

The Desire for Immortality:

The Posthuman Bodies in Ken Liu's *The Waves*

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Abstract

In the industrial era, advanced science and technology make immortality-obsessed human beings constantly develop, modify, and reshape their bodies and consciousness, to overcome the fragility and transience of their bodies and approach the dream of immortality. The transformation of the body, in turn, drives society to confront the co-existence of cyborg, transhuman, information subject, nomadic posthuman and other life forms. Focusing on Chinese-American writer Ken Liu's science fiction *the Future Trilogy*, *Arc*, and *The Waves*, this paper attempts to explore the metamorphosis of the body and the ethical choices in the tension between death and immortality, embodiment and disembodiment. Immortality is not a Utopian paradise but causes many ethical problems and loss of continuity of time, space, history, and identity. Liu's works suggest that the solution to the problem of posthuman disembodiment involves embracing embodiment and recognizing the importance of memory and social interaction in the formation of one's identity, affirming that memory and the interaction with others are necessary conditions for the formation of the subject's identity. Blending genesis myths and technological immortality, Liu explores the possibility of creating new life different from human beings. The posthumans depicted are always in the status of becoming, eager to discover the new world, and indicate the author's expectations for the bright new future.

Keywords: immortality, posthuman, Ken Liu, body, cyborg, transhuman.

Humans have an obsession with immortality after the Fall. Traditionally, humans rely on reproduction and offspring to pass on their genes and thus attain immortality, and such a thought can be found in William Shakespeare's *Sonnet 14*. Another way to gain eternal life is through art creation, such as painting, poems, books, and other kinds of art and literature, which is also expressed in Shakespeare's *Sonnet*:

When in eternal lines to time thou growest
So long as men can breathe or eyes can see
So long lives this and this gives life to thee.

In an era of highly advanced technology, besides traditional sexual reproduction and creative works, human beings find new ways to last forever, that is, to operate on their bodies directly. As a result, humans are constantly developing, modifying, and editing their bodies to overcome the fragility and transience of their bodies, and approach the dream of immortality through youthful, healthy, and beautiful bodies. In becoming a cyborg, or a disembodied transhuman, or eventually a nonhuman posthuman, humans achieve the goal of immortality. However, immortality is not a Utopian paradise as imagined, but causes many ethical problems related to a loss of continuum in time, space, history, and identity.

Literature, as a cultural carrier, embodies people's desires and efforts, and also reflects on the alienation caused by the development of science and technology. Mainly focusing on the Chinese-American writer Ken Liu's science fiction story *The Waves* (2013) as an example, this paper attempts to explore the metamorphosis of the body and the ethical choices created by the tension between death and immortality, embodiment and disembodiment. Presenting the contradiction between the calm acceptance of death and the eternal renunciation of the flesh of the cyborg, the personal, societal, and racial problems caused by immortality, Ken Liu explores the metaphoric meaning of the myth of creation, the motifs of the desire for immortality, and finally looks forward to the possibility of creating new life different from human beings in his poetic narrative. The posthumans depicted are always in the status of becoming, waiting to be something new; they are eager to discover the new world, and indicate the author's positive exploring spirit and his expectations for the bright new future.

1. Metamorphoses and Immortality

In science fiction, human bodies are being continuously transformed by advanced technology, representing the belief that natural evolution will give way to artificial evolution, and posthumans will surpass present-day human beings in physical ability, intelligence and longevity, thus realizing immortality. Liu explores the possible roads for posthuman existence mainly focusing on the embodied type (the metallic cyborg upgraded from the classical cyborg, with extended prostheses, and improved life span), the disembodied type (the information subject/disembodied transhuman, who abandons the flesh to live in virtual reality), and the nomadic posthuman (the energy life form who mainly lives in the form of light, and can compress the energy into an entity to perform like

a human). Such figures reflect human beings' dreams of becoming better, stronger, and living longer.

Liu's story *The Waves* begins with the premise that human extended longevity is going to make people effectively immortal, the waves of humanity spreading out from Earth and reaching into the whole galaxy. Each succeeding wave overtaking the one before it, the biologically immortal wave is overtaken by that of improved transhumans and cyborgs. The mechanical posthumans are, in turn, overtaken by beings of light and energy. Maggie Chao, the heroin, has undergone all of these metamorphoses, and tells the old creation myths to echo the particular transformation that humanity is undergoing in that section. Myths, which have to do with memory and narrative, have the special power to be re-interpreted to suit the present, linking the past, present, and future. Ultimately, *The Waves* is about "transformation and the power of memory and narrative" (Liu, blog, "story notes").

According to Ihab Hassan, a thinker primarily concerned with the physical and psychological change of the human,

the human form - including human desire and all its external representations - may be changing radically, and thus must be re-visioned. We need to understand that five hundred years of humanism may be coming to an end, as humanism transforms itself into something that we must helplessly call posthumanism. (843)

According to Hassan, the physical changes of the body cause humans, the measure of all things, to alter, and lead to the end of rational humanism and the further dilemma of posthumans' identity recognition. The posthuman is both a creature of myth and a creature of social reality, incarnates conflicting visions of power and powerlessness, and embodies cultural fears and anxieties, embodying the ideal immortal body and the impure hybrid body.

