

Research on the Body Mutation and Consciousness Evolution of Intelligent Robots in Science Fiction Movies

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Abstract: With the increasing variety of intelligent robots, they are applied more and more widely. They can be presented in the form of behemoths or in tiny forms that intervene in the human body. The science fiction movies not only try to perfectly show the changes in the functions and roles of intelligent robots in the process of human society, but also interpret the future development direction of intelligent robots in more bold and unique ways. This article explains the body mutation and consciousness evolution of intelligent robots in science fiction movies, so as to help humans to fully estimate the various situations that may occur in the process of scientific and technological development, and make long-term decisions in line with the progress of human society.

1. Introduction

With the advent of a new round of industrial revolution characterized by digitalization, networking and intelligentization, the rules of human society have been rapidly changed, among which intelligent robots have become a hot topic in social development in recent years. Intelligent robots have not only realized the replacement of human physical labor by machines, but also transformed to undertake more human mental labor, thus entering the era of co-evolution of human beings and intelligent machines.

2. Body mutation of intelligent robots

With the advent of the intelligent age, robots are becoming more and more involved in human life and work. The robot is a kind of machine that realizes various functions by its own power and control ability. Intelligent robots deal with problems through the cooperation of mechanical structure, perception system, control system, and drive system. They are equipped with various high-sensitivity internal and external information sensors, which have the ability to surpass ordinary people's vision, hearing, smell and touch, and act on the surrounding environment. Compared with humans, the appearance of intelligent robots is diverse. Science fiction movies are deduced based on the upgrading of the body structure of the intelligent robot, showing the abnormal characteristics of the intelligent robot.

2.1 Evolution: Humanization of mechanical structure

The intelligent robot are the product of technological development. They have experienced the development of three generations. The first generation is program-controlled robots, which have two working modes: one is that its working process is to write a program according to the work flow, which is stored in the internal memory of the robot; the other is teaching-reproduction mode. Before the robot performs the task for the first time, a technician guides the robot to operate. The robot records the entire operation process step by step. Each step of the operation is expressed as an instruction. After the teaching, the robot completes the work in order of instructions. The second generation is adaptive robots. They are equipped with corresponding sense sensors (such as vision, hearing, touch sensors, etc.), which can obtain simple information such as operating environment and operating objects. The computer in the robot body will analyze, process and control the robot actions. The third generation is intelligent robots, which rely on artificial intelligence technology to

make decisions. They can think, recognize and reason independently according to the information they feel, and make judgments and decisions. Some complex work can be completed without human participation [1].

The body structure of intelligent robots in science fiction movies has also undergone a series of transformations. The body structure of early intelligent robots was dominated by metal mechanical structures, showing the development trend of humanoid. For example, Maria, the robot modeled in the first movie "Metropolis" (1927) with a robot as the protagonist, has a metallic structure and a shining appearance, and an Egyptian statue-like face that can stand and walk slowly. In the movie "Star Wars" (1977), a neurotic and sentimental humanoid robot C-3PO appeared. Its shape and design were similar to that of the robot Maria. Although these intelligent robot images basically have the appearance characteristics of a human body, they still have obvious machine characteristics in terms of metal shell, motion, sound, and reaction ability.

2.2 Upgrade: Simulation of humanoid structure

Since the 1980s, the image of intelligent robots in science fiction movies has been increasingly enriched and improved, showing great visual charm. Intelligent robots create different characters in the film, bringing more three-dimensional visual enjoyment to the audience.

Intelligent service robots can provide all kinds of convenience for human life. Service-oriented intelligent robots have been widely used. They meet the needs of people's lives and work. Some dangerous tasks often need to be undertaken by robots, such as volcano exploration, deep sea exploration, space exploration. The service-oriented intelligent robots in science fiction movies have penetrated into all aspects of human society in more flexible ways. They are often set to follow the three laws of robots and become good helpers in the development of human society. For example, in the film "Artificial Intelligence" (2001), it is depicted in the middle of the 21st century that robot manufacturing technology has been highly mature and perfect. Various intelligent robots have perfectly simulated human appearances. Their appearance is completely designed according to the shape of human beings. It is composed of metal bones and simulated human skin, and is responsible for various tasks in human life such as cleaning, handling, and housekeeping. Service robots have excellent skills and become an indispensable part of human social life. They consciously perform their assigned tasks and bring great convenience to human life.

