

# On Climate Writing in *The Water Knife*

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**Abstract:** Contemporary American writer Paolo Bacigalupi bases his literary imagination on the real world. In *The Water Knife*, he makes the abstract and grandiose process of climate change tangible and palpable, and constructs a picture of the drought-ravaged American Midwest in the near-future, providing a rich narrative field for the discussion of global climate change. Through the representation and impact of climate issues presented in the novel, the paper analyzes the special manifestations and symbolic and metaphorical significance of climate writing from the historical dimension, ecological dimension and ethical dimension, with the hope of promoting people's deeper understanding of and attention to climate change, integrating macro climate change with micro human survival experience and giving full play to the imaginative, cognitive, aesthetic, critical, educational and behavioral functions of climate change fiction, so as to enable people to better assume their responsibilities of environmental ethics, and provide useful reference for coping with climate variability and bridging ecological texture.

**Keywords:** Climate writing, Paolo Bacigalupi, *The Water Knife*.

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## 1. Introduction

As one of the challenging global issues in the 21st century, climate change has increasingly become the focus of both natural sciences and humanities and social sciences, evolving from a purely natural phenomenon into a complex discourse phenomenon. As defined by the United Nations Framework Convention on Climate Change (UNFCCC), "climate change" means a change in the composition of the Earth's atmosphere resulting from direct or indirect human activities, in addition to the natural variability of the climate observed over comparable time periods. In the early 1980s, American biologist Eugene Stoermer was the first to propose the concept of Anthropocene. At the beginning of the 21st century, Dutch atmospheric scientist Paul J. Crutzen further elaborated and popularized the term, arguing that human beings emanate a powerful influence and will be the pivotal force of today's new geologic period. It is undeniable that the Anthropocene era, characterized by global climate change at its core, has arrived on schedule. Against this background, the distinctive literary genre of "climate fiction" was born and developed as the latest attempt to present climate change and its causes in the Anthropocene in literary narratives.

At the same time, novels with global climate change as the main narrative have rapidly taken over the market. Among them, the literary works of Paolo Bacigalupi, an up-and-coming American author who is highly regarded in the international science fiction community, have gained worldwide fame. Paolo Bacigalupi is a renowned American science fiction author who, since his first science fiction publication in 1999, has dedicated himself to writing climate stories in which climate is a key element in "plot construction, storytelling, and narrative power" [1]. He has won Hugo Award, Nebula Award, Locus Award, John W. Campbell Memorial Award, Compton Crook Award, Printz Literary Award, and many other top international prizes, and has been called the worthy successor to William Gibson. With this in mind, Paolo Bacigalupi's place in the American literary landscape is evident. As one of Paolo Bacigalupi's masterpieces, *The Water Knife* (2015) builds a near-future Midwestern society through a climate-apocalyptic narrative,

depicting the drought-stricken states of the U.S. in the midst of a conflict over scarce water resources, and centering on the three main characters, Angel, Lucy and Maria, who are in danger of surviving and searching for the senior "water rights" document, which determines the ownership of all the water in the Colorado River.

Throughout the studies on *The Water Knife* at home and abroad, most foreign scholars have studied it from the aspects of emotional ecological narrative and dystopian narrative. In 2017, Alexa Weik Von Mossner [2] uses affective ecology to examine the relationship between cognition and emotion in *The Water Knife*, viewing the novel's human-induced climate change as a catalyst for dramatic evolution in the ecological, economic, and social spheres, which in turn prompts changes in the spiritual dimension of people; In 2019, Rama Regmi [3] recreates "ecological other", that is the suffering livelihoods of the climate disadvantaged, represented by the three protagonists based on the ecological dystopian narrative of the novel; Similarly, Taylor Sheppard [4] reads *The Water Knife* as a contemporary dystopian work that brings to life a future world rife with natural and social problems. As most domestic scholars' research perspectives still land on the study of Paolo Bacigalupi's *The Windup Girl*, there are few domestic studies on *The Water Knife*, and there are only five academic journals and one dissertation, which can be categorized into the following: research on the image of China, dystopian research, study of community and study of ecofeminism. Although small in number, the number of publications in core journals has been on the rise in recent years, with the qualities of novelty and diversity of perspectives. In 2020, Wu Anqi [5] combs through the changes in the image of China in Western novels since the eighteenth century and examines the portrayal of the future image of China in novels; Qin Zilin and Jiang Lifu [6] analyze the three dimensions of China's image in *The Water Knife* as an ecological utopia in the future China, a climate problem solver, and a bystander to climate catastrophe, to reveal the deep-seated motives and real intentions behind it; Yang Mei and Zhu Xinfu [7] illustrate in detail a dystopian urban landscape of ecological collapse, political disorganization, human degradation, and environmental injustice in the near

