

The Ethics of Technology: Reflection on Gendered Science in *Oryx and Crake*

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Abstract: This paper discusses the gendered science and technology embodied in Margaret Atwood's science fiction *Oryx and Crake*. By analyzing the relationship between gender and science in the novel, it focuses on nature, women, and the people at the bottom. It further reveals that gendered science violates the ethics of technology and continuously marginalizes women and disadvantaged groups, nature, and the Other, making them victims in the development of science and technology and turning them into objectified symbols. Biotechnology and genetic technology, dressed in the cloak of science, have become patriarchal tools that violate technological ethics. Under the control of gendered science, nature has become a tool for mankind to grab benefits. Climate disasters and climate change have become the prelude to global ecological collapse. The disadvantaged groups under the new hierarchical system destroyed themselves along with the techno-maniacs. In the story, the conflict between humans and technology is the game between technology and ethics. When science violates technology ethics and is gendered, we should find the "Zero hour" and start again.

Keywords: *Oryx and Crake*; gendered science; the ethics of technology; ethical choice; Margaret Atwood

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标题: 技术伦理：《羚羊与秧鸡》对性别化科学的反思

内容摘要: 本文讨论加拿大作家玛格丽特·阿特伍德的科幻小说《羚羊与秧鸡》中的所体现的性别化科学与技术。通过分析小说中性别与科学的关系，本文聚焦自然、女性以及生活在底层的弱势群体，进而揭示性别化科学违背技术伦理，将女性和弱势群体、自然和自然界“他者”不断边缘化的过程，使他们沦为科技发展过程中的受害者，变为被物化的符号。生物技术与基因技术披着科学的外衣，实则成为违背技术伦理的父权统治工具。

关键词: 《羚羊与秧鸡》；性别化科学；技术伦理；伦理选择；玛格丽特·阿特伍德

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Introduction

Science and technology are the important driving forces in the history of human development, and every major step forward in society contains significant progress in science and technology. Human beings improve their living environment and enhance their survivability through the constantly improving level of science and technology. However, the development of science and technology has also brought various moral dilemmas and ethical problems to human beings. The 21st century is the century of biology. The rapid development of genetic engineering and biotechnology has brought convenience but is also harmful to people. Many social and ethical issues also arise. Advances in science and technology have made unimaginable things a reality. “Can we do this?” becomes an ethical question. Advanced science and technology allow us to manipulate genes or even human will, not only changing animal species but also human nature, behavior, and fertility. Human beings began to act like gods, possessing the power of a creator.

At the beginning of the novel *Oryx and Crake*, the civilized world is devastated and in ruins. Snowman who has experienced catastrophe lives alone on the tropical seashore and degenerates into a semi-arboreal creature like a savage, suffering from severe heat, thirst, and hunger. “Literature does not exist in isolation; it is influenced at every moment by science and technology, as well as by other arts and disciplines” (Nie Zhenzhao, “The Interdisciplinary Development of Literature” 42). The only surviving human being and this catastrophic scene led to these questions, what happened to this world and why did Margaret Atwood write this story? Was there any ethical standard of human beings and nature in this world? In this story, technology comes first, especially genetic engineering. Scientists abuse these biotechnologies to modify the genes of plants, animals, and even humans. Science and technology are in the hands of predominantly male scientists, and science and technology are gendered. Biotechnology and genetic technology, disguised as science, have become the tools of patriarchal rule that go against technological ethics. Their sinful behavior raises many techno-ethical questions. How is science and technology gendered? How does gendered science violate the ethics of technology? What are the consequences of violating the ethics of technology? This paper will analyze the gendered science and the ethics of technology in *Oryx and Crake* from the following three aspects: the gendered science in this novel, how

gendered science violated the ethics of technology, and neglected humanity and animality.