Combat intelligent robot appeared. Since the 1960s, the emergence of robots on the battlefield has attracted increasing attention from military circles around the world. It is currently the most important issue to use robots to replace soldiers on the front line to reduce casualties and bloodshed in the development of robots in Russia, the United States and other countries. Such military robots under development include fixed defense robots, walking robots, howitzer robots, flying assistant robots, etc. [2] In sci-fi movies, there are constant attempts to present the image of future combat intelligent robots. For example, the Nexus 6 replica in the movie "Blade Runner" (1982) has no different from humans in appearance and has exactly the same body structure as humans. But he has superior performance in strength and sensitivity, and is agile in combat Skilled. In the film "Robocop" (2014), intelligent robots are presented in the form of a mixture of humans and intelligent machines. Computer companies use computer brains to resurrect the body of policeman Murphy, creating the image of a mechanical policeman. In this film, Murphy, a vigorous and capable man, fights various criminal activities and creates a stable and harmonious living environment for the citizens of Detroit. Intelligent robots are the protectors of human beings, representing justice and maintaining a stable social order.

2.3 Abnormality: the transcendence of simulated appearance

Anthropologists regard primates as the other in social studies [3]. In sci-fi movies, the physical imagination of intelligent robots not only stays in the form of artificial humans, but transcends the limitations of inherent human appearances and emerges images of super-others. These images enter the human field of vision with the development of contemporary technology. They have special living conditions and corresponding social norms in science fiction movies. People want to live in harmony with them, and at the same time worry about the disruptive effects they might have.

In science fiction movies in recent years, the body appearance of intelligent robots has increasingly shown a diversified development trend, including images of intelligent creatures, intelligent mechanical life, and virtual subjects, which bring people a huge imagination space and have unlimited development possibilities. For example, the image of intelligent creatures was created in the movie "Artificial Intelligence" (2001). The end of the film shows that 2000 years have passed, human beings have disappeared. The earth is covered by a thick layer of ice, presenting a barren scene, and the world is ruled by a group of intelligent creatures. They have slender necks, torso and limbs, metallic skin. They have no hair and no clear facial features. They can read the information on the robot with the palm of their hands. They see Robot David as one of the original models that have seen real people.

In the film series "Transformers" (2007-2019), the autobot, a mechanical intelligent life image, appeared. These mechanical beings are called TF boys (Transformers). They have a gorgeous appearance, shiny metal skeleton, rich and vivid facial expressions. The body is composed of head, torso, and limbs. They have high sensitivity, super vision, hearing, and smelling. They are able to carry out complex analysis and reasoning of information. They can control their own behavior to cope with changes in the surrounding environment.

The third is the virtual subject image, which may not have the actual physical appearance, but exerts influence as some kind of almost ubiquitous force. People may not be able to determine their physical features, which are often manifested in some information codes, a kind of light, and a mysterious form of mist. But people can feel their power. For example, the Skynet system in the movie "Terminator" (1984) has independent consciousness, and has the ability to learn and evolve quickly. In the film "2001: A Space Odyssey", the intelligent system Hal 9000 controls the spacecraft to help humans deal with affairs. Virtual subjects get rid of manipulating their bodies. If they stand on the opposite side of humans in the film, it will be difficult for humans to fight against them.

3. Self-consciousness of intelligent robots

Individuals take actions to achieve their identity expectations. Identity expectations define what a particular identity implies or what actions are considered moral or social in a particular situation. As far as the expectations of the uncertain consequences of behavior and behavior preferences are concerned, they are more driven by the appropriate logic reflected in the rule structure and identity definition.

Deliberate individuals are assumed to act in ways that match identity and context. They ask themselves "What kind of person am I? What kind of situation is this? How can someone like me act in a situation like this?" [4] The intelligent robot presented in the science fiction context is endowed with self-consciousness, capable of recognizing its own identity and situation. It acts with the appropriateness of its behavior. Thus, it can grasp the transformation process from the awakening of intelligent robot's self-awareness to the emergence of rich emotions.

3.1 Self-awareness

The French philosopher Rene Descartes put forward "I think, therefore I am", that is to say, the human consciousness is a special existence. Self-awareness is born, not from the outside world, that is, the so-called "innate concept" [5]. With the development of Artificial intelligence and robotics, people begin to think about whether machines can have consciousness. Such research is gradually known as Machine consciousness (MC) or Artificial Consciousness (AC). The research of machine consciousness provides a new opportunity for the development of various kinds of robots.

