

Decentring Anthropocentric Narcissism: The Novum and the EcoGothic in Cixin Liu's *Three-Body Problem* and *Ball Lightning*

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Abstract

This article examines Cixin Liu's *The Three-Body Problem* (2006) and *Ball Lightning* (2004) using the framework of Liu's essay "Beyond Narcissism: What Science Fiction Can Offer Literature," the concept of the novum from science fiction, and the idea of the EcoGothic. Liu explains that the universe is vast, and in the 13.2 billion years of history, humans have only been present for a small percentage of that time. Because of this, he calls for literature to challenge anthropocentric thought. This article relies on close reading and an examination of intertextuality, especially focusing on Rachel Carson's *Silent Spring* and Peter Singer's *Animal Liberation*. Liu uses this transcultural intertextual dialogue to problematize Western environmentalist ideologies in *The Three-Body Problem* and warn of possible radicalization. In *Ball Lightning*, Liu uses the protagonist Chen to reconcile these ideologies in a way that resists extremism. This transcultural intertextual dialogue illustrates the transformational power of art to bridge different cultural and philosophical ideologies.

Keywords: Anthropocentrism, Cixin Liu, Science Fiction, EcoGothic, Intertextuality, Novum

Introduction

Cixin Liu's novel *The Three-Body Problem* (2006) was translated into English in 2014 by Ken Liu and Joel Martinsen. The book is a best seller in both China and the United States¹. It is widely acclaimed by critics and has won many awards including Liu being the first Asian author to win the 2015 Hugo Award for best novel (Kile 2017: 111). Reviewers and critics praise Liu's ability to build new worlds while criticizing his lack of character development. I argue that Liu has purposefully limited character development in his novels in order to challenge anthropocentrism. Furthermore, these novels problematize anti-anthropocentric ideologies from Western environmentalists such as Rachel Carson and Peter Singer, showing that they can lead to radicalization in some cases. This transcultural intertextual dialogue gives Liu the space to

negotiate differences in culture and philosophy, illustrating the transformative power of art to bridge these gaps. This paper examines *The Three-Body Problem* and *Ball Lightning* through the lens of Liu's essay "Beyond Narcissism: What Science Fiction Can Offer Literature," the concept of novum² in science fiction as defined by Darko Suvin, and the idea of the EcoGothic as outlined by William Hughes and Andrew Smith in the book *Ecogothic*.

Throughout his oeuvre, Liu often focuses on challenging anthropocentrism by using extreme situations, environmental or man-made. Perhaps the most powerful aspect of an EcoGothic text is that it forces the reader to question their role in the hierarchy of the natural world. In "Introduction: The EcoGothic in the Long Nineteenth Century," David Del Principe argues that an "EcoGothic approach" focuses on "taking a non-anthropocentric position to reconsider the role that the environment, species, and nonhumans play in the construction of monstrosity and fear" (2014: 1). Smith and Hughes similarly argue that the EcoGothic should "dislocate[e] our anthropocentric assumptions" (2014: 12). A complete decentring of the human self is an impossible task. However, EcoGothic texts often attempt to shock the reader into glimpses of a world beyond an anthropocentric perspective. This article examines EcoGothic themes such as environmental destruction, terror, and the uncanny in *The Three-Body Problem* and *Ball Lightning* in order to better understand Liu's attempts at decentring anthropocentrism.

Liu's work focuses on science, technology, and a continued push towards understanding the non-human world. In "Beyond Narcissism: What Science Fiction Can Offer Literature," Liu argues that literature did not become a "study of people" until the "Renaissance" and that many non-Western cultures elevate the status of the non-human in literature (2013: 27). According to Liu, "if one were to see all of time – from the birth of the universe to now – as a single year, humanity would emerge in the very last second" (2013: 22). From this point of view, we "become nothing more than irrelevant bacteria on a grain of sand in a remote corner of the universe" (2013: 27). Because of this, he argues that focusing literature primarily on humanity is to engage in "intense anthropocentric narcissism" (2013: 22). However, science fiction does not have many of the constraints of more traditional literature because the subject matter is not limited to humanity or Earth. As a result, Liu claims, science fiction is uniquely situated to challenge anthropocentrism due to its ability to introduce elements that are currently beyond human recognition.

Amitav Ghosh's book *The Great Derangement: Climate Change and the Unthinkable* discusses similar themes as Liu's "Beyond Narcissism" in relation to the importance of the non-human in literature. Early in his book, Ghosh outlines how novels that focus on climate change are often "relegate[d]...to the genre of science fiction" (Ghosh 2017: 7). In a similar manner as Liu, he argues that pre-Renaissance literature, as well as literature from many non-Western cultures, often focus more on the non-human than Western texts (2017: 30). He further explains that it is important to "confront another of the uncanny effects of the Anthropocene: it was in exactly the period which human activity was changing the Earth's atmosphere that the literary imagination became radically centered on the human" (2017: 66). Ghosh's book, in a manner similar to Liu's essay, calls for more focus on scientific challenges like climate change and on the nonhuman.

