

Climate Fiction: Literary Ripples in the Climate Crisis

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Abstract

Since the Anthropocene, there has been a significant increase in human-caused climate crises such as severe weather events, natural disasters and climate change around the globe. Climate fiction, which conveys the unique environmental experience of the Anthropocene, comes into being in this context. Research and criticism of climate fiction also followed. The representative works of contemporary climate fiction and their key critical concepts not only outline a broad spectrum of cultural analysis, but also depict a lasting mode of world existence and a broad prospect of the Anthropocene, providing a new perspective for the construction of eco-cosmopolitanism community. This paper tries to give an overview of the background, development, criticism and future path of climate fiction in order to alert people to the issue of climate change, construct a new research framework of world literature and offer a new theoretical perspective for the writing and dissemination of world literature history.

I. BACKGROUND OF CLIMATE FICTION: CLIMATE CRISIS IN THE CONTEXT OF THE ANTHROPOCENE

On March 19, 2024, the World Meteorological Organization (WMO) released *State of the Global Climate 2023*. The report noted that records for greenhouse gas levels, surface temperatures, ocean heating and acidification, sea level rise, and retreat of Antarctic marine ice caps and glaciers have again been broken. According to the report, the misery and chaos caused by heat waves, floods, droughts, wildfires and tropical cyclones have thrown millions of people's daily lives into disarray and caused billions of dollars in economic losses. As the American Economist Andrew T. Guzman has stated in his book *Overheated: The Human Cost of Climate Change* (2013), climate change is not only an environmental issue, but also an economic one. He analyzed the costs of climate change from an

economic perspective through a wealth of data and examples. In detail, global warming and extreme weather events, such as floods and droughts, can affect agricultural production and damage infrastructure. It will lead to food shortages and famine, affect global supply chains, and ultimately result in commodity price volatility and global economic instability.

Ironically, however, it was the pursuit of so-called economic development that caused such a severe climate crisis hundreds of years ago. It all started with the Industrial Revolution, which changed the fate of mankind. The Industrial Revolution was a profound change in human history that dramatically increased productivity, promoted economic development, changed social structures and influenced cultural patterns. However, the Industrial Revolution brought a series of negative consequences to the environment. At that time, in

order to meet the energy needs of mechanized production and large-scale factories, large quantities of fossil fuels such as coal, oil and natural gas were mined and burned. Such behavior increased the concentration of greenhouse gases such as carbon dioxide and methane in the air, resulting in the continuous rise of global temperatures. Global warming, in turn, triggered problems such as rising sea levels, ocean acidification, and ozone depletion, posing a serious threat to humans and other living things. Global climate change meant not only global warming, but also more frequent, longer lasting and more harmful extreme weather events such as droughts, heat waves, hurricanes and floods.

In other words, since the Industrial Revolution, human activity has been a major influence in altering the climate, geological and ecological composition of the planet. In 2000, Nobel Prize-winning chemist Paul Crutzen proposed for the first time the term "Anthropocene" to refer to this new geographic epoch of anthropogenic-driven changes in the Earth's operating system. And in 2002, Crutzen and American marine biologist Eugene Stoermer jointly published an article "Geology of Mankind" in *Nature*, which clearly pointed out that the Earth has ended the 11,700 years of Holocene and entered the Anthropocene.

Climate change is the most compelling evidence of the widespread and profound impacts of human activity and the most important manifestation of the Anthropocene. But some climate changes are obvious, such as air pollution in London, the Chernobyl nuclear accident in the Soviet Union and the Fukushima nuclear power plant accident in Japan. Others are less easily visualized, such as the cyclical El Niño and La Niña phenomena, the hole in the ozone layer, global warming, and rising sea levels. Such phenomena often cover vast geographic regions, extending beyond the borders of multiple nations, and persist for extended periods of time, surpassing the lifetimes of multiple generations. These occurrences, which are greater in both time and space than most people imagine, are discernible only by the specific, localized effects they induce.

This phenomenon, whose spatial and temporal scale is beyond general imagination, is called "hyperobject" which was coined by Timothy Morton, an American ecological philosopher. Its semantic

scope refers not only to object, but also to events and phenomena. From the definition and characterization given by Morton, the phenomenon of climate change is a typical hyperobject. The spatial and temporal scale of climate change far exceeds that of general events, and human beings can intuitively feel local, specific, and transient weather changes, but it is difficult to feel global, overall, and long-term climate change. Climate change is also fully consistent with the five characteristics of hyperobject: exceeds the general time and space (temporal undulation), is not limited to a certain region (nonlocality), profoundly affects the whole earth and all kinds of organisms (viscosity), be presented through other objects and phenomena (interobjectivity) and can only be understood at a higher logical level (phasing).

