendered, and the stories themselves maintain heterocentrism. Therefore, this dissertation focuses on analyzing popular cultural depictions of the posthuman body in order to trace the discourses that those depictions both participate in and create, such as those around ideas of "naturalness," gender, and sexuality.

In this study, the phrase "posthuman body" refers to a transgression of the body by and into technology, as exemplified by cyborgs, clones, robots transformable bodies, etc. Accordingly, I employ the perspectives of cyborg theorists, such as Donna Haraway, N. Katherine Hayles, Kotani Mari, and Elaine Graham, in addition to Yōrō Takeshi's work, based

on neuroscience and Japanese theories of body, consciousness, and embodiment (illustrations and conceptualizations of body images). Like Yōrō, cyborg theorists such as Haraway and Hayles also combine aspects of biological and computer science with discussions of literary and other texts in their discussions. Finally, I also employ Harvie Ferguson's perspective on modernity and the modern body image in order to clarify the differences between modern and postmodern (and posthuman) bodies.

Structure of the Dissertation

Chapter Two provides a detailed overview of the research project and explains the terminology and theoretical constructs used in it. I do an initial exploration of my major questions: what is the body; how is the body now changing; what is the relation between the body and the self/mind; and what kind of issues do anime and manga persist in illustrating. I also present an overview of the conceptual tools I will be using, such as the distinction between modern conceptualizations of the body and posthuman ones, between monism and dualism, idealism and materialism, as well as more specialized distinctions such as that between "integrated body (or endo-enhanced) cyborgs"' and "prosthetic (or exo-enhanced) cyborgs." Moreover, I explain the reasons for choosing the specific manga, anime and literature addressed

herein, and the methodology I will employ.

In Chapter Three, I discuss 'metal bodies' in Japanese anime from the 1950s to the '80s, as they become a popular representation of the body in Japanese media as well as a representation of a new conception of the body at the time. Although we can find many robot stories in the prewar period, the most notable robot, Astro Boy, was born in postwar Japan. I consider why the number of anime featuring robots dramatically increased in postwar Japan, and also how robots function in the stories. This chapter demonstrates a genealogy of Japanese robot anime from the 1950s to the 1980s in order to reveal its essential feature, the metal body, and to compare it with the new conceptualization of the body in 1990's anime, which I analyze in the next chapter. The texts addressed here include *Astro Boy*, *Cyborg 009*, *Doraemon*, *Gigantor*, *Mazinger Z* and *Gundam*.

Chapter Four explores the new concept of the body, the hybrid body/cyborg body, in 1990's Japanese anime. In this dissertation, the term "hybrid body" refers to the increasing synchronization within a single body of organic and inorganic parts combined to become one. Various narratives describe this hybrid body, conceptions of which were influenced more by advanced biological and medical technology than the engineering science which gave birth to the

metal robot body of 1950s to ‘80s anime. One of the important points is that this hybrid cyborg body goes beyond the modern notion of the body and mind, in which a singular ”self” belongs to a singular ”body.”

In this chapter, I contrast the work of one female author, Ōhara Mariko’s *Hybrid Child* (novel, 1993), with that of male anime directors: *Evangelion* (TV series, 1995, directed by Annō Hideaki), and *Ghost in the Shell* (film, directed by Oshii Mamoru, 1995). (Because of lingering sexism in the industry, there are no mainstream anime productions by women.) As we will see, even though Ōhara’s conceptualization of the posthuman gives us a different and more gender-aware point of view than that of the male anime directors, nonetheless, it also contains limitations in its treatment of sex, gender, and sexuality categories.

In Chapter Five I present conceptions in anime from 2000 through the 2010s of a completely new type of body, which tries to obliterate the idea of the modern body/mind through the invention of bodiless characters. The essential change consists of losing (or never possessing) a physical body while still existing as a self/artificial intelligence, which can think and have memories, within the confines of a particular device. This conception—which goes beyond even Haraway’s or Hayles’s idea of the cyborg—is explored in texts including *Ghost in the Shell 2:*

*Innocence* (film, 2004), *Kaiba* (TV series, 2008), *Rakuen tsuihō* (Expelled from Paradise; film, 2014), and finally *Shidonia no kishi* (Knights of Sidonia; manga, 2009-2015, and anime serial that began in 2014.) This chapter brings us up to present and on-going conceptualizations of the posthuman and shows the exciting new "queer" possibilities that to some extent transcend the hetero- and gender-normativity of earlier productions. As Japanese SF texts move beyond the theorizing of bio-philosophers and cultural/social critics, we see the ways that popular culture can itself constitute a form of philosophical or theoretical speculation.

Chapter Six, the concluding chapter, draws together the findings from each of the three substantive chapters (Three, Four, and Five), to derive some arguments about the implications of the diachronic changes in the conceptualization of the body: from the modern body notion to a posthuman body notion. As this dissertation focuses on analyzing the conceptions and representations of posthuman bodies, which I have identified as the transgression of the body by and into technology, through Western cyborg theorists' and Japanese scientific theorists' perspectives, it reveals the contradictions in these perceptions of the body, which have worked to exclude naturalness, specifically sex organs, but also have persisted in retaining heterocentric relations with the gendered body. One of the central arguments of the dissertation is that the

many categories of popular culture under discussion here—manga, anime and literature—even while presenting imaginations of beings that transcend the limitations of the organic body, have maintained fundamental features of a universal issue: the posthuman still cannot go beyond heterocentrism and gender normativity although the conceptualizations of the body have drastically changed. In addition to revealing these issues, Chapter Six summarizes how Japanese magna and anime from the 1950s to 2010s have provided diverse conceptualizations of the body, and its breakthrough points: how manga and anime characters have become posthuman. Because conceptualizations of the body have changed, the ways of illustrating selfhoods in these latest bodies—the hybrid body and the digitized body—also became key for providing suggestions toward answering those questions: what if you have your own organic brain but an artificial body—are you still you? Or can inorganic bodies or bodiless creatures still love and have feelings? Finally, this chapter indicates the direction of future research on this topic and its importance.

# Chapter 2: Theory

The Transhuman and the Posthuman

One of the central questions this study considers is how we understand and conceptualize the body. I argue that advanced technology, such as engineering, biology and computer science, have influenced artists and thinkers to recreate and critique conceptualizations of the body, and that, in turn, artistic representations of innovative embodiments have influenced scientists in their real-life work. There are many different ways of thinking about the influences of technology on the body, but we may categorize perhaps the two best known as the posthuman and the transhuman. Both of these center on the issues of technologically-enhanced beings and bodies; however, their ideological purposes and theoretical goals are different.

The posthuman, and posthumanism, provide us opportunities to think about what is human, and who and what could be considered within this term.[19] As Steffen Steinert argues, "our *self-understanding* is mediated by technology"[20]; posthumanists therefore consider or depict merger or enhancement of the body's capabilities with those of advanced technology, to have "a

[19] Kristi Scott, "Transhumanism vs. / and Posthumanism,"
[20] Steffen Steinert, "Taking Stock of Extension Theory of Technologyp.15, emphasis added

better *understanding* of embodiment and incorporation."[21] Posthumanists bring aspects of both biology and technology to try to enlarge conceptions of the human by, for example, showing the biological connections between humans and other animals to expose the equality between all living things, or using the binary digits, 0 and 1, of computer code to create a conceptualization of human bodies in the digital world that facilitates understanding them as equal. Thus, posthumanists try to destroy existing notions of living beings that have restrictive or prejudicial aspects.

On the other hand, the purpose of transhumanism is the development of a *fresh* body. According to Steinert, for transhumanists "technology is an enhancement, amplification, or acceleration of the bodily and mental capabilities and faculties that help us to realize our intentions."[22] Transhumanists focus on how technology can enhance and amplify human bodies to go beyond human bodily limitations. In short, the transhuman does not focus on how we might critique and exceed the normative *concept* of the human body, but focuses instead on challenging the organic bodily limitations by using advanced technology. In this study, I discuss both—posthumanism and transhumanism. As we shall see in detail in Chapters Three, Four, and

[21] Ibid.,16, emphasis added.
[22] Ibid., 9.

Five, Japanese visual culture and literature have depicted both "integrated body cyborgs" to re-conceptualize the notion of the human body in a posthumanist paradigm, and also "prosthetic exo-suit cyborgs" to show the extension of our lived body in a transhumanist manner. In the chapters that follow, the best examples of transhumans are Gigantor, Mazinger Z and Gundam. On the other hand, some of the creatures in *Hybrid Child* and *Kaiba* present the best representations of the posthuman. In fact, many bodies that I analyze in this study are enhanced or have artificial intelligence (transhumanism), while they also suggest alternative images of the body (posthumanism). Thus, these Japanese works of popular culture offer images of the body that in many ways utilize aspects of both the transhuman and the posthuman.

Another distinction important in the consideration of Japanese popular culture images of the body is that between post-humanism and posthuman-ism. As Orbaugh describes it:

> In the recent work of critical feminist thinkers like Haraway, Hayles, and Rosi Braidotti, a distinction is implied between post-*humanism*—a post-anthropocentric, anti-Humanist philosophical position with which they identify—and *posthuman*-ism, which is characterized as an outmoded celebration of the cyborg or other form of futuristic human.[23]

While, as we shall see, critical feminists were among the first to celebrate the cyborg

[23] Orbaugh, "Who Does the Feeling?, 207. Orbaugh cites Rosi Braidotti, *The Posthuman*; Donna Haraway and Nicholas Gane, "When We Have Never Been Human, What is to be Done?"; and N. Katherine Hayles, "Unfinished Work: From Cyborg to Cognisphere."

as a useful tool "to think with," they have in recent years repudiated the trend of transhumanism, which uncritically celebrates the technologically-enhanced posthuman body. (Rather than calling this "transhumanist," they tend to call it simply "posthumanist" or "posthuman-ist.") Instead, they insist, it is modern Humanism that needs to be rejected and replaced by a post-humanist (or post-Humanist) conception of life. Among the Japanese manga and anime texts addressed in this study are several that could be considered both *posthuman*-ist—interested in the new types of embodiment that technology makes possible and the new conceptions they bring with them—and post-*Humanist*—concerned with the new, broader, anti-Humanist conceptualizations of what it is to be human. One goal of the dissertation is to show the distinctions between these two types of future speculation (for example in the way that posthuman-ist texts retain modern, humanist, and therefore restrictive definitions of the human), but also to explore the ways that Japanese SF makes that distinction ambiguous in some cases. In some ways, as we shall see, Japanese popular culture sometimes uses posthuman-ist depictions of innovative bodies to reveal philosophical post-Humanist points that are not possible through philosophical writings alone. However, because the main focus of my research is on changes in the conceptualizations of the body to exceed existing categories and normativity, post-humanism is the more important rubric or index

for me. When the word “posthuman” or “posthumanism” is used hereafter (without the hyphen), it should be read primarily with that meaning in mind. When I am highlighting the distinction between post-humanist and posthuman-ist, I will once again use the hyphenated words.

This chapter introduces three theorists who offer fundamental perspectives from which to analyze the materials I have chosen. Firstly, I discuss Harvie Ferguson’s definition, which establishes key points of conceptions of the *modern* body: individuated and closed. Ferguson clearly shows that this image of the body, endowed with agency and equipped to live in modern times, is exclusively male. Rejecting this limited, gendered notion, posthumanists have criticized the image of the modern body and have created a new conceptualization to replace it.

Donna Haraway is the pioneer of posthumanist theory; she employs images of cyborgs as metaphors for people who have been discriminated against or excluded from the image of the modern body, in order to expose their existences and overcome the limitations of the modern concept of body. Haraway’s cyborg theory offers one of the most important perspectives from which to discuss the manga and anime in this study, because her theory can help us to realize how the new conceptualizations of bodies can exceed established normative boundaries.

Trained as a biologist, Haraway uses information and metaphors from science in her

reconceptualization of images of the body. In a like manner, Yōrō Takeshi's theory is also based on science, specifically anatomy and neuroscience. Furthermore, Yōrō discusses not only the human body, scientifically, but also Japanese culture and thought, in order to show how social history, culture, and the way of human thinking are related. Thus, these three thinkers' perspectives –Ferguson, Haraway, and Yōrō– are fundamental in analyzing Japanese science fiction manga, anime and literature to see the changes of conceptualization of the body. But before I introduce the main ideas of these scholars, I must define the problematics that configure their thinking as well as the foundations of this study: idealism vs. materialism; and dualism vs. monism.

## Definitions of Significant Terms

The term "idealism" refers to the belief that the mind/soul exists separately from the body except in the sense that it is contained inside it, and that when the body dies the mind/soul either dissipates or, as in Judeo-Christian beliefs, lives on in an afterlife. The idealist viewpoint can be summed up in the Cartesian phrase "Cogito ergo sum," "I think, and therefore, I am," which emphasizes that selfhood is entirely a matter of the mind. "Materialism," on the other hand, refers to the idea that body and mind are one thing, and that the mind arises as much from

the body as the brain. As we shall see, this problematic—idealism vs. materialism—is argued not just in philosophical terms, but in biological and computer science terms as well.

The term "dualism" simply denotes binary oppositions, such as body and mind, self and other, and female and male. In fact, in this study, dualism is closely related to idealism as they share a similar perspective: we may divide all aspects of this world into binary categories. On the other hand, monism suggests that everything derives from the same material substances, so this belief permits a conception, or at least the possibility of arriving at, a oneness. In this sense, monism does not dualistically distinguish things or categories, but denotes the fundamental unity of all things. This thought has obvious connections to materialism. Therefore, this dissertation exchangeably employs the terms idealism and dualism, as well as materialism and monism, when discussing the body and mind. These problematics configure the philosophical speculation performed by the popular culture narratives I examine here, as we shall see in detail in Chapters Three, Four, and Five.

## The Image of the Modern Body

Another important set of definitions for this study involves modernity and the modern conceptualization of the body and the posthuman body concept that is used in SF manga and

anime. Before discussing the posthuman body, we require a brief history of the conceptualization of the body, as well as a statement of what and how the *modern* body image was created. According to Harvie Ferguson,

> The ancient body image was a collection of organs each linked separately to a specific divine source of vitality. The body as a form and structure was little remarked and did not constitute a fundamental point of reference for thought and reflection on experience . . . . The historical transformation of this "organic" body image, through the religious and spiritual revolutions of the ancient world to a unitary structural principle in Plato, together with forms of dualism in later religion and philosophy that were subsequently integrated into Christianity, is fundamental for any understanding of the development of Western culture… (pp. 58-59).[24]

As Ferguson mentions, the earlier body notion in the Western world is "organs-without-a-body."[25] However, the notion of the body has changed over time: from fragmentation to unity; through religious revolutions; and under the influence of both Plato's thought and Christianity, both based on dualism. The dualistic body and mind relation is one of the most important elements of the modern body notion.

Ferguson also mentions that "Modernity, first of all, required a human body that could be autonomous, self-moving, and conscious of itself. Whether as Subject, Self, or Ego, Modernity was a concept that required embodiment to become fully meaningful; it was, in short,

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[24] Harvie Ferguson, *Modernity and Subjectivity,* 58-59.
[25] Ibid., 58.

a new way of experiencing the world and human agency."[26] However, at any given time, only a limited number of people could fully experience human agency, he stresses. Who are/were they? Ferguson answers by using a chart, which chronologically demonstrates body notions from the Ancient to the Posthuman. According to the chart, the image of the modern body is "epidermic, closed, individuated, male."[27] One noteworthy point in the definition of the modern body image is that it is "male," because only "male" people could experience human agency in modern times.

Posthuman (anti-humanist) scholars have highlighted exactly the points that Ferguson mentions: their work exposes the absence of the female or the excluded female body, and critiques the dualistic points of view, such as of body/mind, female/male, and subject/object, that are fundamental to the *modern* body notion. In real life, the body has changed, becoming open and hybrid, because advanced technology has started transforming human bodies. This is why posthumanists emphasize the need to re-conceptualize the notion of the body in the postmodern period.

As mentioned above, one well-known posthumanist, Donna Haraway, offers cyborgs

[26] Ibid., 20.
[27] Ibid., 77.

as a metaphor for women and disadvantaged people to analyze such issues as the limitations inherent in the modern body notion—the females and non-Caucasians who are excluded from it. The remarkable point of Haraway's perspective is that it not only reveals the identity of the people who are excluded from the modern body image, but also promotes an attitude of equality between organic and inorganic bodies—between humans, cyborgs, animals, and any living creature—because all of them have evolved together and continue to interact with and support each other to live. In order to clarify the posthuman body notion, I will now move on to a discussion of cyborg theory, first developed by Donna Haraway.

## Donna Haraway's Posthumanism

> A cyborg is a cybernetic organism, a hybrid of machine and organism, a creature of social reality as well as a creature of fiction. Social reality is lived social relations, our most important political construction, a world-changing fiction. The international women's movements have constructed "women's experience", as well as uncovered or discovered this crucial collective object. This experience is a fiction and fact of the most crucial, political kind. Liberation rests on the construction of the consciousness, the imaginative apprehension, of oppression, and so of possibility. The cyborg is a matter of fiction and lived experience that changes what counts as women's experience in the late twentieth century.[28]

Haraway is the pioneer of posthumanism, because she provides a conceptualization of the cyborg

[28] Donna J. Haraway, "A Cyborg Manifesto", 117.

to reveal the problematic category of "women" in the modern notion of the body. One of Haraway's main points is that social reality/experience itself is a fiction. For example, "female" as a sex category is a biological fact/reality; however, the category of "women"—often (mis)understood as synonymous with "female"– has been created by "fiction." Social reality and fiction are two sides of the same coin. Therefore, Hawaray uses the term "cyborg," which is "a matter [both] of fiction and lived experience," as a metaphor for women in order to provide an alternative creature that could go beyond the existing categories of sex and gender. Haraway called the alternative world inhabited by such creatures the "post-gender world."

> 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. In a sense, the cyborg has no origin story in the Western sense—a "final" irony since the cyborg is also the awful apocalyptic telos of the "West's" escalating dominations of abstract individuation, an ultimate self untied at last from all dependency, a man in space (pp. 118).[29]

As Haraway mentions, the conceptualization of the cyborg has not come from western mythology, and is not related to western religion, although the cyborg has emerged in some ways from the "dominations of abstract individuation," which is one of the main points of the modern body image. Haraway insists that the posthuman perspective critiques humanistic dualism, such

[29]Ibid., 118.

as culture versus nature, because "[n]ature and culture are reworked; the one can no longer be the resource for appropriation or incorporation by the other[, and] the relationships for forming wholes from parts, including those of polarity and hierarchical domination, are at issue in the cyborg world."[30] Therefore, as described above, "posthumanism" in my usage means two things simultaneously: post-Humanism, a philosophical trend that rejects the modern dualism that underpins Humanism; and posthuman-ism, the promotion of the idea that we are now in a new state of being, both physically (through technology) and discursively (through new, non-dualistic conceptualizations of the mind and body), as represented by Haraway's "cyborg." Although in some of her later work Haraway harshly criticizes the point of view she calls "blissed-out techno-idiocy," which asserts that all technological enhancement of the body is positive—a transhumanist point of view, though Haraway calls it posthumanist (post-humanist)—here in her earliest theorization of the potential of the cyborg we see that it is *both* posthuman and post-humanist.[31]

Haraway uses the idea of the cyborg not only to provide an imagination of a post-gender world, but also to reveal the limitations of those dualistic boundaries that are

[30] Ibid., 119.
[31] Gane and Haraway interview, 149.

increasingly ambiguous. One of the best examples here is the dualistic relation between organic versus inorganic matter; cyborgs have made this boundary ambiguous and therefore called into question the idea of identity as singular and stable. She states, "a cyborg world might be about lived social and bodily realities in which people are not afraid of their joint kinship with animals and machines, not afraid of permanently partial identities and contradictory standpoints,"[32] because such a world provides the possibility to erase these already-constructed categories and identities, and overcome them.

Therefore, the essential point of cyborg theory is hybridity; hybridity makes dualistic boundary ambiguous: "Literally, [hybridity] refers to the characteristics of plants or animals that are the offspring of individuals belonging to different species… Hybridity offers a possible release from the singular identities that are constructed when class, race or gender are used as primary categories."[33] Thus, hybridity and the hybrid body are also key points of my research.

In order to demonstrate the hybridity of the human body, in her later work Haraway examines the historical and continuing relationship between humans and other species. Her main example, in *Companion Species* (2003), is the age-old relationship between humans and dogs,

[32] Ibid., 122.
[33] David Macey, *Dictionary of Critical Theory.* (New York: Penguin, 2001), 192.

which reveals that human bodies have always needed "significant otherness" to survive and evolve. Haraway also demonstrates *how* humans and significant others (animals and micro-organisms) have affected each other, in biological terms. In an early essay, "The Biopolitics of Postmodern Bodies" (1991), she argues an "immune system discourse" to show that human bodies have continuously absorbed or repulsed bacteria and viruses to maintain themselves. Without the bacteria that live in the human gut, for example, we could not digest our food. The human body cannot create those bacteria and viruses, so they are significant *others*—life forms from outside ourselves that share our bodies and keep us alive (or harm us, in some cases). In other words, the human body is neither a complete nor a closed body, even though these are two of the essential characteristics of the modern body as it is usually conceptualized. Rather, the human body is open/ed: for absorbing bacteria and viruses necessary to human biological continuity; and also changing, because the body reacts to those bacteria and viruses whenever they come into or out of the body. Thus, the human body is never complete/d but is constantly changing inside and out. This body image is exactly that of the "postmodern body."

Yōrō Takeshi's *Yuinōron*

Interestingly, Yōrō Takeshi's writings parallel Haraway's cyborg theory. Like Haraway, he also insists that the human body is continuously changing because the human body is a living system.[34] For example, Yōrō discusses the citric acid cycle to explain how different molecules combine or decombine to become other molecules and maintain the cycle.[35] In other words, the body as a living system is always varying and never complete/d. On the other hand, information is immobile forever once the information is stated, he says.[36] (The significance of this will become apparent when we look at narratives that feature digitized humans—that is, humans that have been turned into static information—in Chapter Five.)

Furthermore, one of Yōrō's most significant works, *Yuinōron*, argues a monistic relationship between body and mind.[37] That is, like Haraway he critiques Cartesian idealism—the idea that the brain alone is the source of mind, that mind can be separated from the body, and that mind is the source of all thought, affect, and identity. As explained above, Yôrô's argument is that because the brain is connected to all parts of the body through the nervous system, "mind" cannot arise solely from the brain, and cannot be separated from the body.

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[34] Yōrō Takeshi, *Yōrō Takeshi no ningenkagaku kougi* (Tokyo: Chikumashobō, 2008), 69-71.
[35] Ibid., 72-74.
[36] Yōrō (2008), 69.
[37] Yōrō Takeshi, *Yuirōron*, 41.

Moreover, Yōrō's perspective on sex is also close to that of Haraway. As an anatomist, Yōrō does accept the idea of bodies as having biological "sex." But he explicitly rejects the usual, dualistic belief that the only categories for the sexed body are "female" or "male." He reminds us that in the course of fetal and childhood development, there can be several different outcomes occurring in any of the four biological areas involved in the consolidation of sex: 1) the chromosomes; 2) the gonads; 3) the external and internal genitalia; and 4) within the brain. Depending on the interplay of development of all of those areas, a variety of body types are possible: bodies we classify as "male," bodies we classify as "female," and a range of other body types all of which are "intersexed." Using biology, Yōrō thus affirms a posthuman conception of the body that disallows simplistic dualisms. .[38]

Another parallel between Haraway and Yôrô can be found in their criticism of what Haraway calls "blissed out techno-idiocy" and Yôrô calls the "brain-regulated society." Both warn against the effects of privileging the brain over the body, and believing that the products of the brain (such as technology) can eliminate the need for the body. Both Haraway's posthumanism and Yôrô's *yuinôron* emphasize materialism and monism (anti-dualism). As we

[38] Yōrō Takeshi, *Yōrō Takeshi no ningen kagaku kōgi*, 240.

shall see, the flow of science fiction speculation in Japan from the 1950s to the 2010s shows a clear progress from idealist and dualistic thinking to more (but still not complete) materialism and monism—that is, a progress from a *modern* to a *posthuman* conceptualization of the body-mind. It is all the more interesting, therefore, to notice the idealist and dualistic elements that remain even in the SF narratives of the 2010s.

As mentioned, one aim of this study is revealing the persistence of normative categories of sex, gender and sexuality, which artists place onto the bodies of the characters in anime and manga. At the same time, I also expose new trends in character creation, which include "queer" gender, sex and sexuality. Japanese anime have a remarkable ability to produce "queer" characters, many of which have a particular relationship with advanced technology.

In what follows I use the term "queer" as Judith Butler does when she discusses "queer theory." Simply, Butler says that it is extremely difficult to change existing social norms—but by queering the performance of, for example, gender, little by little every day, norms can gradually change.[39] I employ this idea to discuss the representation of queer characters in Japanese anime

[39] It may be useful here to describe the difference between queer and the uncanny. Generally speaking, both of the terms mean "strange"; however, the meaning of queer here applies to people who are outside of normative categories. According to Dictionary.com, "uncanny" means "beyond the ordinary or normal." (*Dictionary.com, s.v.* "uncanny," accessed March 30, 2016, http://www.dictionary.com/browse/uncanny?s=t.)

and manga. The characters in anime, through their technological enhancements, interactions, and other post-human or post-gendered aspects, queer the performance of embodiment and thus have much potential to change the modern notion of the body and its connection to the mind. These posthuman features are essential in helping us conceive of ways to transcend social normativity.

## Methodology and Materials

My methodology is mainly semiotic textual analysis, which I conduct from the perspective of posthumanism. The materials for analysis are Japanese robot/cyborg anime, manga, and literature from the 1950s to the 2010s: *Astro Boy* (1952), *Gigantor* (1956), *Cyborg 009* (1964), *Doraemon* (1969), *Mazinger Z* (1972), *Gundam* (1979), *Hybrid Child* (1993), *Ghost in the Shell* (1995), *Evangelion* (1995), *Ghost in the Shell 2: Innocence* (2004), *Kaiba* (2008),

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In order to show the biggest difference, we may consider Professor of Robotics Mori Masahiro's theory, the "Uncanny Valley." According to Mori, human beings respond positively and empathetically to a humanoid robot if the appearance of the robot is made more human; however, when this appearance reaches a particular point, human beings suddenly develop a feeling of disgust. This is what Mori calls the uncanny valley. (Mori Masahiro. "The Uncanny Valley" in IEEE Robotics & Automation Magazine, Volume 19. Issue 2 (2012): 98-100. Accessed March 30, 2016, http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=6213238 )
On the other hand, it is said that people receive a shock when they encounter queer people or characters, because the queer people or characters are beyond the categories of "the normal" or normativity; however, as Butler argues, once "normal" people get used to the queerness of queer people, their shock disappears. In this dissertation, I use the term queer to refer to people or characters who exceed normativity, and the term of uncanny to express the strangeness of humanoid robots that look very much like organic humans. (Judith Butler, "Critically Queer," *GLQ: A Journal of Lesbian and Gay Studies*, 1:1, (1993): 28-29.)

*Rakuen tsuihō* (*Expelled from Paradise*) (2014) and *Shidonia no kishi* (*Knights of Sidonia*) (2013- ). My research focuses on a wide range of popular visual culture material, each example of which explores a new conceptualization of the body. Although there are many different versions of these manga and anime from different time periods, I have intentionally chosen their original versions.[40] My materials are the canonical works of science fiction manga and anime, which specifically deal with advanced technology, and my purpose is to reveal the connections and divergences among these diverse texts regarding the way the conceptualize the body or body-mind.

As my dissertation deals with the connection between the posthuman body and mind, I specifically focus on each protagonist, or the main examples of prosthetic, exo-suit cyborgs in those narratives, instead of analyzing all the characters or details of each episode. Because of the popularity of the various series from the 1950s to the 1980s, there are an overwhelming number

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[40] I will list a few of the different versions and editions here, to give an idea of how many there can be for any given anime or manga.
*Astro Boy*: nineteen different manga versions of the story have been published from 1956 until 2003. (Mori Haruji, Zusetsu tetsuwan atomu, 29-31.) In addition to those manga versions, three different TV anime series were aired between 1963 and 2004 in Japan. However, my analysis focuses on the original version of *Astro Boy* manga.
*Gigantor*: There are, at least, six versions of manga, six different TV anime series and three film animations, but I examine the original manga. (Yokoyama Mitsuteru Official Website; and, IIki Yūsan, Tetsujin 28 go daikenkyū, 253.)

of volumes or episodes from which to draw specific examples. As much as possible, therefore, I work with original or representative episodes or editions. Nonetheless, there is a necessary process of selection at work here.

The reason for choosing these anime, manga, and works of literature is that they present aspects of the newest conceptualizations of the body in each decade. In the early postwar era, *Astro Boy* and *Gigantor* were the pioneers of imagining the robotic body as humanoid in shape—in one case the size of a human boy and in the other case gigantic. In the 1960s to 1980s, many robot and cyborg anime were produced, but *Cyborg 009, Doraemon*, *Mazinger Z* and *Gundam* showed different, new aspects compared to the pioneering robots of the 1950s and early 60s. Since the 1990s, a different type of body conception, focusing on the functions of the brain and computer technology, was produced in such works as *Evangelion* and *Ghost in the Shell*. Before these two anime, a work of science fiction, the novel *Hybrid Child*, was published. Its author was a woman, and so therefore it provides an essential point of comparison with those anime, which were all produced by male animators. In 2004, *Ghost in the Shell 2: Innocence* conceptualized a new type of character—a bodiless character; and then in 2014, *Expelled from Paradise* expresses a digitized/ bodiless person in a different way. In addition, *Kaiba* minutely

explores the relation between body and mind/memory, and thus poses a set of philosophical questions related to *Ghost in the Shell*, but also intriguingly different. The work *Knights of Sidonia* is very similar in concept to *Evangelion*; however, it also has a new type of character, which I characterize as representative of ontological queerness —a hybrid between a human and a plant.

The study proceeds along two axes: forms of the posthuman on one hand, and specific temporal moments on the other. I categorize the posthuman bodies forming the substance of the analysis into two groups: 1) humanoid robot/cyborgs with minds/artificial intelligence; and 2) gigantic robots or military prosthetic mecha suits, used to combat enemies. The temporal moments are the 1950s-1980s; the 1990s; and the first two decades of the 2000s. Thus, we are able clearly to see both the persistence and evolution of each type of body in each time period.

As I have mentioned, some Western scholars, such as Donna Haraway and N. Katherine Hayles, have theorized the cyborg to develop the concept of the posthuman, which helps us go beyond the idea of Humanism. In addition, some scholars, such as Susan J. Napier, Christopher A. Bolton, Sharalyn Orbaugh, and Kotani Mari, employ cyborg theory to analyze Japanese science fiction anime to argue for the existence of the posthuman and its importance:

representations of cyborgs let us think about subjectivity, gender, identity and so on through their narratives. Kotani Mari's *Seibo Evangelion*, for example, is a brilliant exploration of gender in postwar Japan as visualized in Japanese cyborg anime. This dissertation draws on all of these previous studies (and more), but differs from them in its *diachronic* focus: what is at issue here is the historical changes in notions of and representations of the body across the seven decades of the postwar period.