The Great Derangement also outlines the importance of the uncanny in works that confront anthropocentrism. Ghosh claims that over the last decade an "interest in the non-human has been burgeoning in the humanities" creating an "uncanniness" in "recogniz[ing] something we had turned away from" (2017: 30). He further explains that "the environmental uncanny is not the same as the uncanniness of the supernatural; it is different precisely because it pertains to non-human forces and beings" (2017: 32). In studying these moments that feel both familiar and unfamiliar, it forces the reader to confront uncomfortable truths about the role of humans in environmental destruction. Liu's characters often experience uncanny moments that make them aware of their role in this destruction. These moments frequently serve as a catalyst for environmental extremism.

Another important concept for understanding Liu's work towards disruption of anthropocentric ideas is Suvin's concept of the novum. Suvin defines the novum as "a device or machine that is entirely new" that alters the narrative and encourages critical reflection (Kile 2017: 118). He argues that the power of science fiction is that it creates a "cognitive estrangement" (Suvin 1972: 20). Because science fiction creates new worlds using realistic scientific laws, the reader identifies with the situation. However, when the novum is introduced, the reader feels dislocated and estranged from the unfamiliar situation. It is these moments of disorientation that produce opportunities for critical reflection. In an EcoGothic text, the novum often encourages the reader to question anthropocentrism. In *The Three-Body Problem* and *Ball Lightning*, the novum acts as a catalyst for characters to challenge their previous anthropocentric framework, and in many cases, to create new radical ideologies that challenge anthropocentrism. This article will examine

how Liu uses EcoGothic themes such as environmental destruction and the uncanny, along with the concept of the novum from science fiction, to problematize anthropocentric thought.

The first section of this article focuses on a close reading of *The Three-Body Problem* and its use of intertextual dialogue with Rachel Carson and Peter Singer to highlight Liu's attempt to decentre anthropocentrism. It examines how the characters experience personal trauma and environmental horror, and then, through exposure to Western environmentalist thought, become radicalized. I argue that the novel is an attempt to highlight the gap between ideology and its application in the real world. The radicalization of the characters in *The Three-Body Problem* serves as a warning that any belief, no matter how benevolent, can become destructive when coupled with trauma and extremism. The second section, entitled *Ball Lightning*, further investigates how Liu uses EcoGothic themes to interrogate anthropocentrism. I argue that the protagonist of *Ball Lightning*, Chen, differs from the characters in *The Three-Body Problem* because despite experiencing environmental horror and personal trauma, because he has a more artistic perspective to the world, he ultimately resists radicalization and serves as a hopeful counter example to the other characters. This revisionist approach represents a reconciliation with the ideas from Western environmentalists, showing that anti-anthropocentric ideas are able to resist radicalization.

The Three-Body Problem

Liu often posits disturbing scenarios involving environmental horror where his characters experience uncanny moments and become despondent about humanity. In *The Three-Body Problem*, characters like Ye Wenjie and Mike Evans witness uncanny incidents related to this environmental destruction. Ye transposes images of a tree she has cut down with her father's dead body, connecting the unfamiliar, the tree, with the familiar, her father's body. Mike Evans is haunted by the images of eyes from the animals that died in the oil spill, which transform the familiarity of the world into an eerie unfamiliarity. After these incidents, they read texts from Western environmentalists like Rachel Carson and Peter Singer that challenge their previous anthropocentric worldview. The environmental horror, uncanny incident, and exposure to Western environmentalist thought prime these figures for radicalization. This radicalization leads them to sabotage scientists, murder individuals, create radicalized groups like the Earth Trisolarist

Organization (ETO), and betray humanity through their advocating for an alien race, the Trisolarans, to annihilate all the humans on Earth. In this section, I will argue that in *The Three-Body Problem* Liu uses haunting vignettes, uncanny experiences, intertextuality, and the use of a novum to challenge anthropocentrism and question the ethics of human exploitation of the natural world. Because the radicalization presented in the text leads to an attempted genocide of humanity, it also highlights the dangers of unchecked extremist ideologies. Moreover, Liu initiates a transcultural intertextual dialogue with Carson and Singer to examine the space between Western environmental thought as ideologies and enacting these ideologies in a real-world context. He clearly delineates a gap between thought and action that has profound ethical implications.

