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THE INFLUENCE OF SOUND TECHNOLOGY ON THE FORMATION OF THE MUSICAL FILM

The purpose of the article is to analyze the influence of sound technology on the formation of the musical film. **The research methodology** involved the use of audiovisual analysis of the first musical films, which allowed for understanding the value of sound technology in the establishment of the musical film. **The scientific novelty of the work** lies in the strict analysis of the development of the first sound technology and revealing its influence on the formation of the musical film. **Conclusions.** The advent of sound into cinematography led to the destruction of the established ideas about the artistic principles of silent cinema. This incited the search for new forms of visual organization of the material naturally associated with the characteristics of sound cinema: the construction of the set-up and frame composition, camera movement, the new understanding of film editing and its rhythm. In the movie “42nd Street” (1933), at the shooting, the method called “lip-syncing” was used for the first time. It is used today when shooting musical and dance scenes, as well as filming concerts and musical performances. Only through the development of sound technology were the basic artistic principles of creating a musical film formed.

Key words: intra-frame music; musical film; synchronized sound shooting; lip-syncing.

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Вплив звукових технологій на становлення музичного кінофільму

Мета роботи. Проаналізувати вплив звукових технологій на становлення музичного кінофільму. **Методи дослідження** передбачають застосування аудіовізуального аналізу перших звукових музичних кінофільмів, що дозволить прийти до розуміння значення звукових технологій на становлення музичного кінофільму. **Наукова новизна** дослідження полягає в тому, що чітко проаналізовано розвиток перших звукових технологій та показано їх вплив на становлення музичного кінофільму. **Висновки.** Поява звуку в кіно призвела до руйнування сталих уявлень про художні принципи німого кіно. Це змусило робити пошуки нових форм зображальної організації матеріалу, органічно пов'язаних з особливостями звукового кіно: побудовою мізансцени і композиції кадру, рухом камери, новим розумінням монтажу і монтажного ритму. У фільмі «42-а вулиця» (1933) при зйомках був вперше застасований метод, який отримав назву «зйомка під фонограму». Він використовується і до теперішнього часу при зйомках музичних і танцювальних сцен, а також екранізації концертів і музичних вистав. Тільки завдяки розвитку звукових технологій були сформовані основні художні принципи створення музичного кінофільму.

Ключові слова: внутрішньокадрова музика; музичний фільм; синхронна зйомка; зйомка під фонограму.

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Влияние звуковых технологий на становление музыкального кинофильма

Цель работы. Проанализировать влияние звуковых технологий на становление музыкального фильма. **Методы исследования** предполагают применение аудиовизуального анализа первых звуковых музыкальных кинофильмов, что позволит прийти к пониманию влияния звуковых технологий на становление музыкального фильма. **Научная новизна**

исследования заключается в том, что четко проанализированное развитие первых звуковых технологий и показало их влияние на становление музыкального фильма. **Выводы.** Появление звука в кино привело к разрушению устоявшихся представлений о художественных принципах немого кино. Это вынудило делать поиски новых форм изобразительной организации материала, органически связанных с особенностями звукового кино: построением мизансцены и композиции кадра, движением камеры, новым пониманием монтажа и монтажного ритма. В фильме «42-я улица» (1933) при съемках был впервые применен метод, получивший название «съемка под фонограмму». Он используется и по сей день при съемках музыкальных и танцевальных сцен, а также экранизации концертов и музыкальных спектаклей. Только благодаря развитию звуковых технологий были сформированы основные художественные принципы создания музыкального фильма.

Ключевые слова: внутрикадровая музыка; музыкальный фильм; синхронная съемка; съемка под фонограмму.

Introduction. All the arts that exist in time and space are in one way or another connected with sound and music. Music plays the most significant role in motion pictures, television programs, and video films. Any artistic phenomenon sooner or later creates its own theory, which forms its main problems, its aesthetic and constructive principles. To the fullest extent it concerns the formation of the first musical films.

