7 Representing Environmental Issues in Post-1990s Chinese Science Fiction

Technological Imaginary and Ecological Concerns[1]

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Introduction

While dealing with speculative science and hypothetical technological developments with imaginative concepts, post-1990s Chinese science fiction works are also seriously engaged with different sociological, political, and cultural issues in contemporary China. Among these issues, the severe environmental and ecological problems faced by human beings are frequently addressed in multiple "science-fictional" ways. Representative works that show strong ecological concerns include *Fire in the Earth* (*Dihuo* 地火, 2000), *Yuanyuan's Bubbles* (*Yuanyuan de feizaopao* 圓圓的肥皂泡, 2004), *Moonlight* (*Yueye* 月夜, 2016), and *Micro-Age* (*Wei Jiyuan* 微紀元, 2001) by Liu Cixin; *Other Lands* (*Yiyu* 異域, 1999) and *The Six Paths of All Living Creatures* (*Liudao Zhongsheng* 六道眾生, 2002) by He Xi, *The Smog Society* (*Mai* 霾, 2010), *The Fish of Lijiang* (*Lijiang de Yuermen* 麗江 的魚兒, 2006), and *Waste Tide* (*Huangchao* 荒潮, 2013) by Chen Qiufan; *The Rain Forest* (*Yulin* 雨林, 2007) and *Nest of Insects* (*Chongchao* 蟲巢, 2008) by Chi Hui. In these works, rampant pollution, water shortage, natural resources depletion, overpopulation, and electronic waste are realistically represented as causing energy crisis and ecological imbalance not only in China but throughout the world. The reexamination of eco-themed works in China is important, especially since the country is the world's leading greenhouse gas emitter (Lo 4).

Although Chinese sci-fi works have received increasing readership and scholarly attention, especially after Liu Cixin was granted the Hugo Award in 2015, there is limited research on eco-themed Chinese science fiction. Healey has suggested that previous analysis on eco- or green Chinese contemporary literature and studies of ecocriticism have mainly focused on realist literature based on the view that realism is the foundation of Chinese literature (8). However,

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"questions about nature and environmental issues" in science fiction "emerge most clearly" and it is one of the genres that has "most persistently and most daringly engaged environmental questions and their challenge to our vision of future" (Arnold et al. 1097).

According to Zapf, ecocriticism encompasses various dimensions (Handbook of Ecocriticism and Cultural Ecology 135). First, it is understood from the sociopolitical dimension in terms of its explicit or implicit environmental agendas. Ecocriticism has been defined as providing a critical response to environmental crisis. In addition, ecocriticism emphasizes the ontological connectedness of all living and nonliving things. It rejects the idea of nature and humankind as separate realms, which sees humans as unique and above other life forms. It argues for the inseparability of nature and culture, claiming that they are inextricably interwoven with each other. The ontological shift in rejecting human culture as separate from nature is linked to the epistemological change that human problems are a matter of nature's problems (Timothy 29). It is also about ethical reflection because the still-dominant anthropocentric assumptions need to be questioned. Ecocriticism in literary studies focuses on the complicated relationships between nature, humans, and nonhumans, as well as the constantly changing views on ecological issues represented in many literary texts. This chapter ~~sheds~~ light on the rich ecocritical philosophy and ethics imbedded in contemporary Chinese sci-fi works.

Environmental and ecological problems are usually viewed as manageable and controllable and largely remain a marginalized position in decision-making processes of human development. That is to say, discourses such as economic development or technological modernity are usually given priority over ecological preservation. However, in light of prominent technological advances, Chinese sci-fi writers tend to hold different attitudes toward technological triumph over ecological crisis. In their works, relations between nature, humans, and nonhumans are redefined so that imaginary solutions to environmental problems or alternative ways of being could be provided. This chapter first examines the technological ~~imaginary~~ in dealing with ecological problems and then looks at how these Chinese sci-fi authors reimagine and re-present relations among nature, humans, and nonhumans when addressing ecological issues and seeking environmental justice in their fantastical or speculative works. In light of ecocriticism, it asks how ideas of humanism as well as post-humanism are articulated in these works and how corresponding human/nonhuman conditions, images, and identities are creatively constructed. By answering these questions, this chapter discloses the agenda and politics of these Chinese literary representations of environmental issues and highlights the emerging post-humanism in post-1990s Chinese science fiction.