The main questions that will be kept in mind during the analysis are, who creates and controls the (post)human body; what kind of power structure exists between the body and mind; how and why does the body exclude aspects of its naturalness, such as sex organs for reproduction; what kinds of relationships exist between one body and another; how does the body relate to or function in the societies within the narratives; how do the texts describe the death of the body; and what does the dead body mean to the society/community? Keeping these questions in mind while engaging in analysis of the texts permits this dissertation to reveal the kinds of speculative philosophy engaged in by artists and consumers as they consider the ramifications of our changing bodies and society.

# Chapter 3: Metal Bodies from the 1950s to 1980s

## The Birth of Robot Anime from WWII

In this chapter, I will examine "metal bodies," such as robots and humanoids, in Japanese anime from the 1950s to '80s. During this period, robots became a popular topic in the Japanese media, as well as signifying a new conception of the body at the time, which people used to think about the meaning of the human. In order to reveal the conceptualization of the metal body and changes in the notions of the body through the 1950s to the '80s, this chapter will follow two main paths. Firstly, I will discuss the influence of Japan's defeat in the Pacific War, which was a trigger for the emerging post-war Japanese robot manga and animations. Post-war manga and anime contain mainly two types of robots, and so I will briefly describe the categorizations: humanoid robots/cyborgs (having an endo-enhanced body), and gigantic robots (having an exo-enhanced body). Given that one of the features or characteristics of transhumanism is exceeding human bodily and mental limitations, and that most of the characters I discuss—such as Astro Boy, Gigantor, Mazinger Z, Gundam and the various cyborgs in *Cyborg 009*—have bodies that have been altered in the direction of increased speed,

power, and/or size, I categorize (most of) these bodies as transhuman rather than posthuman.[41] At the same time that the metal bodies in the popular culture of this period represent transhuman values, we will also see elements of posthumanis.

Secondly, I will analyze representative robot manga and animations that were very popular in each of the decades from the 1950s to the 1980s, to reveal 1) the relation between the robot body, influenced by advanced technology, and human beings; 2) the conceptualization of the modern body; and 3) how these robot bodies conveyed the idea of modernity and modern life to the audience. Also, we will clearly see the limited presentations of sex, gender and sexuality in those robot bodies. By the end of this chapter, we will be able to trace important trends or flows in the changes in the conceptualization of robot bodies from the 1950s to the 1980s, which are continued and/or challenged in the next generation of posthuman anime and manga characters (discussed in the following chapter).

In order to see how Japan's defeat in the Pacific War had a strong influence on the emergence of robot manga and anime, we require some historical background. The contrast

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41 As we saw in Chapter Two, Steinert's definition of transhumanism highlights the way it advocates enhancement, acceleration, and amplification of human bodies. Steffen Steinert, "Taking Stock of Extension Theory of Technology", *Springer Science + Business media Dordrecht*, 2015, http://link.springer.com/article/10.1007/s13347-014-0186-3.

between the technological strength of the Allies (particularly the U.S.) and Japan was made very clear during the years of the Asia Pacific War, 1941-45. Although Japan had some early naval victories over the Allied forces, the tide quickly turned. As of 1942 the Allies were launching air raids on military targets on the Japanese main islands, whenever aircraft carriers could get in range. But from 1944, when the Allies established a base on Saipan, bombing attacks on Japanese civilian centers became a near-daily event. In ten days alone, March 10-19, 1945, U.S. bombers dropped more than 9000 tons of bombs (2 million individual bombs) on Tokyo, Osaka, Nagoya, and Kobe.[42] In August 1945 the U.S. forces dropped two atomic bombs, on Hiroshima on August 6, and Nagasaki on August 9. In his speech of surrender on August 15, the emperor referred to these as weapons "capable of destroying all humanity."

In contrast, Japanese military technology never managed to get anywhere near the North American mainland. The only casualties on U.S. soil (after Pearl Harbor) were the six people who died as a result of a single Japanese "balloon bomb"—an extremely low-tech device that relied on the wind to carry it across the Pacific.[43] Japan's most effective weapon in the final

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[42] Sharalyn Orbaugh, *Japanese Fiction of the Allied Occupation: vision, embodiment, identity* (Leiden; Boston: Brill, 2007), 28-30.

[43] H Arakawa, "Basic Principles of the Balloon Bomb," Meteorology and Geophysics, vol.6 no.3-4 (1955-56): 239, https://www.jstage.jst.go.jp/article/mripapers1950/6/3-4/6_239/_pdf

years of the war was the Kamikaze suicide forces (pilots of planes, small submarines, and "human torpedoes")—and it was not the technology of the vehicles or weapons as much as the spiritual will of the kamikaze pilots that made them successful.

By the end of the war it was clear to everyone, including the citizens of Japan, how far behind were the levels of Japanese science and technology. Even the Shōwa Emperor wrote in a letter to his son that "Japan had lost the war because of overconfidence, and because our armed forces put too much emphasis on the spiritual side and forgot science."[44] Thus, postwar Japan was eager to acquire sufficient scientific knowledge and advanced technology to rebuild the country.

Japanese science fiction comics in the immediate postwar period reflected the attitude towards science and advanced technology at the time, through the imagination and depiction of many powerful, metal robots. Scientists and artists alike dreamed about new technology, which would help them to rebuild their lives, and those dreams were played out in science fiction manga and anime. Tane Kiyoshi emphasizes that works of popular science fiction had an important role in society because "the powers of fantasy and science, which are usually

[44] Frederik L. Schodt, *The Astro Boy Essays Osamu Tezuka, Mighty Atom, Manga/Anime Revolusion* (Berkeley: Stone Bridge Press, 2007), 98-99.

contradictory, led the impoverished Japan of the 1950s to the postwar economic miracle of the 60s."[45] As Tane suggests, fantasy and science are contradictory domains, but they were essential for post-war Japan, which needed not only fantasy, to help imagine a better life, but also science, to create these better, modern lives in reality. Postwar science fiction provided much of the imagination and guidance for advanced technology, and the futuristic ideas to encourage the Japanese people who had lost everything and had to rebuild their lives after the war.

Japan has produced science fiction, including stories about proto-mecha-suits/proto-robots, since its modernization and exposure to western thought during the Meiji period.[46] In the early Shōwa period, after Karel Capek's play *RUR* (1921) became known in Japan, stories about humanoid robots became popular. However, it was in post-war Japan that there was a significant increase in works featuring robots. Needless to say, the first and most popular Japanese humanoid-robot character in post-war Japan was Astro Boy, created by Tezuka Osamu in 1951.[47] The manga *Tetsuwan atomu* (*Astro Boy*), was published from

[45]Tane Kiyoshi, *Gundam to Nihonjin*, 200.

[46] Some of examples of science fiction in the Meiji period are: *Kaitei gunkan* (Undersea Battleship in 1900) and *Kūchūdaihikōtei* (Flying boat in the sky in 1902) by Oshikawa Shunro; and *Sekatimetsubō* (The destruction of the planet in 1902) by Nakagawa Kajyō. (Nagayama Yasuo, *Nihon SF seishinshi*, 110-114.

[47] At first, Astro emerged in *Atomu taishi* (Atomu ambassador), which was written by Tezuka Osamu and was published in the boy's magazine, *Shōnen,* in April 1951. In *Atomu Ambassador*, Astro was just a robot and supporting character in the story. However, when the character, Astro,

1952 in the boys' magazine, *Shōnen*. The significant elements of Astro Boy are: 1) he is a humanoid robot: he looks human, but his body is made of 100% artificial materials; 2) he has human emotions and seeks self-identity as a half-human and half-robot; and 3) he is a great friend and supporter of human beings. I will discuss these three significant points later, but the most essential element, related to the war, is Astro's propulsive power—atomic energy. Because of the atomic bombings of Hiroshima and Nagasaki, the destructive power of the atom terrified the Japanese. Nonetheless, Tezuka dared to use nuclear fission for Astro's motive power. Tezuka makes it clear that Astro's atomic energy is used for good, to help humanity with its problems and fend off enemies, but the deep message from Tezuka—over the course of the series—is that, in fact, advanced technology might someday destroy humanity.[48] We thus see the strong influence of lessons from the war in this first, and in some ways most representative, endo-enhanced robot, Astro, in post-war Japan.

On the other hand, the earliest and most representative exo-enhanced robot is found in the eponymous *Gigantor* by Yokoyama Mitsuteru. This giant-robot manga was also published in

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became popular among the audience, Tezuka started serializing Astro Boy, and transformed the character into the protagonist. (Mori Haruji (2003), 26-29.)

[48] Tezuka makes this clear in an interview: Osamu Tezuka, *Metropolis* in *Tezuka Osamu Manga zenshū* 44 (Tokyo: Kōdansha, 1979), 162. The character Astro was derived from Mitchi in *Metropolis*, one of Tezuka's earliest science fiction manga, in which he wrote about the danger of advanced technology.

*Shōnen* from 1956. The important elements of the robot Gigantor are: 1) this represents the earliest example of the extremely popular giant robot genre in Japanese manga; 2) the giant robot is operated by remote control; and 3) it is a strong weapon, made of metal. These three points also reflect the impact of the war—the body of the robot is depicted as a weapon for fighting.

In fact, the manga writer, Yokoyama described how his memories of the war had influenced his creation of the manga. At the end of the war, Yokoyama was in the fifth grade and returned to Kobe after having been evacuated to the countryside, like most other urban Japanese children, for safety. He saw that the city had been completely destroyed by Boeing B-29 superfortresses, and he was astonished by the terrifying destructive power of these military machines. This experience helped him conceive of Gigantor, which has enough destructive power to wreck cities. In fact, the number 28, was a reminder of the B-29.[49]

These endo- (Astro Boy) and exo-enhanced (Gigantor) humanoids were the most significant and influential robots in early post-war manga, and the narratives in which they featured will be discussed in detail below.

World-renowned anime director Miyazaki Hayao has pointed out an interesting fact

[49] Sena Hideaki, *Robotto 21 seiki*, 257.

about the majority of the protagonists in 1950s manga: they are nearly all children rather than adults, even in comparatively serious science fiction narratives. In an interview, Miyazaki says that all adult males who had been soldiers during the war became losers when the war was lost—although they previously had been heroes. Since it was not appropriate to have "losers" as the heroes of manga intended to show a positive future for Japan, the protagonists had to be children.[50] In contrast, most protagonists of American comics at the time were (and still are today) adult males, such as Superman and Batman.[51]

Thus, because of the resonances of the war, most of the heroes in post-war Japanese manga were boys. However, children's power is limited; they cannot really fight against adult enemies. So, manga and anime artists utilized the power of science and their imagined advanced technology to support their child protagonists to be strong characters. In fact, the protagonist of *Gigantor*, Kaneda Shōtarō, is just a boy of ten to twelve years old, but once he has the remote

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[50] Miyazaki Hayao, *Hayao Miyazaki interview in Venice International Film Festival*, interview in Youtube (30 to 32 min), March 17 2015, https://www.youtube.com/watch?v=DpnYfo9TH64.

[51] In 1956, the American TV film, *Superman*, was aired in Japan, and it became very popular among Japanese children. After that, Japanese versions of super hero manga, such as *Roketto Tarō* (1957), *Sūpā Z* (1959), and *Sūpā kamen* (1959), were produced. Interestingly, despite the example of *Superman*, many of the manga created new heroes who were boys rather than adult males. Yonezawa Yoshihiro, *Shōnen manga no sekai*, 116-117).

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control to operate Gigantor, he has sufficient power to defeat the enemy machines. In contrast, Astro Boy's power is built into his body, but his appearance and emotions are those of a real human boy, and, like a real boy, his emotions make him vulnerable. Thus, in these early post-war Japanese robot comics, boys became heroes because they had new scientific power to make them strong.[52]

Losing the war, and also being forbidden to have a military, created eagerness in post-war Japan to have imaginary scientific weapons. As a result, this incentive for imagination led the conceptions of the body to change: from the human body to the exo- or endo-enhanced body. Without the damage and the impact of the war, it is doubtful that so many robot manga and anime would have emerged. At the time, science and advanced technology were important key words for post-war Japanese society.

## The Exo-enhanced Body and the Endo-enhanced Body

It is significant that *Astro Boy* was the first TV anime series in Japan (from 1959), with the anime version of *Gigantor* arriving on the screen soon after (1963). Television itself was

[52] There were, of course, many heroines in post-war manga and anime; however, young female protagonists usually have magical, rather than scientific, power. In addition, their magical power is rarely illustrated as violent, although they can often transform or upgrade their bodies into different creatures to defeat enemies.

a new media technology in the 1950s, and animated TV series were a new media genre[53]; thus, the images of these robotic bodies, and the way of distributing these images, were both forms and signs of technological modernity: Japanese audiences received and shared images of these 'modern' bodies through modern media. Although characters in anime, as a form of cinema, have flexible movement, and may therefore give the audience a much more "realistic" visual impression, my analytical focus in this chapter is on manga, because manga depictions generally provide greater detail of the illustrated body. Moreover, it is worth emphasizing that all the famous popular culture characters who captured the public imagination in the postwar period were born in manga and then became even more popular through anime. Thus, both forms of media, manga and anime, have worked together to distribute new conceptions of the body in each decade.

So far, I have discussed how the impact of losing the war and the post-war situation

[53] In 1953, Nihon terebi (NTV) put 55 television sets on major streets and stations to popularize their broadcasts; and the number of the street televisions rose to a total of 278. Although the price of a home television was very expensive at the time, the number in private homes dramatically increased, because Japanese people were eager to watch the wedding of the Crown Prince (later Heisei Emperor) and Michiko in April 1959. In fact, 2,000,000 home televisions were sold by April 20. Since the 1960s, TV became the most influential medium in Japan. Television became one of the three sacred imperial treasures (三種の神器)—literally the washing machine, refrigerator and black and white television were advertised as symbols of modern life [Yoshimi Shun'ya, *Media bunka ron (Media culture)* (Tokyo: Yūhikaku aruma, 2004), 175-190.]

influenced the conceptualization of exo- and endo-enhanced bodies, which were illustrated in Japanese science fiction manga and anime. Now, I will move to an analysis of each robot character to reveal 1) the relation between the robot body, influenced by advanced technology, and human beings; 2) the conceptualization of the modern body; and 3) how the robot bodies conveyed the idea of modernity and modern life to the audience.

*Astro Boy*

As mentioned, the earliest and most popular humanoid robot character in Japan is Astro Boy, born in 1952. The essential elements of Astro Boy are: 1) he looks like a human boy; 2) he has human emotions and a very kind personality; but 3) his body is made of metal and resilient plastic. The plot of *Astro Boy* begins when Astro is created by Dr. Tenma, to replace his son who had died in a car accident. Astro is designed to look exactly like Tenma's dead son, but is a humanoid robot made entirely of artificial parts. Although initially delighted with Astro, Dr. Tenma eventually recognizes that his body cannot grow like that of a normal human boy, even though Astro has human intelligence and expresses emotions. Dr. Tenma becomes so angry with Astro that he sells him to a circus. Astro works for a while at the circus, where he and the other non-human circus performers (robots) are treated cruelly by the circus manager. Nonetheless,

Astro and his fellow robots rise above their resentment to save the humans—the circus manager and the audience members—when a fire breaks out, showing that they are both compassionate and useful. Soon a new law is passed, which allows robots to live like human beings, and a sympathetic scientist, Dr. Ochanomizu, takes it upon himself to care for Astro, recognizing that Astro's artificial body and his kind personality have a lot of potential to help human beings.

The essential features of Astro's body highlight the imagination of advanced technology: artificial intelligence, atomic motor, searchlight eyes, jet engine feet, and so on. Moreover, he has intelligence and can express emotions; he is self-aware, and seeks a sense of personal identity, like human beings do. These features are important elements for Astro because they represent specific points of modernity, including humanism. Frederik Schodt argues that, "Because of the ideal balance between human and the machine, over the years, Mighty Atom (Astro Boy) became a symbol in Japan of advanced technology in general."[54] As mentioned above, some later robotics engineers explicitly mentioned being inspired by their childhood love of Astro Boy.

At this point we need to consider the ways that Astro Boy's body conforms to the

[54] Frederik L. Schodt, *The Astro Boy Essays Osamu Tezuka, Mighty Atom, Manga/Anime Revolution* (Berkeley: Stone Bridge Press, 2007), 114.

conceptualization of the modern body. According to Harvie Ferguson, "Modernity, first of all, required a human body that could be autonomous, self-moving, and conscious of its self integrity."[55] Astro's body is not organic matter, but he can control his body (autonomy) and has consciousness/thought. Ferguson adds further details regarding the concept of the modern body.

> The human body, which was circumscribed in the universe, enclosed within itself another entire world [consciousness], so that the individual became viewed as a structure which kept these disparate realms apart. The body could turn outwards and… imaginatively take up any position in the cosmos and redirect its gaze upon Earth; or it could turn inwards and reflect upon the different kind of experience that seemed to be contained within the body as an inner system of life. The body, thus, required physical integrity, individuation, and closure.[56]

In fact, Astro has most of the essential elements of the modern body notion that Ferguson mentions: Astro is a robot with physical integrity, and is described as a unique being. He possesses a closed body, which does not integrate with other living entities. Comparing this image of the modern body with the posthuman body notion, it is clear that Astro's body represents the modern body notion. The conceptualizations of the posthuman body are 1) open, and predicated on continuous interaction with other living things; 2) changeable: it is never complete; and 3) hard to identify as an individual, because the posthuman body is a hybrid body.

[55] Ferguson (2000), 20.
[56] Ferguson (2000), 37.

In other words, because of the mixture of entities, the posthuman body cannot be identified as belonging to any specific individual. Thus, in many ways the body of Astro conforms to a modern rather than a posthuman notion of the body.

We may argue that modernity and humanism work together; humanism is dependent on scientific perspectives, rather than religion. One of the main characteristics of humanism is the (attempted) control of nature, with humans at the top of the hierarchy of living creatures. Although the body of Astro is described as a combination of advanced scientific technologies, it is at the same time shown as inferior to that of a fully human being. Astro is continually discriminated against and distinguished from human characters because the narrative illustrates human characters as masters of the robots. The story, does not, however, fully endorse this humanist perspective. In other words, the narrative emphasized humanism precisely to show the unequal relations between robots and humans in a way that will arouse pity. For example, in the original story of *Astro Boy*, we meet Astro's family members, which are all robots created by Dr. Ochanomizu; Astro's friend had asked Dr. Ochanomizu to create a family for Astro because he felt sorry for the lonely robot boy. One day, Astro's father, who is also a robot, though of lower intelligence than Astro, is bullied by Astro's human classmates at school because he cannot write

his name correctly. The bullies make the father follow their orders. When Astro discovers this situation, he fights with the bullies; however, his father stops him, because the bullies are human. He explains that robots, which are created by humans, must never resist humans. Astro cries on his father's chest, saying, "They will kept looking down on us…" [*Anokotachi ni itsumademo baka ni sareru*…][57]

From this scene, the relation between Astro, a metal body, and the organic-bodied human characters clearly shows that there is a power structure between them: humans have power over robots, and even if the audience is meant to feel sympathy for the robots, the power structure is enforced/reinforced by the robots themselves. In fact, it is a male human scientist, Dr. Tenma, who creates Astro. Moreover, Astro is often fixed by Dr. Ochanomizu whenever his body has problems. As a result, the power structure between human scientists and robots is naturalized as that between a producer/creator and a product. In addition, it is significant that there are no female scientists involved in creating Astro in the lab in the original story. This accords with the definition of the modern Human, discussed above, which excludes females as well.

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[57] Tezuka Osamu. *Tetsuwan atomu〈Orijinal ban〉Fukkoku daizenshū unit 1-1* [*Mighty Atom: the complete collection of the original version. Unit 1*] (Tōkyō: Jeneon Yunibāsaru Entāteimento, 2009), 143.

The narrative, *Astro Boy*, thus includes features of humanism, and also illustrates conceptions of modernity. In fact, Astro functions to reinforce conceptions of modernity through his metal body, influenced by advanced technology. Moreover, Astro's society itself was illustrated as a futuristic and technologically advanced one. In one episode published in 1952,[58] Astro introduces the viewer to the city of Tokyo in the twenty-first century. He flies over the city to show off many modern, tall buildings, and futuristic cars, some of which are on the road and some flying in the air. He also shows many "people" and explains that humans and humanoid-robots live together; however, the viewer cannot recognize who is human and who is a robot because those robots look and behave perfectly like human beings.

In this and other episodes, the manga, *Astro Boy,* shows the idea of the modern city, which has futuristic buildings, cars and humanoids that are products of advanced technology. As Japanese cities in the 1950s, including Tokyo, were still undergoing restoration from the war, the illustration of this thriving city and future life in the manga and anime evoked the idea of modernity, which may have appealed to the Japanese viewers of the time. The best example of this modern image is the manga page that shows the lab where Astro was created. The lab has

[58] Tezuka Osamu. "Furankenshutain no maki" in *Mighty Atom, Shōnen*, November 1952.

many modern elements, such as complicated electric machinery, shining metal machines, and the body of the glorious Astro himself.[59] Other aspects of technological modernity featured in the manga include a superfast train (similar to and perhaps inspiration for Japan's bullet train) and a gigantic aircraft.[60] The body of Astro and the images of the modern city, Tokyo, worked together visually to evoke a sense of technological power and possibility, not endowed by God but by science.

When examining the earliest robots' bodies, the body and mind relation is also important to consider. In the case of Astro, his mind is always attached to his body, even though he sometimes loses his head. In fact, his artificial intelligence is installed in his heart, so losing his head is not critical; his trunk can move and speak without its head, which is merely a decoration. In addition, his mind is depicted as autonomous, not controlled by others, and determined entirely by his programming, which is flexible enough to allow him to make his own decisions although the programming has a strong moral and ethical tendency. Astro's mind is strongly connected to his body, in the classic, materialist and monistic body-and-mind relation.

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[59] The first page of *Atomu taishi* (Ambassador Atom) in July 1951 in *Shōnen* is a color page showing Astro, whose body appears to shine because of color variation and shadings. It clearly and purposely showed the body of Astro which represent modernity.

[60] The bullet train began service in 1964, so the image of high-speed rail was futuristic in the 1950s.

This is materialism is one of the ways in which Astro Boy demonstrates posthuman characteristics, in spite of its strong modern, humanist atmosphere. In fact, what Tezuka succeeded in doing in *Astro Boy* is the creation of a hybrid creature, neither fully human nor fully robot, but something in between. Thus, this earliest robot body is a harbinger of the posthuman.

Astro's ambiguous gender is another aspect that conforms to posthumanism rather than the modern humanist conception of the person. Of course, a metal body does not have a sex as it has no chromosomes or internal organs, but it does often have a gender: it may be shaped, styled, and "dressed" in a way that conforms to recognized social norms of either masculinity or femininity. Astro, however, is *gendered* both masculine and feminine. Generally speaking, Astro was originally gendered masculine because it was created as a substitute for Dr. Tenma's son, Tobio. Thus, Astro speaks using masculine language and wears boyish clothes, but in the manga his body movements and facial expressions are sometimes very feminine. In addition, because a female voice actor, Shimizu Mari, performed Astro's voice since the first TV series (1963) until 2003, the anime version of Astro was even more cute and feminine than his depiction in the manga.[61]

[61] Shimizu Mari, *Tetsuwan atomu to tomoni ikite* (Tokyo: Sakitamashuppankai, 2015)

In fact, Tezuka has said that Astro was based on his earlier character Mitchi in *Metropolis* (1949), a robot with a switch in its back that shifts it from "male" to "female." It is unclear how much Mitchi's actual body changed when the switch was flipped, but all of its gender behavior changed to suit the new sex. Mitchi was the first of many characters developed by Tezuka that explore ambiguous or dual sex and gender, such as Astro, and Sapphire in *Ribon no kishi* (Princess Knight, 1953-56).[62]

In sum, the body of Astro represents an early stage of the posthuman body; however, I have to underline that the body of Astro does not perfectly fit the posthuman body notion because the body itself is not hybrid or open interacting with other living things. The monism and materialism of Astro's endo-enhanced construction suggest posthumanism, but the main function of the narrative was to showcase technological modernity. We will next see how technological modernity is expressed through the exo-enhanced robotic body as we consider the features of *Tetsujin 28-gō* (Gigantor).

[62] Tezuka Osamu, "Atogaki (afterword)" in *Metropolis Tezuka Osamu manga zenshū 44* (Tokyo:Kōdansha, 1979), 166.

*Gigantor*

The most popular robot anime besides *Astro Boy* in the 1950s and 1960s was *Gigantor*, which features a representative example of the exo-enhanced body. Again, my questions are 1) how does the body image of Gigantor demonstrate modernity; 2) what is the relationship between the gigantic metal body and human beings (the body and mind relation); and 3) what can we learn from the very limited sex, gender and sexuality of the exo-enhanced body, as well as of the human characters in the manga/anime. I will argue that Gigantor is an ideal example of the modern body notion.

The function of Gigantor can be seen from its gigantic metal body. It is easy to understand that the shining, powerful, metal body was the symbol of the modern weaponry that Japan had dreamed of after the war. The story tells us that Dr. Shikishima was in the middle of inventing the gigantic robot weapon in a secret lab during the war, but was unable to finish it before the war ended. Later the partially finished body was discovered and completed, to emerge in the social circumstances of postwar Japan.

Yokoyama Mitsuteru began the manga series in 1956. The image of Gigantor was exactly what Japan lacked during the war and hoped to have. It is obvious that the role of Gigantor is not to be a friend of humans, like Astro, but to be a powerful weapon controlled by

humans. In fact, Gigantor cannot do anything without being controlled. According to how it is controlled, it can destroy modern cities, and kill people, or it can fight against evil gigantic robots to save human lives. That is why the protagonist, Shōtarō, is constantly having to struggle against evil people who want to control Gigantor's powerful body for their own purposes. Thus, the relation between Gigantor and humans is that between the ruled and the ruler, or a controlled body and the directing mind/brain. In short, this robot-human relation demonstrates a dualistic body and mind relation. Therefore, Gigantor is a controllable weapon, unlike Astro, who performs autonomously and is a great friend of humanity. Although both have metal bodies, their roles are distinctly different.

Because Gigantor in and of itself has a heteronomous body, it does not conform to the concept of the human body that modernity required: "be autonomous, self-moving, and conscious of itself."[63] Without a controller it is just a giant piece of scrap iron, although it has a generally human-like shape. However, once the powerful metal body and human mind combine, Gigantor becomes a perfect representation of the modern body image, according to Ferguson's definition. It has "physical integrity, individuation, and closure," because the body is represented

[63] Ferguson (2000), 20.

as 1) faultless: the most powerful creature in the world; 2) singular: there is no another perfect gigantic robot, and 3) a closed and completed body: the body has been upgraded a few time through the developing story, but has never had physical connections, or fused with another creature. It is obvious that the body of Gigantor is not considered the same as a human body; however, once it is controlled by a human being— "body meets its mind"—it becomes an ideal powerful humanoid: capable of walking on two feet and swimming in the ocean.

In addition to the huge, metal body, the idea of the remote control also suggests an aspect of modern weaponry: advanced technology makes it possible for weapons to be deployed at a long distance, so that the controller of the weapon can remain safe, far from the actual battle. The remote control allows a human, even a small boy, to easily control the huge and heavy robot. Thus, we realize that the remote control facility also has an important role, that of the device which makes the metal gigantic body and mind connect together. Once those three—a human controller, the remote control and the metal gigantic body—connect with each other, Gigantor becomes an ideal example of the modern image of the body, because the body clearly demonstrates a dualistic body-and-mind relation, and is the product of advanced technology.

Furthermore, Shōtarō could be interpreted as a metaphor for post-war Japan itself,

which Douglas MacArthur, who headed the Allied Occupation forces that ruled Japan for seven years after the war, had said was at the same stage of development as a twelve year old boy.[64] However, Shōtarō is not weak, but rather is smart enough to fight against adult enemies and control a powerful robot to save the world. The depiction of Shōtarō suggests that even though Japan may be still "a boy of twelve," it is not weak but has the ability to control advanced technology as a modern country.

The powerful, metallic body represents modernity; however the body of Gigantor does not always find a place in the modern city, like Astro does, because the story is set in the immediate post-war. Gigantor is often hidden in an underground lab, in deep water, or deep forests when it is not being used to fight. In other words, while conflicts between good and bad are often invisible to the ordinary people, sometimes the gigantic body must emerge in the city, frightening people but protecting them from unknown dangers.

In the manga, details of the backgrounds of the characters are very limited. The

[64] On May 5 1951, the United States General, Douglas MacArthur, actually declared that "If the Anglo-Saxon was say 45 years of age in his development, in the sciences, the arts, divinity, culture, the Germans were quite as mature. The Japanese, however, in spite of their antiquity measured by time, were in a very tuitionary condition. Measured by the standards of modern civilization, they would be like a boy of twelve as compared with our development of 45 years." [John W. Dower, *Embracing Defeat: Japan in the Wake of World War II* (New York: Norton, 1999), 150.] This characterization of Japan as being like a boy of twelve was widely spread by the Japanese media at the time.

emphasis is on modern, contemporary life rather than character development per se. All the characters wear western clothes, such as suits and uniforms, and even the boy, Shōtarō, wears a jacket. In addition, Shōtarō's house and those of other rich or important people are all in the western style, and people sleep on beds. In 1950s Japan, sleeping on a bed, rather than a *futon* on the *tatami* matting of the floor, was not common at all. In general, it is rare to see traditional Japanese houses, clothing, or furniture in the story. The manga visually sends the image of a western lifestyle, which the impoverished Japanese people rebuilding their lives from wartime devastation yearned for.

Moreover, one of the remarkable ways of illustrating modernity that Yokoyama employs is *not* to depict female characters. There are occasional female characters, such as the maid for Dr. Shikishima, who takes part in creating Gigantor. However, the protagonist, the doctor, the police chief and all the antagonists are male. Of course, the target audience of this manga is boys, but nonetheless it is very strange not to have any female characters who can contribute to the development of the story. In other words, the manga demonstrates that only boys or men can become robot builders, robot controllers, smart doctors, authoritative police, or even evil villains. In addition, the most important character, Gigantor, is gendered as masculine:

it looks like it wears a suit of medieval knight's armor. Yokoyama almost completely ignores the existence of contributive females or femininity. As Ferguson mentions, one of the key points of the modern body image is that it is *male.*[65] In this sense, Yokoyama's manga perfectly illustrates the modern body image.

But why does the narrative erase female characters? The absence of females was a fact that was not lost on the Japanese viewing public, and in an interview Yokoyama was asked "why were no female characters depicted in *Tetsujin 28-gō*?" His response was "*Tetsujin 28-gō* was a robot story, and if it included girls it would lose the thrill of speed."[66] In other words, Yokoyama did not associate females or femininity with the kind of high-tech, exciting, ultra-modern world he wanted to depict. When the interviewer then asked him if he had ever been criticized for his exclusion of females, he replied that neither manga publishers/editors nor the reading public had ever complained.[67] This suggests that the Japanese society at large shared his sense of normative

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[65] Ferguson (2000), 77.

