Reflection on Technological Aesthetics of Inhuman Tendency in Technological Development

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Abstract: The development of science and technology has always been closely related to the history of human civilization. In the contemporary era of rapid technological development, art inevitably merges with science and technology at a deeper level, and the technologicalization of art and the artisticization of technology have become the general trend. With the rapid development of technology, the art that coexists with technology is bound to continue to update and develop, and the connotation of art will be richer. The continuous intervention of technology in art has also caused a series of problems. Therefore, in the context of an era when emerging science and technology have become an important driving force for social development, it is increasingly important to pay attention to the future society and re-examine the relationship between humans and machines, art and technology. In the development and application of modern technology, it is the ultimate significance of technological aesthetics research to pay attention to the living conditions of people, pursue the fullness and richness of human nature, and constantly return to the root of aesthetics, so as to finally make the integration of art and technology have a humanistic care.

1. Introduction

Futurist Kurzweil once said, "Technology is the continuation of evolution in another way", [1] With the continuous development and evolution of human civilization, the role of technology in social progress has become more prominent, and it has been reflected in modern medicine, transportation and other aspects closely related to life. The advancement of science and technology has met the growing needs of human beings, but at the same time, the inhuman tendencies brought about by the wide application of high-tech also deserve our attention and reflection. How to maintain the essential power of human beings in conformity with the trend of technological development of the times requires straightening out the relationship between science and technology and humanities and art, making technology artistic, and truly exerting the aesthetic redemption value of technical aesthetics.

2. Contemporary Technological Aesthetics

2.1 The Relationship between Technology and Art

As two different ways of understanding and mastering the world, art and science continue to

advance on two intertwined paths. The communication of art is subject to technology and materials, artistic ingenuity can only be realized through ingenious means of material technology, and artistic ingenuity also gives new inspiration to the development of science and technology, and promotes the continuous development of science and technology. Qian Xuesen said: "We should consciously study the law of interaction between science and technology and literature and art."[2]

Since the two industrial revolutions, the rapid development of machine technology has continuously changed people's production methods, lifestyles and ideas. At the end of the 18th century, the steam engine was invented by the British Watt and quickly put into production. In 1844, the famous British painter Turner created his important work *Rain, Steam and Speed- The Great Western Railway* on the railway bridge in Maidenhead. The appearance of the city is vaguely visible in the rain and fog, and a train is passing through the fog. This is a contest between nature and man-made steam locomotives, and it is also one of the earliest works depicting modern civilization.

At the beginning of the 20th century, the development of industrial technology was advancing by leaps and bounds. Futurist artists who sang praises for speed and power created a large number of works of art. And the development of modern industrial civilization also contributed to the outbreak of war to some extent, and the expansion of capital caused competition for territory and power. Some artists with a sense of urgency also discovered the crisis hidden under the high prosperity of technology. Many artists of German Expressionism expressed the distortion and alienation of the human mind by war and modern industrial civilization in their works.

In the development of human history, the history of humanities and art and the history of science and technology have never been clearly separated, but they influence each other and are closely intertwined. Science requires an extremely precise and cautious attitude to explore and explain the world, while art adopts an open, free and imaginative attitude to view and reproduce the world. In a sense, the attitude of art is in fact anti-scientific, and this anti-scientific nature of art can compensate for the conservative tendencies caused by the dependence of science on accuracy and suggest solutions that require the involvement of humanistic values. More than ever before, the modern society of the twenty-first century, with its rapid development, needs to use an integrated system of knowledge in which art and science work closely together to solve problems and challenges it may face.

Both art and science are constantly exploring the world, participating in it, and changing it in their own ways. This never-ending spirit of exploration is what makes art and science interchangeable at their roots. Thus they explore independently and merge with each other.

2.2 Connotation of Technical Aesthetics

Regarding the definition of aesthetics, numerous scholars at home and abroad have put forward their opinions from the day aesthetics appeared to date, but it is difficult to come up with a standard answer. "Summarizing the various definitions, there are basically five main views.
(1) Aesthetics is the science of beauty.
(2) Aesthetics is the philosophy of art.
(3) Aesthetics is a science that studies beauty and art centered on aesthetic experience.
(4) Aesthetics is the science of linguistic analysis of aesthetic vocabulary.
(5) Aesthetics is the science of aesthetic value. "[3]
However, the purpose of the research on the etymology and definition of aesthetics is not to seek a unified standard, but to focus on how aesthetics is described by theorists.