However, the emergence of such a complex and unpredictable "hyperobject" in the Anthropocene does not seem to have aroused a sense of crisis. The slow process of climate change and seemingly localized ecological disasters on the time and space scales to which humans are accustomed tend to produce a sense of indifference and numbness, resulting in many misunderstandings, suspicions, and even denials about climate change. For example, climate change skepticism and climate change denial have always existed in American society; the climate change countermovement initiated by right-wing think tanks in the United States has influenced many American people; the Trump administration even announced the withdrawal of the United States from the Paris Climate Agreement on the grounds of protecting American jobs, seriously undermining global efforts to combat climate change.

Against this backdrop, it is the responsibility of the intellectual community as a whole to demonstrate the causes and dangers of climate change and to encourage practical action to address it. However, past experience has shown that science, based on facts and logical rigor, has its shortcomings in demonstrating climate change. First, many people still lack the scientific literacy to understand climate change. For example, science generally makes only trend-based climate predictions, but this rigor is seen as a loophole by many skeptics who believe that science cannot objectively prove that climate change exists. Second, the statistics, equations, graphs, and other means of presentation that science is

accustomed to using are often neutral, even pedantic, and do little to convey the powerful sensory impact of visualizing the profound effects of climate change that would inspire change in action. For example, science can predict the rate of sea level rise, but it is difficult for people to visualize the devastating effects of sea level rise that will inundate coastal cities and cause the breaking up of families.

Therefore, the arts and literature provide a valuable supplement to the study of climate change. Professor Dipesh Chakrabarty of the University of Chicago notes that individuals are limited in their experiences and cannot fully grasp the scope of "survival as a species." However, works of literature and art can assist in achieving this comprehension and provide objective information about the realities of climate change. They communicate to a general audience the facts and intricacies of this pressing issue, allowing them to fully perceive the shared crisis that humanity faces as inhabitants of this planet. Chakrabarty posits that creativity and resilience play vital roles in providing hope during the current period. Climate change, throughout world history, has served as a platform for expressing a range of emotions, encompassing both hope and despair.

Therefore, in the face of this unprecedented scale of hyperobject, more and more writers have resorted to writing, in order to reproduce and reflect on the cognitive rupture, ethical anxiety and aesthetic challenges brought by the Anthropocene. Against this backdrop, a new genre: climate fiction (climate change fiction) or cli-fi, has born. As "the most complete climate imagination of the Anthropocene," the rise of climate fiction is considered the most recent attempt to represent global climate change in eco-literature. Sarah Perkins-Kirkpatrick, an Australian environmental scientist, argues that creating, reading and researching climate fiction "may encourage readers to change their daily behavior" and "we still have time to reverse catastrophic climate change... we still have the ability, collectively and individually, to make sure we limit warming. It's up to us." Looking at the Western literary scene today, climate fiction has become a major creative endeavor for many writers.

II. DEVELOPMENT OF CLIMATE FICTION: LITERARY REPRESENTATION OF CLIMATE CHANGE ISSUE

2.1 Definition of Climate Fiction

Taken literally, it seems that any work of fiction that features climate change can be considered climate fiction. In the long literary genealogy of humankind, flood narratives, extreme cold narratives, and other reproductions of extreme climate change abound. Strictly speaking, however, as the American scholar Matthew Schneider-Meyerson (2017) defines it in his essay *Climate Change Fiction*, "only those texts that are consciously and explicitly related to anthropogenic climate change can be called climate change fiction". Much of pre-21st century science fiction that included climate change themes or elements would only qualify as "proto-cli-fi" as per Schneider-Meyer.

The key difference between the former and the latter is "Anthropogenic". The development of climate science not only draws a line between the truth and falsehood of the concept of the Anthropocene, but also clearly attributes the causes of climate change to humans themselves. As a literary representation of the climate change issue, the "climate" in climate fiction is not only a theme and a backdrop for the unfolding of the fiction, but it also reshapes the basic narrative operation: it significantly alters the relationship between character, plot, and setting, undermining the passivity of the locale and allowing it to actively participate in the transformation of the world-system. Climate fiction, which "no longer focuses on human relationships but increasingly assumes the connection between human beings and everything else", has arguably altered the assumptions of human relationships to place, conceived the greater possibilities for social and political organization, and redefined the globalized, mechanized, and consumer economy of the 21st century.