The Gendered Science in *Oryx and Crake*

Atwood once said that “*Oryx and Crake* is a speculative fiction, not a science fiction proper. It contains no intergalactic space travel, no teleportation, no Martians... it invents nothing we haven’t already invented or started to invent” (*Writing with Intent* 285). She insists that *Oryx and Crake* is the “fact within fiction”, and claims that “we’ve taken a path that is already visible to us” (Case & McDonald, “Life After Man” 41). The ecological disaster caused by a flood of future biotechnology predicted by Atwood in the novel is far more than just speculation or whimsy. And the biotechnology she conceived has already or is showing its power in the real world. The cloned sheep Dolly, genetically modified soybeans and corn, and iris recognition technology have already been created and are widely applied in human beings’ daily life. According to the development speed of human technology at the current stage, it is speculated that shortly, pigeons (the transgenic intelligent creatures that are designed to provide cloned human organs), the chicken parts that “are just the breasts [...] that specialize in drumsticks too, twelve to a growth unit” (Atwood 202), crackers who are the human-made ideal Human in *Oryx and Crake* may enter the real-life from the novel. Scholars, like Steven Best and Douglas Kellner, attempt to call attention to the potentially dangerous powers that science and technology in the age of biotechnology—a surreal zoo of mutations (*The Postmodern Adventure* 134). However, at the beginning of the story, it seems that science and biotechnology did greatly promote social development and help people to have a better life in a world under global climate change in which “the coastal aquifers turned salty and the northern permafrost melted and the vast tundra bubbled with methane, and the drought in the mid-continental plains regions went on and on, and the Asian steppes turned to sand dunes, and meat became harder to come by” (Atwood 24).

Science is not only distinguished but also separated from any other approaches of knowledge in *Oryx and Crake*. Atwood portrays two main opposite characters Jimmy-Snowman, an ordinary art college student who represents humanity, and Crake, the genius scientist in a top university who is the embodiment of science on purpose. When Crake invites Jimmy to his Paradise, the Bubble which is his major bioengineering experiment and the birthplace of crackers, Jimmy feels something has crossed the line. But Crake asked, “how much is too much, how far is too far” (Atwood 206). Crake, who doesn’t believe in God and Nature, and doesn’t believe

in the value of humanity, enjoys being a “Creator” under the cover of biotechnology. When he becomes the symbol of science in this world, science has been “gendered” at the same time. Though Jimmy can’t participate in scientific work, he still has the right to enter the scientific world, as the son of his father who is a scientist, and as a friend of Crake. However, the female characters have been completely expelled from the scientific world.

When science and technology become the only criterion for measuring human beings’ achievement, there would be techno maniacs trying to deprive human beings of freedom and control their economy, and further control the spiritual world of human beings. Their subjectivity and humanistic values will gradually disappear. When a person loses his subjectivity and becomes a puppet or a robot, he has lost his human nature; and when the whole human race abandons art and tramples humanistic values underfoot, the development of human beings has come to an end. From the perspective of ethical literary criticism, “it argues that literature is a product of human ethics and a form of ethical expression at a particular stage of history” (Nie Zhenzhao et al, “Conversations on the Ethical Literary Criticism” 83). Technological ethics as part of human ethics is the special ethical expression in Anthropocene. However, facing technological ethical choices, scientists in this story seems to make the wrong decision which decivilized human society. Because the “ethical choice stage is the most important stage in the process of human civilization. At this stage, the ethical choice is the choice of human beings and the choice of human moralization” (Nie Zhenzhao et al, “Conversations on the Ethical Literary Criticism” 83). The arrogant idea of the techno-maniacs in *Oryx and Crake* is to destroy the individual’s subjectivity, trample on the humanities, and completely control the spiritual world of human beings, and in this story, they have done it. In a male-dominated society, science and technology become tools for men to control nature, and gendered science dominates humanity while marginalizing women and people living in pleebland. These techno maniacs violated the ethics of technology. Technological ethics guides the behavior of technology so that the subject of technology not only considers the possibility of technology in the process of technological activities but also considers the purpose, means, and legitimacy of the consequences of its activities. Technological rationality under the constraints of technological ethics is the concept of human beings carrying out technological practical activities (humans transform nature, or create artificial nature), and it is the extraction and combination of various human rationales in a certain way and runs through technological practical activities in an integrated form. As far as its typical characteristics are concerned, technological rationality is a kind of human wisdom and ability to pursue rationality,

normativeness, effectiveness, functionality, ideality, and conditionality. However, in the story, the mad Adams pursue extreme technological rationality that ignores technological ethics. For mad Adams, upholding technological rationality is to see technology as a mere tool, to oppose technology to the body, and to regard them as a relationship of cooperation and dependence. In the story, scientists pursue the infinity and exploitability of the human body. In their eyes, the human body is just a manipulable object and a commodity that can be sold. Technological transformation makes these bodies marked.