The first part of *The Three-Body Problem*, and its second chapter, are both named after Carson's book *Silent Spring*. Liu uses this intertextual dialogue to highlight the ideological poisoning of the Cultural Revolution in China, but this intertextuality also corresponds with the environmental degradation that is happening at the hands of the Production and Construction Corps. Ye, who is taking part in a deforestation project, experiences shock as she describes the "madness...like a swarm of steel locusts, and after they passed, only stumps were left" (2014: 25). She mourns the fact that many of the trees existed for hundreds of years and now they have been swiftly erased. The powerful image of "steel locusts" emphasizes the detrimental nature of machines that create a perceived distance between humanity and the resulting damage to the environment. It is only after this part of the forest is cleared that she comes to this painful realization. Then, in an allusion to the town in the "A Fable for Tomorrow" from *Silent Spring*, Ye's colleague Bai Mulin depicts a memory of a previous visit to the region when it was a "fertile place" where a cook went out to a stream with a "rolling pin," struck the water a "few times," and pulled out a "few big fish" (2014: 26). Now, that same area is "just dead, muddy water in a ditch" (2014: 26). Ye observes that the "rotting leaves made the water appear crimson, like blood" (2014: 26). The deforestation led to a fertile region becoming devoid of life. The "leaves" that are "rotting" become a powerful image of the environmental devastation that leads to both symbolic and literal blood and death.

After witnessing this dystopian scene, Bai remarks that he is not sure if the Production and Construction Corps is engaging in "construction or destruction" (2014: 26). This leads first Bai, then Ye to begin questioning the authority of both the Production and Construction Corps and the

leaders of the Cultural Revolution. After reading *Silent Spring*, Bai shares that he is inspired to write a letter to the leaders of the Production and Construction Corps protesting this environmental devastation. However, as his hands are too shaky from using a chainsaw all day, Ye offers to write the letter for him (2014: 27). As Ye transcribes Bai's letter, she internalizes the ideology from *Silent Spring* through Bai. This internalization allows her to challenge the binary of humanity and nature and to see "that, from Nature's perspective," both pesticide use, from *Silent Spring*, and the deforestation she is witnessing are "destructive to [the] world" (2014: 27). Therefore, she not only starts viewing these actions as "evil," but also begins questioning "how many other acts of humankind that had seemed normal or even righteous were, in reality, evil?" (2014: 27). Ye decides that humanity is hopeless without intervention from an alien civilization. As the narrator explains, "four decades later, in her last moments," reading Carson "shook Ye to the core" (2014: 27). This epiphany awakens Ye to the dark nature of humanity, and the need to do anything in her power to stop human destruction.

In the introduction to *Ecogothic*, Smith and Hughes analyze the ideological segmentation of humanity in "industrial capitalism" using John Ruskin's *The Stones of Venice* and the "horror" of the physical fragmentation of Victor Frankenstein's creature in Mary Shelley's *Frankenstein* (2013: 2). They argue that the concept of nature changes dramatically from Wordsworth's pastoral that "extols a life free from the dictates of capitalism" to Ruskin's labourers who are "broken into small fragments and crumbs of life" (2013: 2). These figurative "fragments" of men who are separated from nature by capitalism become monstrous in *Frankenstein*. Smith and Hughes argue that "the creature's function is to challenge what is meant by nature and to erode Victor Frankenstein's sense that nature represents a transcendent category of experience" (2013: 2). In a similar way, in *The Three-Body Problem*, Ye's experience of deforestation by the Production and Construction Corps creates a sense of alienation separating humanity from nature through hierarchy, ideology, and bureaucracy. This separation from nature and resulting alienation unsettles Ye's previous understanding of the natural world – that it exists primarily for humans to exploit. She then witnesses the horror of physical fragmentation during an experience of the uncanny as she transposes images of a tree she has cut down with her father's dead body. The familiarity of his body is made eerie through this haunting image. This moment challenges the way that she views nature and humanity leading to her eventual radicalization.

In the same way that Frankenstein stands back in horror at the creation of his creature, Ye stands back in horror at her role in deforestation. Ye describes the felling of a large tree, a Dahurian larch, and likens it to death:

[S]he picked up her ax and saw and began to clear the branches from the trunk...she felt as though she were cleaning the corpse of a giant. Sometimes she even imagined the giant was her father...when she cleaned her father's dead body in the mortuary...the splits and cracks in the larch bark seemed to turn into old scars and new wounds covering her father. (Liu 2014: 23)

The fusion of tragic events in Ye's life, the felling of these ancient trees and the loss of her father, creates a supernatural uncanny moment. She transposes the tree and her father creating "new wounds" on her father's body that appear despite him being dead. Ye begins to recognize the "madness" of the deforestation at her own hands (2014: 23). This supernatural incident magnifies the emotional power of the scene since it forces her to relive the traumatic moments from her past. As outlined by Smith and Hughes, from an EcoGothic perspective, when Ye views her father and the Dahurian larch in a similar manner as Frankenstein's creature, it shocks her and "dislocates" her "anthropocentric assumptions" (2014: 12). She is able to see past the artificial separation between humanity and nature and realize the cruelty of her actions.

