

HUMAN AND SCIENCE, LAND AND SPACE: A CASE STUDY OF “XU BING TIANSHU ROCKET” BASED ON THE ECOCRITICISM THEORY

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Abstract: Firstly, conceived in the field of geology, the conception of Anthropocene has now been becoming an inspiration for many artists to create their work aimed at reflecting the relationship between human beings and nature. As one of the most representative Chinese contemporary artists, Xu Bing made another bold attempt to combine aerospace with art. In 2021, a rocket was launched from Jiuquan, China, named “Xu Bing Tianshu,” the first one named after an artist and his work. The rocket could not reach outer space as expected but left an unanticipated artwork on the earth: “Xu Bing Tianshu Rocket”: Crater. Adopting the ecocriticism theory, researchers take Xu Bing’s work as a case study to examine the conflictive and inseparable interaction of Science and Art using the method of text analysis based on art reviews, interviews with the artist, and the relevant news reports. The research indicates that the launch might demonstrate the arrogance of human power, but the emergence of the “Crater,” which was considered as a symbol of failure from a scientific standpoint, presents an earth-like work of art that is out of human control and beyond human expectations, by which means the artistic expression questions anthropocentrism in a powerful way. This study would be a pioneering example of viewing space art and land art in the eyes of ecocriticism, which is expected to enrich its critical practice and contributes to a humble reflection of environmental protection.

Keywords: Anthropocene, space art, Xu Bing, ecocriticism, land art

Introduction

Born in the 1970s, ecocriticism was an ideological trend of cultural studies of the United States in that time, whose content basically concentrates on the analysis of literary works. Ecocriticism is now under the third wave with the appearance of a geological concept, Anthropocene (Zhang, 2022). The term “Anthropocene” emphasizes the way how the geological epoch is dominated by humankind (Crutzen, 2002), which turns out to be a neutral statement of the extent to which human activities have affected the natural world. However, if we see it from the side of the object, we can interpret that the environment has been suffered a lot of damage due to the subject, the human being.

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Thus, there is a need to reconsider the whole relation between history and nature. As the historian Dipesh Chakrabarty (2009, p.201) states that the anthropogenic climate change “spells the collapse of the age-old humanist distinction between natural history and human history.”

On the first of February of 2021, a rocket was launched from Jiuquan, China. Named after an artist and his work of art, the rocket is known as “Xu Bing Tianshu” the first of its kind. The rocket’s body is covered with some characters that were selected from Tianshu, or the Book from the Sky, which is another art creation of the artist in the last century. What Xu Bing has done not only became a bold attempt into a still unknown and sort of mysterious field for art, the space, but also offered a new scale to reflection on the relation between the human and the environment in a larger sense, which would contribute to the better understanding of the contemporary art in the Anthropocene.

Although ecocriticism has been studied in detail in many literary criticisms, insufficient attention has been paid to the combination of this theory and the art. This case study argues that what Xu Bing has done enriched the examples of the ecocriticism, though it doesn’t constitute a typical one from two aspects, the motivation and the result. This paper first takes a look back at the theory of the ecocriticism, ecological art and space art and then based on the text of Xu Bing’s interview, his own feature and speech introduces the ecocritical scale to find a way in the intricate maze composed by the relation of human and science, land and space.

Literature Review

The first part of this review, centered on ecocriticism, begins by sorting out why ecocriticism emerged and how to use ecocriticism. Ecocriticism is evolving into more specific principles and objectives, with an increasing focus on equity issues. The second part of the literature review traces the research on ecological art, including the discussion on the history of art, diachronic nature, and the Chinese context. Finally, studies related to space art are collated, in particular, to explore the possibility of revealing cosmology in space art.

Ecocriticism

Ecocriticism is a new critical trend that originated from the United States. In the mid-twentieth century, the natural and spiritual ecology of the planet was in crisis, prompting reflection and introspection in Western thought (DeVore, 1965; Regan, 2004). In the social sphere, the environmental movement, as part of the New Social Movements of the 1960s and 1970s, played a role in challenging the dominant values and ideologies of Western society. Since the discussions of the Modern Language Association in 1991, the term ecocriticism has gradually increased in frequency in academic discussions, although the discussion at the beginning stage was mainly about how to provide new ideas for nature writing research (Liu, 2004).

