

Thoughts on the Influence of Science and Technology on the Development of Modern Wushu Culture

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Keywords: Science and technology; Wushu culture; thinking; Contemporary

Abstract: Fighting is the essential attributes of Wushu produced under the agricultural social civilization. With the development of technology in modern times, science, as a productive force, affects all fields of human society. Science and technology have changed from the initial negative change to the final positive integration since modern times. The manifestation, training methods, values, ideology and culture of Wushu have undergone profound changes. It is necessary to adhere to people-oriented, build a harmonious coexistence of science and technology, martial arts and human society, pursue harmony between heaven and man, and promote the development of martial arts ecology.

1. Introduction

As the first productive force, science and technology affect the development of human beings and the progress of civilization. At present, science and technology has penetrated into all areas of people's lives, and it has always influenced people's thinking, behavior and way of life and production, or human beings have been "controlled or abducted" by science and technology institutes. Nowadays, many scholars and experts put forward the viewpoints of technology fear, technology cybernetics and technology alienation. The proposition of these theories and the controversy of propositions highlight the position and importance of science and technology in human development. Science and technology have not only changed human life, learning, shopping, entertainment and leisure, sports and other ways, but also had a profound impact on our unique martial arts culture. Since the Opium War, the closed door of the Qing Dynasty was opened by foreign hard ships and artillery. As a martial art in the cold weapons era, it has been used as a means of killing by the state. However, under the plunder and bombardment of foreign guns and artillery, it slowly withdrew from the stage of the war. Therefore, Wushu has been continuously promoted and disseminated among the people. In the new environment of natural selection and survival of the fittest, with each scientific and technological revolution, the cultural value and function of Wushu have also been challenged and tested unprecedentedly. Under the severe test and challenge, the historical attribute of Wushu endows Wushu with new vitality, which makes Wushu take root and blossom in the new field and keep pace with the times.

2. The negative promotion of modern science and technology on the development of Wushu culture

Since modern times, China has experienced semi-colonial and semi-feudal society, the 1911 Revolution, the War of Resistance Against Japan and the War of Liberation. During this period, science and technology on the development of Wushu mainly manifested in the negative aspects, is in the rise and fall of the country, in the face of national disaster, people began to promote, practise, advocate and worship Wushu. After the Opium War, the strong ships and artillery of western countries opened the closed door of the Qing Dynasty. As a martial art in the cold weapons era, it has been regarded as the fighting wisdom of the war by the Qing Dynasty. However, under the killing of guns and artillery in Western countries, the martial arts are very vulnerable. After the Opium War, Wushu was gradually weakened and neglected in the war. The opium extracted by Western powers through science and technology not only plundered our wealth, but also destroyed more families. More seriously, it affected people's health. "At the end of the 19th century, the imperial powers partitioned and competed for China, which led to an unprecedented serious national crisis in China. This crisis led to people's awakening and the most urgent requirement at that time was to save the nation from extinction." Faced with the national crisis, people of insight began to seek a way out to rejuvenate the country and secure the country. Thus, there was the "advocating military force and advocating military force" to revitalize the national spirit, the "strong country and strong species" to resist foreign aggressive forces, and the "teachers and foreigners to control foreign technology" to save the country.

Influenced by Confucian culture, Chinese courts in past dynasties paid more attention to literature than military force, and even banned military force among the people. After the Opium War, science and technology showed strong fighting power and lethality in the field of war, which made the Qing government realize that as a product of farming social civilization, Wushu had lost the advantage of war, and gradually withdrawn from the field of war as a martial art in the cold weapon era, which was widely promoted and disseminated among the people. Only in this period did Wushu really originate from the people, return it to the people and serve the people.

3. The positive impact of modern science and technology on the development of Wushu culture

"Wushu is a national sport in which kicking, beating, wrestling and other offensive and defensive technical actions are taken as the main content, and the routines of unarmed and equipment are compiled according to the contradictory and unified law of offensive and defensive advance and retreat, movement and quiet, rigidity and softness, and falseness and reality, so as to exercise the physique, cultivate the will and train the fighting skills."