1.1 Cyborg Bodies Overcoming Fragility

In the process of technological transformation, the human body is no longer simply a natural body made of flesh and blood, but becomes a cyborg body with stronger performance. In *The Waves*, the environment of the new planet 61 Virginis e is not particularly hospitable to life from Earth, so humans have to adapt. Humans transform from carbon-based organism to metallic cyborg, "a thinking machine endowed with the austere beauty of crystalline matrices instead of the messy imperfections of living cells" (*Waves* 153). Composed of more metal than water, they are no longer confined by the limits of organic chemistry; this coincides with the transhumanist view that humans will eventually get rid of the shackles of the organic body and evolve into a new form of life. The

metallic bodies are made of steel and titanium, and the brains are graphene and silicon. Such a combination makes them practically indestructible. They can even move through space without the need for ships, suits, and layers of protection. In a word, the cosmic cyborgs have left corruptible flesh behind and entered into the realm of long-lasting longevity.

The vulnerability of the body inspires human beings to enhance the strength of the body and prolong its service time through technology, as is the case with cyborgs. But as aging is conquered, some fear that the biological bodies will be too fragile to ensure humanity's survival against accidents and catastrophes over very long periods of time. This gives rise to the idea of abandoning the body and keeping only the mind to survive. One solution for long-term survival is to upload minds and personalities onto a different substrate, such as the "Brain in a vat" experiment proposed by Moravec. Such sensory deprivation and bodylessness generate "engineering transcendence," leading Giancarlo Prisco to say that science may someday develop the capability to resurrect the dead (qt. in Fillard 76). Prisco considers that "mind uploading is the 'Holy Grail' of Transhumanism which may make humans free of the biological brains and grow beyond limits" (ibid). With the introduction of cyberspace, human beings gain the ability to overcome their previous limitations and transform themselves into another type of posthuman.

When merging into the Singularity, the metallic creatures live as gods in the world of bits and qubits. Their consciousness transcends the physical body once entering cyberspace, deconstructing the boundary between physical and non-physical, reality and virtuality, leading to the disappearance of the real body. Liberated from the shackles of the prison of "meat" and reality, the soul is digitized as technological codes, information, and data. In the posthuman world, "there are no essential differences or absolute demarcations between bodily existence and computer simulation, cybernetic mechanism and biological organism, robot teleology and human goals" (Hayles 3). Posthumans may find it advantageous to jettison their bodies altogether and live as information patterns on vast super-fast computer networks, marking "the shifting condition of humanity from changes in scientific and technological development" (Shabot 224).

Seen from this sense, the metallic robots are an upgrade from the cowboy imagery—Case in *Neuromancer*—who can switch back and forth between the virtual world and the real world. As a cyberspace-flesh cowboy, Case has at least two bodies. One is a largely sedentary carbon-based body that suffers hunger, obesity, illness, senility, and ultimately death, stimulating the transcendental desire to escape the "meat prison." The other body, a "silicon-based surrogate jacked into immaterial realms of data, has superpowers, albeit virtually, and is immortal—or, rather, the chosen body, an electronic avatar 'decoupled' from the physical body, is a program capable of enduring endless

deaths" (Morse 157). As an upgraded version of the cowboys, the metallic creatures can be both virtual and real: once they feel "the ancestral longing for physicality, they could choose to become individuals and be embodied in machines" (Liu "The Waves" 153); as such, there is "no more line between the ghost and the machine" (153). Updating the configuration, the metallic posthumans thoroughly settle the problem of basic physiological needs by canceling the organic body, so there is no need to worry about the abrasion of the body parts, disease, or demise.

The metal prostheses replace the original fragile skin and bone, so their service life is greatly extended, and the human life span also lengthens. During the process, the body undergoes cyborgization. The appearance of the cyborg creates a breakthrough in overcoming the fragility of the body, and mankind is one step closer to immortality. "The proliferation of human consciousness in cyberspace takes reality beyond the limits of embodied existence. Immortality becomes possible in electronic realms" (Cadora 367).

1.2 Transhuman Improvements to Longevity

Besides the cyborg, Ken Liu contemplates the possibilities of gene editing for eternal youth. According to Nick Bostrom, the transhumanists' notion of enhancement encompasses "radical extension of human health-span, eradication of disease, elimination of unnecessary suffering, and augmentation of human intellectual, physical, and emotional capacities" (3) utilizing current developments that enable us to "enhance human abilities and eliminate boundaries" (Campbell 64) like genetic engineering, IT, nanotechnologies, cryogenics, and brain downloading. It envisions a world where pain and suffering are eliminated.

Ken Liu examines DNA editing and the elimination of aging in *Arc*. In this story, with the help of her husband's genetic technology and regular surgeries, Lena Auzenne can remain the way she was in her mid-30s forever, have unlimited time and energy to pursue academic and artistic pursuits, and give birth to a baby girl 100 years younger than her eldest brother. Such a description represents the transhumanist vision of the enhancement of human intellectual, physical and emotional capabilities, the conquering of the limits of human wisdom, and the effort to wipe out senility. Bringing his optimistic notions of human improvement a step further, in *The Waves*, Liu endows the colonists bearing the four-centuries-long mission to reach 61 Virginis on the spaceship *Sea Foam* with a gift of immortality that can be shared by all of humanity. A new medical procedure sent by the earth can replicate itself in somatic cells and roam up and down the double helices of DNA strands, "repairing damage, suppressing certain segments and overexpressing others" (Liu, "The Waves", 145), and the net effect is to halt cellular senescence and stop aging. With the help of cutting-edge nanotechnology, humans will no longer have to die. As a result, the crew has the freedom to keep their prime of life or die a peaceful death. Choosing

immortality, Maggie can be a vigorous immortal female adult at 30 forever. The best part of it is that she does not need to receive regular surgery, for the technology offers a once-for-all effect, immunizing a person against aging and death. Maggie, upgrading herself and completely escaping aging and death without having to undergo surgery again, can keep “young and fertile” (145): she has become truly immortal as a “radically enhanced human”—the furthest degree of transcendence of human limitations that a person can reach (Bostrom 5). Aging has been nearly overcome, humanity is getting closer to immortality.