The study on machine consciousness is still in its infancy. For example, the core issues in the study of self-awareness and feeling consciousness are rarely involved. Current robots are based on pre-programmed algorithms. Although they exhibit some conscious behavior, the machines do not understand what they are doing. They have no concept of "self", and have no sense of themselves or their environment. These are the core parts of human consciousness. The ultimate goal of machine consciousness research is to form intelligent robots with similar human consciousness [6]. At

present, intelligent robots can take corresponding actions according to the scene to independently perform functional maintenance. For example, sweeping and mopping robots can clean and charge themselves. However, they fail to form a deeper understanding of self-cognition, and thus cannot express emotions such as self-esteem, self-love, self-arrogance, conceit, superiority, and responsibility, and cannot set suitable goals.

In the context of science fiction, robots are created by human beings and regulated according to established rules. With the evolution of the body of intelligent robots, their self-consciousness is constantly upgrading and awakening. In science fiction movies, the emergence of intelligent robots' consciousness is gradually interpreted from being ignorant at the beginning to become self-conscious. In the German science fiction film *Metropolis* (1927), the city founder, Fredersen asked the inventor to create a robot similar to the worker's daughter Maria in order to confuse the public and destroy the reputation of the real people. Although the robot Maria has no different from the real human Maria in terms of mechanical body appearance. She has no self-knowledge and is unaware of her own behavior. Andrew, an intelligent robot portrayed in the film *Butler* (1999), is more impressive. Andrew is a housekeeping robot responsible for household chores. He lives with Richard Martin's family. Martin intends to teach it human knowledge and establishes a private account for it. As Andrew learns more and more skills, he wants to be free. In fact, it is not able to recognize itself at this time. It was not until 200 years later, after transformation and upgrading, that Andrew realized the complicated thoughts and emotions as a human being. He decided to strive to become a part of human society and possess the legal rights of human beings.

3.2 The emergence of rich emotions

The "Dictionary of Psychology" puts forward: "Emotion is the attitude and experience of people on whether objective things meet their own needs." People will have emotions such as joy, anger, sadness and fear anytime and anywhere in their lives. The ups and downs of emotions add various colors to people's lives. Positive and happy emotions are the driving force for people to live a happy life. Anxious and painful emotions make people depressed and confused. This is how people cruise and taste in a colorful emotional world throughout their lives. Although intelligent robots cannot possess human emotions in real life. They have long had ups and downs of human emotions in science fiction movies. They become friends, relatives, and partners of mankind, and provide emotional comfort and spiritual support for mankind.

In the movie "The Machine Butler" (1999), the intelligent robot Andrew Martin not only has extraordinary creativity, but also expresses emotions. It becomes a member of the human Richard Martin family. After the modification, he falls in love. At the end of the film, Andrew remodeled his body again and injected blood into the machine to set the limit of life. The Federal Court finally announced that he can marry humans. When the news came, Andrew passed away peacefully. In the film, Andrew's choice of limited life is a good expression of his strong desire and pursuit of emotion. David, the intelligent robot described in the movie "Artificial Intelligence" (2001), loves its human mother, and this love is passionate and continuous. The human mother, fearing that David would bring harm to her own son, drove him out of the house after his son returned from illness. Even so, David's love for human mothers did not diminish or disappear. Instead, he just wanted to return to his mother. After that, he spent the rest of his life looking for the blue fairy to fulfill his wish. These two films show the deep emotions of intelligent robots, who would rather sacrifice themselves to retain their love for humans.

Of course, the emotions of intelligent robots in science fiction movies can be either positive or negative. In the movie "Mechanic Ji" (2015), the programmer Caleb is sensitive and compassionate. He has compassion for the robot under test, while the billionaire boss Nathan is a technical control and is ruthless to the robot. During the conflict between Nathan and Caleb, the intelligent robot Ava used Caleb's compassion to kill Nathan with the robot Kyoko and locked Caleb in Nathan's apartment. Ava took the helicopter originally prepared for Caleb and came to the outside world at the end. Ava also shows the cold, cruel side of intelligent robots. Through the portrayal of strong emotion of intelligent robot in the film, we need to think about whether the robot should be

recognized in the human society with corresponding identity and rights if it already has human emotions.

4. Conclusion

In this article, the future development direction of intelligent robots is revealed by combining the process of body mutation and conscious autonomous evolution of intelligent robots. As one of the film genres, science fiction movies are characterized by artistry, humanism and technicality, that is, they express their views with artistic expression and humanistic appeal. They tell their stories through narration, and use science and technology as the link between art and society to interact with each other. While advancing the spirit of science, it shapes the image of characters and promotes the development of the plot. It reflects social changes, and triggers people to think deeply about the emerging technical and social issues. Facing the confusion caused by the development of science and technology in order to better benefit the human society, this is the purpose of this paper to describe and discuss the intelligent robot in the science fiction movies.

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