

Research on the Mechanism of Low-Carbon Art Presentation and Construction in Chinese Kung Fu Films

Guangsheng Meng 1,a,* Feroz De Costa 1,b,* Diyana Kasimon 1,c

1.Department Of Communication, Faculty Of Modern Languages And Communication,Universiti Putra Malaysia, 43400 Upm Serdang, Selangor Darul Ehsan, Malaysia.

*Corresponding anthora Email: woaixuexi88@gmail.com

*Corresponding author b Email:mohdferoz@upm.edu.my

c Email:diyana.nawar@upm.edu.my

ARTICLE INFO

Received: 20 Dec 2024

Revised: 15 Feb 2025

Accepted: 25 Feb 2025

ABSTRACT

With the continuous improvement of environmental protection awareness, the concept of low-carbon art is gradually integrated into the creation of films. As an important carrier of Chinese culture, Chinese kung fu films are widely loved by global audiences for their unique martial arts skills, profound cultural connotations and philosophical thoughts. This paper aims to explore the specific presentation and construction mechanism of low-carbon art in Chinese kung fu films. Through literature research, case analysis and multidisciplinary synthesis, this paper analyzes the embodiment of low-carbon art in classic kung fu films (such as IP Man, Crouching Tiger, Hidden Dragon, Jingwu Hero), focusing on the role shaping, action design, scene and props use, and low-carbon application of sound and vibration. The research shows that low-carbon art not only saves resources, but also enhances the cultural depth and artistic expression of the films through simple and authentic creation strategies. The article further discusses the application of ecological aesthetics, media ecology, semiotics and sensory culture theory in low-carbon art, and reveals its unique value in the creation of kung fu films. In the future, kung fu film makers should continue to combine low-carbon art with audience interaction to promote the sustainable development of the film industry.

Keywords: Chinese kung fu films; Low-carbon art; Construction mechanism

1. Introduction

In today's era of globalization and multicultural integration, film, as an important cultural carrier, not only carries entertainment and aesthetic functions, but also shoulders the mission of cultural inheritance and value guidance. As a unique business card of Chinese films, Chinese kung fu films have won the love of global audiences with their exquisite martial arts skills, profound cultural deposits and unique philosophical thoughts. However, with the progress of society and the enhancement of environmental awareness, the film industry is facing unprecedented challenges and opportunities.

How to realize rational utilization of resources and environmental protection while maintaining artistic charm has become an urgent problem for filmmakers to solve.

As a new concept, low-carbon art emphasizes the conservation of resources and environmental protection in the creation process, and strives to achieve the best artistic effect with the least consumption of resources. This concept coincides with the philosophy of simplicity, practicality and introversion contained in Chinese kung fu films. This paper aims to explore the specific presentation and construction mechanism of low-carbon art in Chinese kung fu films, and summarize the unique value and future development direction of low-carbon art by analyzing the performance of classic kung fu films in character shaping, action design, scene and prop application, so as to provide inspiration for the sustainable development of the film industry.

2. Related concepts and research basis

(1) An overview of Chinese kung fu films

Chinese kung fu film is a type of film with Chinese martial arts skills as the main form of action expression. By demonstrating the charm, skills and philosophical thoughts of martial arts, it creates the image of chivalry or Jianghu martial arts. Its themes often involve the confrontation between justice and evil, personal growth and tempering, etc., aiming to convey positive spiritual connotation and profound traditional Chinese cultural values. These films are rich in martial arts action scenes, covering various traditional martial arts styles, and often portray kung fu masters as chivalriles or Jianghu fighters. The themes are closely related to traditional Chinese cultural values, such as the confrontation between good and evil, and personal growth and discipline. In terms of action, Kungfu movies show real and gorgeous martial arts skills, and the fighting is full of rhythm; In terms of narrative, most of them take Jianghu as the background, telling the growth process of the hero; Visually, the scenes are diverse, and the costumes and props are exquisite, creating a strong Chinese cultural atmosphere. At the same time, its connotation reflects the chivalry spirit and Chinese philosophical thoughts, such as Confucianism's active entry into the world, Taoism's inaction, Buddhism's compassion and so on. In the course of its development, Dingjun Mountain sowed the seeds for Chinese kungfu films in the early 20th century, and the Burning of the Red Lotus Temple in the 1920s set the precedent. In the 1970s, Bruce Lee introduced Chinese kungfu films to the world with films such as The Big Boss and Fist of Fury. Later, Jackie Chan became popular with his kung fu comedy style, while Jet Li enriched the genre and content. In the 21st century, works such as Crouching Tiger, Hidden Dragon and Hero, while retaining traditional features, continue to innovate and absorb international concepts, bringing Chinese kung fu films to a wider market, showing its profound cultural heritage and infinite artistic charm.