After the military value of martial arts has died, the other values of martial arts have mushroomed and developed rapidly in various fields. Competitive martial arts, martial arts performances, film and television martial arts, the commercialization and marketization value of martial arts are all highlighted.

3.1. The promotion of science and technology on the development of competitive Wushu

Competitive Wushu is the result of the struggle and learning between Wushu and modern western competitive sports, as well as the product of the integration of Chinese Wushu and modern western sports culture. From the rules, forms and methods of Wushu competition, there are some obvious characteristics of western competitive sports, such as fairness, openness, ornamentation, standardization and competitiveness. With the continuous development of science and technology,

whether in competitive sports or in competitive Wushu competitions and training, science and technology have penetrated into all aspects of competitive competitions. From athletes registration, pre-competition training, video of the whole competition, referee electronic scoring, competition music arrangement, live television and so on. Every link needs the participation of scientific and technological achievements. The purpose of using scientific and technological means is to improve efficiency, promote the fair and open of competitive Wushu, standardize the behavior of athletes, referees and other participants, and let the competition proceed in an orderly manner.

Science and technology can promote the fairness of athletes' training. In recent years, in order to improve their performance, some athletes use prohibited substances listed in the doping catalogue, such as some psychotropic drugs and peptide hormones. At present, in large-scale competitive competitions, athletes' urine will be taken before the competition to check whether the athletes have adopted the prohibited items listed in the Anti-Doping Ordinance before the competition. Through scientific and Technological Monitoring of athletes' training, using scientific medical instruments to detect athletes' blood lactic acid concentration to judge athletes' training fatigue degree, using Wushu athletes' heart rate detection to judge training intensity, and using modern optoelectronic technology, biotechnology and other equipment, to promote the rapid recovery of athletes' fatigue after training, ensure training effect and improve athletes' performance.

The simulation and analysis of high-difficulty movements by science and technology, in recent years, in order to enter the Olympic Games, competitive Wushu has improved its high-difficulty technical movements, such as using modern information technology and three-dimensional image analysis technology to evaluate and analyze such movements as cyclone foot 720 degrees and pendulum lotus 720 degrees, and to analyze the movement time characteristics, changes of body gravity center and displacement characteristics, which provides a series of quantitative indicators such as speed, displacement and time for the scientific training of Wushu.

Science and technology make competitive Wushu more open and transparent. Now we don't need to enter the arena to watch the game. We can watch the game at home, bus, unit and restaurant. Because of the development of network information technology, we can watch all the games at anytime and anywhere.

Improvement of competitive Wushu instruments by science and technology, the development of science and technology will undoubtedly promote the development of equipment, so that the knife, spear, sword and stick equipment in routine competition can give full play to the beauty of the high and difficult movements, reflecting the aesthetic of competitive ornamentation and movements. Especially the improvement of freestyle boxing sets and protective devices can not only give full play to the technical level of athletes, but also protect the personal safety of athletes, effectively promote the competitive function of freestyle boxing, and make freestyle boxing develop rapidly.

3.2. The promotion of science and technology on commercial Wushu

As the first productive force, science and technology not only promotes social development, but also creates more surplus commodities and surplus value for society. The innovation of science and technology is not only for the benefit of mankind, serving the society and promoting competition, but also for the creation of wealth and excess profits. When wealth keeps gathering and spreading among people, most people become owners of wealth. In the era of rapid economic and technological development, science and technology not only liberates and develops the productive forces, but also changes the mode of production. Science and technology liberate people from work and work, and allow people more leisure time to enjoy life and experience nature. Since the founding of the People's Republic of China, China's economic structure initially focused on agriculture, then developed to industry. Now the contribution rate of the tertiary industry to the