future of the United States due to extreme water scarcity; In 2021, Chen Shifan and Jiang Lifu [8] portray the collapse of the blood community, social community and spiritual community triggered by the climate crisis; From the perspective of ecofeminism, Gao Linping [9] interprets the story of the three women in the novel who are oppressed in the male-dominated society and eventually fall victim to it. In addition, Ge Youran [10] takes *The Water Knife* as the object of study, and based on Tönnies's theory on community by blood, community of place and community of spirit, and the related concepts extended from them, he starts from the family community, gated community and authentic community, and examines the text's idea of community in the context of the Anthropocene.

Undoubtedly, the above research paradigms have explored the rich significance of Paolo Bacigalupi and his novel's research perspectives from different aspects, but there has been little mention of the novel's literary and rhetorical techniques that take climate change as the subject of narration, concretely and stereoscopically present different dimensions of climate writing, and sort out the deep-rooted causes of climate change writing. Therefore, the paper focuses on the unique ideological themes and narrative features of the climate text, analyzes the climate writing in Paolo Bacigalupi's *The Water Knife* from the historical, ecological, and ethical dimensions, and then examines the occurrence, development, and future trends of climate writing in literary texts, and explores the warnings and inspirations of Paolo Bacigalupi's novel to the climate challenge.

## 2. Historical Dimension of Climate Writing: Temporal Evolution of "Water Rights" Archives

*The Water Knife* manifests the historical and cultural context of climate narratives, highlights the political and historical background of climate dilemmas, and shows the historical dimension of its climate writing through the presentation of a memory text in the form of "water rights" archives as a representation. As a central element of the text, the senior "water rights" archives that determine the ownership of the Colorado River's water originated in the late nineteenth century and are "some of the most senior rights on record" [11]. The author's scenario for the "water rights" archives references the colonial plundering of natural resources such as water and land by the colonizers, alluding to the history of colonial expansion in terms of racial aggression and massacres. This form of violence is a reproduction of "structural violence" that "fundamentally affects the present ecosystem" [7]. "Structural violence", of which racism and racial discrimination and inequality are typical examples, refers to "the systematic way in which a particular social structure or social institution corresponds to the slow destruction of people by preventing them from meeting their basic needs" [12]. Meanwhile, this violent history carried by the memory text is influencing the judgment and thinking of the protagonist. Angel, the enforcer of water rights and hunter of unlawful seekers of water rights known as the "Water Knife", imagines "Civil Warera military guys, sitting across the table from the Indians they had destroyed, scratching out agreements on parchment sheaves. Each man handing a feather quill pen to the next, dipping the sharp tip in ink, each man scratching his name on paper" [11]. In addition, with the aim of "elucidating the causes of climate

change in the panorama of human civilization", the author intersperses the history of the evolution of the "water rights" archives in the novel, and also describes the reconstruction and reappearance of other historical memories, such as "the destruction of the Hohokam civilization", "the ancient and modern transformations of the Colorado River", and "God is dead" [7]. Lucy, an out-of-state reporter who makes her living covering the water wars, and her friend Jamie has been searching for "water rights" archives in old archives. These old archives epitomize a particular period in history, recording "not just water filings - other archives, too. Bureau of Land Management. Bureau of Reclamation. Army Corps of Engineers. Bureau of Indian Affairs..." [11], Jamie searches through them and finds the precious "water rights" archives.