[66] Iiki Yūsan, "Interview: Yokoyama Mitsuteru-sensei 88 mon 88 tō" in *Tetsujin 28 gō daikenkyū: Rimokon no yume,* (Tōkyō: Kōdansha, 2002), 245-246. From Yokoyama's answer, we can assume that his idea of girls is slow and their performances are not vivid and lively. Yokoyama might have a strong prejudice against females. Following Yokoyama's answer, the interviewer asked him whether any editors or the reading public have criticized that aspect of the work. Yokoyama replied that there was nothing. From the interview, we can also assume that Japanese society also had accepted gender prejudice and sexist attitudes. In addition to the interview, most of Yokoyama's works were boys' manga: 33 boys manga but only four girls manga. From this, we can argue that he prefers illustrating boys' characters for boys.

[67] Ibid., 246.

sex and gender roles. But the story goes beyond confining characters to normative roles in the sense that the brilliant scientist able to create the new robot creature has actually usurped the reproductive power that is normally associated with females. The gigantic high-tech body is born from men, is raised by men, and is controlled by men. As Ferguson declares, the modern image of the body is "epidermic, closed, individuated, male;"[68] the manga *Gigantor* provides a modern body image that includes only men. *Gigantor* presents a very particular image of what *the modern world* might look like to some—where only men are living and (re)producing themselves, with women replaced by technology. This is the sex gender structure of the first influential exo-enhanced robot narrative.

*Mazinger Z*

On the other hand, in the next decade, the 1970s, a very popular gigantic robot manga/anime, *Mazinger Z*, does depict female characters. In fact, it depicts not only female characters but also feminine giant robots, together with masculine giant robots and male characters. I will examine the characters' sex, gender roles and sexuality later in this section.

[68] Ferguson (2000), 77.

*Mazinger Z*, was written by Nagai Gō from 1972. It featured the first giant Japanese robot with a human pilot, Kabuto Kōji, seated at the top of the gigantic robot's head to control it. According to Nagai, he was eager to create a robot manga that could exceed *Astro* and *Gigantor*. One day, he hit upon a good idea: a motorcycle docks with the top of the robot's head to allow the pilot to access the controls.[69] Thus, his conception of the boarding mechanism of the gigantic robot—a trope that was repeated in countless mecha-suit narratives thereafter—was born.

*Mazinger Z* influenced the popular gigantic robots of the 1980s and 1990s, such as *Gundam* and *Evangelion,* because of the physical connection between the robot and humans. One of the most famous cyborg animators of the last twenty years, Oshii Mamoru, expressed his admiration for Nagai's cyborgian innovation, having the human and the robot body physically merge, even if the human was only conceived of as a "pilot" of the robot. Nagai's contribution made the robot more like an extension of the human body—with the resulting amalgam of human and machine the first real example of an exo-enhanced body.[70] This new type of powerful gigantic body, a robot in which a human could ride, operated as an ideal body notion in the 1970s.

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[69] Nagai Gō, "Debyū 5 nenme no shōgekiteki hirameki" in *Mazinger Z Originaru ban 1* (Tokyo: Kōdansha manga bunko, 1999), 430.
[70] Sena Hideaki, *Robot 21 seiki*, 262.

The story of *Mazinger Z* seems to be set in the contemporary time, not the far future. Dr. Kabuto Jūzō has created Mazinger Z, but just as he completes his creation, his hidden underground lab collapses and he dies. Just before Jūzō passes away, he tells his grandson, Kabuto Kōji, that "this monstrous machine is yours now. You can be a god to save the human species, or be a devil to destroy the world. Everything depends on you. The monster machine, Mazinger Z, will support you to do whatever you want." Kōji becomes the pilot of Mazinger Z to fight with Dokutā helu (Dr. Hell) , who is trying to invade Japan and is eager to control the whole world.

The most important feature of the exo-enhanced body is that Mazinger Z and the male pilot, Kōji, physically touch, unlike the relation between Gigantor and Shōtarō. Because of the touching of the two bodies, Mazinger Z becomes (or can considered as) an extension of the human body. Moreover, there is a special suit for Kōji in order to protect his human body from shocks when Mazinger Z is beaten. This suit is also an innovation in the robot manga genre, and its influence extends to exo-enhanced robot anime of the 1990s and 2010s as well. The efficiency of the suit has developed, and it has become a useful connector, able to help a pilot fuse with the giant robot. Through this suit, the conception of the relation between the human and machine

body, which also means the relation between the mind and body, has become much closer to a fusion into one creature/body, rather than a cooperative relationship between two individual bodies. In short, the body and mind relation has become closer to being monistic rather than dualistic. Although a representation of a perfect monistic relation did not happen until *Evangelion,* the robot anime of the 1990s, *Mazinger Z* contributed greatly to this conceptual evolution.

Another significant difference from *Gigantor* is that *Mazinger Z* provides characters of a greater diversity. There are male and female human beings, robots, and evil cyborgs. This gender diversity and the range of cyborgs[71] also brings new conceptualizations to the representations of the body. The best example of the new type of body here is *Ashura danshaku*, whose body is a combination of Mr. and Miss Ashura. When the human Mr. and Miss Ashura die, Dr. Hell saves their lives and recreates them by combining their bodies. Thus, the right half of Ashura Danshaku is the female Miss Ashura, but the other half (the left half) is the male Mr. Ashura. Depending on which side of the face/body is illustrated, Ashura Danshaku speaks using feminine or masculine language. The body of Ashura Danshaku is thus definitely a hybrid of the

[71] I take Donna Haraway's definition of cyborgs: "A cyborg is a cybernetic organism, a hybrid of machine and organism, a creature of social reality as well as a creature of fiction." [Donna, Haraway. "A Cyborg Manifesto", 117.]

male and female body.

Moreover, Ashura danshaku's subordinates, Tetsukamen (Iron Masks), are also fascinating cyborgs; a special machine is installed in their heads to be controlled by Ashura Danshaku and Dr. Hell. Their heads usually are covered by helmets, so they look like normal humans, but because they consist of an amalgam of organic human and machine, they are also cyborgs.

Furthermore, Nagai depicted the feminine exo-enhanced body, although feminine robots, generally speaking, are extremely rare in gigantic robot manga and anime. One of the feminine robots is Afurodai A, which is controlled by a female character, Yumi Sayaka. Her father is Dr. Yumi, is able to create new giant robots because he was one of Dr. Kabuto Jūzō's students. Dr. Yumi creates his own giant robot Afurodai A, but this machine is much weaker than Mazinger Z.

The first time Kōji tries to control his grandfather's creation, he needs the help of Sayaka—he does not know how to control Mazinger Z, as his grandfather had died before he could teach him. Thus, the first time Kōji "drives" Mazinger Z he accidentally destroys houses, buildings, a bridge, and many cars. Afurodai A's pilot, Yumi Sayaka, teaches him the basic

method for operating the gigantic robots. This gives us an interesting development in conceptions of the value or suitability of female participation in the advanced technology of these narratives: their creators are beginning to accept the contributive presence of female characters.

However, in comparison with Mazinger Z it is clear that this feminine robot, Afurodai A, functions just as an assistant. Similarly, Sayaka's role is primarily to be a cheerleader for Kōji. This feminine robot and female character are too weak to fight with evil villains unaided. In fact, Sayaka/Afurodai A often faces enemies first, and fights with them, but eventually shout, "Come quickly and save me, Kōji!," which Kōji-Mazinger Z promptly does. Kōji is always depicted as a hero and Sayaka is depicted as a damsel in distress, in need of rescuing. Furthermore, Sayaka is often objectified for sexual pleasure, for example in the many bathing scenes in the narrative, when she is nude or semi-nude for the gratification of Kōji (and the heterosexual male reader). In short, Mazinger Z depicts idealized and normative gender roles.

The series illustrates not only stereotypical gender roles but also sexual assault. The bodies of Afurodai A and Milion α1, the two feminine gigantic robots, emphasize their breasts, which are large and prominent. The breasts of Afurodai A function as missiles and the missile

launch looks like an eruption of milk. Moreover, the breasts of Milion α1 function as cockpits for the female pilots, Rōri and Rōru, who are the most important parts of the robot. One of the episodes has an enemy robot and Milion α1 fighting; the evil robot crushes Milion α1's cockpits with his hands. This scene looks like a male (robot) sexually assaulting a female (robot). Although the exo-enhanced robots do not have a sex per se, they are clearly gendered feminine or masculine, to show a power structure: any masculine robots, good or bad, have power over feminine robots.

The 1950s' manga, *Gigantor*, implied women's "uselessness" or "unimportance" by not depicting females: women were almost entirely absent from the narrative. In the 1970s manga *Mazinger Z*, we see female human characters and feminine giant robots depicted as sexual objects for the pleasure of the male characters and male audience. In short, giant robot manga/anime from both decades created and disseminated social and ideological images of females as unimportant, weak, and/or sexual objects.

As mentioned above, Mazinger Z was also a pioneer in the conception of the boarding-type robot. Another innovation of 1970s robot narratives was transformability and combinability. *Getter Robo*, created by Ishikawa Ken beginning in 1974, was the one of the most

popular of this type of robot narrative. In *Getter Robo*, the robot is 1) of the "boarding" type; 2) transformable; and 3) combinable. In the story, three young men pilot jet planes *(Getta mashin),* which can combine in three different ways to create giant robots called Getter 1, 2 and 3. The three different robot types/shapes are designed to perform different functions.[72] These elements of transformability and combinability were thereafter very common attributes of robots in manga and anime, but it was *Getter Robo* that started this trend.[73]

Overall, the conceptualization of the giant robot body that circulated in the 1970s has two essential elements: 1) the "boarding" capability; and 2) physical flexibility. One of the major innovations in the 1970s was the ability of a human pilot to physically attach him- or herself to the giant metal robot to produce an exo-enhanced human body. In the next decade, *Gundam*, the extremely popular manga/anime series from the 1980s, continued this pattern, but also brought in some new conceptual innovations.

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[72] Seto Tatsuya and Yamamoto Atsushi, 82.

[73] Takahashi Ippei, *Sūpā robotto gahō : kyodai robotto anime sanjūgonen no ayumi.* (Tokyo: Takeshobō, 1997), 44.

*Gundam*

*Gundam*, directed by Tomino Yoshiyuki from 1979, inherited the essential points of the 1970s' robots; however, *Gundam* also brought a new conceptualization of the giant robot's body: the mobile suit. As science fiction scholar Tatsumi Takayuki describes it: "The suit is compact enough to fit inside a small space capsule, but powerful enough that a single soldier can wipe out a tank division. Although it weights two thousand pounds, the suit's advanced feedback and amplification technology do not require special training to use: it can sense what the wearer's body is trying to do and magnify it."[74]

With *Gundam,* the genre acquires a conception of the giant robot as a suit, "worn" by a human, rather than a metal vehicle piloted by a human. The mobile suit was inspired by Robert Heinlein's idea of the powered suit: just as in Heinlein's *Starship Troopers*, the function of this mobile suit was originally not that of a weapon but of a work machine, able to create new planets in space. [75] Evolving the conception of the powerful work machine, the powered suit, a mobile

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[74] Tatsumi Takayuki, "Gundam and the Future of Japanoid Art" in *Mechademia vol 3: Limits of the Human* (Minneapolis: University of Minnesota Press, 2008), 192.

[75] The idea of a powered suit was originally developed from the powered armor which was described in *Starship Troopers* by Robert A. Heinlein. The essential point of a powered suit is that sensations from the machines' hands and feet are directly connected to the pilot' body. So, the pilot, who wears the powered suit, can do delicate work in space. [Seto Tatsuya and Yamamoto Atsushi, *Kyodai robot dokuhon* (Tokyo:Takarajimasha, 1999), 115.]

suit was created as a human-shaped robot.[76] Mobile suits enhanced the abilities of the extended human body. For example, the body of Gundam,[77] the mobile suit, is very flexible, specifically the joints of the legs and hands, and can move like a human body.[78] With this innovation we find that the notion of the gigantic mecha suit and the human body have merged more fully in 1980s' manga and anime.

We find an awareness of production in *Gundam*, that is, one of the biggest differences from the conception of the gigantic robots in *Mazinger Z* is that there is an industry surrounding the production of mobile suits. Artists before the release of *Gundam* had conceived of each exo-enhanced body as an individual, singular, and unique robot. However, with *Gundam,* we find the influence of mass production in the conception of the mobile suits: they have the same appearance, and are made to a specific pattern, based on the model, in the narrative, of the Gion dukedom's gigantic mecha robots. This mass-produced, gigantic body does not fit one of the key paradigms of the modern body image: individualization. In addition, the original function of the mobile suit was that of heavy equipment for building new colonies. Thus, the mobile suits

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[77] Mobile suit is a common noun, and Gundam is a proper noun. Gundam is the protagonist's mobile suit. On the other hand, Zaku is the enemy' mobile suit.
[78] Seto and Yamamoto (1999), 120-121.

function as tools, as well as weapons for fighting—they serve as true "enhancements" for the human body, allowing it to accomplish a range of functions.

The *Gundam* narrative is set in the Universal Century, at a time when, due to population pressure and environmental destruction, human beings have started going to space to create new planets. The government of the Earth has enacted a space migrants' plan, to reduce the population of the Earth. As a result, only authorized people remain on Earth, while others are sent to the space colony. The space migrants create a new planet, and establish the Gion dukedom. The people of Gion start a war of independence, rebelling against their status as an Earth colony. Basically, the series tells of the fight between the Gion dukedom and the military forces of Earth. The essential difference from the stories of *Gigantor* and *Mazinger Z*, therefore, is that it is not a simple battle between good and evil; both sides have reasons for fighting. *Gundam* has succeeded in attracting an older audience who have supported the series of *Gundam* since its release; it remains very popular even in the 2010s.

While the important characters, able to pilot mobile suits, are all male—such as the protagonist, Amuro Rei, and Sha Azunaburu, the best warrior of Gion dukedom but the enemy of Amuro—, female characters are also key to the story. For example, Seira Masu, a beautiful

warrior on the Earth side, can control a mobile suit although her piloting skill is poor; however, her job performance in the depot ship, called White Base, is excellent.[79] In addition, other female characters also have important roles, such as Mirai Yashima, helmsman of the depot ship. While she is not presented as a beautiful character, her existence and job performance support her male warrior colleagues. Her character is like a stout-hearted, military mother (*kijō na gunkoku no haha*).[80] In fact, three male warriors wish to marry her.[81] On the other hand, Furau Bō, childhood friend of Amuro, is a shrewish wife.[82] Saitō, examining the roles of female characters in anime, points out that these female characters in *Gundam* are illustrated from the point of view of the male gaze; those female characters exist and function within a male-dominated society. In other words, the narrative of *Gundam* is not interested in the relationships between females.[83] Similarly, females are never illustrated as the most important and powerful character in the story, but represent stereotypical gender roles—stout-hearted mothers, lovers, shrewish wives—because they are depicted to conform to a male-centered point of view.

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[79] Saitō Minako, *Kouittenron: Anime, Tokusatsu, Denki no hiroinzō* (Tokyo: Village center, 1998), 157.
[80] Saitō (1998), 159.
[81] Saitō (1998), 159-160.
[82] Saitō (1998), 158.
[83] Saitō (1998), 162.

Therefore, we find the same types of gender problems that we have seen in other manga, resulting from the way the artist illustrates female characters in *Gundam*. On the other hand, it is clear that the roles of the female characters, serving as warriors or helmsmen, are better than the sexualized or objectified female/feminine characters in *Mazinger Z*. However, I still must emphasize that the essential scenes are often taken over by male characters fighting in their mobile suits. In addition, the story describes only heterosexuality between females and males.

To return to the question of the body and mind relation, analysis of the function or presentation of the cockpits in the giant robots reveals an important aspect of the exo-enhanced body. The location of the cockpit, where human pilots sit, shows the extent to which the mobile suit/robot shell and the human body are able to support each other. The cockpit of Mazinger Z is on the head of the robot. This location for the cockpit makes sense because it is the highest part of the body (from which it is easy to observe the surroundings), and the head is supposed to work as the controller of the body. On the other hand, Gundam has the cockpit on its chest, where the heart is in a human body. In addition, the cockpit is placed deeper inside of the body rather than just at the top of the head. We can certainly suggest a parallel between the places of

"consciousness" on the one hand and "emotion" on the other hand in these different locations. If we jump ahead a decade or so, we can see an interesting development in the imagination of the exo-enhanced bodies in *Evangelion,* from the 1990s. The Evangelion cockpit, called an entry-plug, is located in the spine of the mobile suit/robotic body; the entry-plug descends to the core of the enhanced body. Depending on how far the entry-plug descends, the connection between the pilot and the EVA (mobile suit) will become stronger. In other words, the location and function of the cockpit are not fixed, unlike with Mazinger's and Gundam's cockpits. The body of Evangelion and the pilot (functioning as the mind) appear to fuse, becoming one, rather than operating as separate though attached units. When we examine the earliest examples of giant robots to the more recent ones, we see a clear progression from a dualistic body/mind relation to a monistic one (as we shall explore further in later chapters).

Overall, the 1950s' exo-enhanced body of Gigantor provides a great example of the "modern" body image. The body conforms to the four main elements, "epidermic, closed, individuated, male," which Ferguson declared as essential.[84] However, the conceptualization of exo-enhanced bodies in the 1970s and 1980s starts to change. Representations of the human

[84] Ferguson (2000), 77.

body start to attach or connect it to gigantic metal bodies; the gigantic body is thus not a closed body. In other words, the mind and body relation shifts from the dualistic toward the monistic, and the notion of the body shifts from the modern toward the posthuman. Furthermore, the representations of the mobile suits in *Gundam,* as a form of mass-produced body enhancement, do not create individuated bodies. Also, there are a few feminine exo-enhanced bodies in *Mazinger Z.* Thus, although giant-robot anime from the 1950s to the 1970s played an important role in creating and reinforcing ideas of modern life and modernity, they also began to break down some aspects of the modern body notion to move toward a postmodern, non-dualistic conceptualization of the body. Manga and anime in this genre both reflected and participated in the development of those conceptualizations, and could influence the imagination of exo-enhanced, metal bodies in real life. In contrast, as we shall see in the next chapter, mecha suits and cyborgs from the 1990s are strongly influenced by biotechnology, with a corresponding shift in the body notion. The conception of the human body and its possible enhancements become increasingly different from the modern body image.

## The Endo-enhanced Body

Focusing on imaginings of giant robots in the 1950s to the 1980s, I have traced

changes in the notions and depictions of exo-enhanced bodies, as represented by the connection between and combination of a human pilot and a metal, technological mecha-suit or giant robot. Also, we have seen how many works require the gigantic robot body to function as a weapon, even if originally designed for other purposes. Our next question, however, concerns the function of endo-enhanced bodies during this period. Generally speaking, in works that feature characters with endo-enhanced bodies, such as humanoid robots, these rarely function as weapons, but rather as friends or supporters of human beings. This may be due to the similarity of their appearance to human beings. It is important to consider the same aspects of endo-enhanced bodies that I have discussed in the analysis of exo-enhanced bodies: 1) the relation between the robot (artificial) body, influenced by advanced technology, and human beings; 2) the conceptualization of the modern body; and 3) how robots (artificial) bodies convey the idea of modernity and modern life to the audience. By comparing these two sets of bodies—exo-enhanced and endo-enhanced—the features of 1950s to 1980s bodies and those of the modern body notion will become more precise.

*Cyborg 009*

As I argued earlier, *Astro Boy* symbolized a specific aspect of advanced technology:

the modern body image. I will next analyze *Cyborg 009*. *Cyborg 009* describes unique cyborg characters, and is one of the longest-running manga series, having been in print since 1964.[85] The manga *Cyborg 009* was written by Ishinomori Shōtarō (1938-1998), who was also a famous scriptwriter for various television dramas featuring special effects, such as *Kamen Rider.*[86]

*Cyborg 009* is set after WWII and during the Cold War, at some time in the 1960s. During the Cold War, many weapons companies were willing to sell their products, but of course, they needed wars to create a demand for their weapons. Those weapon company's wishes support the evil Black Ghost organization, which is eager to destroy and control the world. Thus, the Black Ghost organization plans on creating cyborgs with special powers, to instigate and fight in wars. Therefore, the organization kidnaps nine ordinary people and modifies their bodies, turning them into cyborgs. However, one of Black Ghost's surgeon-scientists, Dr. Gilmore, who had actually operated on the nine, comes to regret supporting the organization after he learns of

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[85] One million copies were printed of the *009* series. This is one of the most popular cyborg anime, and even recently, in 2012, the film *009 Re: Cyborg* was released.
Shinemazu Shōchiku, "Seitan 50 shunen de aratana Saibōgu 009 no seisaku ga kettei," *Shōchiku kabushiki gaisha/ Kabushikigaisya kurakkusu*, August 21, 2015, http://cinema.ne.jp/news/cinemas2015052623/.

[86] The body of Kamen Rider is actually very interesting because the body is a hybrid of human and grasshopper as well as being transformable. However, as my analysis focuses on manga and anime rather than live action film, I will not discuss *Kamen Rider* here.

their evil ambitions. He tells his nine cyborg creations about the evil of Black Ghost, and they all escape together, resolving to fight against the organization and stop it from creating more cyborgs weapons.

One key point of *Cyborg 009* is that this manga presents many of its (endo-enhanced) cyborg bodies as weapons, while many (endo-enhanced) autonomous robots in manga from the 1950s to the 1980s function as humanity's friends, such as Astro and Doraemon. Another new point is that our protagonists here are cyborgs, not robots: their organic bodies have been amalgamated with a range of artificial, high-tech devices, to make them suitable for combat, including combat in space.[87] The Black Ghost organization thinks so far in advance that it has designed its cyborg weapons to be functional in outer space, in case the planet is destroyed by atomic weapons. This is an interesting twist on the original invention of the word and concept "cyborg" by Manfred Clynes and Nathen Kline in 1960 when they presented the idea to NASA of modifying humans to make them able to survive in space with less or no need for special gear.[88]

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[87] There is a picture of the Cyborg 009, Jō's, anatomical chart, which shows all his organs have been replaced with artificial organs to make him more powerful. (Ishinomori Shōtarō, *complete comic works Saibōgu 009 vol 1*. Tokyo: Kadokawa, 2006, 121.)

[88] Sharalyn Orbaugh, "Frankenstein and the Cyborg Metropolis: The Evolution of Body and City in Science Fiction Naratives" In *Cinema Anime: Critical Engagements with Japanese*

The nine cyborgs in *Cyborg 009* suggest a new aspect of modernity: the concept of a global alliance, in addition to the conception of the modern body, life, and city. In other words, *Cyborg 009* imagines internationalization through the multinational characters, and places strong emphasis on this in the narrative. In fact, the nine cyborgs are from different counties, cities, and cultures. As the features of the nine cyborgs are also different, I will discuss each character to reveal how Ishinomori imagines internationalization (a modern element, relying on cultural stereotypes), combined with high tech body modification.

The protagonist, Shimamura Jō, is from Japan and his code number is 009. As he is actually half-Japanese, he has been discriminated against by Japanese society. In fact, he was an abandoned child who had several encounters with the law; he was finally sent to the Juvenile Classification Office. He escaped, but the Black Ghost caught him to modify his body and he became one of the nine cyborgs. His special ability is teleportation. He is the leader among the nine cyborgs, although Dr. Gilmore is the one who mainly gives orders to them. Jō is the most technologically advanced among the cyborg members, but, interestingly, the manga does not emphasize the characters individually; all the cyborg members always help each other, using

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*Animation*, ed. Steven T. Brown. (New York: Palgrave Macmillan, 2006), 82.

their special abilities in concert for a shared purpose, underscoring the message of international cooperation and friendship.

Code 001 is Ivan Whisky, the youngest cyborg, who is a baby from Russia. His father had modified his brain, so he can see the future; he has parapsychological abilities. Code 002 is Jet Link, an American from New York City, whose ability is to fly like a jet. Françoise Arnoul, Code 003, is the only woman in the cyborg team. She is from France and is a ballet dancer. She has enhanced hearing and vision. She often directs battles under Dr. Gilmore's guidance, but when the team is not fighting, she often takes care of the baby, Ivan. Cyborg 004 is Albert Heinrich, who is from East Germany. His body parts, such as his fingers, have been modified into guns, so his entire body functions as a weapon. Code 005 is Geronimo Junior, who is from the southwest United States. He is a Native American, and like Shimamura Jō, he has faced social discrimination. His body is the biggest and the strongest among the cyborgs, and has armored skin, so usually he protects the others. Chang Changku, Code 006, is from China and is a restaurant owner. He loves to cook for the members. His ability is breathing out huge flames. Code 007 is Great Britain, who is from the United Kingdom. His feature is having a body, which by changing his own molecular sequence, he can freely deform. Code 008 is Puma, who is from

Africa and was a guerrilla fighter for the independence of his country. His body is modified to be stable in water.

As I listed above, the members come from Western, Asian and African countries and many of them have suffered discrimination in their own societies, or have lived in difficult situations. Their struggles, in fact, have come from aspects of modernity: colonization, wars and racism. Ishinomori not only illustrates an international group and the importance of the alliance between them, but also allows his work to address issues common in modern international relations. As a result, this mixture of races and different cultures presents to the audience the idea of successful, beneficial internationalization. An admirable point in the narrative is that all the cyborgs work together and help each other to fight the Black Ghost.

The manga also occasionally shows us the characters caring about their feelings, too. For example, Dr. Gilmore upgrades Puma (008)'s body because of injuries sustained during a fight. However, because of the enhancement, Puma has scaly skin. He is shocked and disappointed by the inhuman appearance of his new body. But then Albert (004) encourages Puma, showing him his own robotic body, and telling him how proud he is of it. Moreover, Françoise criticizes the racist implications when Dr. Gilmore says, about the change in Puma's

skin color from black to silver, "I thought scaled, silver skin is a better color than black skin."[89]

A group of colleagues of mixed cultures and races, cooperating together as a group, demonstrates a valuable model of international relations; however, the narrative also illustrates strong stereotypes, which could be seen as racist. For example, only Chang Changku, the Chinese cyborg, speaks strange Japanese, with inaccurate grammar and a strong Chinese accent. In addition, Chang Changku's appearance—with a Qin dynasty-style mustache and short height—demonstrates a stereotypical image of Chinese people in Japan, one that can often be seen in Japanese comics. Moreover, white people tend to have big noses and are taller than other races in the manga. Because Ishnomori depicts stereotypical images of each culture, the Japanese readers, specifically children, unconsciously share in and acquire an expectation toward the stereotypes, which include within them messages about power structures and a hierarchy of races.

Another hidden problem in *Cyborg 009* is that there is only one female character, although there are eight male cyborgs. According to Saitō, many Japanese anime often illustrate one, or at most only a few, female characters, and their roles are never the main ones or central to

[89] Ishinomori Shōtarō, *Ishinomori Shōtarō complete comic works Saibōgu 009 vol. 6* (Tokyo: Kadokawa, 2006), 164-168.

the narrative as a whole. She calls this situation *"kōitten ron* (literally one drop/spot of crimson)," which basically means "only one female among a lot of males."[90] In fact, Françoise (003) usually does not physically fight against the evil characters, so she does not have a chance to be a heroine. Moreover, she takes care of Ivan, the baby cyborg, so this narrative, too, emphasizes the role of the female as the "mother" of her fellow warriors. Again, despite some small signs of progress regarding women's roles, 1970s' manga and anime still persists in accepting and presenting normative gender roles and sexism.

*Doraemon*

Finally, the most famous representative of the endo-enhanced body in post-war Japan is the blue cat-styled robot, Doraemon. Fujiko F. Fujio created the *Doraemon* series in 1969, and it became the longest-running TV animation in Japan. The first TV anime series was aired in 1973, and then another series was aired from 1979 to March 2015. A new series has aired from April 2014. In other words, the TV anime has been running for more than forty-two years and it

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[90]Saitō Minako, *Kōitten ron: anime, tokusatsu, denki no hiroinzō.* (Tokyo: Birejji senta, 1998), 5. The original word of it is 万緑叢中紅一点, which is written by a Chinese poet, Wang Anshi (1021-1086). The meaning of the term is that a red flower in a carpet of green (grasses).

still continues. The story tells of the feeble, hapless protagonist, Nobita, and his efforts to avoid his bad future, as his own grandson, Sewashi, foretells it to him.[91] Sewashi gives Nobita a blue-skinned, cat-shaped robot from the future, Doraemon, whose role is therefore to care for Nobita as well as leading him to be a great man.

*Doraemon* strongly emphasizes the friendship between Doraemon and Nobita. Because Doraemon talks and acts like a human and is the best helper and friend of Nobita, Japanese children have understood and accepted this robot, and what it can represent, as a "human being." Whenever Nobita has some difficulty, he asks Doraemon to help him to solve his problem, and Doraemon gives him some sort of futuristic tool, produced in the 22nd century. The tools emerge from Doraemon's pocket—a sort of pouch on his stomach. However, in every case, Nobita's way of using this futuristic tool is wrong, or he uses it too much, and so Nobita fails to solve problems; his situation, in fact, often gets worse. The last scene of most episodes is usually of Nobita crying and shouting, "Doraemon!" The message from Fujiko F Fujio is that even though you have futuristic tools, so high-tech they even seem magical, what you really need to overcome your difficulties is to work hard. The messages of Tezuka (in *Astro Boy*) and Nagai (in

[91] Setagaya Doraemon kenkyūkai, *Doraemon no himitsu* (Tokyo: Deta House, 1993), 18-22.

*Mazinger Z*) are very similar: advanced technology is not perfect, and the users of that technology must know how to use it properly and judiciously; they should also prepare for what may happen as a result of the impact of that technology. In short, the creators of these narratives warn us that having advanced technology means having power over others, and remind us that that fact requires taking responsibility.

The most important aspect of Doraemon's body is the four-dimensional pocket in which he stores his 22nd-century tools. While the pocket can be temporarily removed, it is almost always attached to Doraemon's belly. The pocket itself is small on the outside, but it can store many items of many different sizes; that is, the space of the inside of the pocket is immense. Because the pocket is depicted as a part of Doraemon's body,[92] the body of Doraemon itself represents the future, and in fact, he has come from the future. The essential point is that Doraemon himself exists in the contemporary time with Nobita; however, the inside of the pocket connects to "four-dimensional space," which can store a limitless number of tools/items, and thus connects to a different world, the world of the future. In short, the body of Doraemon represents a bridge between the present and future. In this case, Doraemon does not correspond

[92] In the manga series, Doraemon sometimes removes the pocket to wash it, and it is not always explicitly depicted (Tentoumushi comic vol. 25.) However, it seems to be considered an integral part of Doraemon's body.

with the modern body image, because his body, including the hidden tools in his pocket, can bring something new from future to present; that is, the body does not seem to be closed. Like the hints of posthumanism we have seen in other narratives explored in this chapter, this aspect of Doraemon gestures toward the new kinds of embodiment that will be featured in manga and anime of subsequent decades.

