

The Centennial History of Movies: The Evolution and Far-reaching Impact of Recording Technology in the Historical Development Trajectory

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Abstract. This paper traces the centennial evolution of film history through the lens of recording technology, examining how advancements in sound recording have shaped both the artistic aesthetics and industrial progress of cinema. Focusing particularly on the unique trajectory of Chinese film sound development, the study explores key milestones—from the introduction of silent cinema to the emergence of synchronized sound films—and how these transitions reflect broader sociopolitical and technological shifts. The article highlights the dynamic interplay between imported technologies and indigenous innovations, detailing how early Chinese filmmakers adapted foreign techniques while cultivating local recording practices. Through representative works and historical junctures, the paper illustrates the integration of sound into narrative structure, the rise of film drama as a cultural hybrid, and the post-war refinement of cinematic realism and sound montage. Furthermore, it emphasizes the contemporary relevance of sound aesthetics in the digital age, advocating for a synthesis of advanced recording technologies with traditional cultural elements. Ultimately, the research underscores the critical role of sound as a narrative and artistic force in film, calling for continued innovation and aesthetic exploration in China's modern recording industry.

Keywords: Film sound; recording technology; Chinese cinema; montage; audiovisual aesthetics.

1. The main course of the development history of Chinese film sound

1.1. The foundation of Chinese cinema: film and drama

The birth of the film can be traced back to December 28, 1895. In the basement of a cafe on Rue Pousin in Paris, the Lumiere brothers released their silent short films such as "Exiting the Factory" and "the arrival of a train" for the first time. On August 11, 1896, the screening of "Western Film Opera" in Xuyuan, Shanghai was the first record of the screening of films in China, thus opening the curtain of the screening of foreign films in China. The first films broadcast in China include Russian Emperor's Tour to Paris, etc. These films are mainly divided into three types: documentaries, stunt films and box films. After the introduction of the film to China, the extremely realistic picture brought out the life of western society, so that the feudal people in the backward small peasant economy were shocked by the world. Since then, people have become keen on the new trend of entertainment and leisure in the folk.

After the film was introduced to China by the West, as the imperialism's encroachment on China's economy and the erosion of the Chinese people's ideology and culture, its spread brought great poison to Chinese society before and after the 1911 Revolution, but the gains and losses are equivalent. This phenomenon also stimulated the birth of China's domestic film industry, so that early Chinese film The film star began to make a trial film. In 1905, China's first film "Dingjun Mountain" was filmed at Fengtai Photo Studio. In the first decade of the 20th century, Zhang Shichuan and Zheng Zhengqiu cooperated to shoot China's earliest story short film "Die for marriage". The earliest Chinese films have strong commercial speculation. Even in this chaotic industry environment, it is difficult to stop the rudimentary development of Chinese film art. "Star", "Tianyi", "Lianhua" and other film companies were also established during this period, forming a three-legged situation at one time.

In the early stage of the development of film art, although the film was limited to the form of silent film due to technology, from the perspective of film industry practitioners, it initially cultivated the aesthetic literacy of the audience, and on this basis, inspired the film audience's imagination of sound films. Based on people's years of life experience, film creators have begun to form the sound design of future sound films, and the realistic sound design blueprint has been widely adopted by film workers, which is the concept of sound and picture synchronization in the sound aesthetics of later films.

Zhang Shichuan and Zheng Zhengqiu's unique artistic concept of film made him seize historical opportunities and shot many Mandarin Butterfly School-style works. Later, a large number of feature films also achieved great success in the public. The great commercial achievements of their works triggered the prevalence of "film drama" in China. This kind of the artistic creation style is compatible with Chinese and foreign film cultures. Relying on civilized drama, it became the mainstream of early Chinese film creation. Film and drama follows the characteristics of traditional Chinese ideology and culture, and focuses on the plot and character image based on dramatic conflicts. However, in the impetuous industry environment, some of the works are seriously detached from social reality, ignoring the laws of art, and only catering to the public as the only goal. This phenomenon is concentrated in the last-of-class citizen films. With the development of Chinese film art, many intellectuals such as Hong Shen and Tian Han have also invested in the development of the film industry. These literati and ink artists have formed two major companies, "Great Wall" and "Shenzhou". They attach importance to the social indoctrination role of film, and the films produced under their trendy views also project the new literati. The in-depth consideration of social problems reflects the Chinese social customs at that time to a certain extent.