Keeping the body, cyborgs take different measures to advance the body's performance. Human-machine cyborgs make the human body much more durable than the flesh and extend human beings' cognition of the world. Sharing the same idea of the body as a machine, transhumanists view the body as an object to experiment, test and improve, and they aim to enhance the inside rather than the outside. By replacing the muscle with machinery, the cyborg enhances human mechanical power. In boosting the physiological functions, intellectual and emotional capabilities, transhumans eliminate disease, unnecessary suffering, and dramatically extend their life span. At last, humanity's long-cherished wish comes true.

1.3 Nomadic Posthuman Immortality

Human desire is ceaseless. After controlling digital immortality, they will want to realize the immortality of both body and mind. Posthumanists believe in a posthuman future where humans will be more than human, possibly achieving immortality.

Energy life is the last transformation for Maggie, her son Bobby, her grand-granddaughter Sara, Athena and other companions. Like the metallic body, the energy body can be both virtual and compressed into an entity. The metallic cyborg and energy life embody the characteristics of “nomadic subjects,” a notion Rosi Braidotti refers to the posthuman subjects. Different from the negative, closed, back-to-one philosophical thought, nomadic mindstyle presents a positive, open and diverse state. Nomadic thinking is considered by Gilles Deleuze as a plateau, where people live a nomadic life in a fluid, free and unfettered way. Deleuze's description of nomadic thinking is in line with the true portrayal of modern postmodernism, which is characterized by free and flowing harmony. For Braidotti, nomadic subjects possess “an acute awareness of the nonfixity of boundaries” and “the intense desire to go on trespassing, transgressing” (37). Instead of simply lumping the energy life forms into one category or another, or reducing them to a certain outcome, nomads are always in between and constantly moving in between. The core of nomadism is to always be in-between. The characteristics and operation of nomadic subjects can be reflected in transpositions and body-machine, which are also two

important concepts in Braidotti's posthuman subject theory. By citing nomadic subjects, this paper does not only indicate that the energy life forms travel all along the universe, but also tries to present their ceaseless transformation, which is always becoming and in-between.

Influenced by Deleuzian "bodies without organs," Braidotti emphasizes the non-formal and movement orientation of nomadic subjects, who are not only non-form and non-established, but also generative and positive. As such, they become the "bodies without organs," an existence that is no longer bound to an organism, but exists in the form of non-organism or even a pure virtual state such as information. In radical terms, this is the body without an organ that is the reality of the posthuman. The body is no longer a unity but eliminates the binary opposition between body and spirit, subject and object, reality and virtual reality. No longer existing in the form of a body, the virtual body is both the subject and object and can exist in both the material and virtual reality world. The body abandons the flesh, and by discarding the flesh, a new body builds.

Getting rid of the fragile flesh-blood body, the nomadic posthumans wander through the universe centuries after centuries, enjoying eternal life, and saying goodbye to age and death. Transhumanism advocates technology to advance humans "from the inside," through gene editing, cloning, and organ grafting, so there is no trace or scar found. Posthumans, quite differently from transhumans, can be distinguished from their appearances: in the humanity-and-machinery hybrid cyborg, the body is made of metallic or other materials, with a disparate face from humans. The ones without physical bodies are called disembodied posthumans, or "information subjects." By strengthening the flesh, the transhumanists aim to overcome the physical limitations of the biological body; in replacing the muscles with tougher materials, the cyborgs long to prolong the service time of the body; by eliminating the real body, the information subject wipes out caducity and death; combining the appetency for unrestraint and the nostalgia for the body, the nomadic posthumans can both be disembodied in cyberspace and embodied in an entity. The posthuman imagery summed here reflects the process from embodiment to disembodiment, from mortality to immortality. In constant metamorphoses, human beings eventually realize the dream of immortality.

2. The Traps of Immortality

With the development of corrective genetic therapies, experimentation with bodily manipulation or implants, memory enhancements, or even disembodied states of being such as brain downloading, human beings finally complete the long-cherished wish for immortality. Figures like the cyborg herald the arrival of the post-human age, which means that the discourse of traditional humanism and anthropocentrism has become outdated.

Artificial intelligence is the reflection of the human race's dream to be immortal, perpetuate rationality, and exclude the limitations of reproductive organs. Other kinds of posthuman imagery long to transcend the human in intelligence, longevity, and other performances, eventually becoming immortal and completely breaking free from physical bondage. In so doing, the posthuman both enhances and deconstructs humanism, paradoxically showing God's power to make a new life with the aid of technology.

The ethical choices humans make reveal their understandings of the human essence. Whether sticking to the view of the embodied death of the body, abandoning the body to become the immortal information subject of cyberspace, relying on gene editing and organ replacement, becoming a cyborg to overcome the vulnerability of the body, or frequently transforming the body and turning into the fluid posthuman, different ethical choices show the essence of human nature and life, the manifestation and longing of multi-species community.

