

Evolution and Characteristics of "Carbon Neutrality Movies"

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Abstract "Carbon neutrality movies" are movies that focus on carbon neutrality as the object of expression and dissemination. Using carbon neutrality as an element, it influences the development of the plot, reflects environmental changes, and focuses on climate change caused by carbon emissions. At the same time, it focuses on offsetting carbon emissions through carbon neutrality behavior, showcasing the impact of carbon neutrality. From the perspective of ecological movies, the evolution of carbon neutrality movies at three stages can be explored. The first stage is high-carbon movies that reflect the high conflict between humans and the natural environment. The second stage is low-carbon movies, reflecting humanity's pursuit of a harmonious coexistence between humans and nature, thus adopting green and low-carbon behaviors. The third stage is carbon neutrality movies, which awaken or guide the public to pay attention to carbon emissions, promote low-carbon living, guide life practice in a carbon neutrality way, and create a better life. There are three characteristics of "carbon neutrality movies", including scientific reflection on global warming, advocating energy conservation and emission reduction in daily life, and promoting clean energy in policies.

Key words Carbon neutrality; Movie; Evolution; Characteristic

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With the progress of the times and the development of technology, people's living standards and quality have also been significantly improved. More and more people are paying attention to a healthier living environment and lifestyle. Therefore, health and environmental issues have also been placed in a very prominent position. "Carbon emission" is a crucial factor causing environmental problems. Reducing and offsetting carbon emission, and ultimately achieving carbon neutrality are the only ways to solve carbon emission problem. On September 22, 2020, the Chinese government proposed at the 75th United Nations General Assembly: "China will increase its national independent contribution, adopt more powerful policies and measures, strive to peak carbon dioxide emissions before 2030, and achieve carbon neutrality before 2060"^[1]. The issue of carbon neutrality has never received the same global attention as it does today.

As a medium to spread culture, ideas and opinions, movie's popularity is self-evident. With the continuous progress of movie production technology and the rapid development of mobile Internet, as a popular art style, movie has great influence on society. The reproduction function, expressive function, educational function, aesthetic function, and dissemination function of movies fully showcase them as an art in front of the public, thus having a huge impact on the public^[2].

Obviously, using movies to artistically present carbon neutrality knowledge to the public can fully showcase related content of carbon neutrality, attract people's attention, popularize carbon neutrality knowledge, and guide people's behavior. At its root, the theory and concept of carbon neutrality belong to the category

of ecologism. From the perspective of genre movies, carbon neutrality movies should belong to ecological films. "In China, the term ecological movie first appeared in the magazine *Movie Review* of 1983. From a brief introduction to the movies exhibited at the Czech Ecological Movie Festival, it outlines the movie silhouette of how industrialized countries to restore the damaged environment or reduce the damage to nature"^[3].

1 Carbon neutrality and carbon neutrality movies

1.1 Carbon neutrality "Carbon neutrality" refers to that by calculating the total amount of carbon dioxide emissions, these emissions are absorbed through methods such as planting trees, in order to achieve the goal of environmental protection^[4]. With the accelerating process of industrialization in various countries around the world, resource and environmental issues have become increasingly prominent. Especially in recent years, the utilization of carbon energy has become more and more sufficient, and greenhouse gas emissions cannot be underestimated.

1.2 Carbon neutrality movies There is currently no accurate definition of "carbon neutrality movies" in China. However, there is considerable research on concepts related to "carbon neutrality movies" in China, such as ecological movies, green movies, meteorological movies, etc.

Ecological movies are those with ecological awareness. It explores the relationship between humans and the surrounding material environment, including land, nature, and animals, and is a kind of movies that view the world from a life centered perspective^[5]. Ecological movies appreciate Chinese movies from an "ecological" dimension^[6]. "Green movies" still belong to the category

ry of ecological movies under the theory of ecologism, which can be understood as movies that use rich natural images to reveal the coexistence between humans, humans and nature, humans and animals, humans and the environment, and animals and nature, thereby influencing the public's understanding of nature, ecology, and environmental protection, and guiding public behavior, namely interpreting life with life and influencing life with life^[7]. "Meteorological movies" can be broadly or narrowly defined. Narrowly defined meteorological movies refer to those are affected by natural disasters that contain meteorological factors, resulting in extreme violence and casualties. These types of movies often have grand scenes and rely on visual impact and sympathy to attract the audience's attention. The general meteorological movies refers to those including meteorological factors^[8].

"Carbon neutrality movies" can be defined based on or referring to the above three types of movies: carbon neutrality movies are those focusing on carbon neutrality as the object of expression and dissemination. They use carbon neutrality as an element to influence the development of the plot, reflect environmental changes, focus on climate warming caused by carbon emissions, pay attention to offsetting carbon emissions through carbon neutrality behavior, and demonstrate the impact of carbon neutrality.