2.2 Three Development Stages of Climate Fiction

As a literary representation of the issue of climate change, the development of climate fiction is closely related to the change in social attitude towards the issue of climate change. Accordingly, the development history of climate fiction can be roughly divided into three stages.

The first stage was the 1960s-1980s. British science fiction writer J. G. Ballard was a pioneer in global warming climate change fiction. His *A Wind from Nowhere* (1961), *The Drowned World* (1962), and *The Burning World* (1964) all dealt with climate change, the last of which can be considered the first fiction to feature anthropogenic climate change. So far, Western climate fiction has begun, but its successors were few and far between. In the following two decades, only *Heat* (1977) by the American writer Arthur Herzog, *The Road to Corlay* (1978) by the British writer Richard Cowper, and *The Sea and Summer* (1987) by the Australian writer George Turner were published. All of them can be regarded as the forerunners of contemporary climate fiction. The time fault in the first stage of climate fiction is constrained by climate change skepticism on one hand, and by the entanglement of interest groups such as political conservatives and the religious right on the other.

The second stage, from the 1990s to the beginning of the 21st century, saw the first explosion of climate fiction with the United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro, Brazil, in 1992. Germany's first climate fiction *Der Planet Schlägt Zurück* (1993) was published. The American writers have also published works such as *Gaia Weeps* (1998), *The Doomsday Report* (1998), and *Greenhouse Summer* (1999) were published. During this period, climate change began to increasingly "enter the cultural imagination" and began to exhibit more solid scientific thinking on climate change. As Schneider-Meyerson noted, "While storytellers have been imagining the outcomes of climate change for millennia, fictional presentations based on scientific evidence and rationale have only begun to proliferate since the 1990s." A group of writers, represented by Octavia Butler, borrowed some of the predictions from climate science research and coupled them with science fiction-style plotting to make more realistic predictions about the world and explore humanity's response to dramatic climate change. The most typical works were Butler's *Parable of the Sower* (1993) and its sequel, *Parable of the Talents* (1998). It was at this stage that climate fiction developed into a truly conscious new genre, driven by both climate science and political activism.

The third stage was from the beginning of the 21st century to the present. During this period, the increasingly serious climate crisis formed the ground for the rise of climate fiction. The topic of climate change has become the focus of the academic world in the current era, which frequently appeared in the United Nations issues, media discourse and the public's personal experience of life. The United Nations Intergovernmental Panel on Climate Change (IPCC) released a report in 2001, which for the first time clarified the main responsibility for global climate change caused by human activities. The genre of climate fiction of this period was prevalent in North America. Among them, *A Friend of the Earth* (2000) by T. C. Boyle, *Flight Behavior* (2012) by Barbara Kingsolver, *The Water Knife* (2015) by Paolo Bacigalupi, *New York 2140* (2017) by Kim Stanley Robinson and *Oryx and Crake* (2003), *The Year of the Flood* (2009), and *Maddaddam* (2013) by Canadian author Margaret Atwood, were all important representatives. And then, the rise of Europe, which only began to catch up in 2005, opened the door to the cross-regional, cross-cultural impact of climate fiction. As the mainstay of this force, Britain contributed many highly regarded works such as the seminal work of feminist climate fiction *The Carhullan Army* (2007), *Solar* (2010) and so on.

Since the 21st century, these climate fiction writers have begun to explore the intricate constraints between the fields of nature, culture, economy and science, and to present the connection between climate change and human society from a psychological and social perspective. They link climate change to the discourses of the capitalist system, neoliberal ideology, and consumerist lifestyles, and pay more attention to the connection between the climate crisis and the real context of contemporary society. Climate change is no longer seen merely as a meteorological or ecological crisis, but more as a phenomenon that permeates our lives and beyond. It is also no longer portrayed merely as a backdrop to possible worlds, but is foregrounded as a "social, cultural, and political phenomenon" at the heart of the fiction. Today, the burgeoning climate fiction in turn serves as a major cultural force that inspires a growing sense of urgency and engagement among governments and the public, brings out realistic alternatives to fossil fuels, leads

the interweaving of environmental movements around the world and contributes to the transformation of the nature-culture dichotomy.