Technological Utopia in Liu Cixin's Eco-Themed Science Fiction

Liu Cixin is optimistic about the role played by technology in dealing with ecological crises. The imaginary technological advances solve water shortages

in *Yuanyuan's Bubble*.[2] Female protagonist Yuanyuan is born in Silk Road City in the northwest of China. The city is on the brink of disappearing due to drought and desertification. Her parents had come from Shanghai for the purpose of transforming the ~~northwest~~ through traditional means, such as aerial afforestation and raising water recycling efficiency by building large-scale water treatment plants, but have all failed (Yan). Since Yuanyuan was a little girl, she has been enraptured by soap bubbles. Inspired by them, she develops "FlySol", which is millions of gigantic bubbles that can retain moist air inside and float for thousands of kilometers. This technological innovation supports an engineering project to aerially divert water into western China, thus saving the city from being abandoned. Yuanyuan is representative of a new generation of scientists. On ~~one~~ hand, she is just like bubbles that are effervescent, easy to vanish with a pop, not rock solid; but on the other hand, she is portrayed as spontaneous, creative, and not confined to certain forms. Compared to the downsides of the "Three Gorges Dam Project" and the "South-to-North Water Diversion Project", Liu Cixin imagines an alternative solution without building giant dams or hydropower stations and causing human migration or the destruction of local ecosystems and culture (Li, Spaceship Earth and Technological Utopianism 23). The writer creates a technological utopia, holding onto the hope, optimism, and faith in technological fixes for ecological problems.

Fire in the Earth[3] touches upon realistic issues in contemporary China's coal industry such as dangerous working conditions and serious pollution. The protagonist, Liu Xin, is motivated to upgrade the mining industry and improve the working conditions of mine workers like his father who died from silicosis and others disabled by accidents. He invents the technology of coal gasification that can turn the mine itself into a massive gas generator. It is supposed to be safer and cleaner than traditional methods. However, the first trial of this new technology causes a devastating fire that burns for 18 years before it is finally extinguished. The writer gives detailed descriptions of ecological consequences caused by underground fires. The visualization of damaged ecosystems underlies a cautious attitude toward technological mediation of energy problems. Nevertheless, it is intriguing that the technology of gasified coal eventually matures and benefits the world at the end of the story, which shows the writer's optimistic belief in technological triumph.

2 The original Chinese work is published on *Science Fiction World* (*Kehuan Shijie* 科幻世界), no. 3, 2004, pp. 6–13; its English version is translated by Yan, Carmen Yiling and published on *Clarkeworld* in 2015.
3 The original Chinese work is published on *Science Fiction World* (*Kehuan Shijie* 科幻世界), no. 2, 2000, pp. 14–28; its English version is translated by Martinsen, Joel and included in *Hold Up the Sky* in 2020.

In Liu Cixin's *Moonlight*,[4] technology changed human history three times in a single night, but in the end, it changed nothing. The male protagonist receives the first call from himself 114 years ~~into~~ the future, hoping to overturn the fate of climate change. In order to prevent the disaster of global warming, he is given a new silicon technology that can turn soil into solar power. However, he knows from the second call from 2119 that this technology only leads to a more deteriorated environment, land siliconization, and consequentially droughts and massive floods. His future self provides another technology, ultra-deep drilling, to extract geoelectric energy from a hundred meters underground. From the third and last call from the year 2125, Shanghai is moved underground because the surface is full of radiation, geoelectricity has run out, and there is no new technology to save the world. Liu Cixin extrapolates from that to a future where human life and social development are at stake and only then is ecology put at the top of the agenda. This story is enlightening and effective in calling for action, and sci-fi as a special genre plays an important role in that call. Although the future imagined in this story evokes a sense of helplessness and hopelessness in the face of ecological disaster, the writer leaves room for optimism at the end as scientists eventually find a way to control nuclear fusion so that humanity can have an inexhaustible source of energy.