2 Evolution of carbon neutrality movies

Based on the ecological movie theory, the evolution of carbon neutrality movies can be divided into the following three stages:

2.1 Initial stage—"high carbon movies" High carbon movies have played a certain role in the development of movie and television. They mainly refer to the high carbon disasters portrayed in ecological and meteorological movies, which are major meteorological disasters caused by high carbon and lead to human survival crises.

According to the research by Zhu Pengjie, ecological movies "take the relationship between humans and nature as the basic starting point of movie expression, and explore a series of issues related to the relationship between human survival and ecosystems based on this core issue"^[9]. According to the research by Shao Di, "ecological movies are a unique type of movie that focuses on the ecological environment or animals and plants, with content that either praises, criticizes, or warns, and uses the unique language of the movie to awaken human attention and reflection on ecological issues. It is a unique movie genre with ecological responsibility as its main theme"^[10]. The core or connotation of ecological movies revolves around ecological issues, with the aim of exposing, alerting, and predicting the ecological problems caused by human behavior, thereby causing shock and reflection among viewers and the public.

The movie *Avatar* (2009) is taken as an example as an ecological movie. *Avatar*, as a science fiction movie genre, tells the story of human invasion of Pandora to extract resources, while also showcases the harmonious coexistence between the Na'vi people on Pandora and various elements of their own land. After hunting ani-

mals, the Na'vi people will cast spells on them, which is equivalent to prayer. This also satirizes the current behavior of humans indiscriminately killing animals on Earth. The entire movie also explores a concept of harmonious coexistence between humans and nature from an ecological perspective, and the impact of high carbon dioxide emissions brought about by human industrialization, which can effectively inspire human reflection on industrialization and technological progress.

As high carbon movies, meteorological movies also present a unique way of expressing the impact of high carbon in movie and television works. The narrow definition of meteorological movies is "those are affected by natural disasters containing meteorological factors, resulting in significant violence and casualties"^[8]. In narrow meteorological movies, the content of the movie is related to natural disasters caused by meteorological factors, presenting the enormous destructive power of meteorological disasters, attracting the attention of the audience, and thus playing an educational and warning role. And this extreme meteorological disaster is clearly and closely related to human high carbon dioxide emissions.

The movie *Super Typhoon* (2008) is taken as an example, which is a meteorological movie. This movie is adapted based on real events and reproduces the destruction caused by super typhoon Saomai's landfall in Zhejiang in 2006. The movie tells the story of Mayor Xu, who insisted on putting people's interests first when a typhoon with a magnitude of 18 approached. Although there was only a 50% chance that the typhoon would turn back, he still made a decisive decision and declared a state of emergency. As expected, the typhoon struck with a strong and turbulent momentum. The movie showcases the devastation of the city affected by the typhoon from the visual content, fully expressing the insignificance and fragility of humanity in the face of meteorological disasters.

Overall, high carbon movies reflect the artificial stimuli that humans face in the nature, as well as the industrialized or destructive methods are used to break the balance between humans and nature. At the same time, it is also a movie that contains significant meteorological elements that pose a threat to human life, production, and survival. This type of movie lays the groundwork for the second stage of "low carbon movies". If high carbon movies reflect a high degree of conflict between humans and the natural environment, then low carbon movies strive to reflect humanity's pursuit of a harmonious coexistence between humans and nature, and thus adopt green and low-carbon behaviors.

2.2 Development stage—"low carbon movies" Green, as an environmentally friendly color, has a corresponding relationship with environmental protection. The evolution of green movies is essentially the integration and inheritance of environmental and ecological movies^[7]. It can be said that the low carbon movie stage, with green movies as the main form of expression, is a product of social promotion of environmental protection concepts and a manifestation of public awareness of environmental protection. The

scope of green movies is relatively broad, such as the *Kekexili* (2004), the *March of the Penguins* (2005), the *Cove* (2009), *etc.* at the beginning of the 21st century.

The green movie *Kekexili* is taken as an example. The movie is adapted and filmed based on real events. In order to protect the Tibetan antelopes and ecological environment in Kekexili, Gayu, using the identity of a journalist as a cover, and patrol captain Ritai lead the patrol team to chase down poachers all the way and fight tenaciously against them, even sacrifice their lives. The movie deeply portrays the cruelty of poachers, the changes in the human nature of villagers, and the current situation of Tibetan antelopes being slaughtered. It highlights the hardships and difficulties of mountain patrol members in protecting Tibetan antelopes, and praises the spiritual style of the mountain patrol team guarding the balance of one side. The *March of the Penguins* tells the story of a group of brave emperor penguins who dare to resist the harsh cold in an area with an average temperature of only minus 40 °C in Antarctica. Despite the harsh environment and cold winds, these brave emperor penguins still stubbornly resist. This green documentary movie uses authentic documentary language to film the scenes, supplemented by narration, and vividly portrays the fate of these lovely lives in the context of global climate change. In fact, it is also a reflection of human society, calling on us to pay attention to the protection of the ecological environment.