1.2. Movies in the 1930s

Chinese films in the 1930s, in terms of their basic form, can be called the successful construction of the silent period of image China [1]. Generally speaking, the film of the 1930s refers to the five or six years from the rise of the left-wing film movement in 1932 to the outbreak of the War of Resistance Against Japanese Aggression in the summer of 1937. In this historical stage, the Chinese film industry showed a brief boom, which is the first golden period in the history of Chinese cinema in the true sense.

Until 1929, Chinese films were still in the period of simple silent films. This era continued to change until 1937. Due to the development of world film recording technology and the diverse background of the times, film recording technology was introduced to China. During this period, it was still mainly dominated by silent films or silent films to sound films. Conversion period. The world sound film revolution triggered by the launch of Warner's "Jazz Singer" in 1927 has brought a crucial influence to the development of Chinese audio films. Due to the patent monopoly of film recording, Chinese film industry workers were forced to choose a lower-cost wax disc recording method. In the 1830s, the first Chinese sound film "Sing-Song Girl Red Peony", which was popular in China, used this method for recording. This traditional early recording mode, by recording vocals first and then matching the picture, the sound dominates the development of the picture. In the process of film screen projection, manual sound and picture alignment needs to be carried out synchronously, so it is very easy to make mistakes in sound and picture misalignment. Chinese films in the 1930s were the inheritance and development of film and drama, and improved and innovated on the basis of tradition, constantly promoting the progress of Chinese film industry and Chinese film recording technology. [2] In the same year, Tianyi Film Company also produced the film "Spring in the Song Field", and Huaguang Film Company produced the film "For better, or worse". The two films use the "voice on the film" recording technology from the United States and Japan. As the most advanced film recording technology and recording technology in the world at that time, the recording technology of "voice on the film" represented that early Chinese sound films had reached a fairly high level of production in recording technology. In the early days, Chinese film creators and technical workers

not only boldly introduced foreign advanced technology, but also strived to cultivate film sound workers in China and independently develop film recording equipment and recording technology.

The breakthrough development of Chinese film recording technology occurred in 1934. The birth of Yuan Muzhi and Chen Boer's work "Plunder of Peach and Plum" marked the birth of the first real sound film in the history of Chinese cinema, thus opening the artistic era of Chinese sound film. After nine months of planning and design, the film was independently produced by the Chinese film crew. Through the purchase of a whole set of recording equipment, it realized the integration of sound and picture for the first time in the development of the Chinese film industry, and the picture and sound were printed synchronously on the film, which solved the problem of synchronization of sound and picture during the wax plate period. Unlike the early semi-sound films, "Plunder of Peach and Plum" revolutionarily tried to record non-verbal sound effects for the first time. Raindrops, footsteps, machines and other sounds are no longer recorded through post-simulation but in real life. [3] The understanding of the spatial sense of sound in movies is mainly based on two perspectives: first, the objective physical characteristics of sound; second, the subjective listening characteristics of people. The elaborate design of the sound effect materials of the same period in "Plunder of Peach and Plum" gives the authenticity of film art and the spatial sense of the sound field a basic simulation restoration, so that Chinese films can burst into the bud of narrative ability in the auditory dimension. The superposition of multi-level sound effects constitutes the earliest sound montage model of Chinese cinema. The technological practice of recording ambient sound on the spot in the film gave rise to the concept of the earliest "synchronous recording" in China. The birth of this concept marks the beginning of Chinese filmmakers to understand the fundamental value of recording technology from an aesthetic height.

The social change node of the September 18 Incident also promoted the development of Chinese film. In order to separate the people from the content of films that are detached from reality, under the leadership of literary and artistic workers, it launched a profound revolution in the film art of the left-wing movement, which changed the appearance of Chinese film in terms of ideology and politics. In art I have also made great progress in skills. During this period, films changed the Chinese film industry from four aspects: screenwriting, left-wing forces, introducing Soviet film experience and carrying out film reviews. Against the social background of the further deepening of the national crisis, the transformation of Chinese films is destined to be stormy. With the people's enthusiasm for anti-Japanese resistance, the theme of patriotism has gradually appeared in the content of domestic films. During this period, many national traditional cultures also had a far-reaching relationship with films. The film "Goddess" integrates national culture into films, showing extremely ideological depth and artistic skills, and reflecting the social problems in the context of East Asian culture. In the 1930s, China fiercely accepted the technological and cultural shocks from the West, and modern Chinese literature and art.

Art is deeply influenced by the West, and film, a foreign art, is even more affected. Sun Yu and other film artists were shocked by the good Lywood film industry to introduce commercial factors into the domestic film market, helping the Chinese film industry to carry out deeper technological development on the basis of national heritage. The influence of the Soviet film industry on domestic film production should not be underestimated. Artists represented by Shen Xiling integrated montage techniques and applied them to the creation of Chinese films, which made the level of Chinese film shooting soar in narrative art.