Earth's ecosystem is represented as having been destroyed after a catastrophe caused by an energy flash from the Sun in *The Micro-Age*.[5] Through genetic engineering and nanotechnology, humans are reduced to a height of about ten microns, no larger than a single body cell. Microscopic humans become the new rulers of the world 25,000 years from now. Unlike the Macro-age that is full of melancholy, the Micro-age is characterized by "lightness" and "weightlessness" and worries are proportionate to their extremely small size (Song, "After 1989" 12). In particular, there is no need to worry about dwindling resources since "one-trillionth of the Earth's ecological recourses could easily support a micro-human population of a trillion" (Nahm 648). The only survivor of the Macro-age humans, the Forerunner who returns to the Earth after a space odyssey searching in vain for another Earth (Song, Liu Cixin's *Three-Body Trilogy* 124), comes to realize that microscopic life makes it easier to coexist with nature. At the end of the story, he chooses to vaporize the stock of human genes and keep the micro-era untouched (Luo 246). His move echoes the concept of "posterity" as parenthood, proposed by Johns-Putra, by framing environmental obligations with parental love, care, and responsibility (16). It offers possible

4   The original Chinese work is included in Liu Cixin's anthology *The Third Time of Saving the Future World* (*Disanci Zhengjiu Weilai Shijie* 第三次拯救未來世界), Guilin: Guangxi Normal University Press in 2016; its English version is translated by Ken, Liu and included in *Broken Stars* in 2019.

5   The original Chinese work is published on *Science Fiction World* (*Kehuan Shijie* 科幻世界), no. 4, 2011, pp. 14–23; its English version is translated by Nahm, Holger and included in *The Wandering Earth* in 2013.

solutions for ecological degradation through a system of ethics based on inter-personal relationships and emotions of protectiveness and concern. Liu Cixin is optimistic about humanity's future. Intelligence, civilization, and a sort of "Dionysus spirit" are believed to be preserved by future offspring. Faced with the predicament of an ecological crisis, a paradise sanctioned by technology is boldly imagined. It promises a way out by fundamentally reducing consumption and production and establishing ecological ethics.

Liu Cixin's work echoes the official discourse of sustainable development to meet the needs of the present without compromising the ability of future generations to meet their needs (L. Tsai, Ecological Redistribution and Historical Sustainability 27). Through positive technological imaginaries, the writer proposes different kinds of possible solutions. Although the premise of clean-coal technology in *Fire in the Earth* may tackle the problem of pollution and improve poor working conditions in mining, it does not promise that fossil-fuel energy is adequate for the foreseeable future (Li, Spaceship Earth and Technological Utopianism 28). Moreover, the writer neither mentions the side effects of the aerial diversion project imagined in *Yuanyuan's Bubbles* in the South China Sea after its moist air is captured and shipped to the Northwest, nor did he mention in *Moonlight* if the future is saved once and for all by controlled nuclear fusion. In addition, the story of *Micro-Age* is not complicated enough in its engagement with moral and ethical issues regarding human distinction. As compensation for ecological sustainability, humanity evolves into "Micro-Age posthuman" species with no historical consciousness. The "micro-technology" is imagined to be capable of automatically imbuing humans with new ethics and morals. This optimism is criticized by Berlant as "cruel optimism" (2). In her opinion, technology becomes cruel when it draws active attachments. When humanity is attached to a technological fix, it should bear in mind that technology alone cannot promise a sustainable future.

"Technological Dystopia" in He Xi, Chen Qiufan, and Chi Hui's Eco-Themed Science Fiction

While writers like Liu Cixin holds onto faith in technological salvation, others like Chen Qiufan, He Xi, and Chi Hui are deeply concerned about technological mediation. *Other Lands*[6] by He Xi focuses on food crisis and *The Six Paths of All Living Creatures*[7] is about space saturation due to human overpopulation. "Ximai farm" is where the story "Other Lands" is located, where the time schedule is more than 40,000 times that of the normal world, but it collapses

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6 The original Chinese work *Yiyu* (異域) is published on *Science Fiction World* (*Kehuan Shijie* 科幻世界), no. 8, 1999, pp. 14–23, and is not yet translated into English.