The role of cinematic music in films at the beginning of the sound cinema was considered by S. Eisenstein in the works “The future of the sound film. Application” (Eisenstein, pp. 315–317, 1964) and “Vertical Installation” (Eisenstein, pp. 189–268, 1964). Recently, this topic has been developed by modern authors. Thus, in the monograph by V. Horpenko (Horpenko, pp. 153–187, 2000), which deals with the problems of directing in screen arts, the third volume is devoted to sound-visual installation. The significance of cinematic music is outlined in the chapter “The value of the sound series in cinema” by Z. Lissa (Lissa, pp. 133–285, 1970); V. Mankovsky (Mankovsky, pp. 28–49, 1984) in the section “Features of the artistic transmission of sound” analyzes the role of music in feature films. K. Rozlogov (Rozlogov, pp. 120–197, 2005) investigates the ways of audiovisual synthesis. The roles of leitmotifs are revealed in the author’s article “The technique of leitmotifs in cinematic music” (Riazantsev, pp. 124–130, 2015). It should be emphasized that the influence of sound technology on the formation of the first musical films in scientific research in all aspects is not sufficiently highlighted. Therefore, it is necessary to dwell in detail on the problem of the impact of sound technology on the formation of the musical film.

The purpose of the article is to determine the influence of sound technology on the formation of the musical film.

In accordance with the purpose of the article the following specific tasks were set:

- analyze the evolution of the first sound technology;
- explore how sound technology affects the formation of the musical film;
- systematize materials and formulate the significance of sound technology for the formation of the musical film.

The main section. Sound cinema technology first appeared only in the late 1920s and with a rare exception based on a separate sound recording and image. In some cases, the simultaneous recording of sound was used for a common media image.

The first to experiment with sound were the Warner Brothers studio. In 1927 they shot a musical film “The Jazz Singer” (The Jazz Singer, 1927). It became the first full-length film in the history of cinema with a synchronous phonogram created with the help of the “Vitaphone” technology with sound on the record sheet. The gramophone technology “Vitaphone” suffered from the problems of synchronizing sound with the image, so the idea was eventually refused. There was a movie where people could talk, sing, dance, and this was a tremendous success for the audience. Why did Warner Brothers turn to El Jolson? Because they needed the most popular artist in the American show business to guarantee the cash success of the film. However, from the artistic point of view, the film was quite primitive. In fact, it is an ordinary silent film in which several of El

Jolson's music pieces and a couple of synchronous dialogs are inserted, among which there are huge "pieces" of silent film that does not allow you to put the picture on a level with cinematic masterpieces. However, the championship of the film in the sound film industry, and especially its incredible rolling success (with a budget of 422 thousand dollars the film collected in the box office 3.9 mil.), increased the interest of other film studios in the introduction of sound technology, which led to a sound revolution in American, and later on, in the world cinematography.

It was a turning point – all the studios realized that they had to shoot. But how? The fact is that the appearance of sound in cinema led to the destruction of stable at that time ideas about the artistic principles of cinema. The imperfection of the first audio sound recording technology led to the use of long installation plans that were not possible in the late silent cinema. Low sensitivity of the first microphones limited the movement of actors on the set, thus depriving the scene of mobility. Visual stylistics of the first sound films abruptly degraded and began to resemble theatrical productions. The action began to be built in the theater, with a turn on a still camera. For a while, they returned to the composition of the "portal arc" of the first years of silent cinema.

An example would be *Syncope* (1929) by RKO Radio Pictures, directed by Bert Glennon, with music by Bad Green, Leo Robin, Clifford Gray, Benn (Bobby Watson) and Flo (Barbara Bennett). The tape was shot with the help of a single fixed camera, because the camera operator and the camera were placed in a special soundproof box, which is typical for the first music films. This determined the static nature of the pictorial solution and almost complete rejection of the use of angle structures. Sound recording was difficult. The orchestra was on the stage with singers and dancers. During the shooting of the image and simultaneous synchronous sound recording, the entire music act had to be executed perfectly, which excluded any errors. But the film was extremely popular with viewers and became the first film to be broadcast on the radio.