Significantly, the classic *Cadillac Desert* (1986) by American environmentalist and author Marc Reisner appears several times in *The Water Knife*, and the "water rights" archives change hands several times before it is finally found by Angel in this book. This episode highlights the author's careful design of the memorized text and is not a coincidental part of the story's development. *Cadillac Desert* recounts the history of hydraulic geoengineering undertaken by the U.S. Bureau of Reclamation and the U.S. Army Corps of Engineers teams from the 19th century onward to settle the West to solve water supply problems. Marc Reisner points out that the dam-building competition between the Bureau of Water and the Army Corps of Engineers that took place after World War II resulted in many economically unsound and environmentally destructive construction projects [13], which will undoubtedly contribute to climate change and global warming. In turn, deteriorating climate conditions could trigger a total collapse of the environmental foundations of global economic and industrial modernization [7]. In the novel, Paolo Bacigalupi incorporates *Cadillac Desert* into new scenarios of narrative exchanges in which fiction and reality interact, correlating the historical text with the present text and reflecting the historical dimension of climate writing in the novel.

In addition, the implicit character of climate change in the form of "slow violence" is revealed in the novel. Under the prolonged assault of climate catastrophe, the states of the United States are in a state of crisis and precariousness, with drought-savaged wilderness. Today the lake has "whittled now and filling with silt besides" [11]. Outside of ecological zones such as "Cypress Arcology" and "Taiyang Arcology", there is only desert and death. Every town looked almost the same without water. It did not matter whether it was at the top of the Colorado River or the bottom. It could be Las Vegas or Phoenix, Tucson or Grand Junction, Moab or Delta. In the end it was always the same: traffic lights swinging blind on tumbleweed streets; shadowy echoing shopping malls with shattered window displays; golf courses drifted with sand and spiked with dead stick trees [11]. It is evident that people are slowly sinking deeper into the cage of the climate crisis. "Slow violence" was coined by Rob Nixon, who argues that such violent narratives are "slow and infinite" [14]. "Slow violence" differs from direct, immediate forms of violence with sensational effects or serious consequences, in that it does not produce either instantaneous shock or sudden fear. The author's use of memory texts to develop a narrative that makes the incremental, incremental violence of climate change less untouchable and more insidious is an important part of presenting the true face of climate change.

### 3. Ecological Dimension of Climate Writing: Spatial Manifestation of Multiple Forms

It is well known that time and space are the objective forms of existence of matter and are the two fundamental perspectives for describing human social experience in the context of climate change. In the novel, Paolo Bacigalupi demonstrates the ecological dimension of climate writing by realizing the spatial scale of climate change through the transformations and interactions of different narrative spatial forms, i.e., real space, virtual and real space, and illusory space. First of all, “Phoenix”, as a typical dystopian urban physical space in the text, becomes an energetic symbolic system of the causes of climate change, which realistically presents the destructive impact of the climate crisis on the urban natural environment. The spatial fragmentation of the special ecological arcology, the center of town, and the dark zone in “Phoenix” has gradually formed an energetic symbol of environmental injustice. Environmental justice means that individual human beings equitably assume responsibility for resources and the environment, and that each person (the spatial dimension covers the Earth, and the temporal dimension covers present and future generations) enjoys equal environmental rights and fulfills the corresponding environmental obligations in accordance with the environmental rights and interests actually enjoyed. However, the interior spaces of Phoenix have been mutilated, and environmental justice issues are serious. The ecological arcology “glowed in the muddy darkness of the storm, seductive”, “and perhaps even greenery within” [11], inhabited by an elite class of chief hydraulic engineers, biotechnology engineers, and so on; the center of town was “alive and blazing with neon and activity”, while the dark Zone was “dead and black” [11]. Class divisions are evident in the three regions, with Sarah and Maria, climate refugees from Texas, having to sell their bodies cheaply to try to qualify for residency in the ecological arcology. Scattered in the dark zone of the city, the refugees long to leave Phoenix and find another place to live, to travel to Nevada or California, or even cross the border to China or Canada, but the chances of success are slim, as “tents with Red Cross and Salvation Army logos blurred past. Beside them bodies lay in bags, long rows of people whose journey had ended. Rows and rows of bodies, waiting for guardies to bury them” (85). The three main characters of the novel, Angel, Lucy and Maria, although originally located in different spaces, belonging to different social classes and having different social statuses, are all swept into the central event of “tracking down the ‘water rights’ archives”, and the three juxtaposed plot clues are intersected in the real space of “Phoenix”. Through the juxtaposition of narrative space, the author “transforms the abstract concept of global climate into a plot, through the arrangement of a limited range of characters and activities” [15] that captures the ecologically and spatially diffuse nature of climate change, reflecting the attempt of the author to expand the climatic writing in her novels from a “local” to a “planetary” perspective within the context of globalization, and suggesting that climate change is a global ecological crisis that transcends geography or limitations.