The technological changes in the sound and visual of Chinese films in the 1930s promoted the intertwining interaction of films. During this period, sound films began to appear, and films with the addition of sound as an important factor gained richer expressiveness. The parallel development of the creation of film sound and silent film montage skills promoted the formation of film art characteristics in the 1930s. The development of sound and painting montage has made the film more "cinematic" and free from the stage characteristics, and the narrative structure has also become more realistic. The birth of early sound films undoubtedly added revolutionary changes to film art. Compared with that of foreign countries, the development of Chinese audio films is late and the

process is long. After five or six years of development from wax plate to on-film pronunciation, from some paragraphs with sound to dubbing films with only music and sound singing without dialogue to full audio films, film sound arrangement has a unique process in China. The development of sound films in China is inseparable from the collation and induction of Chinese and foreign theories by scholars. For example, Hong Shen translated it into Chinese just a few months after Eisenstein and others issued a statement "on the future of sound films" for domestic film workers to use for academic research. In the early stage of the development of Chinese sound films, the works represented by "Sing-song Girl Red Peony" still take music and singing as the core focus and fail to properly combine the picture and sound. The limitation makes the film unable to burst out the maximum beauty. In 1933, a new phenomenon appeared in Chinese sound films. Many young artists began to create films with music and singing, but without audio language dialogues. The young wave's exploration of the laws of sound films plays a crucial role in the development of film sound. The role of sound in film is unparalleled. The emergence of film sound art has brought the development of film art aesthetics into a new era.

Realist films during this period have made great progress. The realist filmmakers represented by Xia Yan vividly showed the sharp contradictions of the people's society in the 1930s through films such as "Raging Waves" and "Spring Silkworm". This realistic film deeply depicts the working masses in the society of natural and man-made disasters. The life of fighting is simple and real. During the same period, romanticism represented by Tian Han was also developing vigorously. This type of film pays more attention to the portrayal of emotions and the delicate interpretation of characters, which is full of romanticism. Left-wing films represented by these two styles presented a unique atmosphere of the times in the 1930s.

1.3. The development of Chinese film industry during and after the war

With the outbreak of the All-out War of Resistance Against Japanese Aggression in 1937, the sudden change in the domestic situation in China brought the film industry into an intricate development environment. During this period, Chinese films intertwined with the historical melody of the War of Resistance, presenting a situation of relatively independent development in different regions. In the colonies and liberated areas, due to the characteristics of the times of a semi-colonial and semi-feudal society, films centered on the spirit of people's resistance and national heroism can release emotions more directly, and most of the content of the film is closely related to patriotism. Films such as "Defending Our Land" written and directed by Shi Dongshan have achieved a certain degree of results in mobilizing people's positive anti-Japanese sentiment. Based on exchanges with the world film industry in the late period of the War of Resistance Against Japanese Aggression, the Stani system was also introduced in China, which also laid a good foundation for the development of the Chinese film industry after the war. At the same time, the Japanese invaders also shot many "entertaining films" to protect the interests of the authorities to achieve the role of establishing their own reputation and dispelling the people's awareness of resistance. The film art in the fallen area represented by Shanghai has stagnated, and it has struggled to move forward like an "isolated island". A prominent feature of films during this period is that their artistic aesthetics and technology are rougher than those of domestic films in the 1930s. After more than ten years after the outbreak of the Anti-Japanese War, it was not until the 1940s that the new peak of film art was raised. After the victory of the Anti-Japanese War, Chinese films presented a new situation. Progressive filmmakers established "Kunlun", "Wenhua" and other private film companies, and made a series of films exposing the dark content of the national unified area, which constituted the creative climax of progressive films in the late 1940s. At this stage, domestic film shooting is better. The development of traditional film and drama is suddenly integrated with the Hollywood montage narrative technique. A set of film language system suitable for dramatic film narrative has been basically formed and used appropriately. At this time, the film framework foundation indirectly affects the new Chinese film industry. Road. With the deepening of the people's revolution, the establishment of the people's film industry in the liberated areas, the creation of a new historical tradition of Chinese film, and the creation and management principles created based on the form of news documentaries have become the pioneer of the new

Chinese film industry. From the beginning of 1937, films in the liberated areas spread to all parts of the country with Yan'an as the center, standardizing the Chinese film industry system.