Since the late 1990s, the field of ecocriticism has increasingly come to understand that the ecological catastrophe of the planet caused by human behavior is imminent and that the practice of literary criticism has a crucial role to play in solving this problem. For eco-critics, the crisis of the environment refers not only to the threat to the natural environment, but also to the crisis of the entire

civilized world (Buell & Wei, 2004). They see humans and the natural world as one, and humans as having responsibilities and obligations towards nature. These principles and goals determine the fundamental aim of ecocriticism, which is to try to accomplish a 'shift towards a biocentric worldview' through a call for cultural change (Branch et al., 1998).

In recent years, an increasing number of scholars have joined the ranks of ecocriticism, injecting many new elements into it. As many literary theories and critical approaches have been applied to ecocritical research, scholars have moved on to consider how to develop a more generative relationship between this ecocentric criticism and other humanistic, theoretical horizons and other types of critical practice. Current ecocriticism can use any method to study not only nature writing, but also to scrutinize any literary text (Liu, 2004).

In addition, the issue of environmental justice deserves attention. Kusserow(2019) argues that ecocriticism should consider socio-political considerations and needs to recognize the inherent complexity and contingency of ecocriticism. A better definition of ecocriticism should therefore address important ethical issues related to both human and non-human life (Nixon, 2011). Liu Bei also suggests that striking a balance between the spirit of environmentalism and the theoretical practice of literary criticism is an extremely important and difficult task for ecocriticism in its future development. Ecocriticism, like feminist criticism, is also a kind of identity criticism. Ecocriticism addresses the question of what my environmental identity is as a literary researcher, and why this is relevant to my position as a literary researcher talking about environmental issues and their connection to human interests.

Ecological art

In the context of art history, Eisenmann (2019) confronts the question of the Anthropocene with the need to reassess art and culture in the past and in the present. The past does not end, it is subject to change and needs to be constantly reshaped. This section will therefore discuss how an ecological perspective can help us to reconceptualize art, both in terms of its subject matter and, extending to the broader cultural context and the level of the times.

From a diachronic perspective, the most prominent impact of the Anthropocene question on art has been the emergence of ecological art, particularly for Western societies. From the 1960s onwards, the art world began to echo the turn towards ecocriticism and ecological theory, with the rise of environmental art and earth art, for example. In the mid-1970s, technical and social factors were also taken into account in artists' work. In the 1990s, sustainability and climate issues became common themes that transcended national boundaries, and "political ecology" became a hot topic of discussion in the art world. Every couple of years, a new theme emerges in the field of ecological art (Ma, 2022).

Ecological art has also emerged in China under the influence of traditional Chinese culture's concept of the 'unity of nature and man' and Western post-modern thinking. In general, the expression of natural ecological consciousness in artistic themes involves reflections on real-life issues. Contemporary Chinese artists have initially developed four visual themes and types of expression: Criticism of environmental alienation, Protection of animal rights, Overcoming the desire for

unlimited development, and Rebuilding a harmonious relationship between man and nature (Peng & Zhi, 2018). In relation to Xu Bing's original intention to launch the rocket, these themes help to interrogate the ideas behind this artistic practice and to assess the realistic concerns behind the ideas. Secondly, the manifestation of natural ecological consciousness in contemporary art expression is characterized by three main features: diverse artistic forms; a focus on the experience and interaction of the viewer; and a focus on the dynamic process of development of things (Chen, 2019; Peng & Zhi, 2018; Zhou, 2022). Finally, the choice of media for presenting ecological issues in contemporary Chinese art is made in the following ways: using original materials; restoring natural situations; and using modern technology to show the beauty of ecology (Zhang, 2015; Zeng, 2009; Zhou, 2022). These features of artistic expression and media choice facilitate a comprehensive analysis of Xu Bing's experiments in space art.

Space art

The imagination and exploration of space by man has been a long process. Ancient human records of the heavens were filled with fantasy and preserved in the form of images of astronomical observations. Modern astronomical observation techniques have helped mankind to understand the universe more precisely, the results of science have inspired the creation of art, and artistic thinking has stimulated science. During the Cold War, the space race between the United States and the Soviet Union accelerated the development of space technology. Artists also began to plot how to present their art in space. In recent years, the commercial shift in the space industry has created the conditions for artists to take to the skies, and space is gradually becoming a new platform for creativity.