7 The original Chinese work *Liudao zhongsheng* (六道眾生) is published on *Science Fiction World* (*Kehuan Shijie* 科幻世界), no. 3, 2000, pp. 2–21, and is not yet translated into English.

in the end since it nurtured giant monsters with higher intelligence than Homo sapiens; humanity is forced to face the sinister aspects of technology and, unlike Liu Cixin, there is no hope of counting on new technology to manage such a crisis. Scientific and technological advances are imagined as aggravating human's greedy absorption of nature that will eventually threaten the existence of human beings. He Xi offers another technological imagination to deal with overpopulation and the need for space in *The Six Paths of All Living Creatures*. Based on the hypothesis of Quantum Mechanics, the world is divided into six dimensions so that the Earth finds a way to sustain 60 billion people. Among 60 billion, only 2 people are born with the ability to travel across the 6 dimensions freely. One tries to take advantage of such ability to take over the world and becomes a god. The other is the male protagonist "He Xi". Xi in the end annihilates five newly created worlds because he knows that the setting of spatial segregation is unstable. He Xi's two stories are literary responses to global population pressure. Rapid increase in world population, overconsumption, and exploitation have put heavy demands on bio-resources and ecosystems. Scientists try their best to meet human needs with technological advances but technology after all does not correct the planet's incapacity to support insatiable human consumption, overpopulation, overwhelming desires, and now-obsessive demands. He Xi's work challenges the prevailing assumption promoted by Chinese modernization discourse on technology and science since the 1980s. Technology is not necessarily associated with progress, prosperity, and modernity. On the contrary, it may threaten people's well-being and bring about more damage to the ecosystem.

Before "smog" appeared as a buzzword in 2013, Chen Qiufan had produced *The Smog Society*[8] in 2010. The male protagonist Lao Sun, who works for an organization called Smog Society, discovers a positive correlation between air pollution and biological dangers and psychological harm. He notices that smog is dissolving the calcium in human bones so that in time people become afflicted with osteoporosis and rickets. More importantly, smog also appears to cause an increase in city residents' depression, although it is actually the other way around with depression causing the smog; the folk wisdom says, "fair and foul moods were both infectious" (K. Liu and Yan). The more children laugh, the higher the psychological score, and the thinner the smog, the better the air quality. The writer shows his concern over the negative impacts of technological and social development, particularly on the human body and psyche. *The Smog Society* is a prophecy of contemporary China's marked increase in air pollution and foretells the complexity of atmospheric governance. The Smog Society is eventually disbanded, and several of the organization's leaders disappeared with other core members "called in to talk" (K. Liu and Yan) about what they know.

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8   The original Chinese work is published on *New Illusion* (*Xin Huanjie* 新幻界), no. 1, 2010, pp.38–43; its English version is translated by Liu, Ken and Yan, Carmen, Yiling and published on *LIGHTSPEED* in 2015.

Another short story by Chen Qiufan, *The Fish of Lijiang*,[9] imagines the future ~~condition~~ where workers suffer insomnia, anxiety, arrhythmia, and metabolic dysfunction from endless work. The extrapolation critically reflects on the exploitation of both human labor and nature through future technologies. Human bodies are exhaustedly consumed. Time is manipulated: it flies for the poor in the developing world, it crawls for the rich in the developed world, and it stays still for those in charge. From an ecocritical perspective, nature is denatured, or in Marxist terms, nature is alienated (Hua 678). Li puts forth the term "manufactured landscapes" to refer to natural landscapes that have been deformed, destroyed, or devastated by human intervention (Manufactured Landscapes 443). "Lijiang is no longer the place I know" is repeated several times by the male protagonist, who also reminisces that it used to be a paradise to get away from industrial civilization, a symbol associated with natural beauty, relaxation, and romance. Ten years later, Naxi music is played by a robot orchestra; dogs, falcons, and fish are all robots; modern Lijiang relies on condensation control and scatter index standardization to artificially engineer a pristine sky; the Jade Dragon Snow Mountain acts as a giant screen (Chen, trans. K. Liu, "The Fish of Lijiang"). Chen's story probes real-life issues induced by technology. On the one hand, it transfigures the world beyond recognition. On the other hand, the world is dominated by technology where nature and humans turn to algorithms. The writer adopts the sci-fi genre to create a hyperreal zone where the fantastical and factual are blurred so as to capture the strangeness in everyday life (Y. Liu, "Sci-fi Writer or Prophet" 78). Office workers have evolved into pseudo devices, more efficient, operating faster than ever, and replaceable. They are exhausted and anxious just like fish struggling against the current to maintain their position. It is believed by the writer that facing China's accelerated transition to a technological culture, we should deeply rethink "our relationship to our bodies, to nature, to our roots, to our faith" (Y. Liu, Sci-fi Writer or Prophet 82).