III. CRITICISM OF CLIMATE FICTION: UPDATED ITERATION OF ECOCRITICISM PARADIGM

Although the rise of climate fiction in the West is the latest trend in the development of ecological literature, there is a certain lag in the corresponding literary criticism of climate fiction. There are two reasons for this. Firstly, traditional ecocriticism does not involve “genre study”. While climate fiction is often regarded as “genre fiction”, which has led many ecocritical scholars not to pay enough attention to its vigorous development in the late 20th and early 21st centuries. Secondly, a considerable number of climate fiction writers have long been engaged in science fiction or fantasy writing, such as Kim Stanley Robinson, Paolo Bacigalupi, and Ursula K. LeGuin, etc., which are often considered “bestsellers” writers rather than “serious” writers. Traditional ecocriticism emphasizes “serious” works over “bestsellers”. It was not until the beginning of the 21st century that climate fiction formally entered the world of literary criticism, triggering heated discussions among eco-critics. Many critics who advocate that climate fiction should be regarded as a new literary genre have begun to devote themselves to searching for its roots and compiling its chronology.

Journals such as Matthew Schneider-Meyerson’s *Climate Change Fiction* (2017), Adam Trexler and Adeline Johns-Putra’s *Climate Change in Literature and Literary Criticism* (2011) and Adeline Johns-Putra’s *Climate Change in Literature and Literary Studies: from Cli-fi, Climate Change Theater and Ecopoetry to Ecocriticism and Climate Change Criticism* (2016), and academic works like Adam Trexler’s *Anthropocene Fictions: The Novel in a Time of Climate Change* (2015), Antonia Mehnert’s *Climate Change Fictions: Representations of Global Warming in American Literature* (2016) and Astrid Bracke’s *Climate Crisis and the 21st-Century British Novel* (2018) not only provide a more comprehensive overview of the development of climate fiction, but also put forward many literary theories which suitable for the criticism of climate fiction based on the analysis of the

representative works. How climate change has become an important theme in literature and spawned new literary genres and critical theories is the main content of their research.

By studying the above journals and academic works, three main types of literary criticism theories of climate fiction are summarized, namely interdisciplinary literary criticism, Anthropocene literary criticism and climate change criticism. Among them, the Anthropocene literary criticism and climate change criticism have developed from traditional ecocriticism, which reflects the renewal and iteration of the ecocriticism paradigm.

3.1 Interdisciplinary Literary Criticism

Climate change is a complex global issue that requires the joint attention and exploration of multiple disciplines, including literature, environmental science, and sociology. As the first scholarly monograph focusing on the study of climate change narratives in the United States, Antonia Mehnert’s *Climate Change Fictions: Representations of Global Warming in American Literature* (2016) selects long fiction, short stories, short films, and other texts and analyzes them from five interdisciplinary perspectives, providing many new ideas for the criticism theories construction of climate fiction, which is worth highlighting here.

Firstly, Mehnert analyzes the evolution of the consciousness of “space” in climate fiction. He takes Steven Amsterdam’s *Things We Didn’t See Coming* (2009) and Barbara Kingsolver’s *Flight Behavior* (2012) as his main subjects, and analyzes how those works present the global changes brought by climate change in the light of globalization theory and Ursula K. Heise’s Eco-cosmopolitanism. He points out that both are intended to emphasize the idea of “All things are connected” and the threat of global “deterritorialization” posed by climate change. While Amsterdam focuses on “uprootedness”, Kingsolver focuses more on “connectedness”.

Secondly, Mehnert examines the flux of the consciousness of “time” in climate fiction. By combining Fredric Jameson’s theory of archaeologies of the future, Mehnert analyzes the “timescapes” presented in T.C. Boyle’s *A Friend of the Earth* (2000) and Jean McNeil’s *The Ice Lovers* (2009). He believes that the author’s emphasis on the persistence of the

climate crisis is meant to criticize the short-sighted thinking of mankind and the view of time that has long dominated Western society, to warn people to take the “present” as the connection point of the “past” and the “future”, and to advocate people to examine the irreversible damage of human behavior to their own environment with the vision of change and development.

Thirdly, Mehnert explores how climate fiction presents the uncertainty, risk, and security of the climate crisis. He takes Nathaniel Rich’s *Odds Against Tomorrow* (2013) as his main object of study, critiquing the commodification of “risk” in American society and revealing the hidden crises in the mechanisms of power and structures of production. Mehnert points out that the uncertainty of the climate crisis does not justify the skepticism or denial of the climate crisis, let alone ignoring the existence of the climate crisis.

Fourthly, Mehnert discusses how climate fiction warns humanity to build a sustainable environment. Based on a close reading of Kim Stanley Robinson’s “*Science in the Capital*” trilogy, Mehnert points out that Robinson views climate change as a “hybrid entity”, thereby demonstrating the complex connections between nature and culture. He argues that the “*Science in the Capital*” trilogy is a product of “climate culture”, as Robinson deeply depicts the complex and fluid working mechanism of the “climate culture” system.