(2) Connotation and characteristics of low-carbon art

As a new art concept and practice form, low-carbon art emphasizes the rational use of resources and environmental protection in the creation process. Artists tend to use renewable, recyclable or environmentally friendly materials, and adopt low-energy methods of creation, such as painting using natural light, to reduce energy consumption. In terms of aesthetic experience, low-carbon art not only focuses on the formal beauty of the work, but also pays more attention to the transmission of positive spiritual connotation and guides the audience to establish a correct ecological outlook and values^[1]. The main characteristics of low-carbon art include the authenticity of the content, and strive to truly

reflect the real life and natural environment, so that the audience can realize the importance of environmental protection; Emotional edifying, works can touch the audience's heart, trigger emotional resonance, and cultivate aesthetic taste and humanistic quality; The simplicity of the form, the pursuit of concise and clear expression, avoid overly complex forms and cumbersome decoration, reduce resource consumption. With these characteristics, low-carbon art brings unique artistic experience to the audience and promotes the sustainable development ^[2]of society.

(3) Theoretical basis

1) Ecological aesthetics theory

Ecological aesthetics theory focuses on the aesthetic expression of the relationship between man and nature, and advocates the promotion of public awareness^[3] and protection of the natural environment through artistic creation. In the context of low-carbon art, this theory emphasizes reducing resource consumption in art creation while highlighting the true beauty of the natural environment, making art a link of harmonious symbiosis between man and nature.

In film creation, the core of ecological aesthetics is embodied in the direct use of natural landscapes and sounds. For example, scenes such as bamboo forests and mountains and rivers are often used in Chinese kung fu films to create a story atmosphere, and the use of these scenes not only reduces the reliance on artificial scenery, but also highlights the aesthetic value of the natural environment. This approach achieves the dual goals of resource conservation and cultural inheritance. In addition, the eco-aesthetics theory encourages film production teams to incorporate environmental concepts into the shooting process, such as choosing environmentally friendly materials and reducing energy consumption. This not only helps enhance the artistic appeal of films, but also sets an example of green and environmental protection for audiences.

2) Media ecology theory

According to media ecology theory, media is not only a tool for information transmission, but also an ecosystem^[4] that shapes human perception and behavior. In kung fu films, sound and vibration, as a unique form of media, not only assume the functions of narrative and emotional expression, but also create a richer movie-watching experience by coordinating with visual elements.

This theory is particularly important in the practice of low-carbon art. The use of natural sounds and vibrations in kung fu films reduces reliance on expensive special effects techniques through minimalistic yet effective design. For example, the sense of rhythm of the sound of wooden stakes while practicing kung fu in *IP Man* not only conveys the rhythm and sense of power of martial arts, but also elevates the emotional tension of the film through simple sound symbols. This design not only reduces the production cost, but also provides the audience with a real and shocking sensory experience, demonstrating the maximization principle of media efficiency in the theory of media ecology.

3) Semiotic theory

Peirce's semiotic theory divides symbols into representamen, object and interpretant, emphasizing that symbols construct meanings^[5] through reference relationships. In kung fu films, sound and vibration can be regarded as symbols that carry narrative, emotional and cultural messages. For example, natural sound effects, such as the rustling of bamboo leaves, footsteps or the clatter of weapons, are both auxiliary elements to plot progress and metaphors for the inner world of the

characters. These sounds symbolize strength, resilience or a sense of balance, further reinforcing the spiritual core of kung fu films. Vibrations are designed to extend the physical senses, such as the shock of fists and feet during a fight, symbolizing the real presence of martial arts power. The use of such symbols makes sound and vibration not only a component of the plot, but also an important expression of the characters' spirit, philosophical thoughts and cultural images.