The posthuman condition involves the gradual overturning of a human-centered world, demolishing old categories and giving room for new forms of technological being (Campbell 63). If transhumanism is seen as a movement that sees the human condition as a stage in human evolution, and the posthuman is the ultimate goal to which the human species are evolving, then the cyborg is one expression of this expected transformation (Campbell 65). The posthuman is both a creature of myth and a creature of social reality, incarnates conflicting visions of power and powerlessness, embodies cultural fears and anxieties, and specifies the ideal immortal body and the impure hybrid body. Immortality may seem like an ideal state, but it can bring about various economic, philosophical, and psychological challenges for individuals, families, and governments alike, such as a loss of continuity in time, space, history, and identity.

2.1 Familial and Societal Reconstruction

Family reconstruction and societal development are the first problems the immortals have to deal with. The question of children, who will be immortal, and their development perplex both family and society.

In *The Waves*, the spaceship *Sea Foam* faces a crisis caused by immortality: the supplies, energy, positions, and other parameters are calculated, and they cannot "support a population composed entirely of vigorous, immortal adults at the height of their caloric needs" (146). The ship operates based on precise calculations; even the children born are not at every couple's will but "the interplay of a set of careful algorithms involving population planning, embryo selection, genetic health, life expectancy, and rates of resource renewal and consumption" (146). Rationality has taken over: there is no room left

for sentimentality. Now, the urgency that some adults and children have to die to keep the population stable stirs a series of ethical questions: who will live or die? Here it is not only an ethical choice of life and death but also about the reconstruction of family structure. Whether to be immortal or die reflects the different ethical choices and value pursuits. João, the husband of the heroin Maggie Chao, chooses to age and die biologically, believing that “[t]he old must die to make way for the new” (146); it is the young who are meant to inherit the new world. He firmly holds that “Death is essential to the growth of our species” (148). This is echoed by Brad’s mother in Liu’s “Staying Behind”: “We die to make place for our children, and through our children a piece of us lives on, the only form of immortality that is real” (“Staying Behind” 129).

Moreover, as the virus is used to stop the process of growth and maturation, the children will have to remain what they are if the adults choose immortality—otherwise, the ship’s ecosystem would be broken. The children will not grow up, they will never be able to love as adults and have children; they will stay children for centuries, childless themselves (*Waves* 146). Sex and children are the only way to be close to immortality before this technology develops. Except for the improved transhumans in *Arc*, who are able to prolong the decision to have children, the other types of posthumans have no ability to give birth to “natural” children, completely giving up blood relationships and the continuation of their genes. Once there are no new bodies born, the adults do not experience the joys and sorrows of raising children, and the family line does not last.

Frozen at the physical age of ten, Bobby and the other perpetual children integrate uneasily into the life of the colonists. They have decades—sometimes centuries—of experience but retain juvenile bodies and brains. They possess adult knowledge but keep the emotional range and mental flexibility of children. They can be both old and young at the same moment (*Waves* 151). Furthermore, they have no role to play in the ship. The outcome is that the family falls apart: João and Lydia age and die, Maggie becomes immortal, and Bobby will be a teenager forever. The same tragedy repeats in every family on the ship. Under such circumstances, immortality seems to be a curse rather than a gift.

During a quarrel, Maggie, who chooses to stay young, realizes the nature of Transhumanism: “the birth allocation algorithms don’t care about us, or our children. We’re nothing more than vessels for the delivery of a planned, optimal mix of genes to our destination” (*Waves* 148). It is true that transhumanists view the human body as an accessory that can be either improved, enhanced, or optimized, and they are willing to sacrifice a smaller part for the bigger part of humanity. Another fact that Maggie discovers is that “Earth is just a very big ship. If no one is going to die, they’ll run out of room eventually too. Now there is no other problem on Earth more pressing. They’ll have to follow us and move into space” (*Waves* 146).

The Earth duplicates all the troubles the *Sea Foam* has: the limited space, resources, food, care, energy, facilities, education, and jobs cannot meet the requirements of the immortal beings. In such cases, it may become necessary to end the growth and even reduce the global population. Foucault's notion of bio-power will be used to regulate the intercourse and birth rate, and go to war to fight for land. Wars may begin at any time and are more intense than ever. The governments have to find the means to deal with the retirement pension, promotion, the life quality of the elders, and the single working individual's stress of supporting his/her parents and grandparents. They must do that without disturbing the social structure.

The Earth's crisis is also discussed by Lena in *Arc*: ageless women and men become common as BodyWerks and other competitors continue to make the anti-aging treatments cheaper. Debates about how to distribute the gift of the Evergreen Revolution to the poor countries of the world and how to control population growth when people stopped aging and dying arise. There is even talk about colonizing space again. In this sense, *The Waves* can be taken as the sequel to *Arc*. In it, the setting is the immortal era, the world's population continues its stable growth and reaches a slight inflection, many people are dying of hunger and disease, so America sends the spaceship *Sea Foam* with three hundred people as the space emigrant group. They shoulder the heavy responsibilities of finding a habitable planet, preserving human genes, and spreading human civilization. Human beings are forced to fly into the galaxy to look for a habitable planet, to live and multiply, to spread civilization and hope, to colonize and assimilate.