There is no consensus on the concept of space art. The International Association of Astronomical Artists (IAAA) defines "space art" as "the genre of modern artistic expression emerging from knowledge and ideas associated with outer space, both as a source of inspiration and as a means for visualizing and promoting space travel" (IAAA, n.d., para.1). This definition sees space art as visual art concerning space, and the main forms are painting and sculpture. Arthur Woods divides space art into Astronomical Art and Astronautical Art. In particular, his definition of Astronomical Art is roughly the same as that of the International Association of Astronomical Artists. And he defines Astronautical Art as "an art form that specifically or purposely utilizes or integrates space technology and/or the space environment for its realization" (Woods, 2019, para.3). Woods' definition is more comprehensive, but still focuses on the technological context, ignoring the influence of spaceflight ideology, culture and ethics on space art.

For Xin Liu, space art is not just a product of modern technology, but should be understood in the context of cosmology, especially in terms of how individuals, races and societies can survive in the universe and understand the world as a community of one universe (Zhu, 2022).

In the introduction of *From the Closed World to the Infinite Universe*, Koyré (2016) mentions that from the Hellenistic, medieval to modern times, the Western world's view of the universe has gone through a journey of a geocentric universe, an anthropocentric universe, a heliocentric universe, and a centerless universe. The term 'space' is more commonly used in the modern scientific field associated

with space exploration in the 1960s, and it embodies a radically demystified view of the universe (Wei, 2021).

Compared to the Western world, China has a completely different view of the universe, which has a far greater political significance than its scientific significance, and where diverse cosmologies coexist in harmony (Wei, 2021). The Chinese context of cosmology, although also hierarchical, places greater emphasis on the unity of heaven and man. In other words, heaven, earth and man are interconnected and cooperative (Zhu, 2022). For example, in ancient times, the Chinese people taught not to disobey the farming season and carried out farming activities according to the lunar calendar, which was a traditional cultural wisdom and a very ecological and harmonious goal.

The cosmogony can be seen as an extension of the ecocriticism, which attempts to inquiry humanity's place in the universe and to see things in a holistic planetary perspective. In this perspective, human beings are a tightly connected system, a race of planets. It is only when one looks back after understanding space that one can realize the living environment and mode of existence of such a communal planet (Zhu, 2022). When space art begins to carry artists' questions about society and the survival of the human community in the cosmos, it will greatly expand the scope of discussion and help to provide a direction for thinking about solving real environmental problems.

Case study: Xu Bing Tianshu Rocket

Motivation: looking inwards to ourselves by looking outwards to the space

The Tianshu Rocket project was actually “by chance”, as Xu Bing confessed in an interview with Wang Ruiyun, an art historian of China: “This project was not due to the certain extent to which my mind had evolved so much that I had something to say, then I found a way to speak out. That wasn't the truth. I never thought before that my arts could have something to do with the space, science or even rocket, because those things are way too far from us” (Wang Ruiyun, 2022, para. 11). It was the creator of Wanhu Chuangshi Culture Media Company who came up with the idea of doing a piece of work with regard to space art.

As a matter of fact, space art is not an idea with a tight and disputable definition, but rather a field that many artists started to explore at first through their imagination due to the limitation of the technical developments at the 18th century. After a period of quiescence, at the beginning of the 20th century, space, as an inspiration, went back to the view of some masters such as Pablo Picasso's Constellations drawings. Before 1980s, the majority of the practice of space art occurred on Earth, which means the art didn't enter space actually. The rise of private commercial spaceflight allowed for the possibility of the appearance of real space art. The most direct effect of the privatization of the space industry on the space art is to lower the threshold for artists to truly realize their creative plans. A typical example is *The Last Picture*, from Trevor Paglen, who worked with materials scientists at MIT and developed a super-archival disc that could last for billions of years. Micro-etched into the disc and packed into a gold-plated case, a hundred photographs were sent into the space attached to the outside of a communications satellite in 2012.