Ye's internalization of *Silent Spring* leads to a new awareness of the nature/human binary and the realization that humans are privileged because of their ability to destroy the natural world. Because of her experience of horror at the environmental destruction, the uncanny aspect of the event, and the influence of *Silent Spring*, when the novum of alien communication technology is introduced, Ye is primed for radicalization. When the opportunity to contact an alien race – the Trisolarans – occurs, she decides to turn against humanity, and calls for genocide. She contacts the aliens, saying "Come here! I will help you conquer this world. Our civilization is no longer capable of solving its own problems. We need your force to intervene" (2014: 276). The interaction with extraterrestrial communication technology transforms Ye from a mournful and despondent person into a genocidal radical. This radicalization leads to her killing her husband and the scientist Lei Zhicheng to maintain the secrecy of her contact with the Trisolarans. As she kills them, Ye describes feeling "calm"; afterwards she didn't "feel anything," as she "knew the entire human race would pay an unprecedented price for this goal" (2014: 287). At this pivotal moment, she becomes numb, without human emotion, and in a sense, inhuman. Liu uses intertextual dialogue

to highlight the gap between Western environmentalist thought and its radicalization. Ye attempts to justify the genocide of humanity because she believes it will help Earth recover from human destruction. Of course, this fails to take into consideration that the Trisolarians may be just as destructive to the natural world.

Another character that has a similar uncanny experience that leads to radicalization against humanity is Evans, the son of a billionaire oil executive. His radicalization begins as a child when he witnesses the aftermath of a “thirty-thousand-ton oil tanker from [his] father’s company [run] aground...[with] more than twenty thousand tons of crude oil spilled in the ocean” (2014: 306). The scene Evans portrays is post-apocalyptic; he depicts it as “hellish” and like “the end of the world” (2014: 306). In the same way that Ye experiences horror in the part she played in deforestation, and Frankenstein experiences horror at his creature, Evans experiences horror at the role his father played in creating this dystopian scene. This moment of horror allows Evans to see the segmentation of humanity from nature in the form of supernatural disembodied eyes. As Evans explains, “[t]he sea was black, and the waves, under the sticky, thick film of oil, were smooth and weak...[the birds] struggled in the sticky oil, looking like black statues made out of asphalt, only their eyes proving that they were still alive” (2014: 306). The terror of this natural scene becomes uncanny as “the eyes” of the birds “haunt [his] dreams until this day” (2014: 306). Evans experiences environmental horror, the dystopian result, and an uncanny moment with eyes haunting him that lead him to question the ethics of humanity and modern industrial development.

After witnessing this dystopic scene, Evans spends many years travelling around the world trying to save individual animal species to atone for the sins of his father. These travels bring him to China, to the same region as Ye. He has a moment of hope, as he thinks that he has saved a “subspecies of the northwestern brown swallow,” but that hope is quickly dashed because of the deforestation by Ye and the Production and Construction Corps (2014: 309). This devastation causes Evans to become radicalized against humanity; once again, he describes being haunted by the eyes of “the drowned birds” that “always followed” him “and determined [his] life” (2014: 307). This supernatural moment, paired with his experiencing environmental horror at the hands of the Production and Construction Corps and his exposure to environmentalist literature, primes Evans for radicalization.

In this case, Evans is guided by Singer's *Animal Liberation* and is inspired to ask, "Why does one have to save people to be a hero? Why is saving other species considered insignificant?" (Liu 2014: 305). Evans then creates an ideology predicated on the belief that "[s]aving a species of bird or insect is no different from saving humankind. 'All lives are equal' is the basic tenet of Pan-Species Communism...It's an ideology I invented. Or maybe you can call it a faith. Its core belief is that all species on Earth are created equal"³ (2014: 307). Later in *The Three-Body Problem*, once the novum appears in the form of technology from the Trisolarans, these philosophies transform into religious beliefs that gain many followers, and lead to the radicalization of these groups. Evans begins leading a group called the Adventists with the goal of eliminating humanity. He argues that "The human race is an evil species. Human civilization has committed unforgivable crimes against the Earth and must be punished" (2014: 253). The Adventists create a motto based on this ideology saying, "We don't know what extraterrestrial civilization is like, but we know humanity" (2014: 318). In a similar manner as Ye's radicalization, Evans witnesses environmental horror, experiences an uncanny moment, reads environmentalist literature, and then is radicalized with the introduction of the novum. Liu's intertextual dialogue with Peter Singer continues to highlight the gap between environmentalist ideology and the extreme form of violence it provokes. In this case, the radicalization of Evans leads to the creation of a new religion that advocates for genocide. However, it is important to note that Liu is not condemning Western environmentalism; instead, he is warning about the possibility of radicalization and fundamentalism when that thought is applied in moments of crisis.