The RKO Radio Pictures Studio also became the first one to take on the radio star Rudie Velle, an American singer, saxophonist, band leader and actor, songwriter, one of the most popular artists of the late 1920s, a superstar, and an idol of women. He is considered to be the first of the big crooners and paved the way for Bing Crosby, Frank Sinatra, and so on. Crooning – singing in half a voice, silent and touching – is very intimate singing, as if you are singing to the ear causing strong emotions. He starred as an amateur musician, Rudy Bronson, who is looking for a job in "The Vagabond Lover" (1929), an American comedy musical directed by Marshall Neilan in 1929. The film uses technology for splitting image and sound on various synchronized media with each other with the help of the "Photophone" of the company RCA. Separate recording allows mounting sound and images independently of each other, but requires careful synchronization of two media. Of all the systems of sound cinema created at that time, this is closest to the current standards of SMPTE analog optical audio recording. The film was a huge success; cinema halls were crowded with fans of Rudie Velle.

At this time, it became popular to position the plot space of a musical film in the theatrical environment. Perhaps the most interesting musical film on the theatrical theme was "The Broadway Melody" (1929) directed by Harry Beaumont, music by Nasio Herb Brown. This film used the first moving, silent sync cameras. This made it possible to search for new forms of pictorial organization of the material organically associated with the peculiarities of sound cinema: the construction of a mission scene and frame composition, camera movement, a new understanding of film editing and its rhythm. Attention of operators to the development of psychological portrait characteristics of the main characters of the film noticeably increased.

This was the first musical of the MGM studio and the first musical to win the Oscar Award as the best film, and collected about \$ 3 million in a rental with a budget of just 379 thousand. As in all fine films, this is based on an excellent storyline. Sister Hank (Anita Page) and Quinny Mahony (Bessie Love) are singer-songwriters arriving to Broadway to New York City to succeed, but it's not that easy. In this film, individual episodes became independent musical and dramatic acts, which have their own plot, choreographic and stage design. Such rooms became the culmination of the development of action. They have a special level of convention: real life, the everyday life of the artists was theatricalized; it was in a new artistic quality. Subsequently, these principles became

the leading ones in creating a complete model of a musical film. In general, this is a typical example of backstage history, in which viewers first saw what goes on behind the scenes, how dancers live, which is their personal life. The viewers may have liked this most. For such films, then, a lot was taken.

After Hollywood, cinematographers from Europe joined the creation of music films. The evolution of the sound cinema took place much slower. While the studios were rebuilding, sound films were filmed elsewhere, especially in England. In the short run, Renee Claire proved to be the sound engineer of a very successful “Under the Roof of Paris” (1930), who became a poetic, musical spokeswoman for Paris.

In Germany, the use of sound in the last years of the Weimar Republic has given the film a new powerful impetus. The film “The Blue Angel” (1930) directed by Joseph von Sternberg (1894-1969) brings Marlene Dietrich to world fame. This is a story of the “moral fall” of the school principal, due to the capture of the cabaret singer Lola-Lola (Marlene Dietrich). The tape was shot simultaneously in German and English, and it became a hit on both sides of the Atlantic. The success of the film was based on the use of a large number of songs, which were written by Friedrich Hallander, Robert Liebmann and Sam Winston. Particularly “Falling in Love Again” was seductively performed by Dietrich at the beginning of the film and without any emotions at the end of the film. As well as the song “They Call Me Naughty Lola”, in which she expressed grief, excitement and simplicity of the story, undoubtedly, influenced her success both in Germany and in America. However, the sensuality of the heroine of Marlene Dietrich caused a lot of double remarks, and this created her image of a woman vamp.