2.2 Meaning of Life

Another consequence of immortality is that the immortals have difficulties in finding what matters in life. They have unlimited time to spend, how will they manage their lives?

Maggie regrets that Bobby cannot experience what it is like to grow and to love as a man, but Bobby holds a different view: forever children can absorb new worldviews, pick up new languages quickly, learn about the new life and new civilization, and understand them without fear. What is more, he can have countless children, born of his mind. As it turns out, Bobby is the first one to recognize the distorted English when they meet the metallic robots, the ancient humans of long ago. Sara, Bobby's nephew, is the first one to transform into a robotic centaur cyborg. For the frozen children who have more flexible minds, changing from flesh to metal is merely a hardware upgrade (*Waves* 154).

After the departure of the *Sea Form*, a second group of colonists left Earth, but were faster and had already passed Maggie in transit centuries ago. The planet 61 Virginis e was inhospitable to Earth's life, so the colonists had to transform themselves into metallic

bodies in order to adapt. They had been waiting for the *Sea Foam* and welcomed Maggie with the words "Welcome back to humanity" in drifting English. When first meeting the metallic aliens, Maggie does not take them as humans, and experiences fear when looking at the "shifting, metallic faces, a crude imitation of flesh and blood" (*Waves* 153). The head of the metallic cyborg is covered by a dense array of pins attached to actuators that move in synchrony, like the tentacles of a sea anemone. The distinctions between organism and non-organism, human and machine, nature and culture, Self and Other are so intense that Maggie gasps when Bobby's metal fingertips slide over his skin and even repulses her son's metal body. The non-human metallic posthuman figure raises the issue of what should be done when the Other evolves into us. To quote Emmanuel Levinas, "who then is 'the other' in a technological age, and how do treat this new 'we'?" (qt. in Campbell 66). The classic ideal of Man, which emerged as "the measure of all things" in Protagoras, is elevated as a universal model and represented in the Vitruvian Man drawn by Leonardo da Vinci. The classical dictum "healthy mind in a healthy body," setting up a model for the perfect body, "doubles up as a set of mental, discursive and spiritual values" (Braidotti 13). Together they uphold a specific view of what is "human" about humanity and shows contempt for the Other excluded: women, the disabled, homosexual, animal, and other groups. Ironically, João, a name of Hebrew origin that means "God is gracious," dies shortly after the story begins. It is the heroin of Eastern origin Maggie Chao who keeps eternal youth and becomes immortal as a Creator image. This deconstructs to some extent the male-centered narrative, echoing Nü Wa's creation myth both at the beginning and the end of *The Waves*. The pins shimmer as though a wave moves through the metallic aliens as it were saying what Foucault declares:

Man – the study of whom is supposed by the naïve to be the oldest investigation since Socrates – is probably no more than a kind of rift in the order of things, or, in any case, a configuration whose outlines are determined by the new position he has so recently taken up in the field of knowledge... man is only a recent invention, a figure not yet two centuries old, a wrinkle in our knowledge, and that he will disappear again as soon as that knowledge has discovered a new form. (*The Order of Things*, xxiii)

Every technological wave brings about a new cognitive revolution, Man, the newly invented concept, will be erased, "like a face drawn in sand at the edge of the sea" (Foucault, 389). To conquer senility and death, Transhumanism takes the body as a gene carrier, while cybernetic Posthumanism views the body as unnecessary, something that can be ignored, because the mind is what defines humanity and it can therefore be disembodied. Step by step, the fragile and easily worn body gradually succumbs to the machine, and the machine becomes a technical means to make up for the defects of the body.

Immortality gives people unlimited time and energy to pursue new things, new knowledge, and new discoveries, and extends the golden time and opportunities for women to bear children. Lena, who keeps the status of thirty-year-old in *Arc*, travels after receiving her treatment, earns three doctorates, pursues artistic attainment, and gives birth to a daughter at seventy-two, another daughter one hundred years younger than her eldest brother. However, not everyone likes permanent education, and how will society develop if it is constituted of a bunch of several-hundred-year-olds who are afraid to die and whose ideas are ossified? How can the parents teach their children the value of sacrifice, the meaning of heroism, of beginning afresh (*Waves* 148-149)? Considering only childbirth may undervalue the role and contribution of women in society, but if human beings live forever, it is possible that women will lose the opportunity and the priceless experience to be mothers in the age of overcrowding. The significant downsides of the ageless bodies are showing signs of “violating the divine prohibition on hubris” (Hughes 111).

Immortality endows humans with youth and health, making time lose its meaning: Lena looks like thirty forever in *Arc*, Maggie enjoys the eternal vitality of thirty-five, and her son Bobby's body is frozen at the age of ten. Day after day, the immortals do not change at all. For years, Maggie remains the only organic human on 61 Virginis e, and perhaps the entire universe. In the eyes of the digital native, the organic human is like a fossil, just as Maggie lives in a special house insulated from the heat, poison, and ceaseless noise made by the metallics and acts like a performance for the entertainment of tourists. Unable to get along well with the machines, Maggie is alone much of the time and occupies herself by browsing through the *Sea Foam's* archives, “the records of humanity's long, dead past” (*Waves* 155). After holding on to her flesh and blood body in loneliness, Maggie chooses to become a metallic robot for a family reunion with Bobby, Sara, and granddaughter Athena, a digital native born from Bobby's thought. Her body becomes metal instead of carbon-based compounds, and she escapes the restrictions of organic life. From the transhumanist's point of view, “humanity has advanced beyond evolution into the realm of intelligent design” (*Waves* 153).