“In fact, people have been to a great extent deindividualized. Their conformity is developing into something like uniformity” (Huxley 20). The subjectivity of the puppet-like man has completely disappeared, and the saddest thing of all is that, as a victim, he does not think that his spirit is being manipulated. But the truth is that in this invisible prison. “That he is not free is apparent only to other people. His servitude is strictly objective” (Huxley 85). For Ramona and Oryx in this story, it seems that one got the position in science and technology and the other hovering outside of it, yet both fail to escape the mental domination of the techno maniacs and eventually become non-subjective beings, marginalized by gendered science.

Ramona, a talented technician, seems to have a place in the techno maniac’s Compound. However, through her false aura, she just plays the role of a secretary or an assistant in the office of OrganInc Farm, and in her daily life, she is only a lover of her boss (Jimmy’s father). Ramona is only an attachment of the gendered science and these male techno-maniacs. But in daily life, Ramona is just a kind and lovely ordinary girl. She is not good at words, often talking like the chick in shampoo advertisements; eating like a child will eat hands full of greasy; biting her fingers while watching horror movies. However, these true feelings in the cold world of technology have long been worthless. In the eyes of the techno-maniacs, Ramona’s only left value is her genius brain, so she has no freedom other than the right to sell her mind and talent, and sadly, she is used to losing such freedom.

At work, it was never her intelligence that she showed, nor was it her value that she achieved. After Jimmy’s father jumped ship to Nooskins, she followed suit because she was part of the agreement, not because of her abilities or values. She is not herself; she exists by the existence of men, and her job position is limited to a list of terms on the agreement. In the path of science and technology, without the genius of her mind, Ramona has no room for survival; without a part of the terms of the agreement requested by Jimmy’s father, Ramona cannot own the right to spend time with the one she loves. Facing the gendered science and technology, Ramona’s

subjectivity is unable to fight against the ruthless rule of technology, and slowly, her subjectivity is worn away, becoming a marginalized woman in gendered science.

Oryx, wandering outside of science and technology, is also under its control of it. In her whole life, she never had subjectivity. Oryx plays the role of a doll, or a movie doll, following the orders of “they” (male characters). She will do whatever “they” tell her to do. She laughs when “they” tell her to laugh, she cries when “they” tell her to cry, and she does what “they” ask her to do to please all kinds of men. In short, the will of “they” is her will, she has no will herself, nor does she understand what is will, so much so that the word “they” has become deeply rooted in her soul. “They” is not a specific person who controls her body, but a person who has neither face nor eyes but controls her spirit world.

It is not only Oryx who loses her subjectivity, but also the disadvantaged people who are like Oryx in the pleebland. In the poor village where Oryx was born, the human trader Uncle Un was regarded as an honest businessman, a talisman against bad luck, and a great benefactor who saves the suffering people. Instead of hating him, the villagers fear him, please him and feel thankful to him. The girls are sold to the big cities where they are forced to perform sexually in pet stores, drugged and kept in garages, and even forced to pretend to be reptiles to please the buyers. However, like the villagers, they did not resent or rebel but only thanked and obeyed. Their masters gave them shelter and food, so that they could get rid of the misery of not having enough food and clothing, so they should be grateful to their “kind masters”. Under the rule of gendered science and technology, people at the bottom have been completely desperate for society, they are useless in the world of technology, and can only be slaves to be driven by others. To live, they must abandon their subjectivity and willingly become the marginalized people in this society.

Oryx and Ramona, as well as the poor people on the margins of society, have become the victims of gendered science and techno maniacs. Their lack of awareness is what makes their subjectivity completely degraded. Because in a society where science and ideals are in the top position, emotions and spirits are cheap. Compromise and submissiveness can neither redeem nor save the people at the bottom of society, but only further foment the desire of these techno maniacs to dominate the whole world. The loss of human subjectivity means that human beings are gradually reduced to the tools of science and technology.

