

Research on Film Aesthetic Characteristics of Science & Technology Report Video

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Abstract: Different from commercial videos that mainly appeal to market interest or audience's aesthetic interest, science and technology reporting video (hereinafter referred to as S&T-video), which mainly appeals to scientific and technological work report, is widely used in scientific and technological reporting and science education scenarios due to its vivid image and efficient dissemination characteristics. However, the current S&T-video is generally characterized by such drawbacks as obscurity, dullness, length, single method and tediousness, etc. From the perspective of film and television aesthetics, S&T-video has been widely used in science and technology debriefing, science education and other scenes. From the perspective of movie and television aesthetics, the direct cause of these shortcomings is the lack of movie and television aesthetics. In this paper, we analyze the aesthetic demands of S&T-video, summarize the aesthetic characteristics of S&T-video from the perspective of aesthetic subject and object, and then put forward targeted creative suggestions in order to enhance its aesthetic style.

1. Introduction

From the perspective of aesthetic subject - aesthetic object, S&T-video is an aesthetic object and its audience is an aesthetic subject. As a highly integrated functional film and television media style of graphics, text, audio and video, S&T-video is naturally specialized and information-intensive, and these characteristics pose greater challenges to the creation of artistic aesthetics of S&T-video. However, there is a general lack of research on the aesthetic characteristics of S&T-video. Professor Xu Hui from the School of Film and Television Arts of Communication University of China (CUTC), in his article "The Soul of Film and Television Media - A Preliminary Exploration of Film and Television Aesthetics," discusses: "The life of film and television media lies in creating an aesthetic context for information understanding and acceptance. The aesthetic context, aestheticity is the soul of film and television media, which is presented as a revelatory conclusion." ^[1] The study of the aesthetic characteristics of S&T-video will, to a certain extent, touch the crux of the problem of "content accumulation and lack of aesthetics" in S&T-video nowadays.

2. Film Aesthetic Characteristics of S&T-Video

2.1. Dialectical Unity of Science and Art of Aesthetic Object

The scientific nature of the aesthetic object is reflected in the scientific nature of the text content. S&T-video in the text content mainly includes commentary, animation, video, text, charts, pictures and so on, which is the basic carrier of the reported information. The scientific nature of the text is reflected in the rigorous wording, professional terminology, precise data, standardized units, accurate charts and other scientific language expression.

The artistry of the aesthetic object is embodied in the artistry of the form of expression, and S&T-video extensively uses such recording technologies as high-definition filming, high-speed filming, time-lapse filming, underwater filming, probe filming, microscopic filming, ultra-long-distance filming, ultra-wide-angle filming, aerial filming, high-fidelity recording and other filming techniques, as well as two-dimensional animation, three-dimensional animation, special effects packaging, editing and synthesizing, and other post-production techniques. These technologies are an important foundation for creating visual aesthetics and auditory aesthetics.

Like movie art, the textual content and expression form of S&T-video are inseparable organic wholes. "Technological development is never a one-way ride on instrumental attributes, but rather the development of technology brings about a change in the medium in order to continually integrate it with culture and art as an artistic idea and a cultural power." [2] The scientific nature of S&T-video's textual content and the artistic nature of its form of expression are reflecting the high degree of integration between technology and art, which are mutually reinforcing and complementary to each other, and have reached a dialectical unity.

2.2. Dialectical Unity of Rational Judgment and Perceptual Appreciation of Aesthetic Subject

When watching an S&T-video, the subject of aesthetics is always carrying out objective rational judgment and subjective perceptual appreciation, although S&T-video emphasizes more on the authenticity and accuracy of the objective level, but as the subject of aesthetics, the perceptual appreciation is a natural and objectively unconstrained perceptual process of the aesthetic activities. The creators of S&T-video tend to ignore the audience's perceptual side, not knowing that "the kernel of aesthetics is sensibility, the beauty and ugliness in sensibility. S&T-video creators often neglect the audience's sensual side, not realizing that "the kernel of aesthetics is sensibility, the beauty and ugliness in sensibility." [3] The famous film theorist and psychologist Rudolf Arnheim pointed out in his masterpiece of art psychology, "Visual Thinking - The Psychology of Aesthetic Intuition," that "those who are engaged in rational thinking like to speak of rational thinking as an activity that is completely beyond the scope of perception." [4]

From the thinking process of aesthetics, we can see that aesthetics is a process of sublimation from sensibility to rationality. "From the large number of research results in the present and contemporary times, the aesthetic psychological elements contain such basic elements as attention, perception, association, imagination, emotion, and understanding." [5] It is easy to see that there is a linear relationship between these elements, which are elevated from the perceptual to the rational. "Attention" and "perception" belong to the perceptual stage, "association", "imagination", "emotion" and "understanding" belong to the rational stage. "The 'sensibility' in the aesthetic dimension certainly cannot be separated from reason; it is the tentacle of reason reaching out to the sensible dimension, and it is reason expressed in sensibility, just as reason is sensibility expressed in abstract form." [3] Perceptual appreciation is the perceptual basis of rational judgment, and rational judgment is the rational sublimation of perceptual appreciation, which is the necessary stage that prompts the aesthetic subject to finally give a positive evaluation of the reported content, and the

two have reached a dialectical unity in terms of the consistency of their ultimate goals.