4) Sensory culture theory

The theory of sensory culture holds that artistic creation should go beyond single sensory stimulation and build a richer meaning network^[6] by mobilizing the synergistic action of multiple senses. In kung fu films, sound and vibration design enhance the audience's immersive experience through the combination of hearing and touch. For example, the bamboo forest duel scene in *Crouching Tiger, Hidden Dragon* presents the audience with a sense of balance and power in martial arts through the weak vibration of footsteps stepping on bamboo poles and the rustling of bamboo leaves. This multi-sensory collaboration not only enhances the dynamic expressiveness of the picture, but also allows the audience to have a more direct physical resonance with the characters' movements. In addition, the vibration design (such as the synchronized vibration of the theater seats) further blurs the boundary between the audience and the picture, making movie-watching an experiential process involving the body.

In low-carbon art, this design avoids reliance on complex digital technology through the capture of real sound and the natural presentation of vibration elements, not only realizing the concept of environmental protection, but also demonstrating the diversity and inclusiveness of the art form.

3. Research methods

This study adopts a variety of research methods to comprehensively explore the concrete embodiment of low-carbon art in Chinese kung fu films and its construction mechanism:

(1) Literature research method

By collecting and sorting out the research results of low-carbon art, Chinese kung fu films and related fields, the theoretical framework of the research is constructed. It focuses on analyzing the research progress on the concept of low-carbon art, the artistic characteristics of kung fu films and the combination of the two in the existing literature, so as to lay a theoretical foundation for the subsequent analysis.

(2) Case analysis

Classic Chinese kung fu films (such as *IP Man*, *Crouching Tiger, Hidden Dragon*, *Jingwu Hero*) are selected as case studies to deeply analyze the concrete embodiment of low-carbon art in the films. The paper focuses on the low-carbon strategies in character shaping, action design and scene application, and taps into the unique value of these practices in artistic expression and resource saving.

(3) Multi-disciplinary approach

Combining ecological aesthetics, media ecology, semiotics and sensory culture theory, this paper examines the application of low-carbon art in kung fu films from a multidisciplinary perspective. Through interdisciplinary methods, the theoretical basis and practical path of low-carbon art in film creation are discussed to provide a more comprehensive and diversified perspective support for the research.

4. Research results

(1) Low-carbon representation in role building

In film and television creation, the low-carbon embodiment of role shaping is of great significance. It puts aside excessive material piling and gorgeous special effects, and uses simple techniques to show the charm of characters. Like digging deep into the hearts of the characters, it gives the real and down-to-earth personality, so that the audience can truly feel the emotions and growth of the characters. Classic little characters, though ordinary, resonate with the audience with their tenacity, kindness and other qualities. This kind of shaping method of seeing the big and returning to the truth not only saves creative resources, but also deeply transmits the brilliance of human nature and spiritual connotation, achieves the best artistic effect with the least "consumption", and realizes the win-win situation of low carbon and artistic value.

In the role shaping of many Chinese kung fu films, conveying extraordinary spirit with ordinary characters is a unique and profound manifestation of low-carbon art. Monk Jueyuan in Shaolin Temple is a good example of this. In the film, the monk is originally an ordinary young man who escapes because his father is framed, and is later rescued by Shaolin monks into the temple. At the beginning of Shaolin, his martial arts foundation is shallow, but the belief of revenge for his father drives him to practice hard, regardless of the cold and summer, yellow brick ground left his deep feet pit, showing perseverance. He not only practiced martial arts for revenge, but also devoted himself to inheriting the spirit of martial arts. When Li Shimin is besieged, Jue Ming comes forward and uses Shaolin martial arts to be both smart and brave, transforming from personal grudges to become a warrior with a heart for the world. The character of the monk Chueh Yuen touches the audience's heart with simplicity and truth. His growth process contains spiritual strength such as tenacity and justice, which ordinary people can relate to. His story tells us that even ordinary people can persevere in the pursuit of justice and realize their self-worth through hard work. It's a message that doesn't need to be flashy, but it can easily resonate. When watching the film, the audience can draw strength from it, reflect on themselves, and think about how to show the extraordinary in the ordinary. This is the low-carbon artistic concept conveyed by Chinese kung fu film character development, which nourishes the audience's spirit with simplicity and truth, rather than relying on material accumulation and special effects.