Waste Tide[10] by Chen Qiufan is set on an island located off China's southeastern coast. Due to pollution, the island is scarcely inhabitable. Rapid economic development in local communities is at the expense of ecological damage and workers' health. The oppressed migrant workers start to revolt against the elite class. *The Man with Compound Eyes*[11] (2013) by Wu Mingyi also focuses on an island of waste. The plastic trash vortex forms a floating trash mountain that crashes on Taiwan's east coast (Wu, trans. Sterk, *The Man with the Compound Eyes* 241). The man with screen-like eyes is the product of techno-capitalism who has technologically mediated subjectivity to observe the world from multi-perspectives

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9 The original Chinese work is published on *Science Fiction World* (*Kehuan Shijie* 科幻世界), no. 6, 2006, pp. 34–40; its English version is translated by Liu, Ken and published on *Clarkeworld* in 2011.

10 The original Chinese work is published by Wuhan: Changjiang Literature & Art Press in 2013; its English version is translated by Liu, Ken and published by Tom Doherty in 2019.

11 The original Chinese work is published by Beijing: New Star Press in 2013; its English version is translated by Sterk, Darry and published by Pantheon in 2014.

of insects, trees, clouds, mountains, sea, and so on (Scruggs 54; Sterk, "The Apotheosis of Montage" 186). From the perspective of ~~nonhuman~~ and inorganic beings, the writer talks about people being oblivious to ecological issues (R. Tsai, "Speculating Extinction" 873), that the trash vortex would not magically disappear, and calls for new ecological ethics that reject human supremacy over nature (Prystash 510). Both novels can be interpreted as critiques of the failure to deal with recycling and waste disposal ~~and criticisms of~~ the consumerist culture in contemporary China.

   Chinese female writers also take part in technological ~~imaginary~~ in response to ecological crises. Technological dystopias are vividly presented in Chi Hui's *The Rain Forest*[12] and *Nest of Insects*.[13] *Nest of Insects* extrapolates the planet of Tantatula where men are trans-species hybrids with plants and completely attached to their sisters. This fiction is metaphorical in terms of human disruption of indigenous life and local ecosystems. With the aid of technological advances, humanity destroys the planet of Ziyang and trains dolphins but later kills them out of fear (Chi, Nest of Insects 63). They also think they are smart enough to conquer the Galaxy, enslaving the indigenous species, transforming the land, and taking away the resources from other planets as they always do. Through science-fictional imagination, the writer proposes a view that human species from Earth are just like well-protected children and have no idea about the adult world in outer space. At the end of the day, they must face the consequences of being self-centered, which is significantly exacerbated by technological advances. *The Rain Forest* more explicitly points to environmentalism and interspecies transformation, which is explored later in the chapter. Sci-fi writers like He Xi, Chen Qiufan, and Chi Hui calmly portray technological dystopia to warn of the possible consequences of overdependence on scientific technology. As Zapf (Literature as Cultural Ecology 289) suggests, dystopian stories are meant to be disturbing, because they hold a mirror to reflect the conditions that are likely to occur in our reality. They urge readers to find new possible paths for a beneficial coexistence of humankind and nature in the long term.

Humanist and Post-Humanist Discourses for Expressing Ecological Concerns

Both humanist and post-humanist discourses are articulated in these works through textual construction of diverse human/nonhuman images and identities. *Waste Tide* by Chen Qiufan and *The Rain Forest* by Chi Hui are the two most representative works.

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12 The original Chinese work is published on *Science Fiction World* (*Kehuan Shijie* 科幻世界), no. 12, 2008, pp. 54–63; its English version is translated by Song, Mingwei and Theodore, Huters and included in *The Reincarnated Giant* in 2018.
13 The original Chinese work *Chongchao* (蟲巢) is published on *Science Fiction World* (*Kehuan Shijie* 科幻世界), no. 12, 2008, pp. 54–63, and is not yet translated into English.