Green movies, as a means of low carbon movie expression, present the cognitive and educational functions that movies play after serving as a medium for public life aesthetics. By showcasing the changes in ecology and animals in the human living environment, green movies are created through objective and realistic recording techniques, calling on the public to seek a low-carbon way for people and nature to coexist harmoniously.

2.3 Completion stage—"carbon neutrality movies" The emergence of carbon neutrality movies is actually a further subdivision of ecological movies, and it still belongs to a type of ecological movie. "Carbon neutrality movies", as a new type of movie concept, are a product of the development of the times and a cultural demand in the current social process. They are also the integration and inheritance of ecological movies, meteorological movies, and green movies, which can enhance the motivation of art and science popularization for the global carbon neutrality goal.

Due to the current global carbon emissions issue being placed in a very important position, carbon emissions have caused a series of environmental and ecological problems. Therefore, it is necessary to solve the problem of carbon emissions. The tasks of carbon neutrality and carbon peaking require our continuous efforts. Movies can better serve as a mass media to attract people's attention. It could awaken or guide the public's attention to carbon emissions through carbon neutrality movies, promote low-carbon living, guide life practices through carbon neutrality, and create a better life.

The starting works of carbon neutrality movies, *The Day after Tomorrow* (2004) and *An Inconvenient Truth* (2006), are taken

as an example. These two movies not only bring people a strong visual shock, but also reflection. The film *The Day after Tomorrow* is a milestone disaster movie. Jack, as a climatologist, is exploring and testing in the endless South Pole when suddenly cracks open in lightning speed, implying that the cracks are caused by global warming. A few weeks later at the United Nations Global Warming Conference in India, Jack presented his speculation to everyone through collected data: global warming and melting glaciers will affect the North Atlantic warm current. Once the warm current stops, various extreme weather events will occur one after another, and humans will enter the next ice age. But as soon as Jack finished speaking, most people, led by the Vice President of the United States, refuted Jack. Jack had warned the government to take action as soon as possible, but by the time the disaster struck, it was already too late. This movie showcases the adverse consequences of global climate change caused by a large amount of human carbon emissions, and Dr. Jack in the movie also makes his own efforts to contribute to preventing global climate change.

For example, the movie *An Inconvenient Truth* won the academy award for best documentary in 2006. The movie tells the story of Gore, not only the Vice President of the United States, but also a renowned environmentalist who is dedicated to the study of global warming and climate change. Gore presented his research findings on global climate change in the movie, in order to confirm the fact of global climate change and serve as a warning to people. Gore also conducted research on climate and environment as an environmentalist, calling on people to prevent climate warming.

From the above analysis, it can also be found that carbon neutrality movies emphasize a perfect integration of artistic aesthetics and spiritual sublimation, which is also in line with the golden mean that Chinese people value. Through a state of balance, it can achieve the endless growth of the human race.

3 Characteristics of carbon neutrality movies

From the perspective of ecological movie theory, the performance characteristics of carbon neutrality movies are examined. It can refer to scholar Lu Xiaopeng's exploration of the six main themes of "Chinese ecological movies": ① how the lives of ordinary people are affected by the destruction and degradation of the natural environment during the processes of revolution, modernization, and industrialization; ② the consequences of urban planning and demolition, the reset of ordinary residents' lives, and the fate of immigrants in cities; ③ the life and struggle of people with physical or intellectual disabilities; ④ the relationship between humans and animals; ⑤ projection and description of community-based lifestyle in rural areas far from urban civilization; ⑥ holistic ideology and practice of attempting to return to a religion in a commercialized society and the difficulties encountered^[5].

3.1 Scientific reflection on global warming Global climate change is an undeniable existence. What causes global climate change, what are the consequences of global warming, and how to respond to it? Scientific reflection on global warming is the primary

Global climate change has become an unavoidable topic in

has been transferred to the mobile network. It cannot be denied that there are still controversies and diverse voices on the Internet, but the Internet has never acted on humanity in a purely technological way. The consequences of knowledge networking are also dual layered and need to be viewed dialectically. At the same time, the recognition mechanism for knowledge has gradually shifted from reality to web pages. Individuals' perception of the life meaning and their initiative converge into a virtual community, where knowledge shapes the future in its unique way.

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