In addition, the nature and reality of the character's growth is an important dimension to measure the low-carbon artistic value of the work. Through delicate narration and profound characterization, the IP Man series shows the growth track of the protagonist IP Man in an all-round way in the tide of The Times, which contains multiple meanings such as humanity and the inheritance of kung fu. At the beginning of the film, IP Man, a young man from a wealthy family in Foshan, loves Wing Chun and concentrates on his training in a martial arts academy. After the outbreak of the Japanese invasion of China, he falls into a difficult life. He witnesses the Japanese army's destruction of martial artists, arouses a sense of justice, stands up to the Japanese army, and becomes a national hero. After arriving in Hong Kong, he faced many difficulties, but won recognition for his solid foundation and noble martial arts. He won glory for Chinese martial arts in a fight with a British champion, making Wing Chun widely known. IP Man's road of growth was full of ups and downs. In the face of life difficulties, national crisis and the difficulty of inheriting martial arts, he always adhered to the principle of faith. His growth truly reflects the complexity of human nature, confusion and struggle, but he never gave up

the pursuit of martial arts and justice. This kind of real shaping makes the audience deeply feel the charm of the characters, but also conveys the spirit and values of martial arts, highlighting the unique charm and historical mission of traditional Chinese martial arts in the changes of The Times.

(2) Low-carbon considerations in action design

In the creation system of kung fu films, the low-carbon consideration in action design occupies a position that cannot be ignored. It is not a simple simplification of the action scenes, but the pursuit of a creative concept based on truth and simplicity while ensuring the artistic expression, and strive to achieve the most impactful visual presentation with the least resource investment, avoiding the waste of resources caused by over-reliance on special effects and complex choreography.

Hero of the Martial Arts is a model of action design in Chinese kung fu films. It attaches great importance to actual combat skills and presents a shocking and real visual feast. In the Hongkou Dojo, the protagonist Chen Zhen calmly responds to the siege with Chinese martial arts capturing techniques such as "dividing the sinews and misplacing the bones". The movements are simple and powerful, demonstrating the actual combat power of martial arts. In the blindfolded battle with Fumio Funaetsu, Chen Zhen uses his hearing, touch and martial arts understanding to flexibly use modern fighting techniques and Chinese martial arts, demonstrating his mastery of different martial arts techniques and testing his physical fitness and reaction ability. Through these wonderful fight scenes, "Jingwu Hero" conveys the essence of the fusion of practical and technical martial arts to the audience. This emphasis on actual combat skills conforms to the true and simple principle of low-carbon art, avoids excessive exaggerated special effects and complicated action design, reduces production resource consumption and energy waste, lets the audience appreciate the charm and connotation of Chinese martial arts, and sets a benchmark for the action design of kung fu films.

In addition, Jackie Chan's films are famous for their smooth action style. In the action arrangement, he cleverly uses smooth and simple actions to bring a unique visual experience to the audience, and perfectly interprets the concept of low-carbon art. The action design of Jackie Chan's works abandons complicated moves and gorgeous special effects, and pursues a natural and smooth aesthetic feeling in one go. The action scenes in the Police Story series are classic. Chan Ka-ju, played by Jackie Chan, skillfully uses stairs, handrails and shelves to fight in a chase and fight in a shopping mall. His movements are coherent and fluid, moving seamlessly from running and jumping to close combat. When dodging an attack, he quickly fires back, using fire extinguishers, chairs, and more. These moves may seem simple, but they are actually intelligent. They show Jackie Chan's superb martial arts and bring viewers simple but strong visual enjoyment. In Plan A's sea-fighting scenes, Chan battles enemies on the deck of a narrow ship. He uses the ship's wobbles and surroundings to dodge attacks and fight back by tumbling and jumping. His movements are concise and clear, going straight to the enemy's heart, and striving to achieve the best fighting effect in the shortest time. This smooth and simple action design keeps the audience dizzying, while reducing unnecessary special effects and post-production, reducing production costs and environmental impact.

The action design of Jackie Chan's movies brings unique visual enjoyment to the audience with its smooth and simple features. This style conforms to the pursuit of simplicity in form of low-carbon art, avoids waste of resources, shows the agility and practical value of Chinese martial arts, and opens up a new path for the development of Chinese kung fu films.