The sensational success of the Zong-opera “The Three-Monster Opera” by Bertolt Brecht and Kurt Vile, in the production of Erich Engellem in 1928 at the Schiffwoerdam Theater, brought great popularity to its creators; in the next season the play was already in the largest cities of Germany. George Wilhelm Pabst adapted it to the cinema by filming the movie “The Three-Money Opera” (1931). The main characters of the film are scammers, tramps and prostitutes. The film also has a sharp satire, and a soft humor. Weil successfully uses genres of light music, elements of urban folklore and jazz. Ernst Bush plays the constable of Smith in the play, in the film he became the Street singer, performing the famous “Ballad of Mecca Messer”, as well as “The Song of the Futility of Human Exercise”. Filming was performed simultaneously in German and French. After the Nazis came to power in 1933, Brecht’s play and the film by Pabst were banned in Germany.

The October stock market crash of 1929 on Wall Street in the United States was the beginning of despair and growing unemployment. About 14 million Americans of working age remained unemployed. The thirties were marked by the true flowering of cinematography, which became a breath and hope in the difficult years of the Great Depression. People needed entertainment so that they could forget about life’s problems. And in the musicals of that time, the theme of confrontation with difficulties and problems, which became general in society, was reflected.

The film “42nd Street” (42nd Street, 1933), directed by Lloyd Bacon, Basby Berkeley, Leo F. Forbestein, words and music by Harry Warren, Al Dubin, changed the traditional musical scheme; it’s a story about backstage life, harsh realities, heavy rehearsals and broken hearts. The main idea was that the rehearsals polished the skill of “sweat and blood”. A magnificent showman raises the demands of the artists, and the young hero or heroine, who have shown dedication, become stars of the show. The inexorable optimism of the showman has always been rewarded.

In the film, the method called “shooting under a soundtrack” was applied for the first time. It is used up to now in musical and dance scenes, as well as for screening concerts and musical performances. The musical accompaniment is recorded in advance in the optimal for this acoustic sound studio, which is then played on the set. This allows us to apply all the possibilities of the operator’s art – composite, tonal, color decisions, plan and angle, panning, camera movement, etc. The real life on the film contrasts with the magnificent scenes taken at an unexpected angle, thanks to the operator’s work. The images of the girls on the screen turn like in the kaleidoscope, forming complex patterns. The camera lens displays attractive artisans of the corps de ballet from all possible angles. The dance act for this musical was put by the Broadway Choreographer Basby

Berkeley. The technique of filming under the phonogram allowed the creators of the films to focus on the advanced performing arts of actors in choreographic and vocal episodes.

Between the expressive Berkeley choreography and the films in which the main characters just dance, there is a principle difference. In the films with Fred Aster, the star must occupy the entire frame, which should be long, so that the viewer can fully appreciate the movement of the dancer. In the episodes posed by Berkeley, dancers were part of rather complicated geometric patterns that the choreographer organized on the screen. The camera passed around them, over them and sometimes between them. The spectators doubted whether the artists could actually dance. Aster, whose legs were insured for \$ 1 million, had no such doubts. Aster Ginger's movements seemed easy. His face always had a friendly smile, and Ginger Rogers shone as if they were dancing unwittingly.

The public of the times of Depression could forget for some time all their worries, watching musical episodes, which seemed absolutely serene – but the dances themselves were by no means at all. Aster was very demanding for himself and Rogers. It is believed that during his career he had spent at least 1000 pairs of dance shoes. While working on the movie *Swing Time*, this super-perfectionist forced Rogers to repeat the complex episode so many times that her legs, wearing satin shoes, bled. Another distinction between Aster's musicals and films with the Berkeley Corps de Belle Army consisted in the fact that the first rooted in individualism, while the latter glorified collectivism, magnified the dignity of collective labor.

The film “*The Cylinder*” (*Top Hat*, 1935), directed by Mark Sendrich, is the fourth film and, in general, is the best of the nine musicals in which Fred Aster and Ginger Rogers were shot together. The film features elegant costumes, gorgeous white decorations in the Art Deco style of the painter-designer Van Nest Pohllejs, is just as pleasing to the eyes as the Irving Berlin tunes for the ears. And in this atmosphere, Fred and Ginger, as though flying, were in ecstasy from the dance staged by Hermes Penn. The episode “*American in Paris*”, the only Aster Group number in the movie performed on the background of the Parisian street, may be the most famous dance by the actor. For the first time in the role of requisition he works with a cane. This is a joint work of Fred Aster and Ginger Rogers, perhaps the most famous and most beloved by the audience.