## Conclusion

Overall, all the exo- and endo-enhanced bodies of the 1950s to the 1980s conform to and reinforce the ideas of modernity because of the artificial (usually metal) make-up of their bodies and their high-tech features. In other words, for early post-war Japan, science and technology are the most essential elements for supporting reconstruction and re-modernization. By examining the giant robots of the 1950s and the mecha suits of the 1980s, it becomes very clear that exo-enhanced robots are often: 1) weapons; 2) very masculine; and 3) controlled by human pilots. In fact, the physical connection between the gigantic robots and human pilots is a key point of these bodies, because the depth of the connection shows the beginings of a transition from the modern body image to the posthuman body: from a dualistic body and mind relation to a monistic one. On the other hand, the essential points of the endo-enhanced body are that: 1) it

serves as human's best friend and supporter; and 2) it serves as a bridge between the human (organic matter) and the robot (inorganic matter). As we will see, in later decades the connection between the organic and inorganic matter became even tighter, and new conceptualizations of hybrid "life" emerged. It is important to emphasize here, though, that both endo-enhanced and exo-enhanced bodies in 1950s-80s narratives are still very close to the conceptualization of the modern, rather than posthuman, body.

As we recall, Ferguson defined the modern body image as "epidermic, closed, individuated, [and] male,"[93] and most of the enhanced bodies we have just examined represent these modern elements. The powerful and (usually) unhurt epidermis covers the whole body. The exo- and endo-enhanced bodies in these manga/anime are completed (closed); they do not usually take in matter or other beings from the outside. (We have seen hints of the posthuman open body in *Doraemon*, with Doraemon's interdimensional pocket, and in the way the pilot merges with the exo-suit in *Mazinger Z*.) The great majority of the bodies we have examined here are individuated and singular. (Again, we have seen hints of other possibilities in the mass-produced mech-suits of *Gundam*.) And finally, most of the bodies we have discussed in

[93] Ferguson (2000), 77.

this chapter are either male (humans) or masculine-shaped (robots). (The exceptions are the feminine-shaped robots and female pilots in *Mazinger Z*, a few important female characters in *Gundam*—though they are rarely depicted in the futuristic role of merging with exo-suits—and in the lone female member of the cyborg coalition in *Cyborg 009*.) Even though we can find a few female characters in these manga, they are never the main characters, only supporters. And all the characters, both male and female, have strict gender roles to which they must conform. Moreover, the romantic relationships are all heterosexual. Thus, robot anime from the 1950s to the 1980s have strong gender limitations, and strict considerations of sexuality. However, cyborgs from works in the 1990s gradually erode these limitations—imposed normativity on sex, gender and sexuality—by illustrating "queer" characters, as we will see in the next chapter.

# Chapter 4: Hybrid Bodies in the 1990s

## Hybrid Bodies

> As genetic pilgrims traveling in the twenty-first century, we are living at that epochal transitional moment when the body itself is being swiftly brought under the control of a probing, creative, radically experimental bioscience, mapped for its genetic secrets, redesigned by recombinant genetics that clip strands of DNA—hybridized, sampled, and sequenced.[94]
>
> –Arthur Kroker *Body Drift* –

As Kroker argues in the epigraph above, our bodies are in the process of being changed by biomedical technology; unsurprisingly, the idea of bioscience has exerted an extremely powerful influence on Japanese science fiction anime and narratives since the 1990s. In this period, the idea of the hybrid body, as made possible through biomedical technology, emerged in many Japanese anime and novels to illustrate a new conceptualization of the body. This chapter examines the idea of the hybrid body and the innovations that this new conceptualization brought. Thus, the key phrase here is the hybrid body, by which I mean the integration or amalgamation of two or more bodies through biomedical technology. In fact, biomedical technology—such as cloning, genetic technology, and regenerative medicine—achieved a high level of development

[94] Arthur Kroker, 123.

and began broadly to affect society in the 1990s. One of the memorable examples is Dolly, a cloned sheep, the first mammal clone, born in 1996. Examples of biomedical technology like this, and the types of worlds/bodies it made possible, influenced literature and anime. Writers and animators employed the ideas of cloning and regenerative technology to illustrate in their narratives the imagination of futuristic bodies. Thus, this chapter examines three categories of hybrid bodies, those combining: 1) organic matter, metal matter and animals; 2) organic matter, metallic and electrical matter; 3) humans, aliens, and giant mecha suits. A significant point regarding these imagined hybrid bodies in the 1990s is that they are mixtures of everything: organic and inorganic matter, and different kinds of species.

In order to provide a conceptual framework in which to place these hybrid bodies, I will refer to Haraway's theories from the *Cyborg Manifesto* (1985/1991) and *Companion Species* (2003), and her ideas about immune system discourse. These theories work to break down diverse boundaries—between organic and inorganic matter; humans and other animals; the self and the other; females and males, etc. In Krocker's words,

> Haraway has made of her own mind a biopolitics on creative hyperdrive. Deeply immersed in the (bio)scientific disciplines, always distancing herself from the seductions of technological representationally by feminist difference,

> continuously provoking boundary breakdowns in her own thought by refusing to assent to an anthropomorphic species-hierarchy… Haraway has made of her own thinking a model of a creative biogenetics—spliced, hybridized, interfacing, transcribing, always partial, always disturbing the boundary and remixing the difference.[95]

Haraway's theory uses cyborgs as a metaphor for various marginalized creatures, such as women and animals, and breaks down species-hierarchy to make all living things equal. In order to do so, she argues for a new conceptualization of the body by connecting it extensively to science. Therefore, Haraway's perspectives on the body significantly inform the various methods of interpreting sci-fi narratives from the 1990s. Employing Haraway's theory, I focus on hybrid bodies to reveal how writers and animators depict the body as well as its sex, gender and sexuality in futuristic narratives. Analyzing the hybrid body shows its complexity and reveals how the narratives erase the boundaries that reinforce a dualistic, modern concept of the body. At the same time, I explore the *limitations* on the imagination of new kinds of sex, gender, and sexuality; in other words, we shall see the ways that some decidedly posthuman bodies retain surprisingly modern features.

The three narratives featuring cyborgs that I analyze and interpret here were produced

[95] Kroker (2012), 125.

in a short time period—between 1990 and 1996: This chapter analyzes the various hybrid amalgams as personified in SampleB/Yona (from the novel *Hybrid Child*), Kusanagi Motoko (from the anime film *Ghost in the Shell*), and Shinji/EVA (from the TV anime series *Evangelion*). As these characters are all hybrid bodies, I will examine: 1) the processes through which they are created, in order to determine, to the extent possible, their sexes; 2) whether these cyborgs themselves consider their own gender to be feminine or masculine; and 3) their intimate relationships, to determine what their sexualities might be. These analyses can show how the writers and animators utilize the imagination of cyborg bodies to go beyond a conceptualization of the modern body and provide new possibilities. My analysis also focuses on what happens to the characters' bodies both during and after their transformations to see how technology is related to the cyborg body, and what the "transformation" means in each context. I will begin chronologically with the Sample B/Yona amalgam in *Hybrid Child*.

*Hybrid Child*

*Hybrid Child* (1990) was written by female author, Ōhara Mariko. This novel is composed of three stories, "Hybrid Child," "Farewell," and "Aquaplanet," which were published over six years in *SF Magazine* from 1984 to1990. Ōhara won the Seiun Award in 1991 for this

work.[96] In Japan, popular, award-winning female science fiction writers are relatively rare, so Ōhara's work makes an important contribution in providing an alternative voice to what may be mainstream androcentric methods of illustrating sex, gender and sexuality of posthuman characters. By contrasting her work with that of male SF artists (of manga and anime), this section demonstrates how Ōhara emphasizes females who have significant power over both production and reproduction in the narrative. Firstly, I will give a brief summary of the story and then discuss the protagonist, the amalgam between Sample B Unit III and Yona, to reveal how Ōhara illustrates its sex, gender and sexuality. Through this character, we will demonstrate some new aspects of the conceptualization of the posthuman body as well as the powerfulness of female reproduction in the narrative.

The remarkably complex story begins when Sample B Unit III escapes from the Humanoid Allied Forces during a war between them and The Immortal Empire of Machines. As the Humanoid Allied Forces are very badly situated, the God of War on the Humanoid side orders the creation of fourteen immortal powerful cyborg weapons to fight against The Empire of Machines. The remarkable ability of the cyborgs consists of being able to copy genes/molecular

[96] The Seiun Award is a Japanese award for the best science fiction novel.

structures of both organic and inorganic matter—if the cyborgs ingest something they are then able to become a simulation of what they have ingested. In other words, the cyborgs can change their own body shapes as well as can take on the ingested creatures' memories and special abilities, such as flying or running fast, from their genes. Sample B cyborg weapons can thus keep recreating themselves as new living matter whenever necessary by eating and copying another creatures' genes/molecular structures.

This transformability conforms to one of the salient elements of the posthuman body, which continually transforms itself, both internally and externally. This is distinct from the modern notion of the body (autonomous and closed), in that the posthuman body is constantly changed through its physical interaction with other creatures, as Haraway argues in her discussion of immune system discourse.

In earlier chapters, I discussed the various definitions of the posthuman body, which is: 1) open and predicated on continuous interaction with other living things; 2) changeable: it is never complete; and 3) hard to identify as a singular individual. The *Hybrid Child* narrative describes those three elements as they operate within the body of Sample B. In order to understand Sample B's sex, gender and sexuality, I will discuss why and how Sample B is

created.

The first question that arises, and through which we will be able to consider the power structure between the various characters in this complex story, is: who gives the order for the creation of the immortal cyborg weapon, Sample B? The answer is revealed gradually throughout the story. The God of War, whose figure is illustrated as white noise or as an old man, gives orders to the military researchers of the Humanoid Allied Forces. The military utilizes the Saga electronics company to develop a new kind of artificial intelligence, which is installed into the body of Sample B in a secret laboratory. The function of the artificial intelligence is to enable Sample B to sample organic and inorganic creatures' genes and/or molecular structures, to reshape its body into those beings' shapes. The Humanoid Allied Force invests a considerable amount of money—8% of its total military expenses—to research and develop these Sample B cyborgs. However, one of them, Sample B Unit III, escapes from the military, having mysteriously heard the messages: "Have your own intentions," "Be free," "Live," "Choose your way of death," "Pray," and "Focus on your consciousness."[97] So, Sample B Unit III, the protagonist in the story, decides to gender itself as masculine and leave the military to start its/his

[97] Ōhara Mariko, *Hybrid Child* (Tōkyō: Hayakawashobō, 1993), 80.

journey.[98]

One of the major characters, Donna Heath (DH), an important researcher in the production of the cyborgs, is not introduced until relatively late in the story. This character, a woman, actually gave birth to the God of War. In short, she is both a producer of the immortal cyborgs as a scientist, as well as the mother of the God of War, who grows progressively younger as time passes in the narrative, and who can freely emerge at any point in the past, present or future. The body of the God of War is ambiguous; it has an appearance that at least resembles the human, and yet no one can touch its body. At one point, in response to a question from the God of War, the text also emphasizes that "a person who gives birth is always female"(p.215). Interestingly, in male writer and animators' narratives, the father of a cyborg is usually a male scientist[99]; in contrast, underscoring the female role in reproduction in this story creates a powerful impact and an unexpected surprise. This is one way in which the author expresses herself against the dominant economies of power, specifically the patriarchal system.

Orbaugh lists three options for opposing dominant power (in a society's sex-gender

[98] Other Sample B Units do not have any agency, or selfhood because the military never put agency into their programming.

[99] For example, Motoko in *Ghost in the Shell* is created by male scientists, who appear only in the opening credits; and all of the humanoids and giant robots in anime from the 1950s to the 1980s, such as Astro, Gigantor, Mazinger Z and Gundam, are created by male scientists, such as Dr. Tenma, Dr. Shikishima, and Tem Ray (Amuro's father).

system, in this case) through the writing of fiction: 1) "to maintain and describe the current configurations of power, exposing the harm done through them;" 2) "to maintain and describe the current configurations of power, but to invert the hierarchy of value, to valorize [the] passive side of the equation;" and 3) "to maintain the current binary configurations of power, but to reverse the gender coding of the hierarchical power roles."[100] In Ōhara's case, *Hybird Child* fits the third strategy, by creating a female character who is the mother/ creator of all living things, including a god. However, Ōhara also purposely describes DH, the mother of the god, as a *machine* of reproduction, by illustrating the doctors who take care of and give particular attentions to the child—the god—while they relatively ignore the mother, DH. Orbaugh's framework also argues that women's fiction can use a mix of those three strategies to oppose existing power structures, and we see this in Ōhara's novel. She shows the unfortunate and harmful consequences of current power structures by showing how women are marginalized in a patriarchal system at the same time that she elevates women (at least a woman) by giving them the creative/reproductive power usually assigned to males in SF narratives.

Now, we know that a female scientist produces the immortal cyborgs, Sample B, but

[100] Sharalyn Orbaugh, "The Body in Contemporary Japanese Women's Fiction", 123.

do these creations themselves have an identifiable sex? In the story, there is no description of Unit III's original sex, although "he" starts gendering himself as masculine when he begins to acquire his own self-consciousness; he decides to call himself "he" as I mentioned earlier.[101] However, when Unit III integrates with the dead body of Yona, a seven year old girl, the Sample B/ Yona amalgam takes on Yona's features rather than those of Sample B Unit III itself, because Unit III originally existed as a powerful weapon without consciousness or self.[102] Once Sample B Unit III has fully integrated with Yona at the end of the first story, its shape and consciousness become that of the young girl.[103]

Thus, partway through the story Sample B Unit III's sex decidedly becomes female. Although Unit III continues to copy and simulate other creatures, the story makes clear that its base is occupied by Yona's genes and memory, because Unit III has existed in the shape of Yona for a long time. Unit III is also comfortable being Yona. In the second section of the work, "Farewell," the amalgam lives with an old man and a servant robot for two hundred years. At the

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[101] *Hybrid Child*, 80. (*Ore wa ore o ore to yobu koto ni shita no da*.)

[102] In the last Chapter of *Hybrid Child*, the narrative mentions that her name, Yona, is the same as the person who was swallowed by a whale, in the Book of Jonah. Because the character, Yona, in *Hybrid Child*, is female, I render her name as Yona, instead of Jonah in this study.

[103] After Sample B copied Yona's ability and her body to become a seven-year old girl and live as Mari in chapter 2, "Farewell," we can no longer easily see the consciousness of Sample B; however, when Mari has to change her body to a different creature because DH found out that Mari is actually Sample B, the consciousness (or desire and anger) of Sample B reappears. (115)

end of the section, the amalgam becomes a dragonfly, Dragon Cosmos, made of glass, to leave the old man's house when Donna Heath (its "mother") comes to visit. DH has been searching for Unit III since it escaped from the military compound, wanting to return Unit III to its original purpose as a military weapon, but this is something that Unit III has no desire to do.

Here is further evidence that the amalgam is female. The beginning of the third story, "Aquaplanet," informs the reader that the core of the dragonfly, Dragon Cosmos, has the shape of Yona, and that the core, Yona, then emerges from the main body of Dragon Cosmos. Thus, at this point there are two bodies: Yona and Dragon Cosmos. This scene demonstrates a sort of childbirth; that is, Dragon Cosmos is the mother of Yona, and Yona is the child of Dragon Cosmos. The story also describes that Dragon Cosmos has inherited the genes of Yona's mother, and the core, Yona, seems to have the same characteristics as Yona herself once had. This raises a question: why does Dragon Cosmos have the features of Yona's mother, even though Dragon Cosmos is a reshaping of the Sample B Unit III/Yona amalgam? The answer is that Yona was actually generated from her mother's genes. In addition to this, in the first story Unit III actually ate Yona's mother after she died accidentally, so Dragon Cosmos retains many of Yona's mother's characteristics in its body.

The relationship between Yona and her "mother" (Dragon Cosmos) is very distorted through all three stories. In the third story, Yona overfeeds her mother, whose body has the form of Dragon Cosmos, because her mother has become incapable of doing anything by herself. She is very vulnerable, and at the same time, continually asks for Yona's help. Yona sometimes wants to neglect her but cannot do so, out of sympathy. In fact, this is the inverse of a power structure we saw early on in the story, where Yona's mother sometimes completely neglects Yona or abuses her. On the other hand, the mother also sometime overfeeds Yona. One day, Yona's mother purposely lets Yona go grocery shopping during a snowstorm—causing Yona's death. The mother permanently preserves Yona's body—this is what Unit III discovers and integrates into itself in the first story.

In fact, later in the story, Yona also kills Dragon Cosmos (Yona's mother), grown monstrously fat. Dragon Cosmos gets fat because Yona also feeds her too much. Yona finally grows tired of caring for her now-ugly mother and kills her. At this point, the Unit III/ Yona amalgam eats the flesh of the mother' body. This is the most shocking sampling scene. Because the amalgam eats the mother, the body of the amalgam becomes much more feminine; it acquires a round shape and swelling breasts, although Yona dislikes her feminine body. The narrative

describes not only the similar body shape between the mother and the daughter, but also their similar performances. Drawing on Judith Butler's idea of performativity, Kazue Harada argues that "the repetition of their performance can expose the artificiality of their gender and of the symbiotic identity because all return to the mother."[104] Kotani Mari also points out that this repetition is "expos[ing] the traditional female image of the Japanese mother, whose survival tactics are to embrace and perform the same role over and over."[105] As Harada and Kotani argue, the narrative implies that the daughter unconsciously takes over the performance of the mother and makes herself perform that same role. In describing this negative chain of performativity, Ōhara Mariko is making use of the first strategy identified by Orbaugh: "to maintain and describe the current configurations of power, exposing the harm done through them." Ōhara shows the way this chain of performativity is a product of social constructions and the harmful effect it produces generation after generation.

As I mentioned earlier, the biological sex of Yona and the mother, Dragon Cosmos, is

[104] Kazue Harada, "Symbiotic Cycles and the Parodic Performance of Mother-Daughter in Ohara mariko's Hybrid Child," 170. See also Kazue Harada, "Japanese Women's Science Fiction: Posthuman Bodies and the Representation of Gender," PhD dissertation (2015, Washington University in St. Louis): http://openscholarship.wustl.edu/art_sci_etds/442/. Although the timing made it impossible for me to include Harada's findings in this dissertation, her study includes many important implications for considering conceptualizations of the body in manga and anime.

[105] Mari Kotani, "Space, Body, and Aliens in Japanese Women's Science Fiction," 409, http://www.depauw.edu/sfs/backissues/88/kotani.html.

female, and they also gender themselves as feminine (such as, for example, by language use); however, the original cyborg Unit III's sex is unknown at the beginning. In fact, its sex is actually changeable, because Unit III is a hybrid child.

Unit III is the original protagonist, but as the reader recognizes, the identity of the protagonist becomes Yona rather than any of the other creatures, including Unit III itself. In fact, the story refers to the amalgam specifically as Yona. Although Ōhara demonstrates the features of posthumanism in this work, creating a character that is a mixture of different creatures, the hybrid cyborg does not incorporate those creatures' different identities *equally*, but rather emphasizes only those of the girl, Yona. We may gather from this that Ōhara is explicitly trying to maintain the importance and centrality of females and female abilities, such as reproduction, in her narrative of posthuman possibilities.

The last question is how the amalgam's sexuality expresses itself in the last story. The amalgam, which has a stong consciousness of itself as Yona, becomes interested in two people. The first one is Shiba and the second one is Daniel, both of whom are male.

The first lover is Shiba, whose body has been put into a ferric coffin and is connected to an array of tubes to save his life. As he had a serious illness when he was child, his body has

been controlled and protected by this high-tech coffin most of his life. The coffin can fly, and has six legs with which to walk, as well. Despite this mobility, Shiba's life has been tragically limited in terms of the autonomy and authority he can claim over his own body. Advanced technology allows his sick body to live on, but at the same time, it secures all control over that body to itself. Haraway addresses this situation through her term, "Techno-biopolitics," an expansion of Foucault's "bio-politics." Foucault's explanation of the discourse of bio-politics makes us aware that our private lives—to live, to be born, to die, and to subsist—have been controlled by the structures and normative beliefs of the modern nation, such as public hygiene or restrictions on the birthrate.[106] *Techno*-biopolitics reminds us that, specifically, science and technology have much power to control people's lives.[107] In fact, Shiba's life is almost entirely controlled by technology and science. Shiba has a profound dislike for the doctors and the advanced technology that have shut him into the coffin to "save" his life.

The point is, who has let doctors put him into the technological coffin? In other words, who has power over Shiba's life? It is Miragurosu (Milagros), which is described as a control

[106] Sonoe Omoeda, "Sei no poritekusu to atarasii kennri (Bio-politics and new right)," 142-146.
[107] Donna Haraway, "The Biopolitics of Postmodern Bodies: Determinations of Self in Immune System Discourse," 208-212.

system of the Aquaplanet[108] and has a strong association with motherhood. The control system, of course, does not have a sex, but its role in the context of the planet, such as feeding people, is feminine, and the specific way of feeding people is even more so: everyone can drink free milk from a tap. Miraguros also provides lifelines and takes care of vulnerable people. That is why it/she saved the sick Shiba; however, since then his life is completely controlled by Miraguros. The problem is that being confined in the coffin in order to live longer was not Shiba's decision. This description implies that technology and science are controlling people's lives rather helping people—as Haraway pointed out.

Shiba is around 30 years old. The narrative does not describe his sexual organs, but instead focuses on the details of the connection between his body and technology. The narrative, however, uses the pronoun, "he" (*kare*), when it describes Shiba. Shiba is the first person who finds and takes care of the Unit III/Yona amalgam in space, and then becomes an object of affection and love for the UnitIII/Yona amalgam. At the same time, Shiba is also attracted to the amalgam.

There is another person who captures the heart of Unit III/Yona. This is Sample B Unit

[108] After Sample B Unit III ("Mari"/"Yona") escaped from DH, it was wandering in the universe and was found by Shiba, who took it/her to his home world, Aquaplanet.

XIII, called Daniel. His body is clearly described in the text. "It was a newborn child, too young even to have put on clothes yet, but it looks like a seven or eight year old boy. . . . he has a penis."[109] In fact, Daniel is a remodeling of the Sample B cyborg, whose task is catching the escaped Sample B Unit III. When Daniel is remodeled, he receives the genes of the God of War, to become a very smart and powerful cyborg. Yona is attracted to Daniel, although she had originally been attracted to Shiba. Daniel encourages Yona to pursue him, in order to facilitate his recapturing the escaped Unit III. In a complex set of plot twists, Yona discovers her true affections are for Shiba; however, when Yona finally returns to him, all functions of his body have already stopped. The ferric coffin, holding Shiba's body, sinks under the ocean.

In short, this story illustrates heterosexual romances between Yona and these two men. We see more heterosexuality in other important characters: the God of War is also born from a union between the female Donna Heath and her male subordinate, Shinohara. Although most of the characters in the story are cyborgs and could therefore transcend heterosexual relationships, the story persists in maintaining heterosexuality.

The most important scene featuring a heterosexual relationship involves the integration

[109] *Hybrid Child,* 212.

of Yona and Daniel. Once Yona and Daniel hold hands, their hands melt and become inseparable. Daniel's genes invade Yona's body, causing Yona to fear losing herself because of Daniel's genes. Their arms, chests, waists, legs as well as the insides of their bodies gradually coalesce. Yona shouts in fear because she feels that too much of Daniel's "information" is flowing into her body, and that her *self* is in danger of being destroyed by Daniel's *self*, but finally both Yona and Daniel integrate, causing their heads to explode. At this moment, the roots of plants grow from their heads. The plants, a hybrid (transformation) of Yona and Daniel's bodies, grow tremendously fast, and swallow Shiba's corpse, other cyborgs, and everything to cover the whole of the planet. Finally, there is only one huge tree standing, where Yona and Daniel had been.

From this scene, the story illustrates heterosexuality and the power structure between females and males. The scene—Daniel's genes entering into Yona's body—implies that Yona was penetrated by Daniel, which frightened her. However, the most fearful thing to her is losing her self and becoming one with Daniel. This story continuously shows copying/sampling, simulation, and integration between many different kinds of species, and organic and inorganic matter. Specifically at the end of the story, all living entities are fused into the plant that is a hybrid of Yona and Daniel. Thus, *Hybrid Child* beautifully describes that all organic and

inorganic matter, males, females, and cyborgs, humans, and animals become of one nature, constituting a boundary-less world.

Therefore, it is easy to find the ideas of posthumanism here in the radically hybrid, open, and transformable body. Although the conceptualization of the radically posthuman bodies in this story to some extent transcends distinctions between male and female, in another sense *Hybrid Child* explicitly works to maintain "femaleness" and heterosexuality in order to elevate the importance of reproduction and motherhood. In short, Ōhara "reverse[s] the gender coding of the hierarchical power roles" to resist phallogocentrism.[110] This is, of course, one way of addressing the issue of the existing power structure, but this means that the story misses the chance to exceed the categories of sex, gender and sexuality.

Overall, *Hybrid Child* tries to express a new conceptualization of the body: the hybrid body. Hybridity is one of the key elements of posthumanism, and the story clearly shows hybrid bodies, made of organic matter and inorganic metal, and humans, animals, plants and humanoids through the use of advanced technology, such as biomedical technology. However, all the characters are gendered feminine or masculine; they also conceive of their own bodies in sexed

[110] Again, this is Orbaugh's third strategy for writers opposing the patriarchal status quo. "The Body in Contemporary Japanese Women's Fiction," 123.

terms, as either female or male. Furthermore, all sexual relationships are heterosexual. Thus, *Hybrid Child* is a transition from the idea of the modern body to the postmodern body notion rather than a full realization of the posthuman body.

*Ghost in the Shell*

*Ghost in the Shell* (1995) was directed by Oshii Mamoru (b. 1951), an anime and live-action film director as well as a scriptwriter and manga artist, and was based on a manga series by Shirow Masamune.[111] The plot of *Ghost in the Shell* is set in the year 2028, and centers on a female-shaped cyborg government agent, Major Kusanagi Motoko who, with her fellow agents of Public Security Section 9, trails a Ghost hacker, the Puppet Master, who controls other cybernetic people by hacking into their cyberbrains —erasing their memories or implanting others. The Puppet Master turns out to be, in fact, a self-generating life form, born in the Net, and its purpose in hacking others is actually to meet Motoko and convince her to fuse with it to become a new organism, at which point, it, the Puppet Master will die, as other living creatures do. (This is the Puppet Master's main desire: to prove that he/it is really a life form.) On the

[111] Shirow Masamune, *Kōkaku kidōtai* (Ghost in the shell), 1989-90. In this instance I have chosen to use the much more famous and influential anime film version of this narrative, rather than the original manga. The 1995 film is based on one story arc from Shirow's manga.

other hand, for Motoko, this integration with the Puppet Master will cause her to lose her body, but her ghost will thereafter be able to freely flow in the Net. As a result, she will be able to download her ghost into any artificial body. At the end of the film, Motoko accepts the Puppet Master's offer to integrate, and she "disappears" into the Net. (The story continues in its sequel, *Ghost in the Shell: Innocence*, 2004, but I will discuss *Innocence* mainly in Chapter Four as it was produced in the 2000s and demonstrated the bodiless body, rather than the hybrid body.)

Because Motoko is the main character in the first film, I will focus on it/her. As my focus is sex, gender and sexuality, I will analyze the film's presentation of these aspects of Motoko, and what occurred to her after fusing with the Puppet Master. Through this analysis, I will argue that losing the body, that is, not having a sex or gender, becomes a potential aspect of post-modern, posthuman discourse—that is, an argument against modernist dualism and patriarchal ideas, though we still can see the character's strong existence. On the other hand, we can also notice that a patriarchal power structure remains between Motoko and (the "male") Puppet Master, between male scientists and female shaped cyborgs, and most of the main/key characters. For one thing, there are far more "male" than "female" characters depicted in the film.

The first question we have is Motoko's sex. What do we know about her sex, and how do we know it? Motoko is a cyborg, whose body is completely artificial but still has some organic brain material and a ghost, as we discover in the opening credits, which illustrate the process of her body's construction. At the beginning, we can see the skeletal structure, which is almost completely made of inorganic but futuristic substances to make her look like a real human. We can see the brain matter inside of the head, which connects to many plugs, and then is closed after the "brain" is programmed. Once the (female-looking) shape is done, the body is chemically-coated. When the coating comes off, the skin has a life-like human texture, and the face looks like a living human (she no longer has a robotic appearance). The whole body is scanned, and is checked on the computer screen. The body, which now looks very much like that of a voluptuous human female, is washed and dried to complete the process.

At the beginning of the opening credits, we can see inside of her body, which is a mix of artificial, futuristic materials, and a bit of organic brain and spinal cord. At the end of the credits, we see a young feminine body, which has female breasts and hips; however, we do not see either female or male genitalia. In short, as far as we know Motoko does not truly have a "sex" although her body is shaped as "female." Interestingly, we can see two male scientists during the

construction of her body. As Gonzalez pointed out, "the traditional, gendered roles of Euro-American culture are rarely challenged in the visual representations of cyborgs."[112] As we have seen in our discussion of earlier decades, Japanese anime maintains the problematic patriarchal idea that males "create" females, and females are the ones to be produced by men.

Rosi Braidotti explains the reason why this discourse was created and maintained until now in "Mothers, Monsters, and Machines" (1994). According to Braidotti, in the sixteenth to seventeenth centuries, some men tried to produce human beings without female intervention, because men were afraid of women's bodies—specifically, of the changing body shape during pregnancy and childbirth. Women were regarded as monsters because of their fearsome bodies. As men also wanted "the power" of women's reproduction, they started studying alchemy. Braidotti shows that alchemical symbolism is based on the idea that male art/skill can replace a uterus.[113] For example, a Swiss German Renaissance physician and alchemist believed that male humans could be born from males without the need of a female body, and he advocated that males should make this a reality.[114] Even today we still use some of the basic laboratory

[112] Jennifer Gonzalez, "Envisioning Cyborg Bodies: Notes from Current Research", 61.
[113] Braidotti, 65. Here Braidotti draws on the work of Sally G. Allen and Johanna Hubbs in their article "Outrunning Atlanta: Destiny in Alchemical Transmutation" (*Signs* 6:2, 1980: 210-229).
[114] Rosi Braidotti, "Mothers, Monsters, and Machines," 65.

techniques, theories, and methodologies that alchemists developed. The critical point is that today's science, chemistry and reproductive technologies are related to alchemy, which was based on patriarchal ideas. Braidotti mentions the recent reproductive technology in-vitro fertilization (IVF) as an example of male desire: self-reproduction by males and for males.[115] The idea of creating humans without the female biological process of reproduction has been maintained from the 16th and 17th centuries until now. This argument resonates strongly with the scene in this Japanese animation, *Ghost in the Shell,* of male scientists creating a female cyborg, although in this case her body is created with futuristic high technology and futuristic materials. The futuristic narrative has not transcended the patriarchal fantasy of males creating humans without female intervention.