Humans have always relied on stories to keep the fear of the unknown at bay, so Maggie tells the myth of Creation to coax her children to sleep at first, then to the metallic robots, and to the posthuman children born of thought. Her stories range but have a common theme: memories of the past, the Creation of Man, from Nü Wa sculpting the Chinese race along the bank of the Yellow River, Prometheus molding a race of beings out of clay, Adam and Eve undergoing the Fall of Paradise, Mayan gods creating people out of maize, the Northern European gods Vili, Vé, and Odin slaughtering Ymir and creating the world using Ymir's body, to Man inventing fire to have his own sun, heat, and light. In the mythology of Zeus, Athena, a goddess born from Zeus's head, from his thoughts alone,

foreshadows Maggie's granddaughter Athena, the 5,032,322nd child of Bobby. After meeting Athena, Maggie decides to upload to rejoin her family and get digital immortality. Again, after the narrative of fire invention, Maggie chooses to become part of the light—a type of posthuman in the form of light, coalescing, stretching, shimmering, radiating, suspending themselves between stars, their consciousness “a ribbon across both time and space” (*Waves* 159). Telling the ancient myths of Creation, Maggie tries to kill time and link herself with the past and present.

Living in the vast cyberspace and cosmos, the posthuman beings are always half awake and half dreaming, losing the dimensions of time and space and breaking with the continuum of history. They have no access to finding their precise coordinates and have nowhere to rely on, feeling “the loneliness of making the entire universe your playground, yet having no home” (*Waves* 158). The feeling of unhomeliness is both nostalgia for Mother Earth and a yearning for a definite destination. The uncoordinated, fractured space odyssey is essentially a journey of homecoming.

2.3 Identity Recognition Crisis

The most important question about immortality is that of the subject's identity recognition. Declaring a breakdown of the human-machine dualism, the posthuman is the ultimate emblem of a hybrid subjectivity. Being both a part of daily life and vital for survival, the human body is adapted, enhanced, and preserved by technology, coinciding with Donna Haraway's manifesto that every human is a cyborg, a “hybrid(s) of machine and organism” (149). Maggie the eternal youthful transhuman feels revulsion at the metallic cyborg, the unnatural product of the technology, even at her own son's smile made of pins. Realizing that she treats her body as a machine of lipids, proteins, cells, and muscles as well, she understands that she has no right to frown on Bobby's being a mechanized beast. Nearly the same as Bobby, her mind is maintained in a shell too, a shell of flesh that has long outlasted its designed-for life. She is as unnatural as he, so there is no need to distinguish how much has been transformed and who is more advanced. After all, the improved transhuman has the same nature as the cyborg. Maggie thinks that “[h]e can't cry anymore” (*Waves* 154) in an attempt to find something that divides her from him, dividing humans from machines. This is the deep-rooted Self-and-Other distinction at work. Emotions have been used as a rule to measure humans and robots, just as empathy is something that the replicants cannot have in *Do Androids Dream of Electric Sheep?*

When blending into cyberspace, the metallic posthumans become the information subject without physical bodies. Cyberspace, argues Joel Elliot Slotkin, is a kind of haunted infocosmos, an overload information virtual space (863). Further, “human technology seeks to enhance our natural abilities until they approach godlike omniscience or

omnipotence" (Slotkin 864). In cyberspace, the human is forced into the condition of bare life, a flux of information, and the object and commodity to be transformed, exchanged, and traded. Meanwhile, cyberspace and the cosmos become the unlimited realm, and the human ceaselessly transforms, rebelling and reshaping the traditional concepts of identity, gender/sex, class, or race, eventually becoming the disembodied, unstable, uncertain gender and body. The breaking of time makes the body experience the eternal present and leads to the disappearance of its sense of history, which further results in the production of the schizophrenic body. As a bearer of culture, Chen Siyao concludes, "the body exemplifies three characteristics of postmodern culture: the disappearance of the subject, the disappearance of a sense of history and the disappearance of distance" (ii). The figures of the disembodied posthuman, the metallic robot, and the energy life are the posthumans of the digital era; such evolution overturns the view of natural selection and marks that human beings have entered the stage of scientific selection. The posthumans have become the product of scientific selection, and their embodied significance as natural persons has ceased to exist.

The posthuman models of AI and information subjects are based largely on the materialist assumption that the "mind" is a function of the brain, thus such entities encounter a lack of embodied knowledge, enabling interrogation of each competing paradigm of potentially immortal life. While Cadava believes that "[i]mmortality becomes possible in electronic realms" (367), Ross Farnell questions the value of immortality by stating that "if the subject and his/her Copy are not deemed to be the same subject, then the 'immortality' offered by the process of copying is an empty illusion" (74). In the same vein, Nick Bostrom holds that the posthuman's transformation is similar to the purification in Christianity:

In Christian theology, some souls will be allowed by God to go to heaven after their time as corporal creatures is over. Before being admitted into heaven, the souls would undergo a purification process in which they would lose many of their previous bodily attributes. Skeptics may doubt that the resulting minds would be sufficiently similar to our current minds for it to be possible for them to be the same person. (35)

Bostrom regards the mind-cloning and uploading process of the disembodiment as losing the unique personality and damaging a human being's identity. If the soul is not the same as before, it is hard to say that it is the same person, then is such a life after the biological death of the body desirable? Do people want to live another person's life posthumously? It is the belief in the consciousness-as-personality that causes the most problematic condition.