There were also some other works left in the space, one of which could date back to 1971, with artist Paul Van Hoeydonck's sculpture *Fallen Astronaut*. Another example is *Orbital Reflector* by Trevor Paglen, which is a 30-meter-long rhomboid sculpture with a reflective surface that floats in space so that people on Earth can see the work with their naked eyes. Paglen revisited the topic of "art for art's sake" when he made the piece, claiming that what he had made was a "non-functional satellite" with no utilitarian purpose other than to present such a work. In Xu's eyes, compared with those pieces finished on the earth, accomplishing a piece of work with the aid of the conditions of outer space conforms more to the definition of contemporary space art.

To some extent, the emergence of the contemporary space art adapts to the shift of the focus of the ecocriticism in the 21st century, that is, from the nature to the environment, from the locality to the globality. The relevant academic study has therefore extended from one single place to various places, in which process a conflict occurred that as a famous ecological critic Ursula K. Heise (2012) concluded, on the one hand, environmentalists threw themselves into saving the earth from being abused by human with interpretation that their career was for the global well-being; on the other hand, there was a strong call of bringing back the "sense of place", assuming that the ecological problems should be ascribed to the loss of the connection between the human and the local environment. While in Xu Bing's case, launching an artistic rocket into the space is no doubtfully echo to the globality of the ecocriticism, since the place of the art creation was separated from the land under our feet and has gone to the outer space where the blue planet is no other than a tiny dot in the vast expanse of the universe.

The project also encountered the pandemic of COVID-19, when Xu was in New York experiencing the lockdown. The online meeting became the only choice of advancing agenda. As Xu said, the world is now like a mess. At that moment, Xu and his group came up with three keywords "desire, crisis, unknown" trying to justify the launch as sending these mankind thoughts to the universe. So, the motivation for the artist has transformed from conducting a cooperation with the part of a technical company to expressing or reflecting ourselves during the pandemic times.

Actually, another important characteristic of modern ecocriticism is the sensitive perception of the current situation of the numbness and indifference of the human being and in Xu's case, these mentioned numbness could be concluded as the chaos manifested by the spread of the COVID-19 virus. According to Iovino (2010, p.53), "placing the focus not outside but inside the human being, ecocriticism can contribute to a critical reflection on humanism, in which the category of radical otherness, taken as an attribute of the human, plays a pivotal role". As modern science has penetrated into almost every corner of our daily life, for art, it could be considered as otherness, at the same time it means the progress, the development. While with the aid of the rocket and astronomic technologies, the interference of science makes the art go back to the human itself, which could be pigeonholed under the umbrella of the ecocriticism. In one word, Xu's intention was not creating a piece related to the ecocriticism, but the process of the project deeply touched the topic.

Facing such a gigantic and new thing, the similar sense of emptiness made Xu Bing recall Tianshu. Those characters, born in Tianshu, while were replanted on the body of the rocket, which represented a revival of symbols. Even if we do not explore the meaning of the Chinese character in Tianshu, its

sense of absurdity will give people room to ponder. Accordingly, Xu Bing Tianshu Rocket, as a piece of work, is also a hierarchical process, a meaningful world that lingers mysteriously between the inner and outer boundaries of experience. The rocket is a material object that for public belongs more to the scientific field and is distant, so did Tianshu. We are all equal in front of these two pieces of art, that seemed so far away from our daily life while assimilated into our thoughts, from which it could be concluded that Tianshu Rocket is still an artwork that concentrates its focus on the humankind while having outer space as a frame of reference. If we accept with that the universe is an impersonal environment, the Rocket is a bold attempt on challenging the relationship between human and the unknown system.

With the increase of problems of our society, maybe it will be a good reference for human beings to use the exploration of outer space to obtain a solution to those problems. In fact, what is being addressed is still the terrestrial nature, and what is being explored is still the limitations of human. Eventually, what is being pursued after is an unprecedented and valid philosophical perspective.

Results: the unprecedented appearance of land art

While the rocket's launch lost, a shocking view appeared: a huge crater like those on the surface of the moon, spanning 28 meters in diameter. This crater is different from readymade art or happenings, in that the latter is an art of planned incidental occurrences, while the former is an art that appears first, and then is later identified as art. The crater, would be almost impossible to produce such a work of land art by planned construction, but such an ideal piece of land art has appeared.

