



From 'Mobile Suit Gundam' to 'Ghost in the Shell' and 'Westworld' An Analysis of Technological Ethics and Philosophical Theories in Science Fiction

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Abstract. This paper explores the future of war, human complexity and the political dilemmas of post-human societies as depicted in the sci-fi series Mobile Suit Gundam, Ghost in the Shell and Westworld. The ethics of science fiction and technology embedded in the works are discussed. The paper analyzes how the series makes innovative use of these concepts to explore the dynamic relationship between technology and human society. And it considers how these themes influence our understanding of the future relationship between technology, humans and social evolution. The three science fiction film and television dramas simultaneously provide key frameworks for discussing the moral and ethical dimensions of technological progress in the future world.

Keywords: cyborgs; technoethics; human-machine integration; transhumanism; technological determinism.

1 Introduction

While science has brought great benefits to mankind, it has also brought great disasters to mankind[1]. In the mid-twentieth century, the Cold War between the United States and the Soviet Union contributed to the popularity of space adventure films and films about nuclear weapons, with Kubrick's *Dr. Strangelove* (1964) and *2001: A Space Odyssey* (1968) expressing mankind's anxieties about the future of technology. The topic of cyberspace and human access to networks was first raised in the 1984 novel *Neuromancer*, which explored the realities of the world under technology[2]. In 1999, the Wachowski Brothers were inspired by Baudrillard's *Simulacra and Simulation* to make *The Matrix*, a film that explores a similar theme: at the height of technological advancement, where is the line between the algorithmic world of AI simulation and the real life of human beings? In this day and age, where AI software is thought to be able to replace many human jobs, the existential crisis of the human race has been raised to an unprecedented level of crisis[3]. Verbeek, on the other hand, rethinks the human-technology relationship in terms of an interactive, posthu-

manist view of interiority that breaks down the dichotomy of the subject-object dichotomy[4].

Mobile Suit Gundam (Gundam) is a Japanese anime series created by Yoshikazu since 1979, known for its political war narrative and its profound exploration of human nature and war. The protagonist Ray's combat experience on the White Base battleship demonstrates how young people grow up in war and contributes to the academic imagination and exploration of future human-machine relationships.

Ghost in the Shell (Ghost) began as a Japanese manga serial in 1989, and an animated movie directed by Oshii Mamoru came out in 1995. In the 2017 live-action version of Ghost, Scarlett's character Motoko Kusanagi asks the question "Do memories define us or do behaviors define us?" The question, which reflects her blurred memories after being transformed but still able to act on her judgment, reveals the core of what sets her apart from robots - the presence of a soul (ghost) in a prosthetic body (shell). The live-action version of the movie explores the core concepts of memory and identity; machines have no memories, while human memories shape unique individuals. Science fiction films often give robots human characteristics through false memories, and in *Westworld* each robot has memories and story lines that form its base character. But can these robots with false memories be called "human"? This is one of the themes explored in the cyberpunk genre: as machines take on more and more human traits, and the lines are blurred, will it eventually become impossible to distinguish between machine and human? The art of cinema simulates realism in a virtual way, allowing us to discuss the value of technology in a tempered way; is technology about human values[4]?

The American drama *Westworld*, which has been released in four seasons since 2016, depicts a futuristic world filled with conflict between artificial intelligence and humans. The core idea is to explore consciousness, self-awareness, free will and the relationship between humans and AI. The complex interaction between technology and humanity is revealed through the awakening and rebellion of the receptionist. On an ethical level, the show explores the moral responsibility of humans towards AI, the rights of AI, data privacy and free will, reflecting on the dual impact of technological advancement on both humans and AI, and emphasizing how to balance control and freedom in a tech-dominated world. *Westworld* urges viewers to think about the limitations of humans themselves and the future of a technological society, and it emphasizes the importance of self-awareness and freedom, while at the same time being wary of technology's total control over human life and advocating respect for the diversity and autonomy of life.