Besides the false immortality issue, the anti-transhumanists accuse Transhumanism of playing God, “[c] hanging the genetic identity of a human person ... is radically immoral” (Fillard 126). As debates increase over posthuman immortality, how to solve the immortality dilemma?

Part 3: The Redemption of Embodiment

Human beings have utilized technology to overcome the fragility, transiency, physicality, and other limitations of the flesh, and to approach ultimate immortality. They do not only defeat sickness, senility, and death but also create new posthuman life forms. Seen from this point of view, “man has, as it were, become a kind of prosthetic God. When he puts on all his auxiliary organs he is truly magnificent; but those organs have not grown on to him and they still give him much trouble at times” (Freud 76). In other words, human beings have not only extended their lives through science and technology but also have embedded themselves as key parts of the mechanical context in the artificial systems built by machines.

In Braidotti's theory of the posthuman subject, the posthuman subject is nomadic. On one hand, it has no innate and inherent connotation and essence, and on the other hand, it forms relations with and generates feelings towards non-human animals, plants, and inorganic objects. The nomadic subject is always the subject in practice and has a concrete relationship with the real other, so it is related to ethical issues. Braidotti puts forward that posthuman ethics is relational ethics, which has three characteristics: embodied, relational, and positive. Therefore, we need to reposition human beings in a posthuman condition, allowing them to acquire a new form of self-understanding and knowledge. The dilemma of disembodiment needs to be solved by returning to the body. The ethical, societal, and identity predicaments of immortality can be solved in the interaction with others, the environment, and the embodiment. The posthuman subjectivity that Braidotti calls for is “rather [a] materialist and vitalist, embodied and embedded, firmly located somewhere” (“The Posthumanism,” 51).

According to Braidotti's understanding, nomadism is a transdisciplinary, polyglot style of thought involving “an acute awareness of the nonfixity of boundaries” and “the intense desire to go on trespassing, transgressing” (“Nomadic Subjects”, 37). For her nomad, identity is serial, paralleling Butler's universe-roaming, hybridizing, shape-shifting aliens (Jacobs 95). In the post-human era, nomads will embody the characteristics of nomadic subjects, creating a virtual smooth space with new body forms, and producing and strengthening desire machines in virtual entity space with bodies without organs as their ontology. The most representative figure is Maggie in *The Waves*, who has several metamorphoses and tells transformation stories. She is always in a becoming status

connected to the myths she orates. Through her final movements to help the new species evolve, she finally sublimates herself into a greater purpose/mission of constructing a shared community for all species.

3.1 A Tradition of Embodiment

While Christians agree that “all flesh is as grass” (Joseph, 1740) and the spirit is eternal, it is the recognition that humans possess the imprint of the creator, which endows human beings’ existence with worth and beauty. What makes humans human is partially their finitude and fragility in the world, helping humans to see life as a gift endowed with sacredness (Campbell 68). João and his daughter Lydia in *The Waves* are the traditional supporters of embodiment. Just as Nietzsche takes the body as the yardstick, they believe that the body is the rule of all things, and all starts from the body. Sticking to the experience of the body in everyday life, the ones supporting reality and the body consider that the disembodied posthumans think they can escape death, but they actually die when they decide to abandon the real world for the virtual world. As long as sin exists, death is inevitable. The measure of meaning in life is death itself. Producing in the void, what can the information subjects make? Coming from the emptiness, they offer emptiness in return.

Addressing the dislodgement between materiality and information, Catherine N. Hayles proposes that “for information to exist, it must always be instantiated in a medium” (13) and further asserts

a version of the posthuman that embraces the possibilities of information technologies without being seduced by fantasies of unlimited power and disembodied immortality, that recognizes and celebrates finitude as a condition of human being, and that understands human life is embedded in a material world of great complexity, one on which we depend for our continued survival. (5)

In pointing out the error of the illusion of spiritual immortality, Hayles vindicates corporality as the meaning of life, not the technological affection of the individual bodies or lifespan. Such an acknowledgment is a key topic for the fate of human beings as a species.

Although Ken Liu presents the myth of getting rid of a fragile body through virtual space in fiction, he believes that the physical experience is something that virtual space cannot replace: “What sustains us, and requires our real existence, is the world in which humans are destined to live, not the fantasy of a computer simulation” (Liu, “Carthaginian Rose” 55). The body is intelligent enough to express what it means to be alive more clearly than the mind does. In describing the disembodied posthumans’ return to embodied redemption, Liu advocates the growth of human nature: “The life would be an arc, with a beginning, an end, a lifetime, and a death” (*Arc* 102).

3.2 Death of Humanity

Man is created from earth, and to earth he will return. As the carrier of humanity, the flesh and blood body inscribes the mark of culture, nature, and society. When the metallic cyborgs meet Maggie and the crew on *Sea Foam*, they gaze intently at the ancient humans. It is hard to fathom how they feel; maybe curious, nostalgic or pitiful, or all of these intricate feelings. The older immortals also linger in the flesh, “unwilling to leave their past behind, their last vestiges of humanity” (*Waves* 155-156).