(3) Low-carbon strategies for the use of scenes and props

In the creation of kung fu films, the low-carbon strategy of the use of scenes and props is an innovative and far-reaching creative concept. It focuses on the rational use of natural scenes and the simple functional play of props to reduce unnecessary resource consumption, while enhancing the artistic expression of the film and creating a unique aesthetic atmosphere.

Among many Chinese kung fu films, the bamboo forest fight scene in *Crouching Tiger, Hidden Dragon* is a classic that uses natural scenes to create atmosphere. In the film, Li Mubai (Chow Yun-fat) and Yu Jiaolong (Zhang Ziyi) face off in a bamboo forest. Director Ang Lee skillfully combines character movements with the bamboo forest to create unique visual effects. From the use of the lens, the long shot shows the vastness of the bamboo forest, allowing the audience to feel the power of nature. The figures of Li Mubai and Yu Jiaolong shuttle through the bamboo forest, and the actions are integrated with the environment; Close-up and close-up shots capture the characters' expressions, action details and subtle changes of bamboo to enrich the picture level. In terms of atmosphere creation, the natural environment of the bamboo forest gives the fight a unique emotional connotation. Bamboo is a symbol of toughness and purity in Chinese culture, and the fight between the two is not only a contest of force, but also a clash of values and attitudes towards life. The stillness and depth of the bamboo forest contrast with the fierce fighting, highlighting the tension and conveying the emotions between the two characters.

From the perspective of low-carbon art, the use of bamboo forest scenes in *Crouching Tiger, Hidden Dragon* avoids large-scale artificial construction and reduces environmental damage and resource waste. The natural scenes have authenticity and vitality, which can bring more realistic visual experience to the audience. The construction of artificial scenes requires a lot of manpower, material resources and financial resources, and will also cause environmental pollution and energy consumption. The use of natural scenes can achieve a win-win situation between film production and environmental protection, which is also in line with the pursuit of truth and nature of low-carbon art, and can arouse the audience's concern and protection consciousness of the natural environment.

In addition, the use of props in the film *The Master* is unique, especially the use of traditional weapons and props. Chen Shi, played by Liao Fan, comes to Tianjin with the dream of opening Zong Li School. The weapons he brings with him, such as eight swords and two swords, are exquisitely crafted but unadorned. Traditional materials and techniques are used, and the details show originality. As the plot progresses, these weapons are the key to Chen Shi's dream. In Tianjin, a place with a strong martial arts atmosphere, competition is the way to prove his strength. Chen Shi stands out in the duel with the master by virtue of his skillful use of the eight swords and the two swords of the middle and afternoon, and wins respect. The weapons witness his struggle and inner struggle, which is the symbol of his dream. In the fighting scenes, the functionality of weapons is fully demonstrated. The eight cut swords are sharp, chopping and stabbing are rapid; Mandarin-yue crafty, can crack attacks and counterattack. In the face of siege in street battles, Chen Shi gave full play to the characteristics of the two weapons and successfully defeated the enemy, perfectly demonstrating the charm of traditional Chinese martial arts and the actual combat power of the weapons. The traditional weapons and props in *The Master* add a lot of color to the film with their simple appearance and powerful functions. They are in line with low-carbon art's pursuit of simplicity and practicality, reduce the waste of resources,

play an important role in the plot and fighting, make the film more realistic and vivid, and fully demonstrate the broad and profound Chinese traditional martial arts culture.

(4) The low-carbon embodiment of sound and vibration in kung fu movies

Ecological aesthetics emphasizes the harmonious relationship between man and nature, and advocates the conservation of natural resources and environmental protection in artistic creation (Berleant, 1992). Low-carbon art in film creation is the concrete practice of this theory, especially in kung fu films, which take natural sound and environmental vibration as important elements of narrative and emotional expression, can reduce the dependence on high-energy equipment, and highlight the authenticity and vitality of the natural environment.

In the role development of Chinese kung fu films, the low-carbon application of sound and vibration is not only limited to dialogue and background sound effects, but also reflected in deepening the character image through environmental sounds and subtle sound effects. For example, in *IP Man*, the protagonist IP Man's practice is often accompanied by the rhythm of the sound of wooden piles. This sound not only conveys the unique training method of Wing Chun, but also subtly reinforces the character's toughness. By capturing and restoring the natural sounds, the film avoids over-reliance on complex sound production equipment, saving resources and enhancing the realism of the scenes.