Many of the Adventists have similar experiences as Evans. They are despondent with humanity, and when the novum is introduced, they turn towards radicalism and genocide. For example, Rafael from Israel becomes disenchanted with humanity from the intractability of the Israeli-Palestinian conflict. He outlines losing "hope in the human race," calling humans "an evil species" (2014: 253). Because of this, he turns into an "extremist" who wants to bring the Trisolarans to Earth for the "destruction of all humankind" (2014: 253). Rafael and the other Adventists decide to follow Evans because they experience a traumatic event that awakens them to human atrocities. Their despondence makes them receptive to Pan-Species Communism. While the story does not indicate that minor characters like Rafael have been exposed to environmentalist literature, they are exposed to Adventist ideology inspired by Singer and the like. The story also

does not indicate if Rafael has an uncanny experience; nevertheless, it is not difficult to imagine the tragedy of the Israeli-Palestinian conflict as a haunting experience for him.

Another minor character, who is only identified as an author, develops a similar perspective as Ye, Evans, and Rafael. As he says, “[t]he human race is hideous. I’ve spent the first half of my life unveiling this ugliness with the scalpel of literature, but now I’m even sick of the work of dissection. I yearn for Trisolaran civilization to bring real beauty to this world” (2014: 229). While this author echoes similar thoughts as the other characters, it is possible to view this author’s thinking as representative of Liu’s as well. When we view this book through the lens of his essay “Beyond Narcissism,” it is clear that Liu is wrestling with the same ideas as his characters. The Trisolarans serve as Liu’s attempt to “describe a morally void universe made up of countless civilizations” (2013: 30). In the other two books in *The Three-Body Problem* trilogy, *Dark Forest* and *Death’s End*, Liu continues to illustrate how small humanity is in comparison to the universe. While these books do not completely decentre anthropocentrism, they challenge anthropocentric thought from multiple perspectives. The radicalization of characters and groups throughout these stories problematizes (anti-)anthropocentric ideologies that are reconciled in *Ball Lightning*.

The place where Ye finally decides to turn against humanity, Radar Peak, is emblematic of human destruction. When the antenna was extended, “[a]nimals bec[a]me noisy and anxious, flocks of birds erupted from the woods, and people suffered nausea and dizziness.” (2014: 29). People in the area “lose their hair” and “birds drop out of the sky” (2014: 48). The narrator describes that “[p]atches of bare earth grew daily, as though those parts of the Greater Khingan Mountains had had their skin torn off” (2014: 269). This powerful moment of environmental destruction ends with personification that indicates Ye’s shift in ideology. As a witness to the environmental horror, watching people grow ill and animals dying, and personifying the mountains as someone having their “skin torn off,” her perspective shifts from a more human-centric lens to her seeing the natural world through the perspective of the mountains. It is a painful realization, which leads Ye to say that “humans were insignificant” and that the Earth-Trisolaris Organization (ETO) should “eliminate human tyranny!” (2014: 251). From the top of the mountains, it is as if she sees humanity from the perspective of an outside observer. As a result, she calls for the Trisolarans to eliminate all human life, including her own.

The Three-Body Problem encourages the reader to question anthropocentrism, and yet at the same time, it problematizes anti-anthropocentric ideologies as well. Liu uses extreme situations, environmental horror, and uncanny moments to make the workings of anthropocentrism visible. However, the radicalization of those characters also suggests that anti-anthropocentric ideologies need to be examined thoroughly. *The Three-Body Problem* presents the idea that anthropocentrism often results in destruction and cruelty, and yet anti-anthropocentric ideologies may also be problematic. Ye, Evans, and many minor characters become anti-human, attempting the genocide of humanity. The next text, *Ball Lightning*, provides a counter example through the protagonist Chen to show how a new way forward might emerge.

Ball Lightning

In the introduction to *Ecogothic*, Smith and Hughes argue that Frankenstein represents the “dystopian aftermath...of a Romantic idealism” that “casts a dark shadow” on the “Wordsworthian model of nature” (2014: 2). This mixture of hope, fear, dislocation, and disembodiment is ever present in Liu’s *Ball Lightning*. In this section, I argue that Liu examines EcoGothic themes such as the uncanny, environmental horror, dislocation, and disorientation in a manner similar to *The Three-Body Problem*. However, *Ball Lightning* differs from *The Three-Body Problem* because the protagonist Chen resists radicalization and finds hope in the midst of devastation. In this sense, *Ball Lightning* serves as an answer to the questions raised in *The Three-Body Problem* about radicalization. Liu clearly demonstrates that environmentalism can move from ideology to activism without radicalization. However, the radicalization of another character, Lin Yun, serves as a warning that radicalization is still an ever-present danger.