After the war, the level of Chinese film art and shooting techniques also made progress, which also established the dominant position of film and drama. As a sign of the mature development of film drama, "Spring River Flows East" adopts a drama-brush narrative structure, complete vein stratigraphy and plot development, and the theme of exposing the sharp social contradictions of this period, bringing the epic film of the sitcom into the public's vision. Under the premise of following the principle of dramatic film script creation, post-war China's domestic realism-themed films have been deepened and developed, and the simple life of the working people has become a great source of creation, revealing the artistic expression of social life. In realist films, another important branch is the type of comedy films that use exaggerated deformation techniques to express. Since the 1920s, China has had the first attempt at comedy films. After the war, comedy films flexibly used their humor, satirizing the political oppression and economic plunder of the reactionaries in absurd artistic techniques. The "Crow and the Sparrow" is one of the representative works of comedy films in this period. The grotesque expression of this type of film is similar to the deep ideas it expresses and the American black humor genre films.

In the late 1940s, "Wenhua" Company, which had a profound influence on China's film industry, was a private film company, relying on the Shanghai drama group, with weak political purpose and low pursuit of economic benefits, which allowed "Wenhua" to focus more on film art research. Investigate. Most of the internal members of Wenhua have profound national cultural literacy, literary accumulation and drama foundation, so the films produced by Wenhua Company often have their own unique artistic style. "Wenhua" has many well-known filmmakers such as Huang Zuolin, Sanghu, Ke Ling, Huang Shaofen, etc. Most of them are good at shooting comedy films. Highly popular comedies such as "Fake Phoenix" and "Love without end" achieved great success in that era, making artists and comedy films dependent on each other and also stand out. High reputation. Although the work "Spring in a Small Town" directed by Femu, released in the name of "Wenhua", belongs to the output work of "Wenhua", it is extremely similar to its creative techniques. The high artistic achievements of this film also make it different from the "non-mainstream" film representative work of the film and drama style in the 1940s. Feimu's unique talent is reflected in his Chinese-style aesthetic values. His unique artistic temperament and work style made him one of the outstanding film artists at that time.

2. The inspiration and application of film art history to recorded works

The gradual development of the completeness and artistic aesthetics presented by contemporary sound films is inseparable from the progress of film history and the update and iteration of shooting technology. Sound elements have become an important explanation form of film language. The expression of the work should carefully follow the customs of the times to show the strong social effect of the new era, and combine the contemporary advanced recording technology level with artistic aesthetics to show the realism and artistic value of the film. [4] The research and writing of Chinese film history is not technical, from the outside to the inside, and it is based on humanistic beliefs and interests. Tracking, dialogue and research on the development of culture and art based on interest, ambition or work, in-depth reflection and long-term attention to the fate of society, the country and the whole human race.

First of all, in sound creation, the most important thing is to follow the key factor in the development of sound films - authenticity. Reprint the sounds of the most suitable environmental sounds, dynamic effects, dialogues, etc. in life to make sound effects that meet the imagination and expectations of the public. [5] For the aesthetic integrity of a work, we must know the incident has been handled by stunts, and the authenticity of the incident can be believed. The further realism caused by the sound also makes the performance style more full and natural.

Secondly, looking at the historical development of film, artistry is a highlight that cannot be ignored. The film industry is based on people's needs for entertainment and aesthetics. Therefore, in the relationship of sound and painting, drawing on foreign experience and using montage and other artistic techniques is an indispensable creative means. The use of film and television sound effects is a large part of the easiest to process artistically. The special sound effects that only exist in human imagination obtained by processing sound elements derived from real life often make the film more literary. The application of film soundtrack is also one of the important ways to express the atmosphere of film art. Giving the emotions of the characters in the plot narrative to the musical melody can create a fascinating artistic charm. The appearance of character-themed music is also a proof of this artistic trend. For the sound component of film language, which is difficult to give artistic design, it can add advantages to the expression of film language through the conversion of different perspectives of different people in the picture scheduling and the processing of voiceover. [6] However, the imaginary content must have a real spatial density on the screen. Here, montage can only be used within a certain limit, otherwise it will destroy the ontology of film myths.

The contemporary film market shows a trend of globalization, and unified industry standards are also the rules that filmmakers should follow. In film and television sound production, from the increase of the channel to the stereo system into the market, Dolby and other international industry standards have become a trend that recording workers must pay attention to. We should always pay attention to the cutting-edge of the most advanced film and television, and learn technology from Hollywood and other global film industries at any time.

At the same time, the key role of film and television works is to reflect the characteristics of social reality in different eras. Therefore, in the process of sound production, sound materials with characteristics such as the era and regions often become a highlight of the film presentation effect. The expression of sound can create information such as the era, environment and region, and output it to the audience so that they can receive more comprehensive information expressed by the film. For example, the sound effect of the pigeon whistle, which is extremely contemporary and regional, can lead the audience into the folk life of Beijing from the Qing Dynasty to modern times. In the expression of a specific environment, the creation of different sound fields and the addition of environmental sounds also make the film richer. In the film, if you want to express different regional concepts through sound, the use of local dialects can better convey this message to the audience.