Fifthly, Mehnert discusses the social responsibility consciousness of climate fiction from the ethical dimension. Climate fiction pays much attention to the daily lives of vulnerable groups in the United States, such as illegal immigrants, the homeless, and low-income people, before and during the climate crisis. And thus, climate fiction has become an important medium for balancing the ethnic gap, promoting environmental justice, counteracting moral slippage, and rebuilding a better home in the United States. In analyzing the works of Octavia Butler and Paolo Bacigalupi in this chapter, Mehnert focuses on the unequal distribution of resources in saving the Earth’s environment as presented in the works. Due to differences in economic, racial, and social status, disadvantaged groups appear to be more powerless in the climate crisis. Mehnert pays special attention to the “most

vulnerable” people who may be overlooked in public discourse, unearthing the indispensable role of climate fiction in the search for environmental justice in his analysis.

3.2 Anthropocene Literary Criticism

In addition to interdisciplinary literary criticism, the ecocriticism dimension of climate fiction is self-evident. Ecocriticism is closely related to climate change in the natural environment. While Climate fiction has arisen because of global climate change, depicting the disasters brought about by climate change, analyzing the causes of climate change, and exploring the way out for human beings after climate change. However, in the context of the Anthropocene, the traditional ecocriticism targeting the natural environment can no longer satisfy the current research on climate fiction. Many eco-critics have begun to try to examine climate fiction within the concept of Anthropocene. They use Anthropocene literary criticism to break away from disaster narratives, to criticize human production and lifestyles, such as fossil energy dependence and consumerism, and to reflect on human mindsets and cultures, as well as the political and ecological injustices involved in them.

In his book *Ecocriticism on the Edge: The Anthropocene as a Threshold Concept* (2015), foreign scholar Timothy Clark, first introduced the geological concept of the Anthropocene into the field of literary criticism. He points out that although ecocriticism has received widespread attention and research, it remains marginalized in certain mainstream academic fields. This marginalization brings both challenges and opportunities, prompting ecocriticism to constantly seek innovation and development. In the new context of the Anthropocene, the relationship between human beings and nature has changed profoundly. The traditional mode of ecocriticism may become inadequate or even potentially destructive, so we need to pay more attention to the long-term impact of human activities on the natural environment and seek a path of sustainable development. He believes that “critical interpretation in the context of the Anthropocene implies an irreversible severance of past and existing consciousness and understanding”. Thus, he puts forward the “threshold concept”, pointing out that we need to re-examine and re-

evaluate the methods and purposes of literary criticism in order to adapt to this new context. He calls for a “Clark X” which means the theoretical and practical transformation of ecocriticism in the 21st century. In detail, Clark X is to face up to the issue of climate change and incorporate the essential feature of the Anthropocene, that is, the exacerbation of climate change as a result of human behavior, into literary criticism.

Taking short stories as the main object of study, he re-examines the ecological meaning of literary texts from the perspective of the Anthropocene, analyzes the negative impacts of environmental crises such as climate change on the human psyche, breaks through the ethnic/national literary boundaries and advocates for a global perspective on the representation of climate in literary works. On one hand, the concept of the Anthropocene has changed people’s perceptions of environmental issues, “providing a completely new framework for thinking and writing about environmental issues.” On the other hand, it puts forward new requirements for the criticism and interpretation of environmental writing, “requiring the formulation of new concepts and the development of new approaches in the humanities”.

Clark even extends the influence of the Anthropocene from the field of literature to the entire field of humanities and social sciences. “The concept of the Anthropocene has turned the humanities and social sciences upside down, shaking up paradigms and categories. It is now the earth system sciences, not historians, that name the era in which we live. Scholars in the humanities need to reexamine human behavior in the context of thousands of years of geological-level perspective.”

Besides, Adam Trexler’s *Anthropocene Fictions: The Novel in a Time of Climate Change* (2015) and Timothy Morton’s *Hyperobjects: Philosophy and Ecology after the End of the World* (2013) also provide appropriate theoretical underpinnings for the theoretical construction of Anthropocene literary criticism.

Domestic scholar Prof. Jiang Lifu is the scholar who connects the concept of the Anthropocene with literary theory the most in China, and is also an important guide in introducing Anthropocene

literary criticism into Chinese literary criticism. He (2018) believes that Anthropocene literature is a product of the Anthropocene era and a literary reproduction of the Anthropocene. As a representative of Anthropocene literature, Scholars need to closely scrutinize climate fiction and try to realize the construction of critical discourse.