From the analysis of the opening credits, we understand that Motoko does not have a sex, although her body was shaped as "female." The next question, then, is what Motoko understands her gender to be. I will focus on her attitudes, her way of speaking, and her clothes in order to reveal her gender within the normative behaviors of the Japanese context. Throughout the film, Motoko's behavior is very masculine by Japanese standards. For example, her way of

[115] Braidotti, "Mothers, Monsters, and Machines," 66.

sitting is not representative of the normative Japanese female sitting style: she sits with her legs open on a chair/sofa, as men usually do, or cross-legged on the ground. She can fight powerfully and move quickly and effectively, like a super hero. In addition, she is very brave—she storms an enemy position to fight with a powerful tank by herself. As a Japanese person, I feel that her attitude and behavior are completely opposite normative Japanese feminine behavior.

Furthermore, her way of speaking is a mix of feminine and masculine. For example, she never speaks in a polite way, but often speaks in an imperative tone, "suru zō", and "~shiro!" Another example is that she calls her colleagues "omae", which is typically a male usage, although we can also hear her using women's speech, such as "atashi," "~dawa" and "~yo." Overall, her language is much more masculine than feminine.

In terms of her clothing, she never wears skirts, or pink, red or otherwise colorful clothes. Rather, she always wears dark colored pants, simple T-shirts and broad-shouldered jackets, like men's clothes. In addition, her hair is short to medium-length, and very rough—that is, she does not seem to care much about her appearance. The most essential point in understanding her gender is that she never cares about showing her naked body. For example, after Motoko, wearing optical camouflage that renders her invisible, fights a hacker, she turns off

the optical camouflage to show herself. At that moment, she is apparently naked, and she does not care about revealing her naked body.[116] Because, generally speaking, females in Japan are not comfortable being naked in public or especially in front of men, her attitude is not a normative feminine attitude. It is significant that even though Motoko does not feel normative feminine shame about showing her naked body, Batō feels shame for her—he covers her with his coat so her nakedness will be hidden. Batō is much more normatively masculine, as we see in this protective gesture, than Motoko is normatively feminine.

As a result, we can conclude that she does not see herself as feminine/a woman. At the same time, however, she does not try to be fully a man, either, because she sometimes uses women's language. In short, she simply does not care about what her gender is. Unfortunately, our society does not have an alternative gender category—not woman and not man—so her gender is ambiguous and hybrid.

Although she does not have a sex and her gender is ambiguous/hybrid, her sexuality could be interpreted as heterosexual if we agree to regard Batō as male. I assume Batō is male, at

[116] She actually wears a flesh-colored "thermoptic camouflage suit," which, when turned off (that is, when she is not using it to become invisible) fits so tightly to her body that it appears to be her own skin. Thus, she is not really naked, but to the viewer of the film, and to her partner Batō, she certainly appears to be.

least a male-shaped cyborg, because of his low voice and his masculine body. Also, as above, his protective attitude toward Motoko and his shame, on her behalf, at her nakedness suggest normative male behaviors in the Japanese context. In fact, Motoko and Batō do not have a physical relationship; however, they think about each other in a somewhat romantic way. They never say to each other "I love you", but Motoko says to only Batō "whenever you access the net, I will always be with you" after she integrates with the Puppet Master. Also Batō tells Motoko that she can stay in his safe house as long as she likes, after she has integrated with the Puppet Master—that is, he offers to let her live with him, another sign of his feelings toward her. As Springer argues that the "cyborg imaginary in popular culture invites us to experience sexuality by losing our bodies and becoming pure consciousness," we can understand that Motoko and Batō's love is expressed in a different way from through a physical relationship.[117]

Putting this all together, we might argue that Motoko does not have a sexed body but her sexuality is heterosexual. Looking at Batō's sexuality may also help us to understand both of them. For example, Batō clearly considered Motoko to be a woman because when she is naked he kindly covers her body with his jacket, or when she takes off her wetsuit when they are

[117] Claudia Springer, "The Pleasure of the Interface," 39.

together on his boat, Batō bashfully avoids watching her naked. In short, Batō defines Motoko as a woman, as well as defining himself as a man. They definitely have a close, somewhat romantic, but not (as far as we know) physical, relationship. Specifically, when Motoko is almost completely destroyed, Batō shouts out her given name, "Motoko!!!" although he usually calls her by her title, "Major." In fact, it is unbelievable that a lower status person, as Batō is in this particular relationship, would call a higher status person by his or her given name in Japanese society unless they are intimate. Thus, we know they have a close relationship.

Through the analysis of Motoko's sex, gender and sexuality, we noticed that Motoko is not easy to categorize as female or male, a woman or a man. In her monumental "Cyborg Manifesto," Haraway claimed that "Cyborg imagery can suggest a way out of the maze of dualisms in which we have explained our bodies and our tools to ourselves," and *Ghost in the Shell* fits her theory very well.[118] As we see, Motoko's sex and gender challenges dualism in order to make us aware of those categories and their limitations.

As a result, *Ghost in the Shell* represents post-modern, posthuman discourse through Motoko's body. However, even *Ghost in the Shell* could not completely erase patriarchal ideas.

[118] Donna Haraway, "A Cyborg Manifesto", 147.

For example, as we have discussed, Motoko's body was sealed within a female shape by male scientists. The main plotline was led by the Puppet Master, whose sex and gender are ambiguous but who seems to be male/masculine because of "his" voice. In fact, near the end of the film, when the Puppet Master seeks to communicate and then merge with Motoko, it downloads itself into a female-shaped artificial body; however, when it starts talking in a deep, male voice, our impression—that the Puppet Master is male/masculine—is set because despite the weirdness of the contrasting images: a masculine voice coming from a voluptuous naked feminine body. In addition, many key characters, Batō, Togusa, the head Aramaki, as well as antagonists are almost all male; that is, the only key "female" character is the strong Motoko. In fact, this film was created by a group of almost exclusively male artists, including the director Oshii Mamoru himself. Despite the advances in posthuman body discourse represented in *Ghost in the Shell*, the film still retains limitations, such as androcentrism and heterocentrism, which we will also see in our final example from the 1990s, *Evangelion*.

*Neon Genesis Evangelion*

The next text to be analyzed is *Neon Genesis EVANGELION* (1995-1996). This TV animation series aired in 1995-1996, the same year *Ghost in the Shell* (1995) was playing in

theaters. This TV anime series targeted a somewhat younger audience than *Ghost in the Shell*, airing 18:30 to 19:00 every Wednesday night. In addition, the story is even more complicated than *Ghost in the Shell*. The main characters, Shinji, Rei and Asuka, are also younger (14 years old) than Motoko, who looks like an adult. In this narrative, there are mechanical or powered suits, as in *Gundam*; however, Evangelion (as the suit is called) is not a robot (consisting of entirely artificial matter) but a synthetic organism: the viewer eventually learns that Evangelion (the EVA suit) is made of metal and organic matter. In order to connect a pilot's nervous system with the EVA s/he pilots, the pilot must wear an "interface head set" and a "plug suit." The biggest difference between Motoko and Shinji is that one is a cyborg and the other is human. However, when Shinji synthesizes with EVA, and the two synch successfully, they become a powerful cyborg.

The setting of *Evangelion* is in New Tokyo in 2015, 15 years after the "second impact," which killed half of the world's population. In 2015, because mysterious alien creatures, called Angels, keep invading New Tokyo, a special paramilitary force (NERV) makes fourteen year old boys and girls synthesize with EVA suits to become powerful cyborgs and fight with them. We will next analyze the fourteen year old protagonist, Ikari Shinji, whose father is the director of

NERV and the creator of EVA. Following the same analysis format as *Ghost in the Shell*, I analyze Shinji's sex, gender, sexuality, and, as in the analysis of *Hybrid Child*, I explore what the narrative has to say about the power of motherhood and reproduction within a patriarchal system.

Shinji is represented to us as fully and simply human, with no cyborg enhancements. The narrative explains that Shinji's father is Ikari Gendo, who is a director of NERV as well as one of the creators of the EVA. Shinji's mother, Ikari Yui, was a great scientist; however because of an accident that occurred during the Evangelion experimentation in 2006, Yui died in front of Shinji, who was then five years old. In fact, as a result of the accident her body was fused into EVA 01, the same EVA with which Shinji synthesizes when he turns fourteen. This implies an Oedipal relationship between Shinji and his mother, Yui, although—in a departure from the classic Oedipal narrative—his father, Gendo, actually pushes Shinji to synthesize with the EVA/his mother. Since, according to Freudians, the Oedipal crisis is one of the developmental steps that solidifies a male adolescent's sex-gender identity in the patriarchal system, it is significant that Shinji's Oedipal experience is far from the norm.

As far as his sex is concerned, Shinji is depicted as a normal male human. For example, when he wears a plug suit to synthesize with the EVA, his naked upper body implies that he is

male.

What then about Shinji's gender? Does his gender show some influence of post-gender (posthuman) discourse? Analyzing Shinji's behavior, his way of speaking, and his outfits will help us answer the question. Shinji's personality itself is nervous and unassertive, and he always speaks using polite language and in a soft tone not only to older people, such as Misato and Ritsuko, but also to his friends. However, his language is not explicitly feminine. He uses masculine language items, such as "boku." Thus, he presents himself in some ways as masculine, although he is nervous and soft-spoken, which are typically understood as feminine elements in Japanese culture.

As his behavior is very much related to his personality, it is not especially masculine. In fact, he is depicted as a good cook and organizer in comparison with female characters, such as Misato, Asuka and Rei. Although cooking and cleaning are typically considered to be a woman's role, specifically the mother's role, in the Japanese context, Shinji's cooking or cleaning scenes emphasize his kindness more than his femininity. That is, Shinji cooks and cleans because Misato does not do these well, even though her role is Shinji's guardian. In other words, the narrative illustrates anti-traditional gender roles.

Thus, Shinji is neither particularly feminine nor particularly masculine in daily life. What about during emergencies, when he has to pilot an EVA? Does he become a masculine person as a strong combatant? The answer is no. Whenever he controls the EVA, he shows his distress or anger. The point is that the EVA looks very masculine when it fights with enemies; however, the EVA's masculinity does not reflect Shinji's masculinity. Moreover, the EVA itself has masculine and feminine elements, as I will discuss later.

Shinji's behavior and language show that his gender is weakly masculine, but not feminine. However, he sometime clearly demonstrates a more strongly masculine gender performance. For example, whenever Shinji accidently sees female characters' naked bodies, he is surprised and blushes with shame, and then says "sorry" to the girls because he believes that he, as a boy, should not see naked women; that is, he socially identifies himself as a boy. (This is similar to Batō in *Ghost in the Shell*, whose behavior implies that part of his masculine identity includes the necessity to protect the vulnerability and modesty of [naked] women, even if the woman in his case—Motoko—feels no vulnerability or modesty herself.) Moreover, when a playboy character, Kaji, teasingly says to Shinji "Shall we have tea?" Shinji answers him, "I am a man!" with a fierce expression. Thus, Shinji expresses his gender as masculine (and in this

instance he may be at the same time asserting his sexuality as hetero). Furthermore, he often wears a male junior high school uniform—a white shirt and black/dark blue pants—in daily life. His fighting outfit, the plug suit, is white and blue—a color combination that is considered masculine. Thus, we can understand that his gender is masculine as Shinji accepts socially constructed masculinity; he accepts the definition of what it is supposed to mean to be a "boy/man" in his society, and performs (or attempts to perform) the socially defined aspects of masculinity. In short, Shinji's gender *performance* tells us that he (tries) to be a boy/man although his gender *identity* is not entirely clear.

His sex is male, and his gender is masculine; then what about his sexuality? During the first half of the story, Shinji exhibits interest in Rei, a female EVA pilot. Shinji often looks at her during classes, and when he visits Rei's home and sees her naked, he makes it clear that he is very much aware of her. In the last half of the series, once Asuka, another EVA pilot, joins them, the series occasionally focuses on the relation between Shinji and Asuka, although the narrative never demonstrates that they are a couple. For example, Asuka asks Shinji to kiss her; Shinji, caught off balance, accepts the offer. The narrative accepts that Shinji and Asuka are "permitted" to do so. The best example of Shinji's sexuality is one of the episodes describing

Shinji's psychology. In a fantasy sequence, Misato, Rei and Asuka come to him one by one, asking him "Do you want our hearts and bodies to become one? This is a very very comfortable thing." All of them are female characters and ask him to have a mental and physical relationship in his fantasy. Thus, through most of the narrative, his sexuality is described as heterosexual.

However, at the end of the series, he meets Nagisa Kaoru, who is a male EVA pilot. When Shinji and Kaoru talk, or when Kaoru shows his interest in Shinji, Shinji's facial expression is not angry or perturbed, but embarrassed. For example, when Kaoru asked Shinji "Are you going for a bath now? Can I go with you?" Shinji hesitates to answer, blushing, and then says "OK." In the public bath, when Kaoru takes Shinji's hand, Shinji is surprised and blushes again. Interestingly, he does not reject Kaoru's attention. From these scenes we may speculate that Shinji might accept Kaoru as a sexual partner, but the narrative does not illustrate a sexual relationship between them. Thus, Shinji's sexuality is, in the end, not so clear. The narrative seems to leave all options open, as is appropriate for someone who is fourteen years old and possibly still unsure of his sexuality: he could eventually be heterosexual, homosexual, or bisexual. What does seem consistent in all his sexually-charged encounters is that he is passive.

Through this analysis of Shinji's sex, gender, and sexuality, we understand that his sex

is male; his gender performance is masculine, although we do not know his gender identity; and his sexuality is heterosexual, homosexual, or whatever. Thus, Shinji does not exactly fit within the strict categories of sex/gender/sexuality that modernists defined, but neither do these features illustrate a post-gender discourse. The analysis of EVA, however, will show aspects of a post-gender discourse.

The important point we should notice is that EVA itself, a metal suit, does not show any features of sex, gender or sexuality; however, once Shinji synthesizes with EVA 01, EVA 01 becomes an interesting object, which demonstrates aspects of the posthuman. We now turn to the analysis of the fusion of Shinji and EVA in order to reveal what is going on between them and what they express as an amalgam.

The story strongly hints that EVA 01 was generated from a part of LILITH, which is the female ancestor of all living things, the origin of life.[119] In addition to this, as mentioned above, Shinji's mother was absorbed into EVA 01 during an experiment. EVA 01 is therefore a hybrid of LILITH, Shinji's mother and Shinji when Shinji synthesizes with the EVA to fight with the angels. Because the EVA has a slender body and a narrow waist, its appearance is also

[119] Toshio Horimoto, *Evangelion yōgojiten*, 139.

somewhat feminine, especially when viewed in contrast to other mecha, such as Gundam and Mazinger Z, which look very masculine, with wide shoulders and a "muscular" chest.[120] Although the narrative does not explicitly determine LILITH's sex, gender or sexuality, we can assume that its sex is female by referring to Jewish mythology and the Bible.[121] EVA 01, therefore, is a hybrid of female and male humans, and a female "monster." Thus, we could say that EVA 01's sex is hermaphroditic in a sense, although the EVA suit does not have male or female sexual organs. About the EVA's sexuality, we also do not know, but the EVA physically connects to Shinji. In other words, EVA 01 joins diverse living things together. Interestingly, the first time Shinji synthesizes with EVA, he is terrified. Orbaugh explains the reason why Shinji experiences pain and fear when fusing with EVA in "Sex and the Single Cyborg." The reason for his fear is that Shinji has been feminized—that is, she argues, a male terror.[122] Orbaugh also describes how Shinji and EVA both feminize *each other* by analyzing the scene of synthesis between them.

> The viewer sees Shinji, inside the very phallic-looking entry plug, being inserted into the receiving orifice of the EVA suit and being incorporated by it…

[120] Kotani Mari, *Seibo Evangelion*, 45.
[121] According to the Talmud, Lilith is the first female, who was created by God. In the Old Testament of the Bible, there is a creature called Lilith, which is translated as "night monster" (Horimoto, 139).
[122] Sharalyn Orbaugh, "Sex and the Single Cyborg," 183.

> immediately thereafter we see the fluid inside the EVA filling the entry plug, and filling Shinji, much to his terror. In this case, therefore, each of the cyborg's two components—the mechanical EVA and the biotic Shinji—has penetrated into and filled the other; each has been incorporated by the other.[123]

As Orbaugh points out, the idea of being penetrated is painful and frightening to some men, including Shinji. However, synthesizing with EVA is no longer particularly painful for Shinji after the first time; that is, Shinji accepts being feminized. Orbaugh also points out that when Shinji has been feminized by being penetrated, he also has been masculinized by penetrating, inside the phallic-shaped entry plug, into the EVA. Thus, both Shinji and EVA have penetrated into and been penetrated by the other. Their fusion, as a physical relation, illustrates post-gender, post-sex discourse because even if we are able to put the components (Shinji and the EVA suit) into modern categories of sex and sexuality, the amalgam remains outside of these categories: it is a complex stew of male Shinji (whose sexuality is, at the moment, flexible), penetrating and being penetrated by his own (female, heterosexual?) mother (Oedipal bliss or nightmare?), as well as the (female, monstrous) progenitor of all life (whose sexuality is unknowable), and, at the same time, all the inorganic matter and technology that makes up the suit.

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[123] Ibid., 179-180.

"Permeability / penetrability" happens not only between Shinji and EVA 01 but also between EVA 00 and an angel, Ireul, in episode 23. When the angel, a computer virus, invades the organic supercomputer, Magi, in NERV headquarters, the angel also invades EVA 00 through Magi. Magi was produced by Ritsuko's mother, Akagi Naoko, and—similar to the way that Shinji's mother was absorbed into the 01 EVA—Naoko's personality, as scientist, as mother, and as woman, was transplanted into Magi. When Magi and EVA 00 were permeated by the angel, their femininity was increasingly emphasized. In other words, both the supercomputer, the brain of the system, and EVA, a powerful fighter, are considered as feminine as well as the center of the NERV system. Femaleness and femininity are illustrated as the key to the narrative.

Popular culture critic and theorist Kotani Mari supports this point in her study *Seibo Evangelion* (Sacred mother Evangelion).[124] According to Kotani, whenever an EVA fights with angels, the narrative demonstrates the EVA's femininity, because the meaning of "the awakening of the EVA" is the "awakening of motherhood."[125] For example, when EVA 01, which Shinji pilots, arrives at a desperate situation, the EVA awakes and becomes monstrously powerful to defeat the attacking angel. In this situation, Shinji often loses consciousness, so we can

[124] Mari Kotani, *Seibo Evangelion* (Tōkyō: Magajin Hausu, 1997).
[125] Ibid., 62.

understand that the "mother," which is inside of EVA, has awakened to fight; showing that the "mother" has more power to control the EVA than Shinji does. In fact, when EVA 01 faces defeat at the hands of an angel, and its power system fails, Shinji can do nothing but shout "move! move! please move!" At this moment, the core of EVA 01 starts pulsating and its eyes flash. EVA 01 then re-activates and roars noisily. EVA's outer skin[126] peels off, and its "meat" appears. Then, Ritsuko says "As I thought, she is awake!" ("yahari mezameta no ne, kanojo ga"). Only she, EVA 01, can save the world. In fact, although the system of NERV is apparently based on a patriarchal hierarchy, with Ikari Gendo at the top of the system, in fact, by analyzing EVA and the supercomputer, Magi, we can see that this patriarchy is fundamentally supported by a matriarchy: the maternal and feminized Shinji/EVA amalgam, and the feminine, high-tech, and maternal Magi computer. Thus, the narrative emphasizes the importance of femininity, female reproductive power, and the ultimate impossibility of the patriarchy controlling the power of the feminine.

Furthermore, Kotani suggests that we think about the nature of the angels as depicted in the narrative. In modern discourse, self and other are always in a dualistic relation, and in the

[126] The EVA's body is actually coated by special material, which NERV created, in order to bind in its monstrous power (as we learn in this episode, number 19).

beginning of the *Evangelion* series this seems to hold true for the relationship between the EVAs and the angels: whenever an EVA is in battle with an angel we are led to consider that the EVA represents ourselves (the good guys) and the angels represent the other (the bad guys). In later episodes, however, it becomes difficult to distinguish between the EVAs and the angels when an angel invades EVA's body and fuses with it. [127] In fact, they became one, so that we cannot distinguish the parts making up the amalgam: the EVA (self) and angel (other). The narrative actively tries to erase the boundary of self and other that is fundamental to Western dualism and modern concepts of selfhood.[128]

Not only Kotani but also Haraway points out the limitations of modern dualism and suggests a way to understand post-modern, posthuman discourse. I specifically focus on the two main dualistic relations that Haraway emphasizes. One is the concept of self, which belongs to only one body in modern discourse: Soul-self / Body. The second one is the gender category: man / woman. One of the main points of "A Cyborg Manifesto" is that Haraway challenges us to question those seemingly natural boundaries. She uses the figure of the cyborg as a metaphor to help us think about how such dualisms might be reconceptualized:

[127] Kotani (1997), 174.
[128] Ibid., 174.

> Cyborg politics is the struggle for language and the struggle against perfect communication, against the one code that translates all meaning perfectly, the central dogma of phallogocentrism. That is why cyborg politics insist on noise and advocate pollution, rejoicing in the illegitimate fusions of animal and machine. These are the couplings which make Man and Woman so problematic, subverting the structure of desire, the force imagined to generate language and gender, and so subverting the structure and modes of reproduction of "Western" identity, of nature and culture, of mirror and eye, slave and master, body and mind.[129]

Haraway's political program in "A Cyborg Manifesto" fits *Evangelion*. For example, in episode 20, Shinji completely synthesizes with the EVA, and his body vanishes (although Shinji returns, with his body intact, later). This clearly illustrates the disappearance of the boundary between organic matter and metal. They become one, a cyborg. Because the boundary between organic matter and machinic matter is gone, the category of sex-gender—men and women—is also erased. In other words, because of the fusion, we cannot define the EVA as male or female; the EVA is an amalgam of an adult female, Ikari Yui, and a fourteen-year-old boy, Ikari Shinji (as well as other elements).

Furthermore, Haraway brings her different perspective to challenge even the definition of self. According to another of her articles, "The Biopolitics of Postmodern Bodies," although

[129] Donna Haraway, "A Cyborg Manifesto",142.

"self" is understood as the individualized body in the Western context, we, in fact, cannot define "self" because even skin cannot help us determine where the "self" begins and ends.[130] Because organisms constantly enter and leave the supposedly enclosed and autonomous human body, our skins do not constitute a clear boundary between self and other. This argument fits *Evangelion* as the EVAs are hybrids of human and metal. Thus, the EVA is representative of posthuman discourse in that there are no boundaries between self and other, body and soul, and man and woman. This is depicted as a good thing in *Evangelion* (rather than a future to be feared), because when Shinji synthesizes with the EVA and the Shinji-EVA amalgam loses the boundaries, that is when it becomes a truly powerful cyborg that can defeat the invading angels to save the world.

Furthermore, in *Companion Species,* Haraway uses "immune system discourse" to explain how important it has been for all living things to have shared their bacteria, viruses, etc., in order to make them stronger. This point of view is contrary to modern ideas, which suggest that the individual is completed in and of itself, and that as far as possible all bacteria and viruses should be excluded from the human body. If we apply Haraway's immune system theory to

[130] Donna Haraway, "The Biopolitics of Postmodern Bodies." 56.

*Evangelion*, we can consider (the much smaller) Shinji as a "bacterium" for EVA 01. Because the EVA becomes fused with Shinji, it/they can become a powerful fighter. At the same time, when Shinji wants to separate from EVA, he can exit it freely. To put it another way, the EVA co-exists with Shinji. The EVA needs Shinji, and Shinji needs the EVA. This relation is similar to the important relation between humans and dogs (and other "companion species) that Haraway explains. Thus, Haraway's discussion of immune system discourse and companion species helps us to understand EVA as a representative of the posthuman.

## Conclusion: Selfhood in the Hybrid Body

In this chapter I have emphasized the conception of the hybrid body, which has the potential to challenge or erase the boundaries between such natural-seeming categories as sex, race, and species, and provide alternative perspectives on living entities. The manga and anime that present these types of characters offer their answers to some of the numerous theoretical issues that arise from conceptions of a hybrid body. For example, while the majority of examples of this hybrid body come from the fusing or merger of two beings, once more than two bodies synchronize to become one, what is selfhood to this new, hybrid body? Does the hybrid body have more than one selfhood? How can we know whether there is one or more selfhoods in the

body? What kind of relation do selfhood and the body have? It is also essential to consider these issues around selfhood in a hybrid body, because this relationship goes beyond the concept of the modern *body* and *mind* relationship: one body has one mind. In order to consider conceptions of selfhood in these hybrid bodies, I will summarize how the narrative and anime analyzed in this chapter describe or depict this issue.

*Hybrid Child* describes one of the most fascinating ways to express selfhood. In this text, the body has transformed several times yet the new body retains the former bodies' memories, personalities and abilities (to varying degrees). The character Sample B Unit III gives us opportunities to consider a specific response to issues of hybridity. When Sample B Unit III is still in the lab and hears *someone*'s voice telling it to have agency, its selfhood awakens, although the narrative does not describe Unit III's appearance at this point. Once the story develops, the body of Sample B Unit III changes through its consumption and sampling of cellular tissues from animals, Yona's mother, and the seven-year-old girl, Yona's, body. For Sample B Unit III, *being* Yona is the most comfortable way of experiencing existence, and so, for longer periods, Yona's self appears to be the main selfhood of the hybrid body. The narrative describes the hybrid body's intense aversion toward Yona's mother, or the strong feelings toward

Shiba, that come from Yona's memories and emotions. Thus, the hybrid body, having Yona's shape and physical appearance, expresses mainly *Yona's* selfhood. Because the narrative also consistently uses Yona as the subject of the hybrid body, the hybrid body represents Yona's self.[131]

However, the narrative sometimes reminds us that the Yona-shaped hybrid body is actually Sample B Unit III by illustrating his/its urgent situation—running away from the military. For example, when Daniel appears before Yona to apprehend her/it, Yona (Sample B Unit III) hopes that it could come to some understanding with Daniel, because Yona/Sample B Unit III and Daniel (Sample XIII) are the same species (Sample B cyborgs).[132] This scene emphasizes Sample B Unit III's selfhood rather than Yona's, because the girl, Yona, did not, and the amalgam, "Yona," does not know that Daniel and she/it are the same. Thus, *Hybrid Child* apparently expresses the conception that selfhood comes primarily from a person's memories and genetic information. The hybrid body expresses one main selfhood, Yona's self, although the body has gained and kept all the memories and genetic information of the many living things

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[131] The narrative describes at the beginning and also later reminds the reader that the hybrid body is Sample B Unit III although its shape and appearance is Yona. Because the narrative uses "Yona" for the subject of the hybrid body, even though some of its experiences are actually Sample B Unit III's experiences, the narrative emphasizes Yona's selfhood for the hybrid body. See, for example, *Hybrid Child*, 330.

[132] *Hybrid Child*, 477-478.

which Sample B unit III has consumed. At the same time, the core of the hybrid body, Sample B unit III, is never lost but hidden in the depth of the amalgamated entities. In short, selfhood of the hybrid body is not simply one, but rather is very complicated.

On the other hand, the body of Motoko is not a hybrid of other animals or living entities. Is there different way of expressing self in *Ghost in the Shell*? The anime narrative emphasizes that selfhood is heavily based on a person's memory, which brings up many doubts for Motoko regarding her own selfhood. She fears that the memories that seem to be hers—from the time when she had a fully organic, un-cyborgized body— may have been created and installed into an artificial part of her brain. To put it differently, the anime shows that Motoko's doubt is actually Motoko's selfhood. An interesting point in *Ghost in the Shell 2: Innocence* is that selfhood can possess any mechanical body.. However, the first *Ghost in the Shell* illustrates that only one selfhood can exist in only one body. In other words, this is the "normal" modern body-mind relationship, unlike what we have seen in *Hybrid Child*. However, once Motoko gives up her cyborg body to live in the Net world at the end of *Ghost in the Shell*, the way of expressing Motoko's selfhood becomes unique. I will examine the selfhood of the bodiless Motoko in the next chapter.

What about the self of the giant high-tech, mechanical body, EVA 01? *Evangelion* has similarities with *Hybrid Child* in its way of expressing selfhood. EVA 01 is also a hybrid body, composed of Lilith, Shinji's mother and Shinji. Oftentimes, EVA operates under Shinji's control. In this case, the giant body, EVA 01, does not show its selfhood; however, when the various technological systems of EVA 01 collapse during conflict and Shinji is unable to control it, the "selfhood" of EVA 01 suddenly awakens to resist the enemy. In this sequence, the selfhood of Shinji's mother and/or Lilith is depicted through EVA's monstrous behavior, which is not connected to Shinji's self. In short, the selfhood which the unit represents is that of Ikari Yui, Shinji's mother, (or Lilith). Because EVA 01 awakens and shows its hidden selfhood only when Shinji is in trouble, it is easy to assume that this hidden selfhood has some strong feeling toward Shinji.

All three narratives from the 1990s demonstrate selfhood through the material bodies of the characters, although those three stories express complicated selfhoods in different ways as a result of their differing presentations of the hybrid body itself. In short, in important and influential SF narratives of the 1990s, selfhood continues to have aclose connection to the body.

This chapter has also focused on characters' sex, gender and sexuality to reveal

elements of posthumanism, which can exceed such socially normative categories. All three narratives demonstrated hybrid bodies, arguing for an alternative form of reproduction as well as a mixture of the categories: sex, gender and sexuality.

*Hybrid Child* emphasized female power through reproduction: all living entities, including the god of the war, are born from the female body. The purpose of emphasizing the female body is to resist the idea of patriarchy, which has discriminated against female bodies. Interestingly, *Evangelion* also underlined motherhood and the monstrous power of the female, which can save the world. Both narratives demonstrate anti-phallcentrism through the hybrid body and its power.

Similarly, *Ghost in the Shell* describes a female-shaped cyborg, Kusanagi Motoko, as the strongest character in the narrative. At the end of the story, she decides to give up her body to exist only as consciousness in the Net. In other words, *Ghost in the Shell* also shows an anti-patriarchal attitude because male scientists can create her powerful body without recourse to a female "mother," but Motoko decides to betray her "fathers," by abandoning the body to get her freedom. However, in another sense, she also agrees to become a mother by "mating" with the Puppet Master—the result is not a typical child, because her consciousness and memories are

still part of it; but nonetheless, it is a new being. This scene could be read as a return to old-fashioned sex-gender patterns: a male convinces a female to mate with him to produce his child. But at the same time, the scene emphasizes a new form of reproduction: a feminine-shaped naked body inhabited by a bodiless "male" has "sex" with a feminine-shaped naked body inhabited by a gender-neutral "female" who has no clear evidence for what her original body/sex was. The hybridity of the bodies depicted demonstrate different types of power structures, both referencing/reinforcing patriarchal power and resisting it at the same time.