Sensory culture theory focuses on how works of art construct meaning by engaging multiple sensory experiences (visual, auditory, tactile, etc.) (Howes, 2003). In kung fu films, the design of sound and vibration is not only an aural art, but also a tactile experience through the sense of vibration. In the bamboo forest scene of *Crouching Tiger, Hidden Dragon*, the clever application of vibration enhances the dynamic expression of the picture. For example, when the characters rise and fall between the bamboo poles, the "rustling" sound made by the vibration of the bamboo leaves and the faint tremor of the feet stepping on the bamboo poles, all convey the relationship between force and balance. This combination of sound and vibration allows the audience to feel the tension of martial arts in the details without having to be rendered through exaggerated visual effects, reflecting the minimalist beauty of low-carbon art.

5. Discussion

(1) The change of creative ideas

In the tide of globalization and commercialization, Chinese kung fu films have become commercial entertainment products attracting the attention of global audiences with their unique martial arts elements and gorgeous visual effects. However, with the progress of the society and the improvement of the audience's aesthetic level, filmmakers have begun to realize that it is difficult to meet the increasingly diversified needs of audiences by simply pursuing commercial interests. Therefore, under the guidance of the concept of low-carbon art, the creation concept of Chinese kung fu films has gradually undergone a profound change, which is not an overnight change, but the crystallization of filmmakers' continuous exploration and reflection in long-term practice. They pay more attention to the cultural inheritance, ideological enlightenment and value guiding functions of the film, and integrate the concept of low-carbon art into every detail of the film, from the traditional commercial entertainment to artistic expression and social responsibility. This change is not only reflected in the theme and plot design of the film, but also permeates into various aspects such as role shaping, action design, scene layout, etc. Through careful planning, filmmakers combine the concept of low-carbon art

with the characteristics of kung fu films to create a series of excellent works with artistic value and rich social responsibility. These works not only win good reputation and box office results in the domestic market, but also show the unique charm of Chinese kungfu films on the international stage, and enhance the international influence of Chinese films.

Chinese kung fu films began to pay more attention to the ideological and artistic nature of the films. Filmmakers are no longer limited to presenting wonderful martial arts scenes and gorgeous visual effects, but dig deep into the cultural heritage and humanistic spirit of traditional Chinese martial arts, and integrate low-carbon artistic concepts into all aspects of script creation, character development, action design and visual presentation. The scriptwriters carefully plan the plots and create characters with distinct personalities and profound connotations. They tell Chinese stories and convey Chinese voices through the films, demonstrating the unique charm and profound heritage of Chinese culture. In terms of character development, the filmmakers pay attention to exploring the inner world and emotional changes of the characters, and through delicate performances and real emotional revelation, the audience can have a deeper understanding of the character characteristics and growth process of the characters, and feel the brilliance and power of humanity. In terms of action design, they skillfully combine the concept of low-carbon art with the skills of martial arts to create action scenes that are both ornamental and full of practical significance, so that the audience can enjoy the charm and connotation of martial arts while enjoying the performance. In addition, the filmmakers also create real and simple visual effects through clever lens use and scene arrangement, enhancing the artistic charm and aesthetic value of the film. This unremitting pursuit of the ideological and artistic quality of films not only significantly improves the artistic quality of films, but also lays a solid foundation for promoting the international development of Chinese kung fu films.

(2) The cooperation of the production team

Under the guidance of the concept of low-carbon art, scriptwriters play a crucial role in the creation of films, and they need to skillfully integrate low-carbon art elements into the script creation. The scriptwriters first delve into the historical origins, cultural connotations and actual combat skills of traditional Chinese martial arts, and form a deep understanding of martial arts by reading related books, watching martial arts performances and communicating with martial arts experts. On this basis, they integrated the concept of low-carbon art with the cultural essence of martial arts, carefully conceived plots, and shaped character images with distinct personalities and profound connotations. In terms of plot design, the scriptwriters pay attention to showing the inheritance and development of martial arts, and pass on positive values and social responsibility through the growth process and struggle stories of martial artists. In terms of role building, they dig deep into the inner world and emotional changes of the characters, and through delicate performances and real emotional revelation, let the audience get closer to the characters, feel the brilliance and power of humanity, and integrate the concept of low-carbon art into the words and deeds of the characters. In addition, the scriptwriters also attach great importance to the thoughtfulness and artistry of the script, laying a solid foundation for the successful production of the film through concise and clear language, vivid and interesting narrative methods and well-designed plots and characters. At the same time, they attract the audience's attention and guide them to pay attention to and understand the concept of low-carbon art.