The opening pages of *Ball Lightning* show Chen experiencing a sublime aspect of the natural world, a storm that envelops his house:

Electric blue bursts froze the rain into solid drops for an instant, forming dense strands of glittering crystal beads suspended between heaven and Earth. A thought struck me: the world would be a fascinating place if that instant were sustained. You could walk through streets hung with crystal, surrounded on all sides by the sounds of chimes. (Liu 2018: 9)

As time momentarily freezes for Chen, he has an epiphany that enables him to contemplate an immensely beautiful world. The home of his youth feels both familiar and unfamiliar combining

the natural, the storm, with the supernatural as time freezes with rain and electricity appearing solid. This suspension of time allows him to observe the sublime power of nature without experiencing the inherent danger. As this moment passes, he once again becomes conscious of the “terrors of the outside world” (2018: 10). Chen witnesses ball lightning for the first time and likens it to “spirit from an oil painting” and “a spirit blowing a flute in some ancient wasteland” that “drifted gracefully...looking for something” with a “whistle...like bitter laughter” (2018: 12). Liu uses this EcoGothic scene to portray ball lightning as having agency and supernatural qualities. It exhibits similarities with humans as it laughs, whistles, and searches; however, it defies anthropomorphism as it behaves more like a spirit. The natural world, the human world, and the supernatural all converge into this uncanny moment that enables Chen to gain a new perspective on the world.

In “Beyond Narcissism,” Liu writes that his work “[depicts] the effects of extreme situations on human behavior and social systems” (2013: 29). In these extreme situations, his characters experience epiphanies about the world and discover new aspects of their own identity. In the previous scene, as the world unfreezes, Chen experiences extreme horror as “instantaneously, the bodies of [his] mom and dad had turned black and white...the color of marble...[with] two pairs of eyes that stared petrified out of the faces of these two statues... (2018: 13). In the same way that the ghostly image of the bird’s eyes haunt Evans in *The Three-Body Problem*, the eyes of Chen’s parents remain with him for the rest of his life. Within a few moments, Chen experiences normal everyday life, a frozen uncanny moment, an act of environmental horror that traumatizes him, and then a mixture of horror and fascination with this natural phenomenon. Chen describes his post-trauma self as “no longer the person I once was;” he becomes “a speeding missile,” and “a machine in pursuit of a single goal” (2018: 15, 20). In a similar manner as Ye in *The Three-Body Problem*, Chen’s witnessing of environmental horror makes him less human and more robotic.

Chen encounters another uncanny moment, when he returns to the tomb-like house where his parents were killed. While it is clear that no one has been in the house since his parents died, he finds a painting of a water tower that is finished, even though it had not been completed at the time of his parents’ death (2018: 25). When looking at the painting, he “tremble[s],” feels “cold air,” and hears the rain sounding like a “voice, or perhaps many people speaking

softly...murmuring...*There was lightning that night, there was lightning that night...*" (2018: 27). The house of his youth is familiar to Chen; however, the combination of the ghostly rain taunting him and the painting depicting the future creates an uncanny moment, which then pushes him towards his later desire to understand and then attempt to control ball lightning.

As he is working with professor Zhang on studying ball lightning, Chen experiences another similar uncanny moment as he looks through the files of professor Zhang's wife, Zheng Min, and finds a photograph. After enhancing the image, he finds that she "was far older" in the picture than she was when she died (2018: 67). He also notices that she has a computer disk in her pocket that had not been invented at the time of her death (2018: 68). In these uncanny moments, his parents, and now Zheng, transcend death and time. The painting and the photograph give Chen a glimpse into an alternate world that both exists and does not exist within his own time and place. He is so disturbed that he "rip[s] out" the computer cord, and yet "Zheng Min's eyes [are still] piercing the closed computer case to look at" him (2018: 67). Once again, Liu uses the image of eyes haunting his characters as symbolic of supernatural experiences that alter their identity. This image of supernatural eyes also represents a change in the way they perceive themselves and the world. For Chen, the eyes of his parents and Zheng change the direction of his life, research, and most importantly, his perception of the world.