In addition, all three narratives illustrate an integrated body and mind: a fused amalgam which has merged minds. Yona in *Hybrid Child* is based on Sample B Unit III's body, but this entity is the creation of a fusion between an animal, Yona, an insect, the dragonfly, and a bird, to transform its body repeatedly; it maintains each living entities' genes, their abilities, and some memories. This image of the body runs counter to the modern concept of the body, wherein one body has only one mind. The body of Motoko in *Ghost in the Shell* is made of some organic parts—components of an organic brain and nerves—as well as inorganic matter, but it has only one mind, that of Motoko herself (although she doubts her own identity). However, at the close of the narrative, she decides to merge with the Puppet Master. Thus, in the end Motoko points

away from the typical modern idea of the body-and-mind relationship, because of this fusion. In *Evangelion*, the Shinji/ EVA amalgam is generated from the combination of LILITH, Shinji's mother, and Shinji. We see some monstrous power, and the force of motherhood from the amalgam although Shinji is piloting it. So, the hybrid body, EVA 01, definitely has a set of different minds inhabiting its body as well. Thus, all three narratives imagine a body/mind construction quite different from the modern idea of the body-mind relationship, because all three characters' are actually fused together from more than two bodies and contain more than one mind.

The next chapter shows the continuation of evolution of the conceptualization of the hybrid body, through influence from biomedical technology.

# Chapter 5: Digitized Bodies in the 2000s and 2010s

## Bodiless Characters

In this chapter, I will analyze characters in manga and anime from the 2000s and 2010s, to discuss a new contemporary notion of the body, able to fully transcend the idea of the modern body and mind. The first work I will analyze is *Ghost in the Shell 2: Innocence* (2004, hereafter *Innocence*), directed by Oshii Mamoru. This work continues with the characters from *Ghost in the Shell* (1995). Although *Innocence* is seen as a pioneer in promoting the concept of the bodiless character, able to exist freely in the Net world, I will keep my discussion of it brief, because it has already received much scholarly critical attention. I will use it here as an introduction to the concept of the bodiless character. Next, I discuss *Kaiba* (2008), directed by Yuasa Masaaki, a TV anime series composed of 12 episodes. *Kaiba* shows us a world in which memory chips can store people's memories; interestingly, it describes an innovative relationship between the body and the mind in a futuristic world. Thirdly, I examine *Expelled from Paradise* (2014), directed by Mizushima Seiji. This film shows digitized people in a virtual world; my analysis, however, reveals the persistent limitations within Japanese anime around conceptions of gender and sexuality. My final analysis of contemporary Japanese visual culture is of *Knight*

*of SIDONIA,* written by Nihei Tsutomu. This manga series consists of fifteen volumes, and presents a rich mixture of queer characters, able to exceed normative sex, gender and sexuality, unlike the characters of *Expelled from Paradise.* Analyzing these four works can help us recognize the essential changes in the conception of the body from modern to posthuman: bodiless persons, digitized memories and personalities, as well as the ability to exceed categories of sex and sexuality. Nonetheless, many of these works still accept and maintain conceptual limitations or aspects of normativity.

The characters who represent these new body notions do not belong to a specific physical body, and can think and have memories within, or even outside of, the confines of a particular device. As science fiction critic and theorist N. Katherine Hayles mentions, conceptions of digitized people in contemporary science fiction are influenced and inspired by the development of computer science, which has helped expand our imaginations.[133] Because "the body itself is a congealed metaphor" and "the metaphor resonates with cultural meanings," analyzing the virtual body and physical-bodiless characters can help us think beyond the modern

[133] "[H]uman functionality expands because the parameters of the cognitive system it inhabits expand. In this model, it is not a question of leaving the body behind but rather of extending embodied awareness in highly specific, local, and material ways that would be impossible without electronic prosthesis." *How We Became Posthuman*, 290-291.

notion of the body and mind, as well as the notions of normative sex, gender and sexuality, which are also part and parcel of the idea of the modern body.[134]

*Ghost in the Shell 2: Innocence*

In *How We Became Posthuman* (1999), Katherine Hayles introduces the posthumanist position, and, as a contrast, uses the work of Gillian Brown regarding the view anorectics have toward the body, to exemplify the liberal humanist position. In "Anorexia, Humanism, and Feminism" (1991), Brown claims that "the body is understood as an object for control and mastery rather than as an intrinsic part of the self."[135] Hayles uses Brown to argue that humanists especially believe that subjectivity/the self consists not in the body but in the mind; in contrast, she argues that "her dream is a version of the posthuman that embraces the possibilities of information technologies without being seduced by fantasies of unlimited power and disembodied immortality, that recognizes and celebrates finitude as a condition of human being, and that understands human life is embedded in a material world of great complexity, one on which we depend for our continued survival."[136]

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[134] Ibid., 284.
[135] Quoted in ibid., 5.
[136] Ibid., 5.

In fact, in contemporary popular anime, such as *Innocence,* we can find many virtual characters who do not have a material body, but who can in fact possess any body that is connected to the Net. Thus, the value of the body in those narratives is illustrated as much less than that of the mind/soul. Because those virtual/digitized characters have some elements of the posthuman, I will compare *Innocence* and *Kaiba* to reveal the posthuman features they share, the differences in the meaning/value of the body, and trends we can see in the conceptualization of the body in science fiction works from the 2000s and 2010s.

*Innocence* is set in 2032, four years after Major Kusanagi Motoko disappeared in *Ghost in the Shell*. Motoko's colleagues, Batō and Togusa, who belong to Public Security Section 9, investigate sex-toy gynoids, known as "Hadaly," which have killed their owners.[137] As Batō and Togusa track down the source of the virus that is causing the Hadaly gynoids to malfunction, Batō is thinking with love and longing of Motoko, now a disembodied life form.

[137] Interestingly, the name Hadaly recalls that of Károly Hadaly, a Hungarian mathematician who lived from 1743 till 1834. However, the source for its use in *Innocence,* together with the original conception of an android, is the French proto-SF novel, *L'Ève future* (The Future Eve), written by Auguste Villiers de l'Isle-Adam in 1886. In the novel, Thomas Alva Edison creates what he calls a female-shaped andreid (from which we get the word android) and programs her, using phonograph records and other 19th century high technology, to talk and move like a human. He is so successful that the andreid captures the heart of a young man, even after he knows that the woman he loves is artificial. The possibility of loving a completely artificial being is what ties together *L'Ève future* and *Innocence.*

Throughout the film, Motoko leaves clues to help Batô solve the mystery, and also to keep him from harm.

At the end of the film, as Batō fights with many Hadaly gynoids at the offshore factory where they are built, Motoko's ghost downloads into one of the gynoid dolls to support him. Batō and "Motoko" eventually discover that the company that produced the gynoids has been kidnapping girls, and then "dubbing" their "ghosts" into their products to make the gynoids more real. Because one of the kidnapped girls wanted someone to realize her situation and rescue her, she (with the help of one of the company's programmers) changed the gynoids' programming during the dubbing process, which caused them to kill their owners. When rescued by Batō and "Motoko," the little girl cries and says that she did it because she did not want to be made into robots, but neither Batō nor "Motoko" sympathizes with her. "Motoko" says that if the gynoids had had a voice they would have said just as firmly that they did not want to be human. It is significant that Batō and "Motoko" do not sympathize with the kidnapped girl (although they do rescue her) or the gynoids' murdered owners, but they do show their sympathy for the gynoids, who suffered sexual exploitation and then destructive neglect at the hands of humans. This scene clearly shows that the protagonists view humans and gynoids/robots as equally

worthy of respect and sympathy. I believe that this equality and mutual respect or even love between humans, cyborgs, robots, and animals is the main message of this film.

*Innocence* suggests the new gender possibilities of the posthuman body, specifically after Motoko has become a new sort of entity after she merged with the Puppet Master in *Ghost in the Shell*. As Motoko loses her physical body, she is able to flow in the huge Net universe. What does this mean to modern human beings? Literary critic and philosopher Elaine Graham points out how cyberspace lets us move beyond modern selfhood. "Cyberspace affords a much greater freedom to create new selves. While the self may be "decentred" and multiple, participants tend to resolve this as being an enrichment rather than a dissipation of identity."[138] Graham challenges the concept of modern subjectivity, which belongs to only the body; rather, virtual bodies in cyberspace can exist on many levels.[139] In other words, there are many diverse forms of embodied subjectivities, so that the range of what Haraway calls situated knowledge will be expanded.

Orbaugh also challenges the concept of "modern selfhood" in a different way, by

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[138] Elaine L. Graham, "The end of the 'human'," 191.

[139] Graham is not talking about the kind of complete disembodiment that we see in *Innocence* and other SF fantasies, but her point about the ability of individual real-life humans to create and handle a multitude of virtual identities suggests a conceptual bridge between our current lives and the futuristic possibilities in works like *Innocence*.

combining Teresa Brennan's view and her own analysis of the "infective" relationship between Motoko and Batō in *Innocence*. Just as the idea of posthuman selfhood is not necessarily confined to a singular body but can possess anything connected to the Net, Motoko is able to "infect" various systems to communicate with Batō. "It is [Motoko]'s ability to move in and out of bodies/system as information that allows her to continue to interact with Batō…"[140] This means that Motoko's selfhood is actually bigger than (or beyond) her "body." She has become like the organisms in Haraway's immune system discourse, moving into and out of other entities and co-existing/co-evolving with them.

When Hayles discusses the problems with the modern conceptualization of the subject, she uses the basic language of computers. If we express human subjectivity through a computer model, all humans, animals, and living things can be expressed as a digital formula using 0s and 1s. That is, there are no essential ontological differences between humans, cyborgs, animals and other things; nor is there any gender difference. As a result, if we think of the relations between various entities in terms of the way they are expressed digitally, we can start to deconstruct the modern hierarchies that rely on beliefs about essential difference. In *Innocence* Motoko actually

[140] Sharalyn Orbaugh, "Emotional Infectivity: Cyborg Affect and the Limits of the Human," in *Mechademia, Volume 3* (Minnesota: University of Minnesota Press, 2008), 168.

exemplifies this kind of digital (dis)embodiment. She is in some ways an ideal example of the posthuman subject able to escape boundaries and hierarchy. However, this mind and body relationship has some problems, if we believe that the posthuman should retain none of the features of the modern body. It is potentially quite beneficial that a posthuman subjectivity can freely move and possesses any networked bodies to overcome the limitation of singular embodiment, but if we accept that the "mind and body are separable," we are faced with issues of both dualism and humanism, which threaten to return us to the hierarchical and problematic aspects of the modern We have seen that both Katherine Hayles and Donna Haraway, despite their enthusiasm for posthumanism, are wary of the futuristic real-life visions of downloading one's memories and consciousness to a computer, to achieve some sort of immortality for the subject. They both are materialists in the sense that they believe that selfhood and mind arise from the materiality of the body (even if it is a cyborg body or otherwise hybrid amalgam) and cannot be separated from it. The issue of materialism in a posthuman context is explored in further in *Kaiba* and *Expelled from Paradise*.

Similar to Mokoto, the characters and narratives of *Kaiba* (2008) and *Expelled from Paradise* (2014) illustrate memory chips, which can store personal memories, or digitized people,

who live in the database; however the narrative of *Kaiba* emphasizes the importance of the material body throughout the series, while *Expelled from Paradise* ends up returning its characters to the material body.

*Kaiba*

The title, *Kaiba*, in Japanese means "hippocampus," the part of the brain that functions to preserve memories. The TV anime series questions the meaning and function of memory in human beings by giving us a mysterious protagonist, who has lost all his memories and tries to find himself through his journey. The series utilizes the idea of digitized memories to further its exploration of the connection between memory and subjectivity. The narrative is complicated, but all its intricate pieces eventually connect with each other to present the story of the protagonist, named Kaiba, and of the memory world, called Warp. Like *Innocence,* this anime also touches on and illustrates philosophical questions. However, the drawing style is very simple and unsophisticated, very different from the gorgeously detailed animation and complex visual style of *Innocence*. Furthermore, because the drawing style borrows much from Tezuka Osamu's early work, this series seems to emphasize the question of what memory is to humans by visually inviting a particular type of (nostalgic) memory. The way of illustrating memory in

*Kaiba* helps create an uncanny world, because the animation style is very childish,[141] but the theme of the narrative offers a discourse on the meaning of the body and mind that is very much philosophical. The world of *Kaiba*, through both visual style and narrative, keeps a conspicuous focus on the meaning of memory as the key theme of the anime.

The setting is in a parallel world[142] where memories can be stored as computerized information.[143] At the beginning of the story, the protagonist, called Kaiba, awakens in a ruined room; he does not have any memories of who he is, why he is there, and who the girl in the photograph is in the pendant that Kaiba has hanging around his neck. Unknown people and strange animals keep chasing him; he boards a spaceship to run away from them, and sells his body and puts his memory into a hippo-shaped stuffed toy to change his appearance. This is the reason for him to start his journey. He travels to different planets and meets many people, and

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[141] All characters are round-shaped and the backgrounds are also simple, as in early manga by Tezuka and Fujiko F. Fujio. Yuasa purposely used the style to depict an uncanny world. (From on interview, in *Kaiba Vol.2* (DVD, 2008.)

[142] In an interview, the director, Yuasa Masaaki, mentioned that he tried to make a parallel rather than futuristic world although it was difficult to create a world completely different from the earth. In fact, there are some features of the earth in a couple of episodes.
"Kaiba: Director Yuasa Masaaki Interview (1)", *WEB anime style*, http://style.fm/as/13_special/mini_interview/kaiba_event1.shtml.

[143] All episodes start with the opening comment, "Is memory soul or ghost? It is a world where memory can be transformed into computerized information and stored. Even if the body dies out, you can transfer your memory into a better body and become immortal. Delete bad memories and download happy memories. However, only upper class people are allowed to do so. In the world, Kaiba having lost his memory is traveling with a body that is not his original one."

finally regains his memories.

Because my purpose here is to discuss the conceptualization of the body in various periods of Japanese anime, I will first examine how this work, *Kaiba,* illustrates the body and the soul/memory, and then discuss features of posthumanism in it. The anime illustrates the role of the material body as a container, although the key message of the story is to emphasize the value of the physical body and the inseparability of the body and mind. Memory (the mind/soul) is illustrated in two ways: 1) one way is as small, beautiful, golden-colored balls, called memory eggs, that emerge from a body once it has died; and 2) another is as inorganic triangular pyramids, called memory chips, in which memories can be stored. Thus, even if one's most recent body grows old and looks bad, rich people can buy other, young bodies, and put their own memory chips into them. Both memory eggs and memory chips are presented as the person's memory; however, the artificial chips are inorganic matter. On the other hand, the memory eggs appear to be organic matter, and are beautiful and warm. The memory eggs float to the sky and disappear once they emerge from a body; in contrast, memory chips will be able to exist forever. Thus, the definition of death has also changed.

The narrative implies that the chips are useless and impractical things if they are not

put into a material body. *Kaiba* demonstrates the body and mind as separate and separable; that is, it accepts both idealism and dualism, as I defined these concepts in Chapter Two. Generally speaking, it is said that Descartes was the person who most famously insisted that the mind and body are different things.[144] Descartes said that a human being is a composed of a mind and a material body put together by God.[145] Idealism insists that the mind is the one thing that can control the body. However, materialists such as Haraway, Hayles and Yōrō are opposed to idealism and dualism; their perspective is that the mind comes from the body, and the body and mind are inseparable. *Kaiba* presents characters informed by idealism; their use of futuristic, advanced technology permits their minds to control a range of new bodies. However, as the story develops, the implication is that if a character's memory chip does not go into a material body, the result, stemming from the digitization of memory and the loss of the material body, cannot be human, animal, or even posthuman. Thus, the anime suggests the dark side of advanced technology: it has the potential to strip away humanity by dividing the body and the mind.

Episode Three is centrally concerned with the issue of losing the material body. The protagonist, Kaiba, travels to a new planet and meets a girl, Kuroniko, who is from a poor

[144] Saitō Kōichi, "Dekaruto no ningenron": 466.
[145] Ibid., 460.

family.[146] The day Kaiba and Kuroniko meet is the last day for Kuroniko to have her own body; the next day she is to give it up and sell it to support her family financially. She believes that once her family becomes rich, they will buy her a new body, and she can return to the world. However, the mediator has deceived Kuroniko, and her memory is not digitized as a memory chip. Furthermore, because of a terrible mistake, her body is thrown away by another mediator, who does not know that a wealthy woman has arranged to buy Kuroniko's body. We find here a strong argument, by demonstration: even if the body is marked and marginalized, it is not always a great idea to separate the mind from the material body, because the mind itself cannot do anything once it has lost the body. The body and mind are always inseparable.

Even if, as in Motoko's case, memories could be uploaded into the Net world, the resulting subjectivity/consciousness must belong to the Net world, where she can move freely but cannot actually control or organize anything. In addition, if Motoko wants to manifest her

[146] Kuroniko's mother became sick and died when Kuroniko was little, so Kuroniko's mother's young sister has raised Kuroniko as her own child. The aunt worked hard for the family; she had a husband and two babies, but her husband died and the family became poorer and poorer. The aunt and Kuroniko worked hard together, but they could not afford enough food for all the family. The aunt tried to make some money by selling her memory/knowledge about music and literature. At the same time, however, she lost the memories about her happy life with her sister and Kuroniko, leaving her without feelings toward them. Finally, she decided to sell Kuroniko's body to earn some money for her babies.

consciousness outside of the Net world, she must possess the right materials to do so.[147] Thus, contemporary narratives clearly illustrate what posthumanist scholars (Haraway, Hayles, and Yōrō) argue: that no one can free themselves from the material body (as a thing) because the mind and body are inseparable.

*Kaiba* thus indicates problems about the separability of the body and mind, and about exchanging one body for another. In Episode Three, when Kaiba finds Kuroniko's body at the dumpsite, he is very angry at all of those who have *killed* Kuroniko's soul and body. Kaiba decides to put his memory into her body to permit her to live. After Kaiba enters into her body, he visits Kuroniko's house. He finds her aunt sleeping, so he uses a special tool, called Hōreitō, to access her memory to see how she remembers Kuroniko. Because Kuroniko's aunt has sold Kuroniko, she is able to buy back some parts of her own memory—knowledge of arts, such as music and literature—and is able to use these in turn to buy back the remaining portions of her memory. At this point she completely recalls her memories, including her happy life with Kuroniko, and so she regrets what she has done. This ends episode three. The remarkable point

[147] Oshii Mamoru, director of *Ghost in the Shell,* said that the body is just a container, and the soul can live without the material body. However, Oshii failed to illustrate this argument in Motoko, because he used material things, such as dolls, androids, and the screen to present her. Her mind is always attached to a material thing.

in this episode is, of course, that Kuroniko's aunt recalls her happy memoires with Kuroniko, and it should be noted how the anime illustrates the person's memory. Firstly, Kaiba takes the special tool, which looks like a flashlight, *Hōreitō*, to open the image of the aunt's memory room, which is not only a visualized, two-dimensional picture, but becomes a material room into which Kaiba can physically enter. In her memory room, there are many books, which refer to academic knowledge and musical ability. Kaiba, in the memory room, can physically touch these books and can encounter the aunt's memories through these material objects. In other episodes this anime also suggests that someone who gets into another character's memory room can erase or tamper with that person's memory. For example, Neiro's memory room is painted black to cover all her great memories with Kaiba.[148] In her room, her enemy paints a different person's face on Kaiba's portraits, and also installs false memories—for example, of Kaiba cruelly killing Neiro's parents—in order to make her hate and retaliate against Kaiba. Her *shattered* memory room represents her thoughts and negative emotions toward Kaiba.

Through these illustrations of the memory room, the anime conceptualizes the

[148] The narrative tells in the later episodes that Neiro is the girlfriend of Kaiba, but because Kaiba has lost his memory he does not remember her in the early episodes. At the same time, Neiro's memory was tampered with, so she does not remember Kaiba either. I talk about Neiro later in this section.

expression of people's memories in a unique way. This is an important point in terms of the relation between the mind and body. In the memory room, which is shown as an aspect of the mind, a physical/material person, who has the power to check, interact with, and change the contents of another person's memory, can be physically present in the room. In an interview, Yuasa mentions that he gave a lot of attention to illustrating how books are presented in a person's memory room in order to demonstrate the person's personality. If all the books are organized well on the bookshelves in the memory room, and if there is also enough space to look at all those books (memories), the character can clearly recall and benefit from her/his memories.[149] That is, the director has tried to illustrate not only personal memories but also a character's personality and emotion through the memory room. In fact, each memory room is uniquely depicted. For example, Kuroniko's aunt sold her knowledge and its related memories to support her family financially. Thus, her memory room is empty and illustrated in pale and despondent colors; however, once she retrieves her old memories and knowledge, the number of books, which are representations of her artistic skill, dramatically increases. As the books increase, she recovers her skills at playing the piano; her hands remember everything. Once she

[149] Kaiba: Director Yuasa Masaaki Interview (1), *Web anime style*, http://style.fm/as/13_special/mini_interview/kaiba_event1.shtml.

starts playing the piano again, she also recalls music and all her memories of Kuroniko and Kuroniko's mother (her sister). The recalled memories are illustrated warmly, vividly and brightly. Her mind becomes full of her happy moments. The scene reminds the audience 1) how important nice memories are to vivify human life; 2) that memory is strongly connected to a person's body experiences, such as the hands and ears for playing the piano; and 3) that memories affect a person's emotions and personality. In the case of Kuroniko's aunt, she as an unemotional person when she has lost her memories, but becomes an affectionate person when she regains them.

In comparison with Oshii's *Innocence*, in which we have no depiction of Motoko's past memories, *Kaiba* effectively demonstrates the importance of personal memories, which it describes as the core of selfhood. Overall, the depiction of the memory rooms not only argues for the importance of personal history, but also how past memories affect one's recent selfhood, and how memories are closely related to the body experience. This illustration presents an essential relationship between the body and mind.

This episode, which describes Kuroniko's past and present, offers us a very pessimistic scenario: that the people who sell their bodies do not have any power, but have given it over to

the mediators and buyers. For the poor people who sell their bodies, advanced technology—the memory chip—does not help their lives but rather helps the authorities to control them. Thus, *Kaiba* warns the audience to consider what kind of power might exert itself over us if we accept advanced technology.

The Kuroniko story arc brings up another interesting issue. In episode six, Kaiba meets two boys, Gege and Banira, while he is inhabiting Kuroniko's body. Both of these boys are interested in the Kuroniko-shaped Kaiba. Kaiba wonders, "if Kuroniko were alive, which boy she would choose?" This scene reminds us that Kaiba is "wearing" Kuroniko's body and does not think of it as his own body. He shows concern for Kuroniko's body when he faces a romantic relationship. In fact, an earlier episode illustrated a sold body, abused for the buyer's sexual pleasure. Through its imagination of a world where personal memories can be stored in different bodies, the anime emphasizes the issue of the separable body and mind relation, and makes us consider the ramifications of such a situation.

The best example here is the existence of Hyō-Hyō, a small, cute, and intelligent creature with long ears. This character seems to have much greater experience and knowledge than Kaiba, and to be an important ally for Kaiba. In a later episode, Kichi, who buys and sells

people's memories, exposes the riddles of Hyō-Hyō. Kichi tells Neiro that when the anti-Warp decided to manipulate Neiro's memories, Kichi had taken some of them and put them into the body of Hyō-Hyō, which was just a stuffed toy. Thus, Hyō-Hyō acquired Neiro's wonderful memories of Kaiba, which Neiro herself had lost. But as Hyō-Hyō has existed and experienced new things throughout the travels with Kaiba, Hyō-Hyō has acquired a different personality from Neiro; that is, Hyō-Hyō has developed a new existence, born through its own experiences with its own body. Although Hyō-Hyō's core memories have obviously come from Neiro's experiences, Hyō-Hyō's selfhood is independent and different from that of Neiro's.

The advanced technology which allows humans to manipulate people's memories is capable of creating two different people/creatures who have the same selfhood; however, once they have different bodies and different experiences through their own bodies, they become different people. This narrative argues that selfhood is built by one's own experiences through one's material body. That is how *Kaiba* emphasizes the importance of material bodies as well as the danger of advanced technology, even though humans may be able to control and store people's memories through such technology.

To fully understand what *Kaiba* is saying about new conceptualizations of the body we

should look not only at the relationship between the body and mind, but also at the memory chip. It is a form of technology that can save a person's memories, but once the memories become information, are they still a part of the person? In fact, as Yōrō Takeshi emphasizes, "information is immobilize and unchangeable."[150] In other words, once a person's memories become information, this information will not expand by itself; rather, it will just remain as it is, unchangeably. Can this unchangeable thing be understood to be human, or at least a part of a human? In other words, even if the chip could be put into a new body in the future, the original person/memory would not fit the new time and place, because the memory would not have not changed from what it was in the past. The narrative argues that human consciousness/memory can be transferred to a chip, and the information inside of the chip can replace a human consciousness/memory.[151] However, once memory becomes information, it is unchangeable; in contrast, human consciousness/memory is always changing. Here, Hayles's point of view can highlight the importance of interaction between the body, mind, time, place, culture, and so on. Hayles uses the term "embodiment," which, she emphasizes, is "always contextual, enmeshed

[150] Yōrō Takeshi, *Yōrō Takeshi no ningen kagaku kougi*, 76.
[151] Generally speaking, consciousness and memory have different definitions, but here I am using consciousness, mind, and memory in a similar way to compare these with the material body. In fact, Yuasa thinks that a person's identity comes from personal memory, so the memory creates the individual. (Interview with voice actors. in *Kaiba* Vol.2 (DVD, 2008)

with the specifics of place, time, etc."[152] Her point is that embodiment is always specific and exists within a web of physical and temporal factors. Hayles says that "[e]xperiences of embodiment are always imbricated within a culture, it never coincides fully with the abstract pure idea of the body."[153] So, information in the memory chip, which is extracted from its web of time and culture in order to be kept in a small chip, cannot be embodied by itself. That is why it needs a material body, which belongs to time, space and culture.

In the last episode, Kaiba completely recalls his memories; he is the king of memory, called Warp; Neiro, who is the girl in the picture in the pendant, is actually his girlfriend, and so on. In fact, some of his memories were tampered with by the anti-Warp organization, Issōdan. For example, Kaiba's mother, the Queen, poisons him to "kill" him;[154] however, the real reason for poisoning him is actually to protect him from a power struggle. His mother knows Kaiba would be invulnerable, even if he were to drink some poison. In fact, Kaiba's other brothers are

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[152] Quoted in Nathalie Muller, "Issue Seven: Regional Online & Techno-Spiritualism," 01 Sept. 1999, Paragraph 6, http://www.cybersociology.com/files/7_review_howposthuman.html.
[153] Quoted in ibid., paragraph 6.
[154] In the last episodes, Neiro tells Kaiba that when Kaiba has fought with the monster in the past, he has left some memories about his mother in the universe. However, Kaiba is sure this will not be a problem, because he believes that he is complete even without the memories. Neiro has kept the memories, so she tells them to Kaiba. Because of Neiro's explanation, Kaiba is able to fully recall his memories of his mother. The narrative implies that a personal memory belongs to a person, but these personal memories can be shared with other people. One's memory is part of other's memories.

killed. Kaiba survives and takes over the King's position and invents the technology that can preserve memory—memory chips—for the people. Kaiba controls all the memories of the people; however, one day he falls into electric clouds, loses his memories, and descends to the lower world, called Gagetsu, where the first episode begins. During his absence in the palace of Warp, located in the upper world, someone in a clone of Kaiba's body reigns as the king, egotistically controlling the world. Thus, once Kaiba reclaims his memory, he persuades the clone to give up control of the world by showing him his real power, and then recovers the King's position.

At the same time, Kaiba must fight against the plant monster, which consumes people's memories in order to grow, and threatens people's lives, even though it had started out as simply a small and cute "flower." The scene—the monster gradually consuming not only people's memories but also everything in the world—implies the possibility of people becoming one, in that the image of the monster, growing ever larger, seems to be absorbing everything into a single living entity. However, as Kaiba attacks the monster with a huge amount of memories, the body of the monster can no longer absorb new memories into its body and is destroyed. When Kaiba attacks the plant monster, his own clone, "it is myself." That is, Kaiba, the king and

preserver of memories, and the plant monster, also called Kaiba and a *consumer* of memories, are same: what they have tried to do is identical. That is, both have tried preserving people's memories to unify everyone. However, Kaiba eventually releases the memories he has preserved. The final scenes show the key characters, either enemies or friends, seeming to retrieve their memories and gathering together. In fact, what happens to the memory chips and the memory eggs after Kaiba reclaims his power as King and kills the monster remains very ambiguous. All we know is that the main characters, including some defunct characters, are alive together on the peaceful planet.

*Kaiba* argues that each person's memory should belong to each person's body, and extracted memories do not have any meaning to humans. We may think of the body of Kaiba as a representation of the hard drive of a supercomputer. Even if the owner dies, the memories of that person will remain in the computer; however, memories as data cannot represent the person, because the body and its memories, developed through physical experience, have to progress together to build up the selfhood that constitutes a human. The director seems to argue that once we lose one of them, body or memory, we are dead. The conceptualization of the body in *Kaiba* brings into focus the question of what death is to human beings, and how memories, which were

built up through physical experiences, are key for human selfhood.

*Kaiba* is animated in a novel way because it tries to illustrate, in simple drawings, how memory could be transferred into a chip, what the meaning of the body is, and what the inside of people's memories might look like. It definitely succeeds in presenting a particular vision of the discourse of the relationship between the body and mind in anime. On the other hand, it does not really bring new perspectives on sex, gender and sexualities—we can see only heterosexuality between characters, whose gender-sex is either feminine-female or masculine-male. When Kaiba acquires Kuroniko's body, the narrative could explore alternative sex, gender and sexuality, but it persists in imagining normative sex, gender and sexuality. Analyzing *Kaiba* is essential to understanding how contemporary visual culture can express a different imagination of the body and mind from other periods; at the same time, the analysis reminds us of the persistent limitation on sex, gender and sexuality in Japanese anime. The next short analysis of the anime film *Expelled from Paradise* also discusses how digitized people are illustrated in contemporary popular culture. These two will reveal some important differences in this regard.

*Expelled from Paradise*

This film's narrative starts at the cyber world DEVA, where many human species have

become data and live without a material body. In the year 2400, DEVA is subjected to an abnormal event, a mysterious hacking from "the surface world."[155] Because the hacker, Frontier Setter, attacked DEVA's database, the DEVA investigator, Angela, the protagonist, is sent to find the hacker in the surface world. The characters in DEVA and the look of the environment make us think that the film is set on the surface world; however, when the database is hacked, the audience realizes that DEVA is a virtual world—the picture of the environment suddenly has disturbances, and devolves to digits. This illustration style helps the audience to understand DEVA as a virtual world. Here is another way of illustrating the virtual world: when Angela tries to catch the hacking virus in the Network, she becomes a strong light, able to move rapidly to chase the virus, which is also a bright light. When she moves slower, we can see her appearance as a square-shaped body: all her body parts are squares, resembling an early video game character. The style of illustration makes it clear that Angela's body is composed of digits, not organic matter.