3. Creative Suggestions Based on The Film Aesthetic Characteristics

3.1. Promote the Principle of Aesthetic Creation

S&T-video focuses on content in the field of science and technology, which, in the eyes of ordinary people, is only "serious", "rigorous" and "precise", In the eyes of the general public, the field of science and technology only contains words like "serious", "rigorous", "precise", "fine" and so on, which seem to have nothing to do with "aesthetics" and "poetry". In fact, there is no lack of beauty in the field of science and technology, but only the aesthetic and poetic eyes of the creators. Mr. Ye Lang, a famous contemporary aesthetician, explains the beauty of social life in this way: "Whether it is clothing, food, housing, transportation, marriage, funeral, dowry, marrying all contain rich historical and cultural connotations, and if people look at them with an aesthetic eye, they will show a world full of interesting imagery." [6] Such as the beauty of the curve of a missile sweeping by, the magnificent beauty of a ship sailing, the shocking beauty of a rocket taking off, and so on, can all be "meaningful forms" in S&T-video. "A meaningful form, i.e., a depictive representation of an emotion, reflects forms of feeling that are difficult to express and thus impossible to identify." [7]

The creation of S&T-video often faces strict time constraints, rigid chapter structure regulations, and difficulties with complex schematics, difficult and obscure terminology, and technical information in a variety of formats, which create obstacles to adhering to the aesthetic concept. Then, in the face of these obstacles, how should we adhere to the creative concept of aestheticization? "Various kinds of emerging technologies emerging in the era of new media on the Internet should add to the charm of art with new 'techno-poetic' and 'poetic' forms such as freedom, equality, interaction, sharing, openness, and inter-temporal and space, as well as for human beings to continuously create new patterns of aesthetics and new transcendence." [2] It is not difficult to understand that these obstacles can be dissolved through new technologies, new ideas and new means in the digital media era.

3.2. Follow the Principle of Textual Clarity

Clear text is an important foundation for the art of film and television to convey feelings and meanings, and different types of film and television have different requirements for the clarity of the text. "The content of science and technology documentaries is often some abstract concepts, which contain some complex principles, it is difficult to use images to present concrete, clear, image, the creation is more difficult." [8] This feature is also obvious in S&T-video, whose content's specialization and complexity put forward new requirements for its text clarity. For example, the simplicity and accuracy of the narration, the clarity of the logical structure, and the necessary textual notes are all directly related to the clarity of the narrative.

Grasping the clarity of the text is reflected in the whole process of pre-planning, mid-shooting and post-production, and the limitations of S&T-video creation in terms of length and structure put forward higher requirements for the clarity of the text, which requires the creators, on the premise of abiding by the established rules, to take into account the characteristics of the creation of the various stages of S&T-video creation, and to make necessary balances and additions in all stages in accordance with the principle of clarity of the text. The principle of textual clarity is the basis for making the necessary balances and additions at each stage. Ensuring the clarity of the text is the most basic requirement for S&T-video to realize the essential attribute of efficient reporting, and creators should carry the principle of clarity of the text throughout the creation of S&T-video.

3.3. Follow the Principle of Editing Fluency

There is a famous saying about editing - the best editing is when the editing is not felt. This saying implies a universal law of art: fluency produces beauty. The reason why we emphasize the smoothness of editing is that S&T-video's material is complicated and involves many file formats, editing is the most important part of its creative process, and smoothness is the most important characteristic of the editing process. The science and technology documentary *CHINA'S MEGA PROJECTS* is considered to be "China's first documentary on the subject of engineering at a high level" [9], and "*CHINA'S MEGA PROJECTS* is edited fluently and efficiently to display a huge amount of information" [10].

The editing fluidity of S&T-video can be summarized on two levels: avoiding visual flicker and avoiding mental flicker. Avoiding visual flickering is the most basic fluency requirement, which is mainly caused by inappropriate shot sequences. Mental flickering is a kind of deep-level flickering that contains logical thinking. Both visual and psychological flickering can easily hinder the creation of smooth beauty, and the principle of smooth editing is the most basic creative principle for creators to insist on the aestheticization of creation in the limited creative space.

4. Conclusion

The aesthetic characteristics of S&T-video are not an optional feature, but a fundamental feature for the effective realization of its essential functional properties. Whether they are trained professional judges or highly educated industry experts, they are not always able to watch an aesthetically unattractive technological sound and video film with absolute sanity, care and patience when they are the subject of S&T-video. Every S&T-video creator should actively recognize the aesthetic characteristics of S&T-video and adopt a targeted creative approach to make aesthetics play a subliminal and important role in scientific and technical reporting.

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