As a new branch of aesthetics that emerged after the development of modern science and technology to a certain stage, technical aesthetics is more operable and applicable than the speculative research and theoretical inductive exploration of traditional aesthetics. According to Marx's point of

view, "man also builds according to the law of beauty".[4] The law of beauty was introduced by Marx when he elaborated on the characteristics of free labor, which is "free conscious labor in accordance with the character of human life" [5], and therefore the law of beauty is the unity of the freedom of human life and its formal expression. Building according to the laws of beauty also reveals that beauty, as the eternal pursuit of human beings, exists in human production practices, and that the profound inner core of humanistic values gives aesthetics the ability to guide human progress. Technical aesthetics, as the embodiment of aesthetics' participation in human social practice, provides humanistic orientation for the development of science and technology, pays attention to the state of human existence in the process of technological development, pursues the fullness and richness of human nature, makes technology artistic and aestheticizes technology, overcomes the inhuman tendency in technological development, and enables human beings to realize their essential power in practice, i.e., in the process of participating in the construction of the world.

From the historical process of continuous improvement of human technology, it is clear that although humans have technology, they have not yet fully understood how to live with it. In the context of such productivity, machine aesthetics and technical aesthetics have become a clear direction for the combination of beauty and utility.

"The unity of technology is not to overcome technology with external art, but to restore and expand its own artistic connotation while overcoming the inhumanity and infinite expansion of technology under the control of the beauty of technology, so as to make technology artistic." [6] The ultimate goal of technical aesthetics is to make the fusion of technology and art have a humanistic temperature.

3. Inhuman Tendencies in Technological Development

3.1 The Proliferation of Instrumental Rationality and the Lack of Value Rationality

In many countries that have completed the industrialization reform, we can all see the rapid changes brought about by the industrial technology revolution, the rapid increase in productivity, the subversive changes in production methods, the dramatic changes in the way people work and live, and even the changes in the way people think about problems, all coincided with the development of technology. Thus we can deeply appreciate that modern emerging technology, no longer only as a tool for human transformation of nature, but as a new covering force, penetrating into all aspects of human social life, has become a "form of organizing, maintaining or changing social relations, a display of universal forms of thinking and behavior, a tool for social control and domination." [7] Technology, capital, and politics are highly integrated in the era of globalization, shaping a new capital-technology complex.

In the critical theory of the Frankfurt School, confirming the usefulness of tools in practice, pursuing the maximum efficacy of things in order to maximize benefits, and instrumental rationality serving the realization of a certain utilitarianism of people are the values of technology worship. "Technical rationality is based on knowledge, technology, norms, and formal requirements, and pursues quantitative evaluation of things. It strictly distinguishes facts and values, and is indifferent to values." [8]

In the initial stage of the development of material civilization, our understanding of the word progress was technological completeness, industrial development, and economic take-off, but with the guidance of such a concept of measuring social progress by a single material criterion, the public has neglected the construction of moral, aesthetic, political, and other aspects of spiritual civilization. Marx claimed, "The triumph of technology seems to be bought at the price of moral corruption. All our discoveries and advances seem to have resulted in giving a rational life to material forces and in reducing human life to dull material forces." [9]

The arbitrariness of technological rationality makes culture monotonous, rigid and impoverished,

and makes the whole society show a kind of disregard for human nature and denigration of individuality. It may be the only possibility to break this one-dimensional value orientation, add aesthetic emotion to rational judgment, and guide technological development with aesthetic principles. The pursuit of equality, freedom, harmony and beauty in art is used to confront the single utilitarian value orientation of instrumental reason. "A stage in which instrumental rationality exists as a result of technological evolution is the result of the inversion of subject and object in the concept of rationality. The reconstruction of a new form of rationality must first transform the basic principles of the form of instrumental rationality into aesthetic principles. " [10] The art world, which regards beauty and aesthetics as its principle of existence, has become a way to fight against instrumental rationality. Art always maintains the pursuit of beauty, thus establishing an abstract world that exists independently without the constraints of external economic laws and political logic, so it can get rid of the control of instrumental rationality.

