

The Aesthetic Significance of the Digitalization of Movie and Television Sounds Based on Digital Media Technology

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Abstract: The content of digital media technology in movie and television sounds' production is gradually increasing. Related theories generally believe that digital media technology has not only changed the technology and methods of making movies and televisions, but also the concept of appreciating the art of movies and televisions. Besides, artists do not need to seek materials which are suitable for movie and television sounds from the real material world anymore while they can create musical effects as desired instead of being constrained by the equivalents of the sounds in art of movie and television from reality, better render the atmosphere, and create a kind of audiovisual feast of movies and televisions that make the audience feel empathetic. In conclusion, all of these indicate that digital media technology nourishes the current movies and televisions art in many aspects. Therefore, this study took the digitization of movie sounds as the research background and deeply analyzed the aesthetic value and movie and television functions of sounds digitization through relevant cases of movie sounds modeling.

1. Introduction

Digital media technology is advancing day by day, and the technology of movie and television sounds and its expression methods are constantly being updated and developed. At present, we can enjoy various of video and audio works with outstanding and distinctive styles of the artists of movies and televisions. Artists use digital media technology to present their soul and concept of videos and audios, and enhance the appeal of movie and television sounds at the same time. There are many aspects of this kind of audio-visual art that can continue to develop. In Benjamin's treatise, he proposed that digital media technology was a revolutionary force in the production of audio-visual art [1]. Moreover, it is necessary to enhance the realism and stereo perception of audio-visual art on the basis of digitalization so that the audience is able to obtain double satisfaction in audiovisual psychology, which will bring them unprecedented attraction [2]. Especially in the sense of hearing, digital media technology ought to be used to improve the display effect of movie and television sounds to thereby form a three-dimensional expression of sound effects and promote the development of audios and videos.

2. The Application of Digital Audio Technology in Movie and Television Sounds

Since the 1990s, with the development and application of computer technology, digital technology, and network technology, movie digital special effects, multi-standard, and multi-channel digital stereo technology have been developed and applied. The use of Dolby SR.D5.1 channel, DTS5.1 channel, and SONYSDDS7.1 channel stereo system borne witness to the evolution of the film from analog technique to digital technology. On the other side, the computer-based audio workstation has fundamentally changed the production pattern of movie and television sounds. ProTools, Nuendo and other software made movie and television sounds more expressive and creative, and also left more room for the development of movie and television sounds modeling. When it comes to the application of audio digital technology in movie and television sounds, we can roughly start from several aspects:

(1) The audio signal is converted from analog to digitization. In the early 1980s, the digital MIDI

sampling synthesizer was born. Due to its capability of truly collecting and replaying various sounds in the natural world, it can be widely employed in film music creation. As a result, the development of audio signal processing from analogue to digital technology was unveiled, which greatly improved the quality of movie and television sound, and also promotes the expansion of digital audio technology for film recording.

(2) The growth of stereo technology. In 1999, Dolby and Lucas THX company of the United States developed the cinema 6.1-channel surround sound based on the Dolby SR-D digital stereo system. It is also known as Dolby Digital—Ambient Sound EX™, namely, adding a middle surround channel (CS) to the left (L), middle (C), right (R), left surround (LS), right surround (RS), and super bass (SB) channels to enable the audience to be able to fully feel the charm of sounds from the screen when watching the movie.

(3) Recording and post-processing. After entering the digital age, the establishment of digital workstations allows sound designers to magnify the waveform almost infinitely. Besides, the accuracy of sound editing can reach every sampling point, and all tracks and completed editing parts in the project can be also viewed while sounds are being processed. New products such as digital mixing consoles, digital audio workstations, MIDI synthesis and sampling, electronic musical instruments, music software, and digital signal processors continue to come out, which realize a comprehensive system that organically combines many aspects of audio and video dubbing production through a computer [3].

(4) 3D sound effects. The current technologies of 3D sound effects are mainly composed of three major technologies: A3D, EAX and SRS. Each of these three sound effects technologies has its own characteristics. For instance, A3D surround technology has been certified by Dolby Laboratories as "VirtualDolby". Even though you just use a pair of ordinary speakers or headphones, you can experience Dolby's five-speaker surround effect, and its strong interaction is one of the main features as well; The processing of EAX's environmental sound effect is excellent while the advantage of SRS technology is that the sound field is wide and full, which makes it can be combined with other 3D sound effects.