Members of the production team, including directors, cinematographers and martial arts

instructors, work together to achieve the objective reality of the film under the guidance of the low-carbon artistic concept. As the core, the director not only controls the overall style and narrative rhythm of the film, but also creates a true and rustic visual effect through the clever use of lenses and scene layout. They work closely with scriptwriters, cinematographers, martial arts directors and others to discuss production plans and shooting plans, ensuring that every link is closely linked. Photographers use superb photography skills, according to the requirements of the director and the script plot, carefully choose the shooting Angle and light conditions, through clever composition and color matching, to capture every wonderful moment, to ensure that the picture is clear and high color reproduction. The martial arts director, with a deep understanding of martial arts, designs action scenes that meet the needs of actual combat, pays attention to the coherence and fluency of the action, and ensures that the action is both real and enjoyable. In the shooting process, the three closely cooperate, the director pays close attention to the performance of the actors and the effects of the camera, and timely adjusts the plan; The photographer always pays attention to the quality of the picture and timely adjusts the shooting parameters; The martial arts director communicates closely with the director and the photographer to jointly optimize the shooting of the action scenes and jointly present the audience with a real film that is both artistic charm and rich in aesthetic value.

As an indispensable link in the process of film production, post-production undertakes the heavy responsibility of polishing the details of the film to perfection. The post-production team pays attention to the careful use of editing and special effects. Through careful selection of shooting materials and careful editing treatment, the coherence and fluency of the shot are ensured, and the plot is compact and complete. At the same time, they skillfully integrated sound effects and music to create authentic and simple audiovisual effects, further enhancing the artistic charm of the film. In terms of special effects production, the team emphasizes the authenticity and naturalness of special effects, avoids over-reliance on special effects and wastes resources, and strives to choose low-carbon and environmentally friendly special effects production methods and materials on the premise of meeting the requirements of the script and the director, so as to achieve excellent visual effects presentation, take into account environmental protection and sustainable development, and ensure the green production of the film. To bring both shocking and environmentally friendly viewing experience to the audience.

(3) Interactive mechanism with the audience

As an indispensable part of the filmmaking process, the audience's feedback has a profound impact on the development of low-carbon art in kung fu films. Through cinema feedback forms, online questionnaires and online platforms such as social media and forums, filmmakers can collect feedback from audiences through multiple channels to gain an in-depth understanding of audiences' cognition and acceptance of low-carbon art concepts. After the feedback is collected, the filmmakers will carefully analyze and summarize, and adjust the plot design of the script, the way of portraying characters and the presentation of visual effects according to the needs and preferences of the audience, so that the film can better meet the aesthetic needs and expectations of the audience. In addition, audiences also participate in activities such as film premieres and meet-and-greets to communicate face to face with the filmmakers and share their movie-watching experience, further promoting the popularization and development of low-carbon art in Chinese kung fu films. These interactions not

only enhance the connection between the audience and the film, but also provide a steady stream of motivation for the innovative practice of low-carbon art in kung fu films.

As an important means to promote the concept of low-carbon art, film marketing and publicity have succeeded in attracting the audience's attention and guiding them to low-carbon art through the production of beautiful posters, the release of engaging trailers and the holding of various publicity activities. When making posters and trailers, filmmakers use careful composition and clever color matching to create authentic and simple visual effects, and skillfully integrate low-carbon artistic elements, such as using environmentally friendly materials to make posters, or showing a low-carbon and environmentally friendly lifestyle in trailers, to guide the audience's attention to the concept. At the same time, they actively cooperate with environmental protection organizations and media to jointly hold low-carbon and environmental protection themed activities, lectures, and release related news and reports to enhance public awareness and participation in environmental protection and sustainable development. In addition, filmmakers also use online platforms to interact with audiences, release film updates and behind-the-scenes tidbits, and conduct online Q&A sessions to answer audience questions and enhance audience's understanding and acceptance of films and low-carbon art. These diversified marketing strategies not only promote the popularization and development of low-carbon art in Chinese kung fu films, but also provide solid support for the successful production and marketing of films.