In the production process of recording works, the simultaneous sound pick-up recording and the synchronous efforts of post-creation can create magnificent film works. In the course of the same period of history, practitioners are required to grasp the inclusion of more sound materials during the recording process, and apply more real sound effects to the presentation effect of the work. And in the later system.

In the process of making, the recording artist needs to repeatedly deliberate and finely process the sound details, so that the two important components of the film's authenticity and artistic sense are combined.

In today's efficient and flashy all-media era, "innovation" has become the keyword of the film and television industry. Whether it is the subject of the work, the artistic technique of shooting, or the presentation of the work of the sound industry, it needs to be followed. Throughout the history of the development of sound films, only the progress and development of technology and art can bring about the sublimation of film sound creation. If you want to stand at the head of the tide, you must study the problems of recording technology hard and improve the sound pickup technology to overcome difficulties, solve the loopholes in the artistic effects presented by the works due to technical limitations, and then make the sound work of the film more convenient, efficient and refined. The post-design of sound also needs inexhaustible motivation to enhance the aesthetic characteristics of the film. The expression of sound should bring pure artistic enjoyment to the audience, and serve the picture and the story while also having a deep memory point. In terms of sound design, it can break through the sound elements in existing works more boldly, and use more diverse sound materials to

create new sounds that break through the audience's imagination. In the music arrangement, we can learn from the example of the continuous use of atone music by the famous film soundtrack master Hans Zimmer in recent years, and dare to be the first to make the element of sound highly compatible with the final presentation effect of the film, so that it can better serve the film's storyline. On the road of innovation, we should not forget the traditional music culture of the nation, integrate its essence into new works, and create a new way of presentation, so that high-quality traditional music can accumulate shine.

The role of sound in film works is to match the picture and storyline, enhance strong emotions, and make the film reach a higher artistic level. This requires the creation of sound to serve the details of the film and create sound elements that meet the content of the film. The design of sound should strictly grasp the pace of the development of the film, which is in line with the emotional expression of the characters and the development of the plot. If necessary, it is also necessary to promote the story process through the design of sound. Especially in the music arrangement, based on the film framework, instruments that conform to the tone of the film should be selected to enhance the emotions of the characters in the film and the atmosphere of the film scenes through changes in rhythm, melody, strength and weakness.

As the main art of omniscience, the sound element has become an important film body in the expression it hopes to output to the audience. The emergence of sound films has freed the expression of films from the rigid shackles, thus reaching a new artistic realm. In the application of works, we should constantly strengthen the high standards of sound design to achieve the purpose of producing more artistic and aesthetic film works.

3. Conclusion

The artistic attributes of film are determined by their industrial attributes. In less than a hundred years since sound entered cinema, film art has undergone continuous development and change. The recording technology production of movie sound has gone through from "recording sound" to "on-film voice", from "optics" to "magnetics", from "analog" to "digital", from "mono" to "stereo", and then from "surround sound" to "space sound" (SpaceSound)'s different revolutionary development stages [7]. Film art is based on the reflection of reality under the social concepts of different eras and the product of technological development after the first industrial revolution, satisfying people's pursuit of beauty in the booming era. [8] Since the development of film, the status of film sound in theoretical research has shown an upward trend, but in creative practice, it is impossible to reproduce the situation that was paid attention to due to the lack of recording technology in the early days. As one of the two basic elements of film, the status of sound should not be determined by technology, but by the artistic essence of sound as the element of the construction of the story. At a time when the technology is perfect and the expressiveness of the film sound is greatly improved, the director as a film author should fully explore the potential of the film sound, so as to liberate the film's narrative and expression ability, and let the sound enter the construction of the story. Based on the diversified and high-speed development of the technology and artistic level of the film and television industry over the years, the audience is constantly improving the ability to appreciate art, and a higher demand for the quality of film and television works has arisen, which has also stimulated the continuous improvement of various branches of film art industries. So far, the ecology of China's domestic film and television recording industry has reached an unprecedented peak. In the future, the film industry will focus more on the aesthetic creation of sound, and provide the audience with the most extreme artistic experience through the montage application of sound and painting. At the same time, with the innovation of recording technology brought about by science and technology, the application of AI will eliminate a large number of tedious repetitive basic sound processing. The industrial technology field will be more standardized and refined, and more human resources will be invested in artistic sound design.

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