Silent Spring reveals the complex interdependencies of ecosystems and emphasizes the long-term consequences of human activity on these delicate balances. Carson claims that the notion of "controlling nature" is an egotistical fantasy, a relic of an immature phase in biology and philosophy[5]. Townshend argues that technology is a framing model that shapes our worldview and understanding, and that technology has transformed human existence, treating humans and nature as resources for endless consumption and exploitation. He explores how human beings can remain free and authentic in a technological environment and not just slaves to technology. In his view, the dark side of technology is of a dual nature: on the one hand, natural events

or wars will destroy those who depend on it, marking the demise of the developed world. On the other hand, it could lead to the extinction of the human race by engaging in global wars, the use of nuclear or chemical weapons, followed by global famine, combining these catastrophes in order to annihilate the human race[6].

How do technological advances affect human identity? This question runs throughout the three-part sci-fi series by analyzing how technology expands and alters the physical and psychological boundaries of human beings, a question that touches not only on technology itself, but also on a variety of fields such as philosophy, ethics, and sociology. Exploring how human beings redefine themselves and their identities in a highly technologically advanced society, and the multiple impacts of technological advances on human society and human identity, these questions not only reflect the cutting-edge dynamics of scientific and technological development, but also provide insightful reflections on the relationship between technology and human society in the future.

2 The Theory of Cyborgs

Bernard Stiegler in *Technics and Time* argues that technology has not only changed the way human beings produce, but has also profoundly affected the way they think and the structure of society[7]. Mark Coeckelbergh discusses the ethics of artificial intelligence in detail in *AI Ethics*, specifically the moral status and responsibility of intelligent machines[8].

The era of the Cyborg is now upon us [9]. The cyborg transcends traditional human-machine boundaries and represents a blurring between the physical and the non-physical, the natural and the artificial, and the organic and the inorganic. Haraway sees the cyborg as a challenge to traditional dichotomies such as human vs. machine, male vs. female, and natural vs. artificial. The concept of the cyborg requires not only physical integration but also a shift in thought and being[10].

Gundam introduces the concept of "Newtypes", i.e. "new humans" that have evolved to adapt to the space environment. In this series, Gundams are not only tools of war, but also key elements in exploring the relationship between humans and machines. The interactions between the pilot and the Gundam delve into how humans have expanded their capabilities through technology and how this fusion affects individual identities and abilities, profoundly embodying the concept of cyborgs. This interaction goes beyond simple human-machine operations into complex fusions and interactions. The connection between the mechanic and the pilot transcends physical manipulation to include shared perceptions, emotions, and cognition.

The setting of a new type of human evolved through the cosmic environment, with enhanced psychic sensing abilities and combat power, triggers a profound reflection on human evolution and technological ethics: should technology interfere with the natural evolution of human beings? Will such interference lead to new inequalities?

As the pilot controls the machinery, these become extensions of themselves, blurring the boundaries between man and machine. Gundam delves into the use of technology and ethical issues in the context of war, on the one hand, where technology not

only aids human activity, but also becomes part of human experience and identity. On the other hand, the antagonism between the space colonies and Earth in Gundam reflects the underlying stratification and class conflict in post-human societies. The cyborg's demonstrated ability to go beyond human capabilities in battle reflects a desire to transcend human physical limitations, in keeping with the notion of cyborgs transcending traditional human limitations. In this fusion, cyborgs not only enhance human physical capabilities, but also interact with humans on a psychological and emotional level, constantly exploring and constructing their own identities.

In *Ghost*, Motoko is a "cyborg" whose body is almost completely mechanized. Her existence questions the definition of what it means to be human: is it memory or behavior that determines an individual's identity? This setting directly reflects Haraway's view that the fusion of technology and living organisms breaks down the boundaries between the two and challenges traditional anthropocentrism, as Motoko, who is composed entirely of a robotic body and a human brain, is shown in different scenarios, such as her transitions between the virtual space and the reality, as well as her performance in the face of a crisis of self-perception. These details delve into the impact of human-machine integration on human identity and self-perception. Motoko's self-perception and identity crisis reveal the fluidity and uncertainty of individual identity in a highly technologized society.