(4) The value of sound and vibration in the construction mechanism

The theory of media ecology proposes that different forms of media have a profound impact on human perception and cognition. In kung fu films, sound and vibration, as a sensory medium, provide audiences with a more immersive movie-watching experience through the mobilization of touch and hearing, without relying on complex special effects techniques. This design not only reduces the waste of resources, but also maximizes the expressiveness of the medium through minimalism. Under the guidance of the concept of low-carbon art, the creative team of kung fu films pays more and more attention to the unique value of sound and vibration. They use advanced radio equipment to capture natural sound effects in real environments, reducing resource investment in post-production sound effects. For example, in "The Master," the combination of the "thumping" sound of fists and feet colliding with the slight vibration of the wooden floor recreates the power and speed of a kung fu duel. This practice not only reduces resource consumption, but also delivers a no-frills aesthetic experience.

According to Peirce's semiotic theory, sound and vibration can be used as a type of symbol to convey specific cultural information through reference relationships. In kung fu movies, natural sounds and vibrations are not only a component of the plot, but also a symbol of the character's personality and spiritual connotation. In the film publicity, through the clever integration of sound and vibration elements, the audience can increase the sense of immersion. For example, in kung fu movies, directional sound and seat vibration can be used in theaters to simulate the rhythm of fighting and enhance the viewing experience. Audiences can more intuitively understand the power of martial arts when they feel the vibrations caused by fistfights. This interactive mechanism not only brings the audience closer to the film, but also enhances the effect of spreading the concept of low-carbon art.

6.Conclusion

Through the practice of low-carbon art, Chinese kung fu films have realized the organic

combination of cultural value and environmental protection concept. Through the analysis of role shaping, action design, scene application and sound vibration, this paper reveals the concrete embodiment and unique charm of low-carbon art in kung fu films. In the future, filmmakers should pay more attention to the combination of low-carbon art and audience interaction, strengthen the cultural depth and social responsibility of films, and provide more possibilities for the sustainable development of the film industry.

[1] References:

- [1] Santofimia, M. J., Nguyen-Minh, T., Zhao, L., Petrov, R., Sabirov, I., & Sietsma, J. (2010). New low carbon Q&P steels containing film-like intercritical ferrite. *Materials Science and Engineering: A*, 527(23), 6429-6439.
- [2] Hamadou, L., Kadri, A., & Benbrahim, N. (2005). Characterisation of passive films formed on low carbon steel in borate buffer solution (pH 9.2) by electrochemical impedance spectroscopy. *Applied Surface Science*, 252(5), 1510-1519.
- [3] Morito S, Oh-ishi K, Hono K, et al. Carbon enrichment in retained austenite films in low carbon lath martensite steel[J]. *ISIJ international*, 2011, 51(7): 1200-1202.
- [4] Yang, Lixia, Et al. "Film forming kinetics and reaction mechanism of gamma glycidoxypolytrimethoxysilane on low carbon steel surfaces." *Applied surface science* 256.22 (2010): 6787-6794.
- [5] Zhang, D., Wang, M., Jiang, N., Liu, Y., Yu, X., & Zhang, H. (2020). Electrochemical corrosion behavior of Ni-doped ZnO thin film coated on low carbon steel substrate in 3.5% NaCl solution. *International Journal of electrochemical science*, 15(5), 4117-4126.
- [6] Majd, M. T., Shahrabi, T., & Ramezanzadeh, B. (2019). Low carbon steel surface modification by an effective corrosion protective nanocomposite film based on neodymium-polyacrylic acid-benzimidazole. *Journal of Alloys and Compounds*, 783, 952-968.
- [7] Ingramd, D. (2012). The aesthetics and ethics of eco-film criticism. In *Ecocinema theory and practice* (pp. 43-62). Routledge.
- [8] Baltruschat, D. (2010). *Global media ecologies: Networked production in film and television*. Routledge.