3. The Aesthetic Thinking Elicited by Digital Audio Technology

3.1. The composition of form that lead humans to search for the beauty of sounds

Digital technology enables sound recipients to make and adjust the melody, scale, tone, volume, and rhythm of various sounds according to their own hobbies. This seems to mean that it is possible for each voice receiver to process the same voice in line with its own aesthetic requirements, to thereby forming a voice that meets the individual's aesthetic acceptance standards. Digital measurement of thousands of beautiful sounds produced by different individuals with different numerical standards will inevitably be able to find some common rules for the composition of beautiful sounds. In terms of current technical conditions, this is probably not only just a theoretical problem but also an experimental program. If Hanslick's spirit in heaven knows it, he will be deeply relieved by the emergence of such a sound technology.

For example, in the movie *House on Haunted Hill*, there is a plot that a house is going to transform from a building to a devil. The sound engineer designed the film to start with a very slow and low pulse sound. When the house started to revive, the air sound turned into a violent roar of strong wind. The natural process of development allowed the audience to feel the vitality of the house during the watching process. This kind of assumption of unreality constructed a hypothetical world for the audience and created the audience's true inward feelings at the same time.

Likewise, in films including *Transformers* and *Unthinkable*, digital audio technology is used to display fierce battle scenes composed of the rotating sound of the machine, the flying sound of electronic equipment, the sound of bullet shuttles, the sound of explosions, and the sound of characters on the screen. When the audience watches these scenes, the sounds of the war on the screen is consistent with the familiar sounds of war that the audience can imagine, which makes such virtual wars authentic and enhances the expressive effect and charm of movie and television

sounds [4].

3.2. The diverse dynamic display of formed artistic beauty

Digital audio technology converts dynamic natural sounds into static, quantitative and qualitative digital signals, which represents that humans can process and send sounds according to their own desires, making electronic sounds equal to natural sounds to a very precise degree. Similarly, in a theoretical sense, digital technology can also transform the images, smells, touches, and tastes of dynamic natural objects into digital signals for transmission and spread. That is to say, in the sense of present communication across time and space, Digital technology can not only spread sound, but also spread all the subtle activities including vision, smell, touch, taste which are related to brain nerve cells.

At present, Dolby SR·D is widely adopted in China, and some theaters are compatible with DTS. The location of most cinema speakers is higher than the audience's position, so that the phantom position of the front and rear speakers in the surround sounds appears to be on top instead of front, which greatly reduces the auditory experience of the audience brought by 3D sound effects. At the same time, owing to the different seating positions of the audience in the theater, the loss caused by the sound received at different angles is also different. If it is possible to realize that the audience can have headphones that are able to adjust the volume and even the reverberation when they are watching a movie, combined with the super surround and interaction of the current A3D technology, it will definitely realize a new movie watching experience.

Consequently, under the rule of such a technological method, the temporal and spatial realm of the current digital movie sounds will become the temporal and spatial realm of the entire film art, and the formation of such a temporal and spatial realm will fundamentally change people's sensibility and the way of experiencing things. We don't know if we can still call them that ruled by such a technological method as films, but we know that in such a digital media of the future, the lasting appeal of art that Benjamin called the withered art of the era of mechanical reproduction is recovering, and an original work that actually constitutes its authenticity is taking shape. Over there, it seems difficult for us to recognize the boundary between art and life.

3.3. An created vital medium for spiritual communication

Digital technology is convenient for preservation, transmission, and copying while it is free from the shackles of material shapes and widely used in social fields. Music before the advent of electronic technology, due to the nature of its acoustic materials, its preservation, transmission, and reproduction can only rely on the human bodies, and the communication method that relies on the body medium can only stay within the narrow scope of face-to-face communication. The opposite is the text medium. Although the material form of its paper hinders its richness in expression, as a means of communication that is separated from the body medium, it is supported by printing technology, especially Gutenberg printing technology [5]. Moreover, it can almost spread in an infinite range of time and space and reflect the innermost self of movie and television sounds. Eventually, According to its deepest subjectivity and conceptual soul, the nature and methods of self-movement are achieved.

4. Summary

The innovation of digital technology has led to the progress of film sounds technology. In *Film as Art*, Einham acknowledged that the continuous pursuit of technology is the guarantee of achieving the greatest degree of realism. Digital audio technology has become a powerful measure to make movie sound modeling realistic, and movie digital stereo creates shock and appeal that monophonic movies cannot create when participating in audiovisual modeling. In the era of digital technology, shapeless sound waves are the most wonderful media material that directly displays the inner life of human beings. Once the characteristics of this media material are controlled by humans, its significance to human communication will become increasingly prominent.

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