The principle of “shooting under a soundtrack” has also allowed many musical films to include performances of vocal parties by famous opera singers. For example, in the first Ukrainian musical film “*Natalka Poltavka*” (1936) directed by Ivan Kavaleridze, music by Mykola Lysenko, the main vocal parties performed by well-known Ukrainian opera singers: Maria Litvinenko-Volgemut and Ivan Paterorgsky. The film widely used the nature – landscapes of the village Pereviz near Romodan. The acting of Catherine Osmylovska perfectly combines with the voice of M. Litvinenko-Volgemut. Colored and vivid Nicholas came out in the performance of Stepan Shkurat, who drowns dazzlingly in his fifty-four years of age and sings. The film turned out to be spectacular and fun.

Filming under the phonogram was also used in the American musical film “*The Great Waltz*” (1938), staged by director Julien Duviviev. The main female role was played and performed by the vocal parties of Milica Koriuz, the leading soloist (coloratura soprano) of the Metropolitan Opera of Lithuanian-Estonian origin. This musical and biographical film about Johann Strauss (Fernand Grave) introduces us not only to the immortal waltzes of the great composer, but also to the story of his love. Already being married, Strauss falls in love with the opera singer of the Imperial Theater Carl Donner (Milica Coriuz), a capricious, corrupted and crazy beauty. When they ride in the cabriolet in the morning through the Viennese forest, Johann under the influence of bird singing, a hoof hook, sounds of a shepherd's horn, creates the melody of the immortal waltz “*The Tales of Viennese Forest*”. Year after year this episode became a textbook.

We can confidently conclude that only through the development of sound technologies were formed the basic artistic principles of creating a musical film.

The scientific novelty of the research is that the importance of the first sound technologies for the development of a musical film is analyzed and their influence on the sound solution of the motion picture is reflected.

The theoretical significance of the article lies in the fact that it helps to generalize information about the importance of the first musical films and promotes the development of the cinematic culture.

The practical significance of the research lies in the fact that it can be used for musical films and programs for the preparation of sound engineers.

Conclusions

1. The appearance of sound in the cinema led to the destruction of consistent ideas about the artistic principles of silent film. Imperfection of the technology of synchronous photography of the first decades led to the predominance of long dialogue installation plans, impossible in the late silent cinema. The low sensitivity of the first microphones limited the movement of actors on the set, thus depriving the scene of mobility. The bumpiness of synchronous motion picture cameras and sound recording equipment was forced to avoid the actual shooting.

2. Sound recording was difficult. The orchestra was on the scene with singers and dancers. When playing a picture and simultaneously recording a sound, the entire music number was completely executed.

3. Subsequently, the first moving, silent synchronous shooting cameras appeared. This made it possible to search for new forms of pictorial organization of the material organically associated with the features of sound cinema: the construction of a mission scene and frame composition, camera movement, a new understanding of the installation and mounting rhythm. Separate musical episodes have become independent musical and dramatic numbers in the film, which have their own storyline, choreographic and stage design. Such rooms have become the culmination of the development of action.

4. After Hollywood, cinematographers from Europe moved on to create music films. There the evolution of sound cinema took place much slower. Sound films began to be filmed, first of all in England, and then in France, Germany, Ukraine.

5. In the movie “42nd Street” (1933), during shooting, the method was first used called “shooting under a phonogram”. It is used up to the present time when shooting musical and dance scenes, as well as screenings of concerts and musical performances. This allowed us to apply all the features of the cameraman art – composite, tonal, colored solutions, plan and angle, pan, camera movement, etc.

6. The technique of filming under the phonogram allowed the creators of the film to focus on improving the performing arts of actors in choreographic and vocal episodes, and also allowed in many musical films the use of vocal parties by famous opera singers. Only through the development of sound technologies were the basic artistic principles of creating a musical film formed.

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