Gendered Science: The Violation of Technological Ethics

The Greek philosopher Protagoras claimed that “Of all things the measure is man,

of the things that are, that [or “how”] they are, and of things that are not, that [or “how”] they are not” (Diels and Krzna 80) may be the primitive evidence of human’s arrogance. As we all know, human belongs to nature and cannot live apart from it. What we should do is to put ourselves in an equal position with nature, and learn how to harmonize with Earth Others, based on the ideals that we are both dependent creatures. In *Oryx and Crake*, those scientists consider themselves as Almighty and rebuild “Earth Others” out of their will. Men’s interests and profits are in the priority. All other existence in the natural world is treated as instruments rather than lives.

From medieval theology, human centralism divided humans and nature into two single parts, leading to the illusion that human beings should control the natural world. After the period of industrial civilization, with the development of technology and the economy, human beings gradually immersed themselves in the achievements created by themselves but ignored the various ecological crises that appeared more frequently than before. The relationship between humans and nature comes to an emergent point. Through the memory of Snowman, the novel depicts a society once had highly developed technology. However, science and technology didn’t become the cornerstone for the benefit of mankind but violated the ethics of technology and put human beings into endangered status. The background of this story directly put the opposition between humans and nature in front of readers.

It seems people in the 21st century all know that humans and nature are inseparable. Human beings’ existence, as one of the branches of the natural ecosystem, depends on harmonious relationships with other creatures. The equal existence of each species maintains an ecological balance. From ancient times to the modern world, the relationship between humans and nature has gradually changed from close interdependence to confrontation and opposition to each other, which also can be seen through the setting between humans and the environment in the story. The background of *Oryx and Crake* is a world that has been ruined by Crake, a science and technology genius. As the “only” human being who survived, Snowman, Jimmy, struggles desperately in this wasteland. He lives alone on a tropical beach, without clothes, without a companion, or even without a real natural animal around him. Under the control of human beings, nature is no longer suitable for human habitation, and climate change is also too terrible for human beings to live. Snowmen can only look for food and clothing in the remaining garbage. At this moment, the story shows readers an image that humans and nature stand completely on the opposite side. There were no ethical standards among humans, nature, and technology. So, in this world, there is no way for Snowman to communicate with

any nonhuman creatures.

Crakers, the biotechnology transformation creatures created by Crake, are always around Snowman. They are the outcomes of gendered science which violated technological ethics. They are the perfect and updated human beings according to Crake's design. However, Snowman cannot communicate with them because they don't know the meaning of life and they cannot understand what culture, history, and art are but only can live according to their basic desire. Facing a group of human-like creatures, Snowman has no way to effectively make communication with them. As for other nonhuman creatures, what Snowman did is try his best to not be eaten by the pigeons, wolvogs, and other human-made creatures. Meanwhile, it is also impossible for Snowman to enjoy the sunshine because he doesn't have thick skin, like the crakers', which can resist ultraviolet in the daytime. It reminds readers that as a real human being, he lost his ability to live with nature and the relationship between him and nature turns into a confrontation between death and life. And following Snowman's memory, readers can also find that people in this world had tried their best to control nature.

"Creating an animal was so much fun [...] it made you feel like God" (51)¹. The people in the compounds enjoy the feeling of a Creator who is beyond every creature including nature herself. Biotechnology is widely misused in this story. Animals completely become the subordination for those scientists who just genetically rebuild the animals according to their will and economic interests. However, it is like opening Pandora's Box, the scientists look down upon the power of nature. "A new form of the common house mouse addicted to the insulation on electric wiring had overrun Cleveland, causing an unprecedented number of house fires. Control measures were still being tested. A miniature rodent containing elements of both porcupine and beaver had appeared in the northwest, creeping under the hoods of parked vehicles, and devastating their fan belts and transmission systems" (216). They cannot control the new appearance of these strange creatures at all. At that moment, the war between humans and nature starts at the cost of the destruction of their original world. Abnormal status and unethical high technology reproduce countless screwy human-made creatures that originally do not exist in the natural world. These insane and twisted descriptions and creatures are the outcomes of gendered science. They regard it as a patriarchal utopia that annihilates life and diversity. Because men cannot reproduce new life in the world and they lost the ability to cooperate with nature, the male power replaces the flesh-and-blood life

1 Margaret Atwood, *Oryx and Crake*, New York: Anchor Books, 2004. All references are to this edition will be cited hereafter in parentheses.

with artificial life out of the jealousy of women. They not only seek methods to control and oppress women but also attempt to control other natural creatures, even nature herself. During the process of confronting each other, climate change is not only its background setting but also one of the serious consequences caused by it.