Land art, as another important form of contemporary art first appearing in the 1960s, also experienced the switch from unapologetic use of the environmental resource to the creation aiming at healing or restoring the nature (Lintott, 2007), from which we could sense the close connection between this genre of art and the ecocriticism.

The crater represents the bleak destiny of the very first artistic rocket, while from the other side, the incidental nature of this landscape put a classic and fundamental question about art on the table again – who can define the art? Could those things happening under our feet now be considered as art? Thus, it could not be classified as the current land art category, as it wasn't created intentionally on the land with a certain purpose whether for affronting or protecting the nature; it's more like a sudden intrusion to the nature.

In ecocriticism, Clark (2007) introduced the scale framing, with which we could better consider the future of human beings under a more extensive scale, for example, to think from the part of the planet or universe in Anthropocene. For him, "an unavoidable element of any representation, evaluation or literary reading is to presuppose or project a certain scale in space and time for its issues" (p.73). When tracing back the reason of the failure, Xu said:

Imagine that if the launch had not been postponed for the reason that they were still worried about the character on the body of the rocket, and had someone check it repeatedly line by line and word by word, the launch wouldn't meet the temperature change, and there would be no more heat shield. Without heat shield, the error wouldn't be produced. One of the functions of art is to inject

incalculable elements into the computable, to remind people of what exists beyond scientific knowledge. The real failure is not the lack of technology, but the lack of cognition. (Xu Bing, 2022, para.52)

Based on Clark's review, Xu Bing's words offer us a new perspective that creation is man-made while the unexpected result is presented in nature. The Crater as an essential part of the work, is a physical object that can bring us back to the social scene at the time of the launch. Under this scale, if we interpret the rocket launch is an expression of human ambition, even the arrogance, the appearance of the crater made this ambition worthless in the face of nature. Anthropocentrism has been dealt a blow by nature.

Besides, the Crater holds a contest for power, which on the first level is the wrestling between the science and the art. If scientists can send rockets into space for practical purposes, why not artists. Art is for putting disorder into the order of science, as Xu commented, "when it comes to the space, our first impression would be about the science and technology, or other words describing the vastness, mystery of the universe and humanity's insignificant place in it. So, for the art, as these discussions are enough, we'd like to find other things". And the second level is the opposite relation between human and non-human forces, such as nature, weather and so on. The ambiguousness of this level's relationship lies in that land is not the original object for human's art, but the space, while for the uncontrollable factors, a mark or a scar was left on the land finally. From an environmental point of view, resources have been used on the whole rocket project and somehow the harm has been done to the environment due to the launch, but it technically failed. If efforts were in vain at the moment the group learned the result, was the so-called land art worth it? Or, the Crater is no more than an excuse for the human being to reflect this artistic action and thus reflect on themselves while on such an expense.

Conclusion

Through this case study, we revolutionarily introduced the ecocriticism in the critic of one of Xu Bing's art projects, Xu Bing Tianshu Rocket, by focusing on the motivation and the result, in order to bring some new thoughts to understand the contemporary art.

From the motivation of this work, it is learned that according to the ecocriticism, especially of the third wave, globality and locality has always been a heated debate point of the theory and in Xu Bing's case, the globality is interpreted as a broader point of view that regards the whole planet as one entity. By exploring outer space, what will ultimately be solved are still problems on Earth aiming to find effective and new philosophies. Secondly, from the results of the piece, a gigantic pit named Crater appearing revealed the failure of the launch while later was concluded as part of the art creation because of the complex society scene presented behind it. While from an ecocritical angle, if the intention of art is not for calling attentions to protect the environment or satirizing humans as destroyers of nature, whether Xu Bing's rocket project deserve being a reflection for ourselves with such a high expense, since the damage has been done to both the environment and the land.

This paper through one example studied, is trying not only to look back at the ecocriticism and the space art which is a new form of contemporary art, but also to renew the ecocriticism theory and add some eastern thoughts represented by Chinese art. The limitation of the study is that the referenced text is still of a narrow range while the analysis is a bit simple. Future research may make better use of the methodology of the ecocriticism and apply it to the art review and shed light on other main points contained in this Xu Bing's rocket project, such as those characters on the body of the rocket connected with his previous artistic creation, by which way a more comprehensive understanding of Xu Bing himself and his work could be obtained.

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