The way of fusing the "digital" Angela with her material body also emphasizes the fact that Angela is a digitized person, and that her mind is more important than her body. In fact, it is

[155] This surface world is the blighted Earth, also called the material world. For people in DEVA, the surface world is an unpleasant place.

easy to see that the narrative is based on the features of idealism, when we see how the material body is created. Needing a material body to function on the surface world, Angela's body is generated from her embryo, which had grown for 1300 hours after fertilization and then had been kept in an embryonic state for a long time. Thus, her body is created from her own embryo. Once the true, organic body is created, Angela's virtual body, illustrated as her digitized consciousness, gradually collapses and becomes yellow particles; these then go into the head of the material body. Finally, the yellow particles, which refer to her consciousness, spread over her material body in order to completely fuse with it.

As idealism insists that the mind is the origin and foundation of the body, this scene clearly demonstrates the digital people (and world) are based on idealism because her digitized consciousness exists before her material body, and consciously fuses with it.[156]

Once Angela enters the material body, she arrives on the earth and meets an agent, Dingo, who helps her on her mission. Dingo and Angela start investigating the hacker. During their journey, Angela becomes sick because she does not know how to treat her material body. She recognizes how sensitive and uncontrollable a material body is. However, she also discovers

[156] Mori Nobushige, *Yuibutsuron*, 49.

that she can enjoy music through her body.

At the end of the story, Angela and Dingo find Frontier Setter, an artificial intelligence robot. They discover that its purpose is not hacking DEVA but informing and asking people in DEVA to join its dream—going out into space to find other creatures that can share humankind's knowledge and so on. Thus, Angela does not punish the robot; she returns to DEVA to report on the status to the three main DEVA government officials, all of whom look like deities from different cultures.[157] However, because Angela has not destroyed the robot, the officials are angry at her; they drastically reduce her memory—that is, she loses much of her freedom, and her power is much weaker in the virtual world. However, Angela is saved by Frontier Setter's hacking; and she decides to help the robot's dream. Angela, returns to the surface world and together with Dingo she fights the other DEVA agents, sent by the officials. Angela and Dingo finally succeed in protecting Frontier Setter.

Because Angela opposes the officials, she is expelled from the virtual world, DEVA; she decides to live with her material body in the surface world with Dingo although she could choose to travel in space with Frontier Setter. In the end, she comments that "Having a material

[157] One of the gods looks like a god in Greek mythology; another one looks like a Japaense guardian god of a temple; and the last one looks like Ganesha.

body is troublesome," but her face looks happy and excited. The narrative implies that her experiences through the material body were not only troubling to her, but also gave her joy.

This anime, too, maintains normative limitations on sex and sexuality. When Angela obtains a material body, it is extremely feminine and erotic; she has huge breasts and wears a leotard to emphasize her body shape. In fact, there is no reason for her to have such an erotic appearance. "Hayles finds the possible dimensions of a new woman's body in code [that] is not an exclusively gendered woman's body, not a body within a closed loop of sexual identity, but a body nonetheless."[158] However, there is no new woman in this anime, although it imagines and illustrates digital persons living in a virtual world. The anime presents its vision of "digital persons" as highly eroticized; even Angela becomes such a woman once she obtains a material body. The body notion of the digital Angela does not go beyond normative sex, but rather emphasizes the sexualized feminine body for the male audience.

Overall, digital people in *Expelled from Paradise* lack the essential features of the posthuman because 1) their digital bodies persist in having normative sex, gender and sexuality; 2) digital people in DEVA look down on non-digital people, who have a material body and live

[158] Arthur Kroker, *Body drift: Butler, Hayles, Haraway*, 76.

in the surface world; that is, there is a hierarchy between them. In fact, there is a strong hierarchy in the world of DEVA, depending on the amount of memory a person (digital, i.e., virtual person-as-a-program) has; 3) DEVA is complete as a self-contained digital world; that is, the inhabitants of DEVA do not interact with other species at all. Moreover, the anime presents digital personalities, but does not demonstrate how these digital personalities have grown or developed in the digital world. In fact, these personalities each develop from a single, separate, material embryo—it argues that subjectivity cannot grow without the material body. In other words, the personality/mind comes from the embryo; that is, the fundamental idea of this anime is materialist. In addition, the protagonist, Angela, ultimately decides to have a material body to live in the surface world. Thus, it is clear that the anime is based on materialism. The characters in *Expelled from Paradise* fit the concept of posthumanism.

One of the themes of *Expelled from Paradise* is that there are no places which do not have regulations. Even if one loses the body, one cannot be completely free. Virtual worlds have different kinds of regulations to control other people—in DEVA, because its Operations resources are limited, the officials have the power to increase or reduce the amount of each

person's memory as needed.[159] Even though digital persons can be free from the material body, they still have different types of limitation; that is, a person's agency in the virtual world is also regulated.

As Yōrō Takeshi argues, the contemporary world has developed to recognize only the world of consciousness; it refuses nature, including the human body. He argues, further, that if human beings persist in recognizing the world based only on their imagination, they will abandon their bodies, or at least will no longer respect their bodies at all.[160] *Expelled from Paradise* demonstrates exactly what Yōrō argues. In fact, both *Kaiba* and *Expelled from Paradise* demonstrate the material body as an exchangeable and disposable thing; they accept the ideas of recent computer technology and use these as examples to describe digitized memories or persons, as Yōrō theorizes. However, as we saw, these anime conclude that the body and mind are inseparable, and the material body is actually essential for human beings. That is, the theme of anime is actually based more on materialism than idealism. The question is, then, why have the animators borrowed the new conceptions of the body, which encourage the audience to

[159] Because the population of DEVA has increased but the operation resources are limited, the three main officials control the amount of memory each person can access. If a person has more ambition, the person can gain an amount of memory, but if not, s/he would be preserved in the archive system. Thus, memory is power in DEVA.
[160] Yōrō Takeshi, *Nihonjin no shintaikan no rekishi*, 115.

reconsider the meaning of body?

According to Yōrō, religions have much influence on the understanding of the discourse on the body and mind. He tries to analyze the biggest influence to Japanese society in *Nihonjin no shintaikan no rekishi* (A History of Japanese Perception of the Body). Here, Yōrō argues that people are limited by the foundations of their thoughts; in other words, by the ideologies or realities of the times in which they live. But philosophers, who consider the discourse on the body and mind, can indicate what kinds of thought have influenced the Japanese people. Thus, Yōrō analyzes perspectives of famous Japanese philosophers to demonstrate whether the ideologies and thoughts of Japanese people/society are based on monism or dualism.[161] Yōrō concludes that Japanese philosophers describe their point of views primarily through the perspectives of monism. For example, philosopher Sakamoto Hyakudai argues that "Originally, humans must have been totally one unity. It is hard to believe that the mind and body existed separately and then they were combined into humans. In short, a human is not simply mind or body; however, the unity sometimes looks like a material (body) and sometimes

[161] Yōrō interprets the perspectives of several contemporary Japanese philosophers: Sakamoto Hyakudai, Hiromatsu Wataru, Ichikawa Hiroshi, and Omori Shōzō. *Nihonjin no shintaikan no rekishi*, 73-117.

mind."[162] Sakamoto's point of view clearly shows monism. Yōrō also discusses other philosophers' points of views to demonstrate that their positions are monistic—the body and mind is the same thing, although the ways of explaining the discourse are slightly different from one philosopher to another.

Yōrō also examines historical materials to reveal that Japanese society has long been influenced by monism, which has come from the idea of Buddhism. For example, Yōrō analyzes *Kibagozōkyō*, which is a reference book of acupuncture and moxibustion, Takuan Sōhō's *Kottoroku*, which describes relations between the human body and space, and so on.[163] These works, based on Buddhist thought, basically argue that everything is one unity. Yōrō also examines Kamo no Chōmei's *Hōjōki* to reveal that the term, body (*mi*/*shin*), that Chōme uses, includes mind (*kokoro*), and also that Chōmei conflates the terms, body and mind, because the two are not separate in his conception.[164] In fact, Yōrō argues that ever since Kamakura Buddhism, Japanese thought has accepted the monistic idea of the body and mind (*shin shin ichinyo*).[165] However, since the Edo period, Japanese society has shifted to a dualistic point of

[162] Sakamoto Hyakudai, *Kokoro to Shintai*, 12.
[163] Yōrō (1996), 202-212. (*Kibagozōkyō*, 耆婆五臓経)
[164] Yōrō, (1996), 225-227.
[165] Ibid., 221.

view on the discourse on the body and mind, under the influence of Western conceptions based on dualism and idealism. Needless to say, Christianity is based on dualism and idealism, and modern Japan has been influenced by Judeo-Christian conceptions of personhood and self. However, as we saw, contemporary science fiction animation often rejects dualism and idealism in favor of ideas of monism and materialism.[166]

However, I argue that Buddhist thought is only one aspect of the diverse influences on contemporary Japanese science fiction anime. Posthuman philosophy, with its focus on issues of materialism vs. idealism, has played an important role in bringing about the trends we have seen so far in this study. Contemporary bio-medicine is another source of inspiration for SF narratives. Yōrō's *Yuinouron*, for example, which is basically materialist, is actually based more on a medical/anatomical perspective than Buddhist thought. Yōrō insists that the body and consciousness cannot separate—monism (*shin shin ichigen ron*)—because the brain is a part of the human body, even though the human brain can imagine a virtual world. In short, consciousness comes from a part of the human body that is material. Thus, humans need a material body. In fact, the basic idea of the medical/anatomical perspective on the body comes

[166] According to Yōrō, in Christianity God combines mind and body, which are separate, to create a human (dualism). In the afterlife, a person's soul can continue to exist in Heaven; that is, the soul has priority over the body (idealism). Yōrō Takeshi, *Mushiso no hakken*, 36-38.

originally from the West, despite a strong Western tradition of dualism and idealism. The next manga I will analyze also shows a basis in materialism. It does not present us a world of digitized people, but instead one of queer characters who embody more posthuman elements than those characters in *Innocence*, *Kaiba*, or *Expelled from Paradise*. Moreover, comparison with *Evangelion* will help expose continuities, similarities, as well as new conceptualizations in the imagination of the body in anime in the 2010s.

*Knights of Sidonia*

This last section discusses *Knights of Sidonia;* because this manga series utilizes the idea of hybrid bodies, similar to those found in *Evangelion*, I will discuss the two in comparison. However, *Knights of Sidonia* demonstrates not only a mixture of organic human bodies and metal matter, but also hybrids between organic human bodies, metal matter, plants, and even animals. As Haraway pointed out in *Companion Species*, all living things live symbiotically; the idea of hybrid creatures could even go beyond the modern dualistic and normative body. This is the situation we see played out in *Knights of Sidonia*. I will argue here that the greatest difference from the conception of the modern body we find in the imagination of this type of hybrid body is the return of the power of nature, because the modern body has tried to control and exclude

nature from its self-conception. It is primarily on this point, how humans should treat nature, that Haraway's and Yōrō Takeshi's points of view connect.

Before analyzing *Knights of Sidonia,* I will discuss the posthumanist, Donna Haraway's, position, together with that of the neuroscientist, Yōrō Takeshi's, position, in order to reveal their parallel ideas based on materialism and anti-dualism. Haraway clearly argues that the purpose of her argument in "A Cyborg Manifesto" is "to build an ironic political myth faithful to feminism, socialism, and materialism."[167] Materialism is one of the three main points in this extremely important text. Haraway's position is one of New Materialism.[168] What New Materialism means to Haraway is the destruction of the binary point of view of dualism. Haraway points out in "A Cyborg Manifesto*,"* as an example, that "the boundary between physical and non-physical is very imprecise for us."[169] Haraway uses materialism to critique dualism.

Interestingly, Yōrō Takeshi also holds a materialistic and anti-dualistic point of view,

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[167] Donna Haraway, "A Cyborg Manifesto,",117.

[168] New Materialism is the philosophical, scientific idea that acknowledges that matter does not have a fixed meaning but a diverse "multiplicity" of meanings and possibilities. Similarly, time is nonlinear—past, present and future are all in one.
Donna Haraway, "Situating Feminist Knowledge," *Atria Ontmoet*, November 4, 2011, http://www.atriaontmoet.nl/blog/donna-haraway-situating-feminist-knowledge

[169] Haraway, "A Cyborg Manifesto," 120.

although Haraway and Yōrō's thoughts come from different places: one is based on biology/feminism and other is based on anatomy. In Yōrō's case, his point is that everything created by human beings is the "product" of the human brain. In other words, human brains have created cities and culture, as well as the understanding of nature as a resource for human life. Yōrō's last point is exactly the same as what Haraway pointed out in "The Promises of Monsters: A Regenerative Politics for Inappropriate/d Other" (1992). Yōrō's main point is that the brain is a material part of the body. Thus, his perspective is also a materialist one.

Furthermore, Yōrō's position is anti-dualistic, although his reasoning is slightly different from that of Haraway: she argues that any boundaries in the dualistic point of view are too ambiguous to draw a functional, meaningful line. On the other hand, Yōrō says that there is no point at which to divide, for example, female and male and *compare* them. Instead of that, we should see, for example, females and males as a complementary relationship, because for human reproduction we need both.[170] In addition to this, Yōrō points outs that the human brain prefers controlling things and resists uncontrolled situations. Thus, city life, which the brain has created, has excluded nature. The example of excluded nature, according to Yōrō, is the female body,

[170] Yōrō Takeshi and Agawa Sawako, *Danjyo no kai*, 83.

because this body has menstrual periods, pregnancy, and birth. The female body is treated as an illogical thing in urban society, because those functions of the female body are natural and incontrollable. That's why females have been discriminated against in urban life.[171]

As I have discussed in Chapter Two, Yōrō called this situation, in which the brain controls and rules its body/nature to create a controllable city/society, a "brain-regulated society" (*nōka shakai*). As Yōrō points out, the human brain prefers controlling everything, including its body. Thus, it has tried to eliminate its naturalness through developments with advanced technology.[172] Haraway and Yōrō have similar perspectives because both of them critique power, which dominates nature, and criticize a dualistic point of view, which creates a power structure inside of and through the dualistic relations.

*Knights of Sidonia,* in fact, demonstrates an anti-dualistic point of view through the characters' sex, gender and sexuality. At the same time, the body of most of the characters is made of a mixture of organic humans and plant, through the use of gene manipulation. Thus, we can identify and explore posthuman aspects in the manga series, *Knights of Sidonia,* to discuss 1)

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[171] Yōrō Takeshi and Gen'yū Sōkyū, *Nō to Tamashii*, 80.

**[172]** Yōrō Takeshi, *Nihonjin no shintaikan no rekishi*, 61.

what is new in the conceptualization of the body; 2) how the relationship between body and mind is described; and 3) how *Knights of Sidonia* exceeds normative categories of sex, gender and sexuality.

Many aspects of *Knights of Sidonia* and *Evangelion* are parallel, such as gigantic mecha suits, hybrid amalgams, extraterrestrial life; however, the essential difference from *Evangelion* is that human characters in *Sidonia* blend plant and animal features to the benefit of their lives. In other words, the characters do not exclude, but rather include, nature (in the form of plants) as companion species in the sense that Haraway has argued. The bodies of all human species in *Sidonia* are involved in gene manipulation to become new and advanced creatures rather than humans, even though they look very much like "ordinary" human beings. Because of biomedical technology, all of the characters have become posthuman in the narrative. This is also a fundamental difference from *Evangelion,* because most human characters in *Evangelion* are "normal" humans except for the occasions when some of them merge with the EVA suits. The purpose of the final section of this chapter is to analyze the main characters in *Sidonia,* to reveal how each character exceeds the idea of normative human beings and how they present queer features and behaviors.

The setting of *Knights of Sidonia* is in the far future (in 3394). The Gauna, alien enemies of the human species, have destroyed the solar system, including the Earth. As a result, most of the human species has died. However, some of the humans, called the People of Sidonia, created a spaceship in 2384 and have traveled in space to find a planet to colonize, to maintain the human species. In the narrative, they have not yet found a suitable planet, and have had to continue fighting against the Gauna, although they have succeeded in reproducing their own species by using advanced technology in the spaceship.

In 3300, because the Gauna attacked the Sidonia spaceship, many people died and a food factory was also destroyed. Therefore, the people of Sidonia manipulated their genes to permit human photosynthesis. That is, they can acquire energy by soaking up sunlight, instead of having to eat food every day. Most of the characters, except the protagonist, are photosynthesizing people. Tanikaze Nagate, the male protagonist, cannot photosynthesize to get energy because Saitō Hiroki, Nagate's "grandfather," raised Nagate separately from the rest of the city—underground. In fact, Nagate himself is Saitō Hiroki's clone, although Nagate does not know this fact until the captain of Sidonia, Kobayashi, tells him. Thus, all the people in Sidonia, except Nagate, use advancing technology to strengthen their bodies under the severe

circumstances of their lives. They are all posthuman; we may even refer to them as ontologically queer characters, because their bodies are decidedly non-normative, being hybrids between humans and plants.

Comparing different elements of posthumanism in the narrative is essential because the people in Sidonia are a group of queer characters in different ways: hybrids between humans and plants, humans and animals, organic and inorganic/metal, human and monster, and non-sexed/ambi-sexed persons. The most remarkable characters are Tanikaze Nagate; Shinatose Izana; the Gauna; and Tsumugi, an amalgam, the daughter of a human and a Gauna. These characters and their relationships present imagined posthuman subjectivities far beyond the categories of normative sex, gender and sexuality.

Tanikaze Nagate, the male protagonist, is a clone of Saitō Hiroki, and his special abilities are 1) having regenerative power (*saisei nōryoku*), so that even though he may be injured, his body can recover completely in a couple of days; and 2) having an immortal body although he has grown from a baby to a young man; that is, he is aging. The narrative describes Nagate as male and genders him as masculine, but his sexuality is queer. One of the most important themes of Sidonia is his love story. At the beginning of the story, he falls in love with

a female human, Hoshijiro Shizuka; however, after Shizuka dies, he seems to be interested in an ambi-sexed person, Shinatose Izana, because Nagate asks Izana to live with him; however, in later volumes, Nagate confesses his love to the human/Gauna amalgam, Shiraui Tsumugi. Thus, Tanikaze's sexuality is neither normative heterosexuality, nor homosexuality, but queer sexuality.[173] In fact, his sexuality changes through the development of the story.

The conceptions of sex and gender that the narrative expresses are also very interesting. Nagate's first and closest friend is Shinatose Izana, who is an ambi-sexed person. When Izana first meets Nagate, Izana explains Izana's self; when ambi-sexed people have a partner and it is time for them to reproduce, the ambi-sexed person's body will change depending on the *partner's* sex. Before Izana has a partner, Izana is neither male nor female, but a non-sexed person. For example, if Izana's takes the male Nagate as a partner, Izana will become a female. But, when Izana has a female partner, Izana's body becomes male. At the beginning of the story, Izana has both maleness and femaleness, masculinity and femininity. So, Izana's sex and gender are very ambiguous.

However, once Izana starts living with Nagate, Izana's body dramatically changes to

[173] There is no term for loving different species. So, "queer sexuality" may be the best way to explain Nagate's sexuality.

become female: the anime shows Izana's breasts getting bigger. It seems that Izana's consciousness cannot control these physical changes, so Izana is surprised by the changing of his/her own body. This queerness is very much emphasized in the story, but the anime does not denigrate Izana; rather, it celebrates Izana's merit. In fact, because Izana confidently explains her/his own body, although the beginning of the process of change makes Izana bashful, the viewer understands Izana's special feature as a beneficial thing. As for Izana's gender, Izana calls him/herself "boku," which show that Izana genders her/himself as masculine rather than feminine. In addition, Izana at the beginning wears ambiguous clothes, which are not masculine like Nagate's, but also not really feminine; however, Izana becomes interested in Nagate, and then Izana's body becomes feminine. This kind of queerness has a great deal of potential to help the imagining of a transformed social normativity; representations of queerness operate to help us accept any kinds of sex, gender, and sexuality.

As with the very fascinating nature of the alien Angels in *Evangelion*, the most monstrous, uncanny, and interesting character in *Sidonia* is the Gauna, a constant source of danger to the remaining humans. In episode seven, a Gauna captures a female pilot, Hoshijiro Shizuka, as well as the gigantic mechanical suit that Shizuka is piloting. The Gauna samples and

simulates Shizuka's mecha to create three gigantic mechanical suites, identical to Shizuka's and with the same capabilities. In other words, much like Sample B Unit III in *Hybrid Child*, a Gauna can copy both humans and non-humans to create new creatures, using a part of its own body. The whole body of a Gauna is made of/covered by a placenta, parts of which can create new creatures. Thus, *Knights of Shidonia* illustrates the Gauna as maternal monsters and who use an alternative form of reproduction. The Gauna do not need a heterosexual relationship for reproduction but have bodies that can mimic the maternal function; producing new creatures from their own bodies by copying its predator.

Furthermore, the Gauna that caught Shizuka and simulated versions of her mecha suit can also mimic Shizuka's human body, memory, and skills, such as her excellent control of the suit.[174] Although Nagate can neither catch nor attack these mimicked mechanical suits, which are able to escape, Nagate finds that the Gauna has developed but abandoned a creature having the same body shape as Hoshijiro Shizuka: a female human body (not a mecha suit). Nagate takes the body back to the spaceship to examine it. The creature is put in a special and secret laboratory to be constantly monitored. The shape of the creature looks like Hoshijiro Shizuka;

[174] Nihei Tsutomu, *Knights of Sidonia*, Vol.12, 105.

however, it has red tubes on its body—it looks like a newborn baby, still having an umbilical cord. The Gauna in the shape of Hoshijiro slowly develops its ability to speak, write, and communicate with Nagate.

Overall, the Gauna also show features of the posthuman because the body of Gaunas are continuously changing themselves or changing parts of themselves to create new creatures whenever they encounter a new species to sample and simulate. This feature of posthumanism is similar to what Haraway argued in her discussion of immune system discourse, and we saw similar things in *Evangelion*—the fusion of EVA and the Angel (as well as in *Hybrid Child*). Furthermore, the Gauna do not exhibit heterosexuality, because a Gauna itself can self-reproduce by copying different species. In short, a Gauna's body is influenced by other species to increase and develop its power. Thus, the key point here is the hybridity between one species and another, and even between a species and inorganic matter, such as mecha suits. The Gauna have still unknown abilities that the people of Sidonia fear.

This monstrous queer enemy, the Gauna, re/produces the most key character, Shiraui Tsumugi, which is a Gauna/human hybrid. Tsumugi is born from the placenta of the Hoshijiro-shaped Gauna, caught by Nagate and examined by the Sidonia scientists. Tsumugi's

body is composed of two parts. One is the humanoid giant mecha suit, which looks like a gigantic feminine monster. Another part is a tentacle, which can talk with other people and can move. The tentacle seems to be the core part of Tsumugi, like its 'soul' or mind.

The narrative describes her as a young girl at the beginning, but at the same time it/she is a giant mecha suit, which requires a pilot when fighting against the Gauna. Later in the story, however, Tsumugi becomes able to control it/herself independently and no longer needs a pilot. Its/her personality is warm and thoughtful. Although Tsumugi's behavior, such as its/her way of talking and body language, is very feminine, like that of a girl, its primary body shape (the tentacle) resembles a male sex organ.[175] The gigantic mecha part of Tsumugi is similar to the Shinji/EVA amalgam in *Evangelion*; however, Tsumugi is an individual creature composed of two parts, the gigantic mecha suit and the tentacle, which are inseparable. The narrative emphasizes that the tentacle, which houses its mind, must connect to the gigantic body. In other words, Tsugumi's mind/will/emotion must be attached to the body all the time. As Yōrō says—the mind comes from the physical body because the brain, in which occur mind and

[175] One of the characters, Ichigaya Teruru, forthrightly says to Tsumugi, " You look like a male organ." (*Knights of Sidonia* Vol.11, p155) Tsumugi is also sometimes depicted as a more or less humanoid, feminine-looking creature, sometimes huge, sometimes human-sized. But its primary shape/appearance is like a very large penis.

emotion, is material. The relationship between Tsugumi's body and mind implies that the depiction of this character is based on this materialistic understanding of consciousness.

On the other hand, the story also describes a prosthetic brain (*hojo nō*), which can function as a memory device. Ochiai is a member of the Knights of Sidonia but is also a mad scientist who in the past created a human/Gauna amalgam, which became uncontrollable. Because of the amalgam, Sidonia was almost destroyed by the Gauna one hundred years prior to the setting of the narrative. After the crisis, Ochiai transfered all his and Sidonia's knowledge into a prosthetic brain, and then disappeared. (This situation is exactly what Yōrō describes as *yuinōron*: everything is a product of the brain because only a brain creates things. In fact, the brain prosthesis itself is created by Ochiai's brain.) The prosthetic brain has been secretly maintained and sometimes used by the top directors in Sidonia, whenever they need Ochiai's knowledge. Although his prosthetic brain can survive without his body, it is necessary to put the prosthetic brain into the body of Ochiai's clone whenever they want to consult it. By itself, separated from the body, the brain is not functional. In fact, the narrative also describes the importance of the connection between his body and the prosthetic brain, which holds much information and knowledge, such as about the human/Gauna amalgam.

Ochiai's prosthetic brain clearly shows one of the contemporary ideas about the human body. Through illustrating Ochiai's prosthetic brain, the narrative demonstrates a separation of one body part from the whole, but emphasizes the inseparability of the body-and-mind relationship, because the brain on its own cannot function—it remains "sleeping," and is useless. This idea is contrary to an essential point of idealism/humanism, which suggests: 1) the separability of body and mind; and 2) that the mind can control the body because the mind is superior to it. In contrast, posthumanism is based on the materialistic idea that the mind comes from body, so without a body, the mind cannot occur. The narrative obviously shows an essential connection between the brain and Ochiai's body when the top directors need to use his knowledge.

The most essential point in *Knights of Sidonia* is that all the characters are posthumans though they are living as human beings. There are photosynthesizing people, a hybrid between plants and humans; a bear/human hybrid; cloned humans such as the twenty-two Honoka sisters; and a human/Gauna amalgam, Tsumugi. All of them have posthuman features and live together to support each other, although they have different strengths. This image—many different species living and evolving co-operatively and equally—is what Haraway advocates in "A

Cyborg Manifesto" and *Companion Species*. Furthermore, *Knights of Sidonia* argues a materialistic rather than idealistic or humanistic viewpoint by illustrating the inseparability of the body-mind relationship. Tsugumi's inseparable tentacle–and-gigantic-mecha-suit body as well as the way Ochiai's brain will only function when back in his (cloned) body obviously demonstrate this materialism: the mind must come from the body, and they must work together.

Also, *Sidonia* describes diverse sex and sexuality, in the queer sexuality between the non-sexed/ambi-sexed person, Izana, and Nagate. Illustrating characters such as these has a lot of potential to challenge normative conceptions of sex, gender, and sexuality (though I must point out that Izana's sexuality, while interesting, is nonetheless absolutely heterosexual, which to some extent limits the queerness of Izana's depiction). The narrative illustrates many different kinds of reproduction, too: people who are born through clone technology, such as Nagate and the Honoka sisters; and uncanny creatures, which are re/produced by the Gauna.

## Conclusion: Selfhood in the Bodiless Body

I discussed selfhood in the hybrid body in Chapter Four to show how works from the 1990s that make use of this model went beyond the modern concept of the body and mind

relationship: one body has one mind. However, in this chapter I analyze the selfhood of bodiless and digitized people, because this new conceptualization of *people* who have lost their material bodies actually represents the pinnacle of the modern concept of the body and mind relationship: the mind predominates the body. However, if we do not encounter the characters' selfhood through their material body, how can we understand them as a "person"? In other words, without a material body, how does anime depict the mind and selfhood, and what is the replacement of the body for expressing the idea of the self? It is important to discuss the relationship between bodiless/digitized people and their selfhoods.

As I mentioned in Chapter Four, *Ghost in the Shell* focused on personal memories as the basis of selfhood, and it expressed that selfhood through the body. In fact, the sequel, *Innocence*, also depicts Motoko, who now does not have her own body but rather lives in the Net, through a material body. This body, however, is not Motoko's original but rather is one of the Hadaly dolls; that is, the body and self of the new Motoko (after merging with the Puppet Master) have never worked together or shared the same memories to build Motoko's selfhood. The main question is, how does the anime make the audience understand and believe that the doll is Motoko?

In one particular scene, many Hadaly dolls appear one after another in front of Batō, but the audience can perceive one different doll. This is the one into which Motoko has downloaded her self /soul, even though it looks exactly the same as the others. Because only this doll fights against the others to protect Batō, the difference is pretty obvious. However, the important point here is how Motoko's features manifest in the doll's body. The most notable facet is *her* action; "Motoko"'s body motion is much smoother than that of the other Hadaly dolls and less robotic. On the other hand, the other Hadaly dolls' bodies are heavily mechanical, and are animated to have a more robotic movement, in order to show the differences between them and "Motoko."[176] Furthermore, the decisive point is the speaking ability of the "Motoko" doll, and its voice. Only the Hadaly that Motoko inhabits can speak to communicate with Batō, and Motoko's voice is the exact same as the one in *Ghost in the Shell*. Thus, the anime shows Motoko's selfhood by giving her female (but somewhat masculine in terms of language usage) voice to this body.

[176] For example, as the dolls fall from the ceiling to join in battle with Batō, their bodies land with a heavy, uncushioned sound. Unlike a human body that responds with muscles and joints to the impact of landing, the Hadaly dolls fall like heavy lifeless objects, one after the other.

Furthermore, although the faces of "Motoko" and the other Hadaly dolls are the same and devoid of facial expression, each small movement of "Motoko" reminds the audience that the doll is possessed by Motoko's selfhood. Interestingly, *Innocence* implies the existence of Motoko's self only when Batō needs her assistance. As Orbaugh argues about Oshii's ideas on selfhood for bodiless persons, Motoko's selfhood comes from "affect/love (*omoi*)"[177] especially toward Batō. Because her "affect remains," her selfhood is visually depict-able throughout the story. For example, when he enters the house of the master hacker and encounters multiple optical illusions intended to confuse him, Batō takes his bearings from an image of the girl body-Motoko that we saw at the end of *Ghost in the Shell*. He knows that the message *her* image gives him in the hacker's house is reliable, because it is really disembodied-Motoko acting as his guardian angel. Thus, the selfhood of this bodiless person/Motoko is shown through strong affect. We know nothing of Motoko's new experiences in the Net, or of how these new experiences in the Net may have influenced her *new* self without a material body. *Innocence* depicts Motoko's selfhood entirely through its affect toward Batō[178] and through his affect toward her and his memories of their shared past. Batô's physicality is emphasized throughout the film, and it is

[177] Sharalyn Orbaugh, "Emotional Infectivity," 161.
[178] As discussed in Chapter Four, Batō also clearly has strong affection for Motoko.

through his still-connected body-mind that Motoko continues to live for him and for the viewer. In short, even though *Innocence* would seem to celebrate the pinnacle of the modern body—no body at all, just a brain/mind—it actually underscores the necessity for selfhood to be experienced through the body—a materialist stance.