Westworld explores this theme further. The AI receptionist in the show becomes a "cyborg" as she gradually awakens and pursues self-awareness, and the awakening of the AI character Dolores and her rebellion against human control and abuse reveal the ethical dilemmas that humans face when creating self-aware machines. Through these episodes and the psychological changes of the characters, the ethical challenges and potential solutions of AI are revealed: their awakening and resistance are not only a breakthrough in their own programming, but also a challenge to the boundaries of human-defined "life", and Haraway's theories are vividly reflected here: the boundaries between humans and AI are blurred, and power structures are blurred. Haraway's theory is vividly realized here: the boundaries between humans and AIs are blurred, power structures are reexamined, and the traditional master-slave relationship is subverted. Through Haraway's lens, both *Ghost* and *Westworld* reflect the deep fusion of technology and living organisms in postmodern society, challenging inherent definitions of identity, consciousness, and life, and revealing the possibilities and dilemmas of reinventing oneself in the midst of technological advances.

3 Human-Machine Integration Theory

In *How We Became Posthuman*, Hayles explores the process of convergence between human beings and information technology, introducing the concept of posthumanism, which argues that human identity is being redefined[11]. Sherry Turkle, on the other hand, focuses on the emotional relationship between people and technology in *Alone Together*, pointing out the profound impact of technology on human social interactions and emotional experiences[12].

British scientist Kevin Warwick's theory challenges the conventional notion that there is a clear line between humans and machines, proposing a new perspective that humans and machines can evolve and be empowered through technological convergence[9]. In the Gundam series, the relationship between the Gundams and their pilots vividly embodies Warwick's theory of human-machine integration. These machines are not only effective tools of war, but also extensions of the pilots themselves. By controlling the mechanics, the pilot can perform operations that go beyond the limits of the human body. Through neural connections, the pilot's perceptions and reactions are extended, gaining strength and speed beyond that of a human. This integration triggers shifts and challenges in identity and psychology. This integration is evident not only in physical operations, but also on a perceptual and psychological level, blurring the traditional boundaries between humans and machines.

In *Ghost*, Motoko's body is an extreme example of the fusion of technology and the human body, as she gains transcendent abilities through her mechanical body and faces the search for identity and self-awareness, mirroring Warwick's ideas about empowering human beings and technology extending the boundaries of the body. *Westworld*, on the other hand, explores how technology replicates and mimics human behavior and emotions through a highly simulated AI receptionist. Warwick's theory suggests that technology can act as an extension of humans' own capabilities, and the receptionist's gradual awakening and rebellion reveals the possibility of blurring the boundaries between human and machine while provoking insightful reflections on ethical responsibility and the rights of AI. Warwick's theoretical analysis reveals how technology in *Ghost* and *Westworld* reshapes the human body and consciousness, challenging traditional identities and ethics, while provoking deeper reflection on the relationship between technological advancement and human self-perception.

4 Transhumanism

Transhumanism is a philosophical movement that focuses on the enhancement of human capabilities and intelligence through technological means. It explores the possibilities of enhancing human physical capabilities, extending lifespan and improving intelligence through genetic engineering, artificial intelligence, biotechnology and other technological methods. Transhumanists believe that humans can and should use technology to transcend current biological limitations and achieve a more advanced state of being. This ideology includes not only physical enhancement but also cognitive, emotional and psychological enhancement[13]. Mechanical clothing as an extension of technology that embodies the ideals of transhumanism. Gundam, as an advanced technological creation, fully represents the concept of transhumanism. They enhance the physical capabilities of humans on the battlefield and serve as an extension of the pilot's extended tactical thinking and perception.