Silicon Isle in *Waste Tide* by Chen Qiufan is controlled by three clans, who are Silicon Isle natives and have migrant workers from less economically developed regions in China as cheap labor force to work for them. As humiliated, violated, and discarded "waste people", migrant workers work at workshops that are packed tightly and they shift through piles of e-waste dumps. The pollution has produced an abnormally high number of cancer cases and incidences of respiratory disease, kidney stones, and blood disorders among the inhabitants of Silicon Isle (K. Liu, Waste Tide 69). Life in Silicon Isle goes on as usual until a visit by Scott Brandle, a representative of the American company TerraGreen Recycling. Scott is an energy expert, high-level financial analyst, and environmental researcher who is employed by giant chaebols or multinational conglomerates. What Scott does not know about is "Project of Waste Tide", a brain-machine interface, which was used to develop a hallucinogenic weapon (Quinuclidinyl Benzilate or QNB) capable of mass deployment so that victories may be won on the battlefield without firing a shot; however, the victims of QNB suffer aftereffects and struggle with daily life. Aimed at repairing the muscarinic receptors damaged by QNB, Dr. Suzuki developed the "Suzuki Variant" by using gene-modified viruses that support Silicon-Bio Technology (SBT), which has been shown to be effective against brain aging and is a key step in humankind's quest for eternal life. Though it has to give up the fragile, aging-prone, mammalian bodies and evolve death-proof shells, SBT has enormous commercial value. Prosthesis waste infected with this highly infectious virus is bound for Silicon Isle by mistake. The female protagonist, Mimi, a 16-year-old migrant girl working in Silicon Isle, comes into contact with this prosthesis waste without knowing it. The virus is later triggered accidentally so that Mimi (Mimi 0) is transformed into a posthuman cyborg (Mimi 1), a human-machine hybrid. Mimi-mecha, as Mimi 1 comes to be known as, has super cybernetic powers but is still tethered to Mimi 0's body.

Waste Tide could be understood as an environmental allegory. It fundamentally challenges anthropocentrism. This conception comes from the term "Anthropocene" put forward by geologists. It refers to "the magnitude, variety and longevity of human-induced changes" (Barry and William 6), which have "registered on a vast geological time scale" (Alaimo 546). Anthropogenic practices have rendered Silicon Isle a highly polluted and scarcely inhabitable land. Besides air and water pollution, the soil becomes dangerously contaminated, salinized, and desertified by e-waste. It seriously questions the dogmatic assertion of human/nonhuman difference that underlies the status of humans as managers of nature (Timothy 31). In the name of modernity, civilization, and development, nature is devalued, dominated, overcome, and made to serve human needs and purposes. The writer is reminding readers that nature and culture are interconnected, irreducible, mutually entangled, and "every penny of economic worth ultimately draws on resources of the natural world" (Arnold et al. 1090). This work has ecocritical values that signify a kind of epistemological and ontological interconnectedness of the world. That is, the distinctions between culture and nature, human and nonhuman, organism and non-organism, individual and collective, subject and object are broken. The writer uses fictional

narratives to interrogate the problematic assumptions that favor competition, such as "the law of the jungle", "survival of the fittest", and "winner takes all". Human body, as part of nature, is also ecologically alienated by technology (Jiang 657). For instance, in this story, body parts such as eyes, hearts, and muscles can be replaced by prosthesis with SBT. This technology is revolutionary by expanding the boundary between the biological and the electronic. It has turned body part replacement into a commercialized business similar to mobile apps, with easy access, multiple choices, affordable prices, and good after-purchase services, including a 3-year warranty (K. Liu, Waste Tide 355). The writer is critical of commercialized and capitalist logic that is geared toward exploiting both people and the natural environment for profit. As Haraway suggests, it is the capitalistic imperative behind human domination of the planet by "the relocation of peoples, plants, and animals" (*Staying with the Trouble* 48).

Because of global capitalism, the discussion of environmental degradation and social injustice is deeply interlinked in *Waste Tide*. It reveals the hidden fact that not everyone is equally responsible for ecological disruption. The novel puts questioning intra-human inequality on the agenda. There are multilayered discriminations against Mimi. She is a female repressed by a patriarchal system. She is a waste girl, representing those who are stratified as low class and socially marginalized and exploited by the privileged people at the top of the social pyramid. She is a migrant waste girl in Silicon Isle of China, a developing country that is ecologically and socioeconomically deprived because its natural resources have been stripped, and local ecosystems degenerated to sustain the developed parts of the world (Yang 110). In Chen's near-future extrapolation, people from developing countries are objects in the trials of SBT. They receive a few dollars or free breakfast but suffer unknown side effects, the risk of a lengthy incubation period, and a high probability of dying from complications (K. Liu, *Waste Tide* 208). Prejudice and inequality are practiced in a more subtle and hypocritical manner in the Global North countries where such ideas as freedom, democracy, and equality are preached. For instance, "those who couldn't afford to implant enhanced enzymes couldn't buy special foods and beverages at supermarkets" in America (K. Liu, *Waste Tide* 218-219). In *Waste Tide*, ecological redemption is alongside social revolution of subalterns, especially subaltern women.