As Chen and a military technology adviser, Lin Yun, attempt to harness ball lightning, they begin experimenting on animals, which results in another supernatural experience. They use "rabbits, pigs, and goats" to see if ball lightning will kill the animals (2018: 220). Later in the novel, Chen and theoretical physicist Ding Yi, who are working together on ball lightning research, go past the lab where these experiments took place, which had been "sealed" a couple of months prior (2018: 239). They hear a "bleat of a goat" that "seemed to fill all space" and it "sometimes seemed to come from inside your body" (2018: 239). Because the sounds come from "inside" their bodies, it indicates that their identities are changing in a meaningful way; they are becoming more in tune with the animals in the supernatural world. These moments when the parallel world penetrates the natural world often unite the human and non-human and provoke meaningful changes in the characters. Emily Carr in "The riddle was the angel in the house: towards an American ecofeminist Gothic" refers to similar EcoGothic scenes as "the natural and the unnatural creat[ing] worlds in which the everyday is collapsed with the nightmarish. Distortion, dislocation,

and disruption become the norm...the alluring and the terrible coexist.” (2014: 12). The previously described scene in *Ball Lightning* is a strong example of the natural and unnatural becoming “nightmarish.” It forces characters to reflect, change their perspective, and it often results in a change in their identities. Chen reflects that his “spirit” is “affected [after] watching ball lightning turn group after group [of animals] to ash every day” (2018: 220). In the natural world, he has been desensitized to animal experimentation. Then, with the introduction of ball lightning and the connection to a parallel world, he becomes shocked and horrified by what he had previously considered to be a normal act. This is similar to Ye’s experience with deforestation and the devastation of the oil spill for Evans in *The Three-Body Problem*.

One of the most pivotal moments in *Ball Lightning* occurs as Chen and Lin are briefed about a terrorist group that has taken over the nuclear reactor of a power plant, holding 35 hostages including 27 kindergarten students. The terrorist group, called the Garden of Eden, began as “technological escapists” who were “closed off” and had no “aggressive tendencies” (2018: 243). Similar to Evans in *The Three-Body Problem*, the Garden of Eden thought they could make a difference in preventing environmental destruction at the local level. They created a “micro-society” that attempts to “return to nature” (2018: 243). However, in their isolation, their ideology “turn[s] radical” with the goal of “obliterate[ing] all of the world’s technology [to] bring it back to nature” (2018: 243). Because the military fears that the Garden of Eden would detonate the nuclear reactor, they authorize the use of ball lightning to kill the terrorists even though it might kill the children as well. Chen objects, but Lin and the military go through with the attack despite these objections (2018: 251). Chen is fascinated with the immense beauty of ball lightning; at the same time, the death of the children horrifies him. He is conflicted and disturbed, while Lin experiences “excitement...like a child” (2018: 252). In this case, Chen and Lin witness the same horrific event with drastically different reactions, which eventually send them in opposite directions both in life and in their pursuit of ball lightning.

Chen relives the trauma of witnessing his parents being killed by ball lightning as he now watches these kindergarten children die as well. He describes how they:

had been burned up entirely, but their clothing was basically unharmed...[m]any of them retained the shape of children fallen on the ground, heads and limbs clearly distinguishable. The control room floor had become a huge painting, a work of art

describing life and death executed by ball lightning. For a moment I even sensed something transcendent and ethereal. (2018: 254)

As Chen witnesses this horrific event, once again, time is frozen, and he senses a connection to the supernatural world. While it is a moment of terrifying horror, he also experiences an uncanny sense of beauty and connection. The remains of one girl highlight this dual perspective:

Her final position...looked as if she had leaped into a different world with a dance of joy. Unlike the other ash piles, part of her body had escaped destruction: a hand. Her hand was small and white, the wrinkles on each finger unmistakable, as if it still belonged to a living body. (2018: 254)

The body of this girl acts as a symbolic bridge between worlds. Part of her body is in this world and part of it is in the supernatural world as the two worlds momentarily collapse together. In each interaction with ball lightning, Chen experiences an uncanny combination of beauty and horror that is often connected to references to art. His parents turn into statues, the bodies of the children are like paintings, and this girl is dancing. These scenes show how art often transcends worlds, time, and place. It also represents the power of art to bear witness and overcome tragedy. Because Chen is the only primary character in either *The Three-Body Problem* or *Ball Lightning* who does not become an environmental extremist, it suggests that a more artistic perspective of the world may play an integral role in resisting radicalization.

Later in the book, after Lin is killed by ball lightning, Chen discovers a picture of her with the children who had died. Lin and the children had not met in this world, but in the supernatural world, Lin is their teacher:

Looking at the children around her, I immediately recognized them as the group that had been incinerated by ball lightning at the nuclear power plant. They, too, were smiling sweetly, and were obviously very happy. I noticed in particular a little girl that Lin Yun was holding tightly, an adorable child smiling so hard her eyes were slits...But what caught my attention was the girl's left hand...It was missing. (2018: 376)

In a similar manner as the water tower with his parents and the computer disk with Zheng, this picture of Lin and the children both exists and does not exist simultaneously. Liu later explains that this other world was a “quantum state” where his parents, Lin, and the children are “like Schrodinger’s cat, and exist indeterminately in two states, living and dead.” (2018: 262). Liu puts his characters in these extreme situations in order to reflect on human nature. In this case, Chen

represents one possible path, while Lin represents the other. Chen becomes despondent and quits the project. Lin Yun becomes even more determined to find effective ways to use ball lightning as a weapon.