We can start with the following aspects. Firstly, we should adopt a multidisciplinary and interdisciplinary research methodology based on the emerging field of environmental humanities, focusing on the question of the identity and status of human beings on Earth. To interpret and respond to the writing of the Anthropocene, it is necessary to combine the environment with philosophy, history and other disciplines and to explore the new environmental humanities. Secondly, we should adopt a historicist approach to explore the roots and processes of the Anthropocene. The Anthropocene is not only a geological concept, but also reveals the unique human history of the past two and a half centuries, marking a turning point in human and Earth history. The Anthropocene from the perspective of social sciences takes human beings, time and history as the focus of research, aiming at a profound historical reflection. Thirdly, we should break through the traditional “local” thinking in ecological criticism, and adopt the research method of global perspective to explore the subjective responsibility of human beings and the construction of a global community with a shared future for mankind amidst the historical turbulence of globalization and “reverse globalization”. Climate change is a global problem, and its solution must depend on global action, which requires the establishment of a global consciousness and the construction of a global low-carbon community.

3.3 Climate Change Criticism

In addition to Anthropocene literary criticism, climate change criticism is also an emerging criticism of climate fiction developed from ecocriticism. Foreign scholar Adeline Johns-Putra’s *Climate Change in Literature and Literary Studies: from Cli-fi, Climate Change Theater and Ecopoetry to Ecocriticism and Climate Change Criticism* (2016) and domestic scholar Yuan Yuan’s *Critical Climate Change: A Theoretical Perspective for the Construction of World Literary History*

(2022) provide insights into climate change criticism, also be known as critical climate change.

According to Adeline Johns-Putra, climate change criticism or critical climate change—a term introduced by Yates McKee—has mainly been formulated in essays in a number of special issues of literary theory journals over the past 5 years, such as the Oxford Literary Review.

Generally speaking, climate change criticism treats climate change in two ways. Firstly, it scrutinizes climate change as a cultural phenomenon using the conventional approaches of literary theory. These approaches, drawn from the broader realm of late 20th and early 21st centuries' continental philosophy, include deconstruction (inspired by Derrida), analyses of power and discourse (in the style of Foucault), or actor-network-theory (based on the work of Latour). All such theories tend to emphasize the contingent, shifting, and slippery quality of concepts often taken for granted as factual or real: climate change is one such concept. However, theoretical treatments of climate change should not be confused with the kind of cultural relativism that would claim that anthropogenic climate change does not exist; rather, they usually argue that how climate change is understood is a result of a host of interlinked psychological, sociocultural, political, and linguistic factors.

Secondly, climate change criticism sometimes suggests that the contingency and slipperiness that many literary theorists have long argued are now part of a profound but unrecognized condition of our existence and an unavoidable and undeniable part of our day-to-day lives, thanks to climate change. That is, climate change has turned what till now were simply theoretical or existentialist problems into lived experience. Thus, instead of scrutinizing climate change, some literary theorists use climate change, along with the insights of literary theory, to scrutinize contemporary life, culture, and thought.

Much of the work of prominent exponents of climate change criticism falls into the second category. This is the case with many of the critiques inspired by deconstruction, for example. Deconstruction as a literary approach adopts the insights of Derrida to reveal hidden and often contradictory meanings within texts. Broadly

speaking, deconstruction in critical climate change is the recognition that climate change is itself a deconstructive force because it shows the many inconsistencies in our cultural concepts. Clark has been one of the foremost advocates of such a position, suggesting, for example, that climate change has helped to deconstruct some of the anthropocentric assumptions at the heart of ecocriticism, such as those to do with nature and beauty. Other important theorists of climate change as cultural deconstruction are Cohen, who compares the philosophical challenge of climate change to an existentialist threat; the much-respected Derridean scholar Miller, who uses the concept of climate change to deconstruct globalization; and Colebrook, who collaborated with Cohen and Miller on a deconstructive analysis of climate change.

While domestic scholar Yuan Yuan believes that there has been a blossoming of research on literary representations of climate change in Western scholarship since the beginning of the new millennium. Climate change criticism analyzes the narrative innovations and thematic strategies of climate fiction and climate poetry in four aspects, namely, philosophy, history, affect, and politics. It includes six major theoretical routes: climate deconstructionism, climate historicism, holistic climate criticism, climate cognition and affect criticism, climate justice criticism, and empirical climate criticism. This criticism generally situates humans and nonhumans in a shared process of planetary development. Its major purpose is to observe the interrelationship between climate change and the production and transmission of literature in order to explore the role of literature in climate change mitigation and sustainable development, and thus to initiate a new critical paradigm in the Anthropocene.