The text is normalized by traditional humanistic thinking that human species have evolved with emotions such as pity, sympathy, shame, fairness, and morality, which helps humanity suppress various instincts of primates. Selfishness, incestuous sexual desires, and brutal competition are substituted by bonds of clan identity and group harmony; cooperation and solidarity overcome conflicts. By adopting a dystopian form, Chen's novel offers a strong attack on blind belief in technology that ruins such foundations. The dystopian scenarios portrayed in *Waste Tide* appear as an alternative discourse to the official rhetoric of building an ecologically friendly civilization and a beautiful China, and interrogation of the fast-paced process of pursuing modernity at the expense of ecological destruction. Parrinder suggests that the dystopian form is needed to "expose the horrifying possibilities which have been concealed and will continue to be

concealed precisely in capitalist progress" (57–8). The dystopian scenes of ecological catastrophe amplify the dark side behind the myth of China's developmentalism. Only through the representation of possibly the worst future scenarios can the genre call for radical changes and departures of the old way of thinking and acting to forge new ecological ethics. Although with the superpower of a technologically mediated cyborg, the waste people defeat their oppressors, the same cyborg became an uncontrollable totalitarian evil by the end of the story. This shows the writer's skeptical attitude toward technological salvation, especially when artificial intelligence or cyborgs gain consciousness.

At the climax of the story, the waste people under the leadership of Mimi-mecha cut off the network and bring a furious storm. Natives are submerged by floods and about to reap the karma of exploiting waste people and nature, when Mimi-mecha calls off the revenge because she wants to show that waste people are not polluting, wasteful evil creatures. The setting is rife with humanism that valorizes the very core values of human sympathy, which after all transcends hatred. Another example of compassion is that although Mimi is circumscribed by the label of waste girl, and must endure insults, looks of contempt, and even abuse from those in charge, she still saves the life of the son of one of her abusers who had put her life at risk through the "oil fire" ritual to save him. She did so because she grew up with the idea "to be kind because whatever we did, the heavens were watching" (K. Liu, *Waste Tide* 168). In the epilogue, TerraGreen Recycling signs an agreement with the Silicon Isle government to construct a recycling industrial park and the other two shareholders promote modern management practices and free movement of labor as well as better working conditions and social safety nets. The ending is to a large extent also compromised by humanistic values.

Chi Hui's short story *The Rain Forest* depicts an apocalyptic world taken over by nanostructural plants. Nanostructural plants are a merging of plants and nanostructures. They are explosive mutations, which acquire higher intelligence that cannot be acquired by neither human beings nor animals and they are "extremely powerful, smart… and need living space" (Song and Theodore 357). A war ensues between nanostructural plants and human species collaborating with animals, known as the gray tide war. Nanostructual plants catch human beings, including female protagonist Ye Qi, and modify them. Plants in this work are imagined as the most ancient intelligent life-form on the Earth and they share a single memory. The modification leads to co-sharing of memory of plants with modified beings; hence, Ye discovers the secret to defeat the bald spots in the rain forest caused by a viral fungus. Unfortunately, she turns into an iron tree, but she spreads the word to her mate Haer, a nanostructural toad. As expected, humankind will defeat the plants and regain the territory and power. Nevertheless, as the writer puts it, survival on a planet without plants is a war without victors. The name of the war, gray tide, is symbolic of the world having been greenish but in danger of being covered in a grayish tide like the color of metallic sheen unique to nanostructures, suggesting the environmental damage of technological misuse.