Like *Innocence*, *Kaiba* also demonstrates that memories of the past are the most essential key for maintaining selfhood. The anime embodies selfhood as beautiful and warmly shining memory eggs, or materialistic and cold memory chips; however, once selfhood is reduced to memory eggs or memory chips, it can no longer show characters' agency or voices. In this case, *Kaiba* emphasizes the importance of the material body to express selfhood. In other words, even if characters can maintain their selfhood in those chips, without a material body to express their agency, the chips are meaningless: they posess no voice and no agency. In fact, Kaiba releases all people's memories, which he has kept in his body, and gives them to the monster plant, but Kaiba is happy at the end of the story. This ending implies that memory can be considered as selfhood but selfhood needs a material body—even a plant body—to express it. Again, *Kaiba* also emphasizes the significance of the body, which has gained experiences and memories, and can express its selfhood.

On the other hand, *Expelled from Paradise* demonstrates selfhood in a couple of ways. The protagonist, Angela, is depicted as digits and particles of light when she is in the digital world, DEVA, but also is illustrated as a normal material body when she is in the material world. How does the anime express her selfhood when she is digits or particles of light? The anime uses her voice to express her thoughts and emotions: happiness and anger. The key is the feature unique to anime, the voice, something that manga and literature do not have. If anime had only visuals without the voice, it could not personify those digits or particles of light. In fact, Hadaly-Motoko also relies on her voice to identify hers as Motoko to the viewer. Anime can demonstrate selfhood not only through illustration of the person, but also through the character's voice. Although the message of these narratives often reminds the audience how necessary the material body is to demonstrate the characters' selfhoods, this anime, *Expelled from Paradise,* lets the audience hear the character's self through the voice without illustrating a normative body. In short, one of the features of anime, voice, make this series and its effect possible.

Unlike other anime in this chapter, *Knights of Sidonia* does not demonstrate bodiless or digitized people in its story. Selfhood is instead demonstrated through the characters' bodies. *Knights of Sidonia* permits us to compare the manga with the anime version to reveal the effect

of voice on the text. For example, the illustration of the Hoshijiro-shaped Gauna is the same in the manga and the anime; however, once it has the voice in the anime, the Hoshijiro-shaped Gauna succeeds in showing its uncanny selfhood.

Furthermore, *Knights of Sidonia* describes the development of the self, specifically Tsumugi's selfhood. At first Tsumugi simply follows her pilot's instructions without her own agency; however, as she works with the other knights (pilots) of Sidonia, she develops emotions toward them. She eventually does not follow her pilot's voice but follows her own decisions to help other pilots. Tsumugi's selfhood develops by her experiences and her interactions with others. In particular, because Tsumugi's body, a result of a merger between a human and a Gauna, is very exceptional, the story emphasizes her bodily experiences. Tsumugi tries to live like other humans, but her body has to face many difficulties because it does not fit with the physical, spatial characteristics of the city of Sidonia. Because other characters, such as Nagate and Izana, help Tsumugi to live *normally*, her way of expressing her selfhood becomes humanlike. In short, bodily experiences in a specific world influence the development and expression of the self. The self never exists in isolation, but has a strong connection to the body.

The new conceptualization of the body, as a digitized or bodiless person, not only exceeds normative categories of sex and sexuality but also tries to demonstrate selfhood in diverse ways. However, interestingly, selfhoods in these anime often form from memories of the past, and are expressed through material bodies/things. In short, these anime persist in considering the material body as necessary to show their conceptions of selfhood. It is decisive that selfhood cannot exist without the material body/objects in the animations. These anime argue, persistently, that the body and mind are inseparable, and that both selfhood and the mind, if not actually deriving from the body, at least maintain an insurmountable connection.

In this chapter, I have discussed bodiless or digitized characters in 2000s to 2010s' anime and manga. These contemporary anime have been influenced by diverse ideas, such as cultural and religious thought, advanced technology, medical/anatomical perspectives to create a new conceptualization of the body. Basically, the contemporary Japanese anime and manga that I have analyzed demonstrate materialistic and monistic ideas—the inseparability of the body-mind relation. As we have seen, these ideas are based in part on cultural factors; however, the tendencies we have traced may also be the result of changes in the contemporary developed world more generally. Dualism and idealism/humanism may not fit the contemporary notions of

the body or accommodate the diversity of the contemporary world, with its efforts to transcend the limitations of normative sex, gender and sexuality, as well as the increasing organic/inorganic hybridity of its people. As Haraway argues, for example, "we are all chimeras, theorized, and fabricated hybrids of machine and organism; in short, we are cyborgs," and it is true that our bodies are increasingly supported by or even occupied by machines and advanced technology (as in pacemakers, prostheses, and so on).[179] As Haraway similarly insists, we are posthuman (or increasingly becoming posthumans), and all species, such as humans, animals, and machines, should be understood as equal contributors to our continuing co-evolution—we are all part of the same whole. Analyzing the body notions in contemporary anime reveals contemporary diversity, which tries to transcend normative ideas, and new trends in the conceptualization of the body.

[179] Donna J. Haraway, "A Cyborg Manifesto," 118.

# Chapter 6: Conclusion

This study has analyzed representations of the *human* body in Japanese popular culture, specifically science fiction manga, anime, and literature from the 1950s to the 2010s. As new, advanced technologies have increasingly supported and transformed human lives in diverse ways, conceptualizations and notions of the body have also been influenced and transformed. It has become possible to replace both the internal and external components of organic bodies with inorganic matter, artificial organs, or organs from other people—even, in some cases, from other species. Prosthetic limbs help individuals live more easily. These positive technological developments, however, bring significant philosophical questions: once significant portions of our bodies have been replaced with inorganic matter, or other people's organs, it becomes much more difficult to maintain the border between organic matter and inorganic matter, self and other, and also categories of sex, race, age and so on. As a result, we have even started questioning what it means to be human. What is the self? By continuously reconceptualizing the body in our culture, we have understood ourselves and shared ideas of what we will or should be. In order to demonstrate the relationship between conceptualizations of the body, works of art, and their social/historical contexts, this study has focused on analyzing the changes in conceptualizations

of the body through representations of and reactions to these changes in Japanese science fiction manga and animations, which have become easily accessible and very popular worldwide. I have argued that the conceptualizations of the body have been changing because of the influence of the latest advanced technology; Japanese anime and manga have engaged with these conceptualizations, and have presented imaginings of these changes through the development of characters with new and queer bodies. In turn, the futuristic visions in anime and manga have influenced the creators of real life advanced technology, as we can see with the roboticists who cite Astro Boy as their inspiration.[180] Because of this interrelationship between narrative and technological development, stories about queer ontological and gender/sex/sexuality possibilities have a huge potential to (gradually) overcome normative body images.

In order to expose transitions in the conceptualizations of the body in popular visual culture and narratives, I began by discussing the concept of the modern body, as defined by Harvie Ferguson, in Chapter Two. He clearly encapsulates the notable features of the modern body: "epidermic, closed, individuated, male."[181] The definition of the modern (human) body

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[180] For example, a well-known Japanese robot creator, Takahashi Tomotaka,talked about how the existence of Astro Boy inspired the creation of robots. in "The century of Astro Boy," *NHK Co-productions*. https://www.youtube.com/watch?v=lkQdb-mmSZY

[181] Harvie Ferguson, *Modernity and Subjectivity: Body, Soul, Spirit*, 77.

specified limitations in order to distinguish itself from other living matter, and simultaneously to assert superiority over other living matter. The image of the modern body appears to be perfect because it has agency and is completed by itself. As Ferguson demonstrates, the concept of the modern body is based on a dualistic point of view, and so aspects of this world are categorized dualistically, such as body and mind, self and other, female and male, and so on. However, posthumanists criticize these dualistic divisions in the concept of the modern body and have brought a new concept of the body/human.

Donna Haraway, a pioneer of cyborg theory, offers cyborgs as metaphors for disempowered bodies—women, people of color, etc.—in "A Cyborg Manifesto." She argues that "the cyborg is a creature in a post-gender world,"[182] because cyborgs are unconventional, that is, cyborg bodies exceed normative and dualistic categories of sex, gender, and sexuality that create a power structure between individuals, and thus a world of cyborgs is one in which all living matter is equal. The remarkable points of her theories are: bringing issues of marginalized bodies to the table; and also, by employing a biological perspective, exposing how deeply human bodies

[182] Donna Haraway, "A Cyborg Manifesto", 118.

have interacted with other living things.[183] Thus, Haraway has discussed the posthuman body categorically and scientifically to re-conceptualize the *human* body.

Likewise, Yōrō Takeshi has discussed the human body, especially the brain and nervous system, through neuroscience and an anatomical perspective. His scientific thought is also opposed to the modern notion of the body. He argues that the body is continuously changing: different molecules combine or lose each other to become other molecules and maintain, for example, the citric acid cycle. As he argues, both the inside and outside of the body have been changing and renewing themselves: aging is the best example of this. Thus, the body is never completed/unchanged. In addition, Yōrō argues that the brain and body (mind and body) are inseparable, because the brain is connected to the nervous system, which covers the entire body. There is no clear boundary between the brain/mind and body, even though we have distinguished and named each organ. This anatomic perspective therefore also critiques the dualistic modern body and mind relation. Furthermore, Yōrō also mentions the complexity of sex development; sex is not simply an issue of being either male or female. Thus, there are no clear

[183] Specifically, her book, *Companion Species* and immune system discourse in "The Biopolitics of Posthuman Bodies," have challenged the concept of the modern body and provide new ways of conceptualizing our bodies.

borders anywhere in nature, including within our own bodies.

Therefore, by employing mainly Haraway's and Yōrō' perspectives, this study has discussed the concept of posthumanism within the characters that are depicted in Japanese popular culture. I have demonstrated the three significant differences about the notion of the posthuman body from the modern body image. In the concept of the posthuman body, 1) the body and mind relation is monistic; 2) the body is always changing and interacting with other living matter, so the body is open; and 3) there are no clear boundaries, such as female and male, self and other, human and animal, and so on, because the concept of the body exceeds such dualistic divisions. By fusing with other bodies or depicting the body as binary digits, the conceptualization of the body has the potential to erase categories of sex, race, age and so on. Focusing on these features of posthumanism, I have examined 1950s to 2010s science fiction manga, anime, and literature to expose the changes of the body images in the narratives.

Chapter Three focused on metal bodies in the 1950s to '80s manga and anime to reveal the conceptualization of newer bodies—metal bodies—in each decade. After World War II, Japan came to realize how behind its technologies were compared with those of Western countries. The nation concentrated on developing its technology and engineering, and so, of

course, these efforts influenced the content of popular culture, as well. I demonstrated that there were mainly two types of metal bodies: exo- or endo-enhanced bodies. These representations show us imaginations of *transhumans* more than posthumans, because in the examples from this period technology works as an extension of the human body, faculties, or capacities to exceed the limitations of the human body, rather than challenging modern body concepts such as dualism and idealism.

In the narratives analyzed, the exo-enhanced bodies—strong, giant metal-bodied characters such as Gigantor, Mazinger Z and Gundam—all functioned as weapons. None of the exo-enhanced bodies had its own agency to move or fight, but the protagonists, all boys, controlled them to fight against evil and save the world. The essential point to consider is how the boys controlled the metal bodies. I specifically paid attention to the distance between the boys and the metal bodies. The earliest and most popular exo-enhanced body in the 1950s appeared in *Gigantor* (1956); the protagonist, Shōtarō, used a remote controller to control Gigantor. Visually, we can imagine that if the giant metal robot is considered as its body, Shōtarō is the metal body's brain (mind). *Gigantor* separately and dualistically depicted the mind and body, and also argued that mind (Shōtarō) is superior to the body (Gigantor).

Moreover, this study has examined physical distance between pilots and metal bodies in other manga and anime in order to expose changes in these distances. *Mazinger Z* (1972) presents a pilot, Kōji, and the metal body under his control as physically connected: the jet in which Kōji is riding joins the top of the robot's head to allow Kōji to control the whole metal body. The jet functions similarly to Shōtarō's remote controller, but also works to facilitate a merger of the human boy and the giant robot in order to become one body. Interestingly, *Gundam*, which was very popular in the 1980s, demonstrates a relationship between the pilot and mecha in a slightly different way. Amuro sits in the heart of the giant mecha to pilot it, and rides it as if driving a car or piloting an aircraft. The point here is that the pilot is physically connected to the robot. Thus, I demonstrated that the cockpit, where a human boy sits, became closer and closer to the core of the metal body: from in the head of Mazinger Z to inside of Gundam's chest (heart). In fact, the extremely popular 1990s mecha anime, *Evangelion*, illustrates that the cockpit is put into the giant body at its spinal cord, thus placing the cockpit even deeper inside the body. The progress of these physical connections between a human and a giant metal robot/mecha suit has been ever closer and deeper. The dualistic exo-enhanced bodies approached the monistic body as time went by.

However, those early robot manga and anime had issues with sex and sexuality. As I pointed out, *Gigantor* erased female characters entirely to create an image of the *modern* world, where only males live, work, and fight. On the other hand, *Mazinger Z* depicted female characters and feminine giant metal robots; however, they were illustrated as cheerleaders or weak sexual objects for males. The narrative implies that these female characters serve as foils to male characters and masculine giant metal robots. As time moved forward, the position of female characters in popular naratives changed. In fact, *Gundam* illustrated better roles for female characters: strong warriors or helmsmen; however, *Gundam,* too, could not exceed normative female roles: a military *mother* or a shrewish *wife*. This narrative, in which exo-enhanced bodies flourish, demonstrates strongly normative sex and gender roles, as well as heterocentrism: all love relationships are heterosexual.

Of course, the appearance of Gigantor—huge, silver, metal—represents modernity; however, I argued that originally, Astro Boy*,* the most famous and popular robot in even contemporary Japan, represented the modern scientific worldview. In fact, Astro Boy, the symbol of science, has indirectly led Japan to create a technological modern world after the war. This futuristic body does not have sexual features, but is gendered as both masculine as well as

feminine. This aspect of the representation of the humanoid is the most important point: gender ambiguity. Astro dresses like a boy, but its facial expressions are sometime very feminine. Tezuka intentionally made Astro in this manner, based on the dual-gendered character, Mitchi, in his early work *Metropolis*. I argued that Astro represents an imagination of the earliest stage of posthumanism, because Astro's gender cannot be dualistically distinguished. In addition, Astro himself struggles with being half-human and half-robot. Once Astro shows his humanity, it is very difficult to see him as an artificial creature. In fact, Astro has been described in Japan as a great friend of humans. Similarly, Doraemon has become the best friend of humans after Astro. Because the close relationship between humans and robots has been demonstrated in anime and manga, the border between them has also become ambiguous to Japanese audiences.

One great example of the endo-enhanced body, which challenged features of the modern body, is the cyborgs in *Cyborg 009*. The narrative, *Cyborg 009*, illustrates their bodies as the integrated, technologically-advanced presence of artificial, inorganic components within the organic human body. The point here is that these cyborg bodies combine inorganic machine parts and organics in order to erase the dualistic division between the robot and human. This is obviously a hybrid body. Therefore, Chapter Three demonstrated how those exo- and

endo-enhanced bodies have been close to or become posthuman bodies, and are therefore quite different from the modern body.

1990s literature and anime made rapid progress in conceptualizing the cyborg body because of the strong influence of advanced biology. *Hybrid Child*, *Ghost in the Shell* and *Evangelion* offered hybrid bodies that represent newer concepts of posthumanism. These popular Japanese science fiction works broke down the modern body image to produce hybridity—between organic and inorganic matter, or humans, machines, and animals. Each narrative imagined ways of generating those hybrid bodies differently, and all of the hybrid characters uniquely expressed their selfhood.

A famous female science fiction author, Ōhara Mariko, created technologically-advanced, but slightly bloody, matriarchal worlds, filled with interesting hybrid characters. In *Hybrid Child*, the protagonist, Sample B Unit III, is a hybrid child who unexpectedly develops agency to live freely. As the story develops, this becomes a very complicated character. The fascinating feature of Unit III is that through consuming other living beings, such as animals, humans, and monsters, and then sampling/coping those living beings' DNA, it acquires their memories and abilities in order to become a unified amalgam with them.

Unit III can choose to base its primary selfhood on one of the living beings if it concentrates on being that one. Unit III chose the seven-year-old girl, Yona, and so its appearance is mainly that of Yona throughout the narrative.

Whenever the Yona/Unit III amalgam samples other living things' DNA and abilities, the body of Yona, representing the posthuman, breaks the dualistic categories of female/male, human/machine, animal/plant and her*self* and the *other* hybrid child, Daniel. The climax of the narrative demonstrates the essential key points, which are features of the posthuman. When Yona and Daniel fuse together, Yona fearfully feels Daniel's information penetrate her body. She cannot keep being the "individual," "Yona". After completing the fusion, they become a huge tree, which connects to the whole world. The last scene clearly illustrates monism: there are *no* boundaries to categorize. *Hybrid Child* offers this dramatic ending to show the extremity of posthumanism.

Not only Ōhara's concept of the posthuman but diverse hybrid bodies were born in 1990s Japanese narratives. The most well-known and influential cyborg animation in the period, was Oshii Mamoru's *Ghost in the Shell*. From the opening credits, which depict the process of creating the cyborg (Motoko), the anime illustrates an impressive series of imaginings of the

cyborg. The opening credits show the connection of the nervous system, artificial intelligence, and the whole body in great detail, but purposely does not depict sexual organs being included in the body. Thus, the process of the creation implies that the body does not have sex although the organic brain matter and artificial organs are sealed within a female shape. The main point of my analysis of *Ghost in the Shell* was how a non-sexed cyborg could be gendered. In fact, Motoko's body was depicted as having a female shape, but the narrative gendered her as much more masculine than feminine. The comparison of the female shaped body and its masculine attitude and language emphasized its gender ambiguity. This illustration shows one of the important features of the cyborg: ambiguity. However, *Ghost in the Shell* could not exceed heterocentrism because of the intimacy between the female-shaped cyborg, Motoko, and the male-shaped cyborg, Batō. Even though the illustration of Motoko is the most sophisticated cyborg image, and the anime produced a fascinating imagination of hybridity between human and machine, at the same time, it still persisted in heterocentrism.[184]

The most popular cyborg narrative in Japan in the 1990s was *Evangelion,* which did not demonstrate the same amount of detail of the posthuman body as *Ghost in the Shell*.

[184] Because the cyborg bodies do not have sex, talking about cyborgs' sexuality is not precise; however, the bodies represent female or male shapes, so here I pointed out the relation between those bodies as heterosexual.

However, the director, Anno Hideaki, presented a hybrid body in unique ways, and the exo-suit creation—EVAs—also had a strong biological influence, similar to *Hybrid Child*, and from computer science, similar to *Ghost in the Shell*. The most remarkable feature of EVA 01 is its hybridity. The EVA suit itself is made of metal and organic matter, and becomes complete as a living cyborg being when physically connected with the organic boy, Shinji. When complete EVA 01's body is composed of both female and male bodies, that is, the sex of EVA cannot be categorized as female or male. At the same time, its hybridity erases the dualistic division between self and other. Once they synthesize, they become one: there is no division between them (until it is time for Shinji to once again leave the cyborg amalgam).

Furthermore, as I argued, Haraway's immune system discourse helps us to realize that EVAs are posthuman when examining the relation between the EVAs, the human pilots, and the enemy Angels. When one of the angels, an enemy, tries to invade EVA 00's body, the EVA shows extreme pain because of the virus-shaped angel's invasion. As Haraway argues, all living things interact with each other by taking in and expelling bacteria and viruses that keep them alive (or harm them). For example, Shinji is the principal living creature for EVA 01, that is, Shinji is an essential *bacterium* to EVA 01. On the other hand, the virus-shaped angel is

represented as a bad virus to EVA 00. The point here is that, in Haraway's terms, the bodies of the EVAs are not closed, they keep interacting with other living things, such as Shinji and the angel. As a result, the EVAs visually represent opened and changeable bodies, which is another fundamental aspect of posthumanism.

Chapter Four also focused on the way that more than two minds in one body is illustrated, by discussing hybrids fused together from more than two entities. The demonstration of selfhood in the hybrid bodies was another key point. *Hybrid Child* demonstrates selfhood as the characters' DNA, memories of the past, and various abilities. By illustrating specifically Yona's memories with her mother, the hybrid body (Yona/Unit III amalgam) expresses mainly Yona's selfhood. However, the narrative sometime reminds the readers that the core selfhood is actually that of Sample B Unit III rather than Yona. *Ghost in the Shell* does not illustrate a body with more than two minds, but Oshii also focuses on memory to illustrate Motoko's selfhood. For example, the story describes Motoko's doubts about her own memories, because it is possible to install someone else's memory as hers into her cyborg body. In terms of selfhood in these posthuman bodies, memories become one of the key points.

On the other hand, *Evangelion* focuses on biological aspects, such as genes, rather than

memory to express selfhood. EVA 01's body is the fusion of three different bodies, so the connection between them is physical—more precisely, it is a genetic relation. The anime implies that individual genes represent selfhood. For example, the core of EVA 01's self was awakened when the body system completely shut down. These hybrid bodies in 1990s' popular narratives and anime destroy the dualistic and closed modern body image, and replace it with posthuman images.

This study has deliberated on the relation between the body and mind to expose posthuman monistic relations; however, manga and anime from the 2000s to 2010s actually have challenged monism by illustrating bodiless persons and digitized bodies, which are devoid of material features. Because of the development of computer science and the diffusion of the Internet since the early 2000s, anime have explored the concept of the digitized body. However, ultimately, the narratives argue that the mind cannot exist separately from a material body, and emphasized the importance of the material body.

Nonetheless, the depiction of bodiless persons and digitized bodies in recent anime has led to innovative notions of the body. By employing Hayles's perspective to discuss digitized bodies, we realized that those characters are made of digits: 0 and 1. All bodies in the digital

world are ultimately the same. In other words, because we have a material body, our bodies are distinguished and marked. Once our bodies are marked, the differences create power structures; however, if our bodies are depicted digitally in the same manner, there should not be essential differences and also no power structures. In this case, all digital bodies should represent the latest conceptualization of the body, which is fully posthuman, yet Japanese anime have not achieved Hayles' point because even though these characters are illustrated as digitized bodies, the body is now gendered super feminine or masculine. The best example of such a super feminine digitized character is Angela in *Expelled from Paradise*, which has been highly eroticized for male audiences. Only when her existence is illustrated as a strong bright light does it not possess a gender. Moreover, the digital world, DEVA, continues to have sturdy power structures: people are ranked depending on how much *memory* they have. This anime implies that even if you can be free from a material body, a digital society can still rank you in a different way. Even if the way of illustrating the body changes, the body is easily gendered once it is visually presented.

Discussing digitized persons in 2000s' anime brings up an interesting point: the relation between the body and mind. Without a material body, how has the self been depicted in the narratives? *Kaiba* introduces an imaginary new technology, which can digitize people's

memories, and store them on a triangular pyramid-shaped chip. Because the memory chip can hold a person's memories, and can also be put into other, young and strong bodies to enable the owner of those memories to "live" virtually forever, the concept of death is brought into question. Moreover, the various characters can experience different lives depending on the body they inhabit, which, like all bodies, has been categorized and marked (as female or male, or old or young, for example). Kaiba has totally different experiences with the different bodies he inhabits throughout the work. Specifically, after Kaiba, who is originally a boy, acquires Kuroniko's (a girl) body, he becomes attracted to two boys. In short, Kaiba experiences love affairs through Kuroniko's female body. This is made possible by the memory chip. Thus, one of the main points in *Kaiba* is to conceive of people's memories as information, maintainable or transferrable by digitalization.

*Kaiba* utilizes the notion of the memory chip or memory eggs to represent the transformation of memory into information. While both memory chips and memory eggs are presented as people's memories, the anime warns that both of them, the chip and eggs, must ultimately have a material body to permit them to express selfhood. Otherwise, they do not mean anything.

In addition, *Kaiba* illustrates the importance of the inseparable body and mind relation. Even after some of Neiro's memory is put into the body of Hyō-hyō, Hyō-hyō becomes a new, separate individual by gaining its own experiences. *Kaiba* indicates that memory comes from certain bodily experiences, and selfhood is completely dependent on the body. As a result, *Kaiba* demonstrates the self/memory and body separately, as if based on the modern body and mind relation; yet this anime sends a strong message that any memory must have a material body to live and express its self even if we *could* digitize our memories and store them forever.

On the other hand, *Innocence* provided a conception of digitized persons in a different way: Motoko gave up her body and fused with the Puppet Master to become a new form of existence, which can live in the Net and can connect to anything through the network. In fact, *Innocence* purposely did not visually illustrate the *digitized* Motoko; however, the work lets the audience think that Motoko must exist somewhere even though we cannot visually see her. Eventually, *Innocence* illustrated Motoko's self through a material body, the Hadaly doll.

As a result, 2000s anime depicted digitized bodies or persons who do not have a material body; however, all of the anime eventually illustrated the self through a material body, and emphasized that the body and mind exist in a monistic relation. Furthermore, those anime

could provide innovative conceptualizations of the body—as digitized bodies or bodiless entities—yet once those bodies are visually illustrated, they are marked and cannot exceed normative sex, gender, and sexuality. However, *Knights of Sidonia* has challenged this persistent normativity.

By comparing *Knights of Sidonia* and *Evangelion*, I demonstrated their similarities: giant mecha suits, hybrid amalgams, extraterrestrial enemies and so on. However, *Knights of Sidonia* demonstrates a much wider hybridity: humans and plants, and humans and alien monsters, achieved through gene manipulation. In fact, all of the characters are genetically modified organisms. In this situation, humans include nature as *companion species*, in a way similar to Haraway's theory. *Knights of Sidonia* actually demonstrates many of the ideas of hybridity, which experienced a boom in 1990s narratives, rather than the notion of the digitized body, which was a trend in the 2000s. However, this anime exceeded the notions of normative sex and sexuality, which 1990s anime could not. One of the best examples was the character Tsumugi. Tsumugi's body appears to be a feminine giant monster, but her core part, which connects to the giant body, appears to be a tentacle, and also resembles human male genitalia. In fact, the tentacle, which has a face, can speak and express Tsumugi's selfhood. The whole body

is illustrated as a female-shaped body but its core (mind) is illustrated as male genitalia. This combination has made Tsumugi's sex very ambiguous.

Moreover, Nagate, the protagonist, is a male clone; he falls in love with Tsumugi, which is a monster, not human. This relation illustrates a transcendence of both hetero- and homosexual relations, and therefore illustrates queer sexuality. (The manga interestingly illustrates the scene where Nagate and Tsumugi share a bed: we see Nagate's male body cuddled up close to what looks like a giant penis.) In addition to Tsumugi, Izana's body also challenges dualistic sex categories. Izana's body can change from non-sexed to male or female depending on the sex of Izana's partner. *Knights of Sidonia* presents many queer characters, which in turn present non-normative sex and sexuality, by illustrating hybrid bodies between humans and monsters, plants, or animal.

This project has discussed the changes in the conceptualizations of bodies through 1950s to 2010s science fiction narratives, and it has demonstrated various transitions: 1) the metal dualistic modern body in *Gigantor*; the progress of the monistic relation between an exo-enhanced giant body and its pilot in *Mazinger Z* and *Gundam* as well as half-human and half-robot characters in the 1950-80s; 2) hybridity between humans, inorganic matter or other

living things in the 1990s; and then 3) digitized bodies, which do not possess a material form, in the 2000s. These first two stages of the transition in the concepts of the body, from the 1950s to the 1990s, demonstrated the progress of the posthuman image. These stages progressed from a dualistic to a monistic body and mind relation. Although the notion of the body in the 2000s has been depicted as a dualistic body and mind relation, the conception of body image did not simply resurrect the modern dualistic one. Rather, the digitized body has emphasized the significance of a material body to make the concept of the monistic posthuman body stronger and more reasonable. This process of transforming conceptualizations is necessary to help us consider and expand our understanding of *possible* human beings, which in diverse ways both reflect and influence our *actual* selves. Thus, this project has revealed how science fiction anime and manga characters have become posthuman. In other words, the conceptualization of the posthuman has been created and developed among these narratives, and these conceptualizations of bodies have suggested to us ways of having alternative human body images, which will never be fixed but will continue to change to challenge normativity. Therefore, this research becomes a significant foundation in the mechanism of revealing the progress of newer notions of the body.

As I have repeatedly highlighted, these conceptions have been influenced by advanced

technology: engineering, biology and computer science. As the environment, including technology, culture, and society, has changed, the conceptualizations of the body also have changed. However, as I emphasized, the persistent presentations of normative sex, gender, and sexuality have not drastically changed in these narratives. In other words, the majority of these works of anime and other forms of popular culture suggest that Japanese society has not challenged those issues enough to offer an alternative possibility. Ultimately, we may argue that these anime stand in very close relation to their contexts—while they absorb and make use of technological developments to sustain the imaginative creation of their characters, with the exception of *Knights of Sidonia,* they do not offer ideological critiques of social values around normative sexual or gender issues.

This project has examined only selected narratives, the most popular and representative manga and anime in the 1950s to 2000s. However, there are different series and versions of these anime and manga, produced in different time periods. Thus, as a topic of future research, it might prove useful to examine the issues of monism/dualism and sex and gender changes as one story goes through different versions at different social, cultural, historical, political, and scientific moments.

Furthermore, this study has analyzed a variety of media: manga, anime, and literature; however, it has not deeply focused on how different media can present these issues very differently. I have mentioned the effectiveness of female and male voices in anime, which cannot be given directly (via sound) in manga. On the other hand, manga can describe issues of hybridity by showing these visually and also telling the story in detail. Because anime often depends on visual expressions to tell the story, the detail of the narrative sometime is not clear. For example, the TV anime version of *Knights of Sidonia* describes less information than the manga version. Future research also could focus on media differences to reveal diverse ways of delivering important messages about the issues that I have focused on.

As Kroker argues, the body is drifting; the conceptualization of the body has been changed and will continue to change because of technology. Accordingly, culture, politics, society and people have also been changing. Thus, analyzing popular cultural imaginations of the body can help us understand how humans themselves have been changing. Future study will be able to expose diverse conceptualizations of the body in different time periods and in different cultures by comparing those findings to the foundational conceptualizations of the body in Japanese popular culture in this project. I have specifically focused on the influence of

technology, in that technology has developed and has changed our lives. The range of these changes has brought us to the concept of the posthuman to introduce alternative forms and definitions of "the human," able to exceed normativity. Although this limited research stops here for the present, future research will continue to argue how visual culture and narrative describe newer conceptualizations of the body. Because posthumanism will never conclude, but rather continue pursuing the next stages of human development, this research will also continue.

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