"The development of intellectualism and the rationalization of life change this situation. For under these conditions, art becomes a universe of more and more consciously grasped independent values which exist in their own right. Art takes over the function of a this-worldly salvation, no matter how this may be interpreted. It provides a salvation from the routines of everyday life, and especially from the increasing pressures of theoretical and practical rationalism. "[11] While Marx Weber proposed that instrumental rationality would gradually erode the spiritual world of human beings in the process of capitalist modernization, he also saw that humanistic value rationality in the field of culture and art could weaken the invasion of instrumental rationality and give aesthetics and art the function of redeeming human beings and society, making the development of human society returns to the state of unity between the instrumental rationality pursued by technology and the humanistic value rationality pursued by art.

3.2 The Development of Virtual Reality Technology and the Loss of Human Subjectivity

The famous futurist Kevin Kelly put forward this conclusion in his book *What Technology Wants*, "Technology wants to embrace life, evolve, order, and a future full of magic and vitality." [12] The factor of technology accompanies every stage of the evolution of life, as it did in the past and will do even more so in the future, when technology is more advanced. Human ambition has led to the development of technology, and by virtue of technological inventions, humans themselves have developed and evolved. This includes both biological evolution, such as the exercise of the human brain through the use of tools, and the evolution of social forms, such as the industrial revolution, which allowed mankind to transition from a traditional agricultural society to a modern industrial society. However, the scope, degree, and speed of changes in human life caused by technological development in the past are no longer the same as today. In the past, technology brought about the renewal of society, but now technology may bring subversive changes, even overturning the subject status of man as the master of tools, the master of the world, and the master of himself.

Virtual Reality is jointly facilitated by technologies such as wearable computer and information visualization. In short, virtual reality technology allows the human body to remain in the real three-dimensional world, while the spirit can enter a virtual cyber world built with technology. Through wearable computers, all the data in the cyber world can reach the brain through our eyes, and then overlap with the real world we live in, so that people can act in the real physical environment and the virtual cyber world at the same time. This also means that the fusion of human physical existence and digital information has been completed. When people face a large number of very realistic virtual images, they will lose the ability to distinguish between reality and illusion, and thus have a real emotional response to these virtual fantasies composed of codes and data.

According to McLuhan, "the medium is an extension of the person," i.e., technology is a

reinforcement of the person's own power, a part that belongs to the person and is dominated by the person. But after the emergence of VR technology, the subjectivity of man in front of technology is facing a huge challenge, and man is combined with technology as one, and may even be manipulated by technology. "Technology is in fact the essential embodiment of the human way of being, and it is it that shapes human nature. Once man embarks on the evolutionary journey of dependence on technology, technology will hold mankind hostage along its own inertia. Humanity may be destroyed by the hands of technology." [13]

Games such as *Ruiner* and *Cyberpunk 2077* as well as movies such as *Ready Player One* and *Free Guy* have built a theatrical world that breaks the barrier between the real and the virtual. In this theatrical world, violence against others and even murder are only justified and commonplace in order to gain power or money. Although this is a theater world, the violence and killings in it is not real and will not cause personal injury in the real world. But because of the virtual reality technology makes the player as if personally experienced, this has to cause us to be alert and reflect. Modern science and technology has been able to create an incomparably realistic virtual world and Cyberspace, this extremely realistic immersion will confuse the human brain, depriving human beings of the real sense. If over-indulged in the theater world, it will inevitably have an impact on the real world where human beings are physically located. The order that extends in the theater world will also inevitably cause disregard for morality and ethics and loss of compassion in the real world.

4. Conclusion

At a time when artificial intelligence technologies and virtual reality technologies are constantly breaking through the concept of human being since the Enlightenment and causing radical changes in human life, how to solve the ethical problems brought about by the development of new technologies and how to deal with the game of power between human beings and machines will become a question that humanities scholars need to keep exploring in the coming decades.

In the midst of technological development, the unity of technological means and humanistic sentiment should always be upheld. How to curb the dehumanizing tendency of technology under the guidance of aesthetics, avoid the infinite expansion of technology, and seek a balance between technology and art in the interactive development of both is an inevitable issue in today's technological era.

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