Throughout *Ball Lightning*, Chen seeks out people who can help him pursue knowledge of ball lightning. Many of these characters share their experiences using haunting vignettes of the sublime horror of the natural phenomenon. While the awe-inspiring energy and power of ball lightning are enough to create moments of sublime terror, it is the moments that do not make logical sense that are often even more haunting. For example, professor Zhang depicts ball lightning as a “fireball-shaped object that can pass through walls” and “reduce [a couple] to ashes in their bed without a single scorch mark on their blanket!” (2018: 31). Zhao Yu, a graduate student who is also studying ball lightning, describes it as coming through a window that “was closed at the time!” (2018: 46). Professor Zhang Bin watches ball lightning appear and disappear in a terminal until it “explode[s]” and she “disappear[s]...[her] raincoat, spread[s] untouched on the ground, and underneath it a pile of white ash, most of which [is] washed away by the rain in thin trickles of white...” (2018: 56). In each of these situations, Liu gothicizes ball lightning with aspects that defy logical sense. Chen eventually comes to the idea that ball lightning is easier to understand if it is considered “as a life-form” that has “evolved” in the “electromagnetic world” that has “been in existence far longer than the world of atoms and molecules” (2018: 102). This life form is clearly beyond contemporary science and human understanding.

While Chen is the protagonist of the story, Liu presents ball lightning as a primary figure. Ball lightning clearly has agency and is often anthropomorphized. However, there are many parts of the story when it resists anthropomorphism as well. While Liu does not fully accomplish his goal of decentring anthropocentrism, an EcoGothic reading of the text shows how he uses the supernatural, the sublime, environmental horror, and the uncanny to challenge and “dislocate[e] our anthropocentric assumptions” (Smith and Hughes 2014: 12). Through his use of the generic device of a novum, Liu further pushes the examination of anthropocentrism to the extreme. In the *Three-Body Problem*, he portrays how many humans like Ye, Evans, the author, and Rafael are radicalized by environmental horror, uncanny events, and Western ideology.

In *Ball Lightning*, Lin, the military, and other minor characters follow a similar path towards radicalization. However, the protagonist Chen provides a starkly alternate path. While

Chen inadvertently participates in the horrific act of environmental destruction, he resists radicalization, and continues his research for positive applications of ball lightning. One possible explanation of Chen's resistance to extremism is that he has a more artistic perspective than the other characters presented. Through each tragedy that Chen witnesses, with his parents, the children at the nuclear power plant, and the child who appears with Lin, Chen recognizes the horror of the moment, then he also recognizes the awe-inspiring beauty of ball lightning through the lens of painting, sculpture, and dance. Because of this dual perspective, he is able to avoid the extremism that the other characters embrace. Liu suggests that art acts as a mediating force that enables people to process trauma; therefore, they become less susceptible to extremism. In *The Three-Body Problem*, Ye questions whether humanity is redeemable and decides that it is not. Chen's ability to resist radicalization and focus on the positive application of his research in *Ball Lightning* serves as a glimmer of hope in a world filled with environmental horror and destruction.

In *The Three-Body Problem* and *Ball Lightning*, Liu begins the work of challenging anthropocentrism that he outlined in his essay "Beyond Narcissism." While writers like Amitav Ghosh call for traditional literature to focus more on examining the non-human, Liu proves that science fiction plays a vital role in this process as well. Through an EcoGothic reading of *The Three-Body Problem* and *Ball Lightning*, it is apparent that Liu is provoking his readers to reconsider their roles in the hierarchy of the natural world. Liu's work also initiates a transcultural intertextual discourse with Western environmentalists in order to problematize their ideologies. This discourse suggests that these ideas can be interrogated and tested in literature. From this perspective, literature serves as a discursive space to experiment and build connections between different cultures and ideologies. Ultimately, *The Three-Body Problem* highlights the difficulties of reconciling different ideologies, while *Ball Lightning* shows that these ideas are able to be reconciled.

Notes

¹ Since the 2014 publication of *The Three-Body Problem* in English in the United States, many of Liu's books, short stories, and essays have been translated into English, including his 2004 novel *Ball Lightning* in 2018. In recent years, Liu has been helping other Chinese science fiction authors get international recognition in short story anthologies bearing his name.

² His Pan-Species Communism is closer to Paul W. Taylor's concept of biocentrism. According to Taylor, in his book *Respect for Nature*, biocentrism argues that "all plants and animals of the Earth's natural ecosystems" possess an "inherent worth" (71). Taylor argues that humans are part of a "system of interdependence" in which "humans are not inherently superior to other organisms" (99).

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