Climate change in this novel indicates the future confrontation between humans and nature. “Strange to think of the endless labour, the digging, the hammering, the carving, the lifting, the drilling, day by day, year by year, century by century; and now the endless crumbling that must be going on everywhere. Sandcastles in the wind” (45). Human beings treat nature as an object which can be used casually and endlessly. And it seems that people in this world have gotten used to living with climate change and their present status. Facing a world greatly changed by climate, they built the Compounds one after another to avoid this problem. They are so indulged in the illusion of a peaceful life in the Compounds which has been separated from nature. From the ineffective communication, human beings’ attempt on controlling nature as well as their ambition to be the Creator, and the destruction caused by climate change, people in this world did nothing but put themselves on the opposite side of nature. And the deep reason for such confrontation between humans and nature is the patriarchal opinions in their subconsciousness. They not only separated themselves from nature but also attempt to build a new hierarchy of society in their world. With the equipment of advanced science and technology, those arrogant scientists believe that they can do anything they want. They never believe in God as well as Nature with a “capital N”. They neglected moral standards and violated the ethics of technology. They also look down upon the laws of nature and try to rebuild the world and recreate the natural creatures of their will. Crake is a typical representative of these scientists.

Crake also holds this idea towards nature. In the world of *Oryx and Crake* depicted by Atwood, biotechnology is widely used, especially on animals. Animals completely become the subordination for those scientists. For example, when Jimmy saw the terrible sight of a genetically modified chicken, he was shocked. That was the new version of chicken in *Oryx and Crake*. They looked like large bulblike objects that seemed to be covered with stippled whitish-yellow skin. Out of it came twenty thick fleshy tubes, and at the end of each tube, another bulb was growing. They are no longer chickens anymore. They have lost their own lives and just exist as a food resource for human beings. There is another example of “pigeon project”. The goal of this project is to produce an assortment of foolproof human-tissue organs in transgenic knockout pig host-organs that would transplant smoothly and avoid rejection. A rapid-maturity gene is spliced into the pigeon kidneys and

livers, and hearts would be ready sooner, and now they are perfecting a pigeon that could grow five or six kidneys at a time. Pigeons can be used to provide cloned nerve systems as well. There are also pigeons at Nooskins that are used to develop skin-related biotechnologies. The main idea was to find a method of replacing the older epidermis with a new one, “not a laser-thinned or dermabrader short-term resurfacing but a genuine start-over skin that would be useful to grow a young, plump skin cell that would eat up the worm cells in the skins” (Atwood 64). That is the fate of animals in *Oryx and Crake*. They are no longer independent individuals but just tools that provide profits for human beings. When those scientists genetically change and create animals, they neglect that animals have the same rights to live on this planet just like human beings. In their opinion, human beings own the right to dominate other creatures because animals just exist for human beings rather than for their own.

Those amazing “products” seem to make people’s lives better. However, people cannot avoid the potential dangers hiding behind these perfect facts. For example, pigeons were supposed to be tusk-free, but maybe they were reverting to the original type so that they would become feral. This will be a fast-forward process because of their rapid-maturity genes. The cane toad “with a prehensile tale like a chameleon’s that might climb in through the bathroom window and blind you while you were brushing your teeth” (59). All those bio-engineered experiments carried out by scientists are like opening Pandora’s box.

Human beings tasted the bitter fruit of their behavior and realized that we need to re-recognize our position on the planet. Compared with the world of nature, plants, and animals that exist for billions of years on this planet, we are just newcomers. Nature runs itself very well without humans. We are the parasites on the food chain of life, consuming too much, but putting too little back to restore and maintain the ecosystem. Jimmy was very upset with so many crazy interferences with the natural world, which may reveal the author’s thoughts to the readers. He often dreams of coming back to an age where everything is what it should be in the natural environment. He also remembered the picture he watched on old DVDs when he was a child. Those animal-behavior programs feature copulation and growling and innards and mothers licking their young. “Why had he found them so reassuring?” (10) It might be the question that the author wants to ask Crake and other lunatic people. In “*The Power and Promise of Ecological Feminism*” Karen J. Warren argues that there exists a conceptual link among all the systems of domination which she calls the “logic of domination” (Warren 128). The logic of domination justifies the subordination of one group to another by positing some