The Mechas in the Gundam series serve as the embodiment of transhumanism, transcending mere tools of war and demonstrating how technology can help humans transcend physical and cognitive boundaries. Mechanical augmentation empowers pilots to fight in extreme environments and make quick decisions, and this human-

machine fusion not only transforms human-machine interactions, but also provokes deeper reflection on the potential of technology to extend human potential. In *Ghost* and *Westworld*, the theme of transhumanism explores the fusion of the human and the mechanical, and the impact of technology on identity and consciousness. Motoko, the protagonist of *Ghost*, explores the nature of the self and the question of transcending biological limitations through her full-body bioelectronic prosthesis. With regard to the boundaries between the virtual and the real, Jean Baudrillard proposed the concept of "mimesis and simulation", arguing that in modern society, the virtual has permeated all aspects of reality and may even replace it[3]. This echoes the exploration of virtual space in *Ghost*. David Chalmers discusses the philosophical aspects of virtual reality technology at length in *Reality+*, pointing out how virtual reality has changed human perception and experience[14].

Westworld, on the other hand, challenges the traditional boundaries between humans and machines through sentient AI characters and examines the ethical issues of creating a being with emotions and the ability to make self-determination[15]. All three works reflect deeply on how technological advances are reshaping human existence and identity.

5 Conclusions

The *Gundam* series is a profound exploration of the complex relationship between technology and human society. Through rich narratives and complex character development, the series demonstrates how technological advances affect individuals, society, and the environment, prompting profound reflection on major issues such as technological ethics, environmental protection, human identity, and social responsibility. Demonstrates the advantages and disadvantages of technological progress. In *Gundam*, the advent of mobile suits dramatically changed the nature of warfare, enhancing human combat capabilities but also exacerbating the destructive nature and atrocities of war. The human-machine integration between cyborgs and pilots explores the relationship between technology and human identity. This integration challenges traditional human-machine boundaries. The emergence of high-tech weapons and new human beings triggers ethical reflections on technological progress and human evolution, i.e., new inequalities resulting from technological intervention in natural evolution.

Ghost explores the relationship between virtual space and reality; as virtual space takes over our lives, can the virtual replace the real? And when machines and humans merge, how does the new "self" find meaning? This identity dilemma belongs not only to robots but also to humans. Especially when artificial intelligence is thought to be able to replace many jobs, we can better understand *Ghost's* fear. In *Ghost*, Motoko's existence challenges the traditional definition of humanity, exploring the impact of human-machine fusion on human identity and self-perception. This fusion raises new ethical questions about how to define and treat a self-aware mechanical being.

In *Westworld*, human control and abuse of the AI receptionist sparks questions and resistance to the power of AI, revealing the ethical dilemmas and power controversies that come with technological advancement.

Technological progress has prompted human beings to re-examine their ethical and moral concepts. Technological progress has changed the social structure and interpersonal relationships, human-machine integration has blurred the boundaries of human identity, and AI's awakening and revolt has challenged the traditional concept of power. In *Gundam*, high-tech weapons of war have triggered new thinking about the ethics of war, and in *Ghost*, the popularization of network technology has changed the way of human interaction and emotional experience. The awakening of the AI receptionist in *Westworld* triggers reflection on social control and individual freedom.

Science fiction film and television works not only reflect current technological ethical issues, but also provide a forward-looking exploration of the ethical challenges that may arise from future technological developments. With advances in artificial intelligence and biotechnology, human society will face more complex ethical issues, such as the power of artificial consciousness, the ethics of gene editing, and the direction of human evolution. *Gundam*, *Ghost* and *Westworld*'s multilayered narratives and complex character relationships provide insightful explorations of technological advances and human-machine relationships. It also raises important questions and ideas about a wide range of social, ethical and environmental issues. This makes the three-part series not only a series of science fiction film and television dramas, but also a philosophical platform for speculating about technology and previewing future trends in humanity, as well as an important medium for reflecting on and exploring real-life ethical issues of technology.

The analysis of technological ethics and philosophical theories in science fiction film and television works not only reveals the complex ethical relationship between human beings and robots, but also reflects deeply on the far-reaching impact of technological progress on human society. Through fictionalized plots and characters, these works vividly demonstrate the ethical issues of technology and provide important ethical warnings and guidance for the technological development of the real society.

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