economy is much higher than that of industry and agriculture. When surplus commodities and surplus wealth accumulate to a certain extent, as a kind of culture, especially the fighting culture of Wushu Sanda, the intrinsic commercial economic value is easy to be found and excavated. For example, in recent years, the more popular "*Wulin Wind*", "*Kunlun Battle*", and recently launched "*The Glory of Warriors*" and so on. In recent years, many commercial competitions have been launched in many places, such as "*Shangwu Heroes*" in Zhongshan City, "*Heroes of the Muye*" and "*Kungfu Spring and Autumn*" in Xinxiang City, etc. In fact, the most successful market for commercialization is the United States, such as boxing. At the end of the last century, Tyson, the champion, earned nearly \$100 million in revenue from a game. Such a huge income can stimulate the maximum potential of boxers and promote the healthy development of the boxing market. In the first half of 2017, Glory of the Warriors announced the ranks and entrance fees of its athletes, ranging from 10,000 yuan at the lowest C-level to 200,000 yuan at the highest S+level, with about five competitions per year. Although there is no comparability between the appearance fees of American boxing, the annual income of hundreds of thousands to more than one million people in economically backward China is an astronomical figure for workers and families. With the continuous growth of China's economy and strength, it is not impossible for martial arts athletes to increase their appearance fees to tens of millions or even tens of millions. In the market economy, material incentives are often more effective in stimulating the development of Wushu fighting.

3.3. The impact of science and technology on Wushu performance

Science and technology have brought countries closer and closer, and exchanges have become more frequent. Wushu acts as a medium of communication in this environment. As the product of thousands of years of Chinese civilization, Wushu has its special political function in international communication. During Nixon's presidency, the relationship between the United States and China was tense. To promote dialogue and exchanges between the United States and China, China sent a martial arts team to visit the United States. Through martial arts athletes' wonderful performances, the United States had a profound understanding of Chinese culture and played a great role in the establishment of diplomatic relations between the United States and China.

In recent years, some important domestic sports events, international conferences, Spring Festival Gala and other major activities are bound to brand martial arts imprint. Wushu is the name card of China. Every Wushu performance shocks the whole world and makes Wushu culture goes to the world. At the recent "*Dialogue of Asian Civilizations Conference*", more than 1,000 students from Tagou Wushu School performed martial arts programs for heads of state at the Bird's Nest. Through music, sound, lighting, props, clothing, the world's largest LED screen, Via, cameras, stage settings; The combination of aesthetics, acoustics, mechanics, optics and martial arts shows a beautiful program. Through the foil of science and technology and the collocation of various elements, Wushu performances highlight the basic skills and characteristics of Wushu, such as hand, eye, body and footwork, spiritual strength, rigidity and softness, courage and rapidity, which can just create an atmosphere and foil the theme.

3.4. The promotion of science and technology to movie and TV Wushu

Bruce Lee made the world know Wushu through movies and TV, and fell in love with Chinese Kungfu. Movie and TV Wushu has gone beyond the scope of space, language and culture, making Chinese Wushu culture spread to every corner of the world. The same "*Shaolin Temple*" shows the unique cultural connotations of Shaolin Wushu, such as carrying water without a pole, walking on footpaths and strapping sandbags on both legs. In Hollywood, the recognized Chinese film and television stars are labeled with martial arts, such as Bruce Lee, Jackie Chan, Jet Li, Ziqiong Yang,

etc.

The innovation of science and technology promotes the industrialization of film and television. Every revolution of science and technology is also the revolution of film and television martial arts. Cameron's use of cutting-edge 3D technology to remake Titanic also marks the birth of a new film industry revolution model combining CG special effects and physical models. With 3D eyes in the cinema, we can feel it personally. With the continuous innovation of digital technology, let us make use of computer synthesis technology to grasp, model, decompose, recombine and synthesize new film and television elements of Wushu actors' actions, and then use computer software to process special effects to achieve the action effect needed by designers, so that Wushu actions can produce excellent visual effects, thrilling stimulation, eye-catching, and pursuing perfect swordsman and violence, and aesthetics of force and action. Chinese Kungfu movies need not only the sweat and effort of excellent martial arts athletes, but also the timely follow-up of the development of cutting-edge film and television technology, to go out for Kungfu movies and meet the growing cultural needs of the people, which is also an inevitable choice.