IV. FUTURE PATH OF CLIMATE FICTION AND ITS CRITICISM: TOWARDS AN ECO-COSMOPOLITAN COMMUNITY

In the context of the Anthropocene, climate fiction rises in response to global climate change. And climate change is a classic example of what Timothy Morton calls a "hyperobject", whose space-time scale far exceeds that of ordinary phenomena

and human intuition. And Adam Trexler notes, "Climate change transcends local places and reaches global space." Therefore, climate fiction and its corresponding criticism are naturally based on the globality, which cannot be separated from such keywords as "global" and "worldwide".

Climate fiction depicts the climate change and ecological disasters which affect the well-being and future of all human beings and threaten the survival of other species, criticizes the consumerist culture and the industrialization wave driven by globalization that is common to all human beings and explores the way out for all human beings and even for all species. Therefore, eco-cosmopolitanism with global consciousness and global species as the key points is the rightful meaning of climate fiction.

Therefore, from the background of its birth and the content of its creation, climate fiction has a natural tendency towards eco-cosmopolitanism, conveying the concept of common interests and sustainable development of the community with a shared future for mankind and the human and natural life community, and reminding policymakers and the public to make the right response to climate change. In terms of future development, climate fiction and its criticism will continue to move in the direction of eco-cosmopolitanism, advocating the establishment of a community of eco-cosmopolitanism that includes human beings and other species in the global ecosystem.

4.1 From Local to Global

Early Western ecocriticism, and its ecological literature were distinctly "local" in their environmental imaginaries and ecological visions. Adam Trexler and Adeline Johns-Putra note in *Climate Change in Literature and Literary Criticism* (2011): "Ecocriticism has long been obsessed with the notion of locality and human dependence on particular environments." While a vibrant sense of place can awaken one's ecological conscience and foster ecological sensibility, ecological responsibility and loyalty to the environment, thereby maintaining a healthy interaction in the relationship between humans and nature. In reality, however, as Timothy Clark points out, "contrary to popular intuition, what may appear to be environmental protection at the local level may lead to environmental destruction at

the regional or even global level". Ecological interests may conflict between different "localities" and between "localities" and wider ecological interests.

The global consciousness of climate fiction breaks through localism. Because the global climate change depicted in climate fiction has both a material aspect and involves human-nature interactions. It is a grandiose event that breaks through the dichotomies of nature and culture, local and global. The nature of climate change itself dictates that one needs a certain kind of imagination and approach that goes beyond the "local" in order to understand the phenomenon in depth. In her book *Sense of Place and Sense of Planet: The Environmental Imagination of the Global* (2008), American eco-critics Ursula K. Heise contrasts "the sense of place" with "the sense of planet", calling for a shift in the focus of ecocriticism from the local to the global. To achieve this goal, climate fiction and its criticism need to move from the "local" to the global, especially from the "local" in the center of Europe and America to the "global" in the true sense, including developing countries.

4.2 From Human to Global Species

Early on, the vague species consciousness of humans existed on the basis of anthropocentrism. From an anthropocentric perspective, humans do not see themselves as being on the same level as other species. Also, humans tend not to focus on the biological and species-specific aspects of other species, but rather objectify them as resources or tools.

In the context of the Anthropocene, humans as a species have become a major geological force, profoundly influencing and even forever changing the Earth's geology and ecosystem. In order to achieve sustainable environmental development in the future, human beings should have a clear awareness of their own power as a species and recognize the causal logic between human actions and the adverse consequences of ecological degradation, species extinction, climate change and disasters. In addition to cognizant of their own species consciousness, human beings should also build a cross-species consciousness, that is, realize the commonalities and connections between themselves and other species, expand their focus

from the human species to all the species on earth and break through anthropocentrism.

On the basis of explicit species consciousness and cross-species consciousness, climate fiction constructs a global species consciousness. Because there is a consensus among climate fiction writers and critics that while humans affect the Earth and other species on the planet, the Earth's ecosystem also affects humans in return. They tend to use "the more-than-human world" to refer to the natural world outside of humans. But "the more-than-human world" is not a dichotomy with the human world, but rather an inclusionary relationship in which humans are only a part of the natural world and the human world is only a subset of "the more-than-human world".

4.3 From Bioregionalism to Eco-cosmopolitanism

In the context of the Anthropocene and global climate change, scholars have gradually moved away from early bioregionalism and expanded their focus from the local to the global, and from humans to global species. According to Mike Hulme, a British climate change scholar, "Climate change breaks the dichotomy between 'global-local' and 'nature-culture'." That is, the geographic extension from the local to the global and the construction of global species consciousness from humans to all species in nature discussed above. As a result, climate fiction and its criticism on the topic of climate change are also leading ecocriticism towards eco-cosmopolitanism.