Then, although *The Water Knife* is a fictional novel, the catastrophic future embedded in the novel is not a fabrication, but rather stems from in-depth research and real-life reporting by a large number of science and environmental journalists.

Paolo Bacigalupi mentions in the novel’s acknowledgment section alone that the inspiration for *The Water Knife* owes a great deal to a number of writers and journalists and to *High Country News*, as well as to websites such as the water news site. Based on this, the author has accomplished a lot of “real” news discourse construction in the novel. On the one hand, news flashes with key phrases such as “#CarverCity, #CoRiver, #BlackHelicopters...” [11] appearing on forums and social networking sites, images of “the destruction of a dam up in Colorado” [11] shown on TV screens, and articles written and published by Lucy are “important media for communicating ecological realities and popularizing climate risks” [7], which are shaped into network and mediated spaces. On the other hand, the news media under the climate crisis suffers from the manipulation of power and interest groups, “Lucy and her colleagues from CNN and Xinhua and *Kindle Post* and Agence France-Presse and Google/*New York Times* were more than happy to feed on the corpse” [11], and these news reports seriously violate the logic and nature of media communication, trying their best to hide the truth of the climate catastrophe, prompting the media and the information space to create a virtual scene, evolving into a virtual and real space for the interaction of ecology, power, and capital, to further critique the Western concept of development that pursues the proliferative nature of capital, and to expose the intrinsic causes of climate change and its harms to the social values.

In the end, *The Water Knife* also vividly portrays the illusory space, which is rich in connotations, metaphors and symbolism. Recurring throughout the novel are Lucy’s dream of “the land and her body, absorbing the miracle of water that fell from the sky” [11], as well as Maria’s dream of an aquifer deep in the cool, inviting earth and her dream of rowing with her mother and father to the promised land in their hearts, China, with all the attributes of a utopia. In the eyes of Maria’s mother, dreams are blessings, whispers from God, and the wingbeat of saints and angels [11]. The dream space created by these dreams emphasizes people’s infinite thirst for water when they are caught in a climatic dilemma, and the glimmer of hope in the midst of adversity. Some of the nightmares, however, act as foreshadowing, such as Maria’s dream of a fire, hinting at their unexpected encounters in the ecological arcology and the tragedy of Sarah’s accidental role as a witness to the murder of a professional killer. Paolo Bacigalupi further embodies the profound impact of global climate change on the spiritual and psychological dimensions of people by shaping illusory spaces.