differences between two groups and associating one with moral inferiority. This logic combines with other features of oppressive conceptual frameworks such as value-hierarchical thinking and value dualisms to justify the subordination of women and nature. For example, the logic of domination is used to argue that humans are morally superior to plants and rocks because humans can consciously and radically change the communities in which they live while plants and rocks cannot (Warren 125). Due to the excessively developed biotechnology, animals in *Oryx and Crake* are under the domination of those scientists. The random alteration of these animals is not considered a moral issue. But Jimmy's mother is an exception. She expresses her strong disgust toward the idea of excessive genetic alteration on those animals. She made a clear statement about that, "It's wrong, the whole organization is wrong, it's a moral cesspool and you know it" (56). She speaks out about Atwood's judgment.

Human beings become stronger by equipping themselves with advanced science. Since they don't believe in the law of nature anymore, they are afraid of nothing, and they just do whatever they want. They violated the ethics of technology. Their ambition bulges rapidly, then they begin to challenge the power of nature, more exactly, they identify themselves as God. Those scientists in *Oryx and Crake* are holding this kind of idea. They believe that human beings are the only creatures that have intrinsic values. Therefore, animals are viewed as just a resource for the living and development of human beings. Human beings only have responsibilities for their species and an indirect obligation to nature. In such a world, without the constraints of technological ethics, these techno maniacs also blurred the line between humanity and animality by building up the Compound and Pleebland.

Gendered Science: The Ignorance of Humanity and Animality

In *Oryx and Crake*. A new hierarchy is set up—Compound and Pleebland. Gendered science drove marginalized people into Pleebland while building the firm castle for the male techno maniacs who rule society.

In the novel, a Compound is a place where the wealthy privileged classes and scientists live. It is called a "composite concentrated residential area", strictly guarded, and monitored by the security guards and company guards. Tall walls isolated them from the outside world. The compounds are also the symbol of science and biotechnology. These so-called upper-class people live in different compounds with different walls. And the big companies, like OrganInc Farms and NooSkins which run different compounds, are highly competitive. They even send secret agents to other companies to steal trade secrets, and technical secrets, or do

some sabotage activities. There is no “reciprocity” among different authorities as well as the people in them. The development of science and biotechnology only brings deeper alienation and gap between people in the power center and those in the marginal position. The compounds segregate so-called superior people from the outside world, believing everything outside the walls is filled with danger and backwardness. It is a superior area, a sublime area, and a decision-making area. The upper-class people in compounds can decide everything about whether it should exist or not. Other places are low-level areas contaminated with viruses, dirty, and inferiority. People who live in the compounds, although they have been selected as the senior technical talents, are still being watched, and a sense of suspicion infiltrates every single part of this space. Everyone who lives here should be checked and disinfected when they come into the compounds. The symbol of the Compounds indicates that the illusion of patriarchy in the capitalist market has gone to the climax. Culture, science, education, and all superstructures succumb to the rule of hierarchy and patriarchal ideology. The development of science and technology doesn't bring union and cooperation but new hierarchy and segregation, forcing people who cannot access scientific work into the second position.

Contrary to the compounds, the pleeblands, in the novel, are described as “endless billboards and neon signs and stretches of buildings, tall and short; endless dingy-looking streets, countless vehicles of all kinds, some of them with clouds of smoke coming out the back; thousands of people, hurrying, cheering, rioting [...]” (27). The pleeblands are the home of people who lost the ability to enter the scientific world. The face of the person here appears in an image that has been transformed and deformed. This smoky and sloppy image of the bottom space makes people who live in the compounds have a sense of superiority and look down upon the people in the pleeblands. The new hierarchy is built at the same time. The pleeblands are an area that has no meaning other than buying and selling as well as crimes and dangers. The people in pleeblands have a sense of destruction and degeneration because they have lost their voices in this scientific world. Consultative capacity makes no sense to them. Only through buying and selling can they obtain their meaning in life.

Compared with the compounds, although the pleeblands are a social institutional space that opposes the natural environment, and Atwood also criticizes and denies this space, it is at least true and real whose ideology is more acceptable than the hypocritical compounds. The compound is an illusory space that is artificially isolated and full of unreality. It looks clean and tidy, which owns everything, such as the upper-level life and the safer living environment.