Since ancient Greece, Europe is usually considered the site of origin of critical reason and self-reflection, both qualities resting on the Humanistic norms: progress, rationality, and self-autonomy. Equal only to itself, Europe as universal consciousness transcends its specificity, or, rather, posits the power of transcendence as its distinctive characteristic and humanistic universalism as its particularity. Jon, Lena's first husband in *Arc*, is of English and Hebrew origin, his name meaning “God is gracious; gift of God”; he dies of cancer. João, of nearly the same origin and meaning, dies of old age in *The Waves*. One cause of death is unnatural, and the other is natural. The former aims to conquer age and death but dies of the disease, coinciding with the old Chinese saying “We Were Dead Before the Ship Even Sank”; the latter enjoys his life and dies at peace albeit under the calculation of the computer. They share the same philosophy: God's grace does not guarantee a carefree life. At this point, natural evolution has not yet yielded to technological evolution.

3.3 Myth of Man

In her energy-life-form shape, Maggie, the eternal wave of consciousness comes to the beach of a newfound planet, and tempted by the mud sculpts a mound into a sculpture of João. She narrates the myth of Creation, tells of humans' fear of darkness and longing for fire and light, becomes a pattern of light energy, and finally does the same thing as Nü Wa does: she creates a species. The only difference is the object: for one it is animals, for the other it is Chinese people.

In *Arc*, Lena continues her role as a body sculptor and completes the process of cleaning, soaking, and posing Jon's corpse herself alone, spending ten years perfecting the sculpture of Jon: “The Creation of Adam.” The sculpture is a symbol of the failure of Transhumanism: it aims to conquer age and death, but death still triumphs. Reaching his left hand, Jon seems accusing and “yearning for an uncaring God who would hold out the promise of eternal life only to snatch it away” (*Arc* 93). After technological failure, Lena utilizes the arts to keep him immortal, telling a story of genesis. In this fiction, the mortal body becomes the immortal symbol of human desire.

Analogically, Maggie is able to use a European white man's body as a medium to write her own epic of creation. Being the only thinking posthuman in the universe, Maggie is all alone. There is no one to converse with her, no one to share all this beauty; she feels the same loneliness as Nü Wa. Imitating Nü Wa's creation of Man, Maggie helps the tiny creatures adjust their insides, so they will "start to think of keeping a piece of the sun alive at night, of naming things, of telling stories to each other about how everything came to be. They would be able to choose" (*Waves* 160). As such, Maggie becomes God herself. At the beginning of *The Waves*, Maggie is telling the myth of Nü Wa to her children; at the end of it, she is playing Nü Wa. In doing so, Maggie does not only find the meaning of her immortal life but also takes part in the construction of the multi-species community advocated by Critical Posthumanism.

Roaming interstellar for light-years, Maggie Chao has experienced the metamorphoses of eternal youth, metallic body, and energy life, eventually imitating Nü Wa in making Man and adjusting the genes of the unknown creatures. The hero steers her way from disembodiment to embodiment, opposing Utopian immortality by abandoning the body, improving the body, or transforming the body. Liu's short stories share the same thought: without a body, a human is deprived of the taste of the world and the joy of life, therefore, he is a man without feeling. Such humans are not representative of the human future.

Beginning the story of metamorphoses at night, juxtaposing the several transformations with the myth of Creation without any light, and ending the story with Maggie imitating Nü Wa creating new species along the sea on a sunny day, Liu may be expressing his attitude toward human improvement and the direction of human evolution. Man has always longed for light, and posthumanism may be a destination. Reflecting, through science fiction stories, on the disappearance of the subjectivity, materiality, sociality, and practicality of the body, Liu's short fiction explores the posthuman survival and ethical dilemmas brought about by technological alienation. As the Chinese saying goes, as the Yangtze River forges ahead waves upon waves, the new generation will invariably surpass the old. The myths and gods are all related to the sea and waves. The waves push forward waves, a wave more than one wave. That may be the suggestion for the title "The Waves". The new gods winning against the old in the myths is the implication of the new posthuman excelling the classical human species. Using the stories as a medium, Liu presents his rational thoughts on technology-driven fetishism in reality. By presenting the figures of cyborgs, transhumans, information subjects, and nomadic posthumans, it is clear that Ken Liu keeps a watchful eye on the latest trends on the fate of human beings.

Conclusion

Ken Liu has not only blended genesis myths from different nations, but has also tried to depict the grand picture of human destiny and genesis. The challenge of the new and triumph over the old is a repeated theme in Ken Liu's short fiction, it implies that the new wave of posthumans will eventually override the old wave of humans. Becoming is characteristic of Liu's thinking. The posthuman thought reflected in Ken Liu's short stories, especially the creation myth in *The Waves*, sublimates the theme to the height of race continuation and posthuman life community. Seen from this sense, Ken Liu's science fiction is not only a critical reflection on the limitations of contemporary ethics but also predicts the development trend of human ethics through a virtual future story.

The desire for immortality comes from the fragility of the body, the realization of immortality depends on the transformation of the body, the dilemma of immortality comes from the disappearance of the uniqueness of the body, and the redemption of immortality involves a final return to the body. In effect, the thirst for transfiguration is believing in the possibility of a better world waiting for human beings to experience. This represents an eschatological focus, not satisfied with the present, and waiting in hope for the final stage of human evolution, longing for an Eden in which all will be well (Campbell 78).



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