### 4. Ethical Dimension of Climate Writing: Body Narratives of Material Penetration

In *The Water Knife*, Paolo Bacigalupi uses material penetration, body and trans-corporeality narratives to constitute a micro-documentation of climate change, touching on the unequal distribution of environmental resources among vulnerable groups, directing the source of environmental ethical dilemmas to the socio-political and economic system of capitalism, and then visually presenting people’s ethical choices in the face of climate catastrophe, reflecting the ethical dimension of climate writing. In essence, although the body is a physical presence that serves as the physical basis for one’s perception of the problem of climate change, it is also a symbolic signifier with subjective dynamism, capable

of expressing the intrusion and impact of climatic suffering on people's physical bodies, as well as the physiological and psychological responses that the human organism produces in response to climatic stress. The novel opens by stating that "sweat" is "a body's history, compressed into jewels, beaded on the brow, staining shirts with salt" [11], highlighting Paolo Bacigalupi's embedding of body narratives within climate discourse. In the novel, people live in a dry desert land and the city is shrouded in a chaotic and gloomy sandy landscape. Sandstorms relentlessly attacked the bodies of the refugees, making their chests uncomfortable and the dust burrowed into their lungs, and people wore dust masks and sandproof glasses when they went out in order to reduce the level of damage to their flesh.

In *The Water Knife*, the body becomes an object to be disciplined by the political power of the environment. In the novel, the violent appropriation of the oppressed's bodies by the centralizer is an expression of environmental political power. Catherine Case, "Queen of the Colorado", leads the Nevada National Guard, a.k.a., known as the "Camel Corps, a.k.a." and becomes the quintessential figure of power. She goes on a killing spree for water, assigning her henchman Angel to blow up the water plant in Carver City, wiping out the entire city and killing hundreds of thousands of people. Half of Texas has been buried in the desert by Coyotes who charge exorbitant "smuggling" fees for climate refugees and then kill them indiscriminately [7]. Professional killers kill anyone who may have the "water rights" archives in an extremely brutal way, leaving no witnesses or clues to the crime. It follows that the body is both corporeal in the physical sense and a vehicle for symbolic meaning.

Furthermore, Paolo Bacigalupi highlights the dynamism of matter, imagining the human body as a "trans-corporeality" and emphasizing the close relationship between the human body and its environment. Various substances in the environment, such as toxins and molecules, invade, penetrate and constitute the body, and thus a toxic environment produces a toxic body as an expression of material mobility. Through the migration of substances within, between, and outside the body, the imprint of the environment is deeply engraved in the body, and then ultimately manifests itself in the form of symptomatology [16]. In the novel, hantavirus and valley fever are pervasive, the drug cartel states have moved in, Texans, New Mexicans, and half of Latin America have been turned into drug couriers, and a large amount of the tax revenues of "Phoenix" come from drug trafficking. The numerous scourges caused by climate change have caused people to live in the shadows all day long, and the body has become an outlet for people's repressed emotions and desires. The chain reaction in Maria's body after she took drugs is a good example of the permeability of the effects of substances in the environment on the human body. This material penetration, which takes place all the time, radicalizes the production of toxic discourse. For Maria, "the drug was music, pounding through her, filling her, stretching and smearing her - and then blossoming with wild life" [11]. The toxic discourse shows the interaction between human activity and the material world, and thus the critique and reflection of ecocriticism on the climate crisis, carrying an accessible claim to environmental ethics.

## 5. Conclusion

*The Water Knife* is a warning in the most imaginative way, but its core is actually the present moment of existence,

reflecting its "near-future" realism and contemporaneity. The future outlook in Paolo Bacigalupi's novels endows the human present with historicity, and by throwing out shocking climate truths, it provides different narrative framework insights for responding to and attempting to cope with the climate crisis, reflecting the unique narrative value of climate novels and observing the real context with literary imaginations, which is of key practical significance, conducive to raising people's awareness of the climate issue, and better structuring the bridge between the present and the future. Thus, studying climate writing in Paolo Bacigalupi's novels provides new theoretical perspectives for interpreting his works, further enriches and develops the study of climate novels and Paolo Bacigalupi's texts, and has a long-term significance for knowing the impacts of climate change on the state of existence of the earth, and for contemplating and exploring the possible choices that human beings can make to deal with the global climate crisis.

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