The highly educated geniuses who live in this place should have become human models and pursued higher moral standards and behavioral norms. However, through the monopoly of technology, they can control prices, gain profits, and obtain unrestricted material satisfaction in the market. They even can manipulate people in the pleeblands. The BlyssPluss Pill Crake created has three aims which can benefit people in the pleeblands, but it has the fourth function, “which would not be advertised. The BlyssPluss Pill would also act as a sure-fire one-time-does-it-all birth-control pill, for males and females alike, thus automatically lowering the population level. When people in compounds attempt to manipulate other groups of people, people being manipulated have been objectified and marginalized by scientific authority. People in pleeblands have been separated from science and high technology. They are only the target of the market and are considered the symbol of economic profits for biotechnological products. They are also objectified and marginalized images whose life and futures are decided according to the needs of the manipulators.

However, the manipulators, also the people in compounds, are more hypocritical than the pleeblands. Their desires are hidden behind the tidy and decent surface, which is hypocritical, greedy, cold, ruthless, and rigid. The value of people in the compound only can be decided by the level of popularization of their technologically produced products the benefits and profits. It seems impossible for people to not equate winning with being right. Driven by high economic profits, the development of science and biotechnology gradually crosses the line. For them, the compound is their castle, anywhere else in the world is just the experimental fields that have no relationship with them. When the compounds and pleeblands were built with the development of science and biotechnology, not only people in the pleeblands are objectified and marginalized but also the people in the compounds who separated themselves from nature and humanity. They are the kings and dukes in the castle who lost their identities as real human being and their ability to love, care and communicate.

Objectification and marginalization lead to the rebellion of the people being dominated. Some awakened people who attempt to fight against the compounds are doomed to be eliminated because on the one hand, they have been marginalized by science, on the other hand, what they did are against the requirements and interests of the development of science and biotechnology, and the secrets about the compounds cannot be uncovered. Therefore, Jimmy’s mother and Crake’s parents can only disappear for various strange reasons, such as treason and accidental death. The inflated desire for control, extreme insolence, and self-centralism are

the basic characteristics of the compounds that also reflect the features of science and biotechnology in this story. For the marginalized people, their misery ending is doomed by the political space of the compound where science and biotechnology dominate the social consciousness. People in the pleeblands, especially women, in this story are all the marginalized images and victims of science and biotechnology.

Conclusion

Different from the rapid development of modern science and technology, ethics and moral standards of science and technology are gradually being neglected. *Oryx and Crake* call on people to pay more attention to humanities, arts, and technological ethics. By analyzing the relationship between gender and science in this novel, this paper focuses on nature, women, and disadvantaged groups living at the bottom, and then reveals the process of gendered science violating the ethics of technology and marginalizing women and disadvantaged groups, nature and the Other, so that they become victims in the process of technological development and become objectified symbols. The conflict between people and technology in this story is a game between technology and ethics. When science violates technology ethics and is gendered, we should find the “Zero hour” and start again.

The apocalyptic scene depicted in *Oryx and Crake* has tried to warn readers to reflect on the moral responsibility and ecological care that human civilization should undertake to human beings and the natural environment, how to serve the common interests of all mankind, and how to find the sustainable way for science and technology development. As Nie Zhenzhao said, “Literature can enlighten and instruct us. Literary writing can provide examples of how we should make ethical choices when disaster strikes. When the disaster occurs, we face more choice challenges between ourselves and others, between public and private, between life and death, between happiness and pain, and we are bound to accept the test of ethical choice” (“Disaster Shock, Ethical Choice and Literary Narrative” 188). The development of human society requires the leading role of science and technology, but it is even more inseparable from the guiding role of the ethics of technology which can make the right ethical choice. All human activities that violate the laws of natural development will lead human beings into a morbid society. The ethical issues of modern technology are the shared responsibility and obligation of all mankind. We need to rationally handle various conflicts of interest, maximize the benefits of scientific and technological achievements to all human beings, and try our best to avoid the negative impact of improper use of them on the whole society. Only in this way can the development of modern science and technology be more

vigorous and benefit human beings under the guidance of the ethics of technology.

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