Eco-cosmopolitanism, as a key theory of the third wave of ecocriticism, was proposed by the American eco-critic Ursula K. Heise in her book *Sense of Place and Sense of Planet: The Environmental Imagination of the Global* (2008). She defines eco-cosmopolitanism as "an attempt to envision individuals and groups as part of planetary 'imagined communities' of both human and nonhuman kinds". Eco-cosmopolitanism, can be described as an ecological version of cosmopolitanism, or a combination of ecocriticism and cosmopolitanism, which focuses on transcending anthropocentrism, expands the focus of attention to "the more-than-human world" and constructs a community of life between human beings and the whole nature.

Climate change, with its global spatial and temporal scale, affects the well-being and future of all humanity. Therefore, its solution must also depend on global action, which requires, first and foremost, the establishment of a global consciousness. Meanwhile, the global consciousness calls for the new idea of planetary belonging or "eco-cosmopolitanism". Climate fiction, with its focus on environmentally and ecologically catastrophic events and their impacts in the context of climate change, has become the literature of an "eco-cosmopolitanism that can unite people all over the world".

If humanity has already hit the iceberg of climate change, it may be time to think about how to rationalize the use of the few life rafts available to save the human-nature community. As a literary researcher studying climate fiction, one of the future paths of response is to construct a critical discourse on climate fiction on the basis of eco-cosmopolitanism by combining historical contexts and ecological realities. This requires us to break through the geographic and cultural categories of localism and the narrow species-consciousness limitations of anthropocentrism and to think from the perspective of the global ecosphere. Only in this way can people better understand and cope with the climate change in the Anthropocene, and establish an eco-cosmopolitan community that includes both human and non-human species.

REFERENCES

- [1] Bracke, Astrid. *Climate Crisis and the 21st-Century British Novel*. Bloomsbury, 2018.
- [2] Clark, Timothy. *Ecocriticism on the Edge: The Anthropocene as a Threshold Concept*. Bloomsbury, 2015.
- [3] Guzman, Andrew T. *Overheated: The Human Cost of Climate Change*. New York: Oxford University Press, 2013.
- [4] Heise, Ursula K. *Sense of Place and Sense of Planet: The Environmental Imagination of the Global*. New York: Oxford University Press, 2008.
- [5] Hu Zhihong and Wang Xun. "Climate Fiction: Origins, Definitions, Genres, and Challenges." *Social Science Front* 07(2023):165-173.
- [6] Jiang Lifu. "A Brief History of Cli-Fi and a Tentative Construction of the Anthropocene Cli-Fi Criticism." *Journal of Poyang Lake* 2020, (04):56-66+126.
- [7] Jiang Lifu and Meng Qinfen. "Anthropocene: A Term from Geology to Literary Criticism." *Journal of Hunan*

University of Science & Technology (Social Science Edition)
2018,21(06):44-51.

- [8] Johns-Putra, Adeline. "Climate Change in Literature and Literary Studies: From Cli-fi, Climate Change Theater and Ecopoetry to Ecocriticism and Climate Change Criticism." *Wiley Interdisciplinary Reviews: Climate Change* 7.2 (2016): 266-282.
- [9] Li Jialuan. "Toward an Eco-cosmopolitan Community: The Path of Cl-fi and Cli-fi Studies." *Journal of Poyang Lake*.04(2020):67-76+126-127.
- [10] Mehnert, Antonia. *Climate Change Fictions: Representations of Global Warming in American Literature*. Springer, 2016.
- [11] Morton, Timothy. *Hyperobjects: Philosophy and Ecology after the End of the World*. Minneapolis: University of Minnesota Press, 2013.
- [12] Schneider-Mayerson, Matthew. "Climate Change Fiction." *American Literature in Transition* 2010(2017): 309-321.
- [13] Trexler, Adam. *Anthropocene Fictions: The Novel in a Time of Climate Change*. Charlottesville: University of Virginia Press, 2015.
- [14] Trexler, Adam and Johns-Putra, Adeline. "Climate Change in Literature and Literary Criticism." *Wiley Interdisciplinary Reviews: Climate Change* 2.2 (2011): 185-200.
- [15] Yuan Yuan. "Critical Climate Change: A Theoretical Perspective for the Construction of World Literary History." *Theoretical Studies in Literature and Art* 2022,42(03):68-79.