This writing is unconventional in several respects. Nature is usually associated with serene, temperate, nurturing as in the trope of motherland in common

understanding, at least in Chinese cultural context, but Chi Hui portrays nature as wild, conscious, "without pity and without weakness, much less compassion" (Song and Theodore 362). With technological intervention, the old notion of what is nature has become questionable as in "wolves eat sheep, sheep eat grass, but now the grass wants to eat wolves" (Song and Theodore 362). The work displays changing perceptions to the normative configuration of humans as the king of creation and encourages us to reconceptualize the notion of nature as it is not as "natural" as it asserts to be. "Nature" is socially constructed and also a fluid, temporal, open-to-change concept. It is no longer simply the object to be exploited and manipulated by human beings in *The Rain Forest*; it is also an active agent. By prioritizing a critical assessment of traditional humanist values, the story teases out the philosophical thinking about "what it means to be human and how humans relate to the natural world". Interspecies conglomerations, between organic (human, plants, animals) and inorganic, are full of agency as only human subjects used to inhabit. For example, the rainforest is a single intelligence (Song and Theodore 360). Entanglement between human and nonhuman species in this work interrogates the "self/other" binary. It challenges old verities of humanism that set human beings apart and above the world. Gomel refers to ideological prejudice of human superiority as "speciesism", akin to sexism, heterosexualism, racism, classism, Eurocentrism, and other repressed forms of "–ism" (343). In this sense, this writing is both ~~anti speciesism~~ and ~~post anthropocentricism~~. As Braidotti suggests, *bios*, life as the prerogative of humans, should be replaced by *Zoe*, the life of animals and nonhuman entities (The Critical Posthumanities 381). She calls for interspecies alliances between human and nonhuman agents. Haraway in *The companion species manifesto: Dogs, people, and significant otherness* proposed "Companion species" to include "such organic beings as rice, bees, tulips, and intestinal flora, all of whom make life for humans what it is" (15). In *The Rain Forest,* a paradigm of Anthropos centrality is shifted to a sort of "Zoe-centered" system of species egalitarianism, which valorizes the life of any kind not just human life by giving nonhuman life agency. This work has great discursive potential for ecological justice and democracy by destabilizing and interrupting the dominant assumptions of anthropocentrism based on essentialization, "human exceptionalism", and hierarchical binarism (Braidotti, "Transversal Posthumanities" 1181). The writer moves toward new ecological ethics that revise relationships between humans and nonhumans, subject and object, and the visible and the invisible (L. Tsai, "Ecological Redistribution and Historical Sustainability" 30). The new ecological ethics support interspecies harmony and reciprocity.

Conclusion

To conclude, similar to the environmental discourses embedded in Euro-American tradition of nature writing, post-1990s Chinese eco-themed sci-fi works make a special literary contribution to environment discourses by imaging alternative way of dealing with pollution, waste, overpopulation, unbridled

consumption and production, as well as natural resource exhaustion. Writers adopt different attitudes toward technology but collectively offer critiques of ecologically unsustainable mindset and practices. Writers like Liu Cixin are optimistic about technological mediation, counting on clean-energy or gene engineering technology to address ecological crises such as fossil-fuel energy depletion, water shortage, climate change, and environmental destruction. Other writers reflect on technological triumph over environmental and ecological problems by creating dystopian worlds. As discussed, He Xi's works focus on the understated problem of overpopulation and people's dependence on a technological fix. Chen Qiufan's "Fish in Lijiang" portrays technology's exploitation of human nature. Ecological degradation and social injustice are deeply linked in Chen's *Waste Tide*. He offers critical reflection on global capitalism and the myth of development and modernity. It is global capitalism destabilizing Earth and increasing human inequality and injustice on a planetary scale. This novel transcends the nature-culture demarcation by demonstrating that ecological disruptions are actually anthropogenic. Although a posthuman cyborg is imagined, *Waste Tide* to some extent fails to take a thorough post-humanistic turn. This work is rife with humanistic thinking ~~and hope of~~ technological salvation for ecological and social injustice. Chi Hui's *Rainforest* is subversive in terms of philosophical questioning of humanism. Posthuman agents in this work disregard the common understanding of separating human from physical environment and overcome the "self/other" binary. In the context of imaginative and allegorical sci-fi genre, Chi reconstructs what being human really means. This chapter draws on the perspective of ecocriticism that includes reconfigured environmental philosophy, ethics, and aesthetics. Post-1990s Chinese eco-themed sci-fi workers are imaged to provide ~~an alternative way~~ of living to the contemporary ecologically unsustainable and unjust society. They play critical roles in rethinking and reimagining the future of humanity and its relationship with the world.

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