3.5. The spread and promotion of science and technology to Wushu culture

In 2004, the Internet Wushu Federation will use the Internet to form the "Internet Wushu Federation Federation". The purpose is to promote Wushu culture, strengthen the exchanges between domestic and foreign Wushu fans, let Wushu go to the world, and let the people of all countries feel the spirit of Wushu at close range. With the continuous development of science and technology, Wushu has no boundaries and distance. In the Internet era, WeChat, QQ, mobile phones, computers, Alipay, jitter, and volcano videos and other social and payment software are the trend means of Wushu propagation.

By optimizing and reforming the traditional media, science and technology actively constructs its own communication system. Based on the standard of the media, Wushu communication is divided into multimedia communication, image communication, voice communication, text communication and network communication. Let the spread form of Wushu culture be widespread, the ways of Wushu dissemination be diversified, and the means of Wushu dissemination be diversified. Let Wushu culture get closer to the people, serve the society and go to the whole world through scientific and technological innovation.

4. The integration of science and technology and Wushu culture under ecological civilization

At the present stage in China, the proposition of ecological civilization is of historic significance. In recent years, the ecological development of Wushu and the ecological development of Wushu under the ecological environment have become the focus of attention of Wushu experts and scholars at home and abroad. Due to the development of science and technology, cold weapons gradually withdraw from the field of war, resulting in the popularity of folk Wushu. Under the influence of competitive sports, fitness culture, entertainment performance and martial arts movies, the attributes of martial arts have gradually weakened. Even in the process of martial arts entering the Olympic Games, competitive martial arts are considered to be no essential difference from gymnastics.

Science and technology is a double-edged sword. How to use and grasp it is to see the martial arts people's own scientific and technological literacy. The development of martial arts is a benign process. The development of science and technology will not hinder the progress of martial arts. The ecological development of martial arts is inseparable from the innovation of science and technology. We have to admit that martial arts today's entertainment, fitness performances, martial arts movies and other attributes are affected by technology. We must admit that the development of martial arts is a process from quantitative change to qualitative change. Every martial arts

innovation does not represent the progress of martial arts, but every innovation must be compatible with this mainstream era. The construction of ecological civilization concerns the people's well-being and the future of the nation; it is about the health of the people and human development. Constructing the ecologicalization of martial arts will contribute to the healthy development of martial arts, and integrate the coordinated development of martial arts and technology under the ecological civilization and ecological culture.

The ecological development of Wushu is not for the natural environment, but for the reconstruction of the vertical and horizontal blueprint of Wushu's own construction and future development. Wushu is not only a culture, but also a civilization. The development of Wushu should adhere to the essential attributes of Wushu, adhere to people-oriented, respect the law of human movement development; adhere to scientific training, civilized consultation; build an ecological and humane Wushu environment, create a good Wushu atmosphere; harmony between heaven and man, wisdom Wushu, the pursuit of cultural and moral values; public welfare Wushu, benevolent fighting skills. We will resolutely resist the neglect of athletes' physical health and doping abuse in pursuit of achievements, bloody fights among martial arts people, self-regulation, slandering each other, money worship and so on. The ecological development of Wushu needs the support of high and new technology. We should construct Wushu cultural ecosphere through science and technology, promote the community of human and social life, improve Wushu people's scientific and technological literacy, and make science and technology be used by Wushu.

5. Conclusions

Wushu is not only a symbol of culture, but also the crystallization of thousands of years of Chinese civilization. Wushu is not only a kind of culture, but also a kind of wisdom. Wushu has not yet entered the Olympic Games. Once Wushu enters the Olympic Games, its commercial value potential is huge. For a Wushu Olympic champion, it will be worth more than 100 million yuan like Liu Xiang, Sun Yang, Lin Dan and other athletes. The innovation of science and technology will continuously promote the development of Wushu culture and Wushu economy, promote the development and utilization of Wushu related industries, promote the healthy and ecological environment of Wushu, construct the harmonious coexistence of Wushu and human beings, firmly establish the concept of ecological civilization, and construct a new pattern of socialist Wushu culture.

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