

# *Development of Traditional Boxing Wushu Events from the Perspective of Animal Bionics*

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**Keywords:** Animal Bionics, Bionic Thinking, Boxing Martial Arts, Bionic Design, Project Development

**Abstract:** Martial arts is a treasure of the Chinese nation and a culture that has lasted for thousands of years in China. In the long development stage, martial arts gradually branched out to form a variety of boxing types and formed more and more extensive influence. However, the emergence of animal bionics has brought many influences to the development of traditional boxing martial arts projects. This article aims to study the development of traditional boxing martial arts events from the perspective of animal bionics. Some methods of boxing were selected through literature research, survey and other methods. The impact of traditional boxing martial arts in various aspects from the perspective of animal bionics was analyzed and explained. Through the analysis of the literature and relevant industry personnel, the development, evolution, and dissemination of traditional boxing martial arts are summarized. Through data analysis, it analyzes the economic development of traditional badminton martial arts industry through animal bionics, its transmission channels and audiences. The research results show that the enrollment of traditional boxing martial arts has been increasing in the past ten years from the perspective of animal bionics, and the number of international students has also continued to increase. The total economic return in 2019 is significantly higher than in 2010. The spread of martial arts is mainly through film and television media. And its audience is mainly middle-aged and elderly, and their youth is not high. The application of animal bionics has greatly promoted the dissemination of traditional boxing martial arts and the economic development of the industry, making the traditional martial arts culture far-reaching.

## 1. Introduction

Since the 21st century, the party has put forward a strategic plan of "building an excellent

traditional culture inheritance system and promoting China's excellent traditional culture". The development of culture increasingly represents the development of a nation. Under the influence of globalization, the globalization of culture is changing local culture. In such an era of great cultural changes, it is urgent to protect traditional culture. Traditional martial arts is an important part of China's outstanding national culture, an important symbol of the 5,000 years of civilization history of the Chinese nation, and reflects the wisdom and strength of our traditional people. However, due to the impact of globalization, foreign cultures are increasingly affecting people's perception of traditional culture, leading to the lack of traditional cultural transmission and the slow development of the industry. Bionic thinking has been the main factor influencing martial arts movements, which has promoted the further development of martial arts. Using animal bionics thinking to analyze martial arts fists can incorporate biological images into related martial arts studies, which has an important impact on the development and spread of traditional boxing martial arts.

In recent years, with the diversification of modern life and entertainment methods and the impact of modern civilization such as the concept of modern health, the development of a large number of traditional martial arts boxing schools has fallen into a precarious situation. Although Chinese traditional martial arts have strong artistic and economic value, they are loved by many people. But there are still many problems that hinder the development of traditional martial arts. Nowadays more and more people love Western sports. Many young people like to go to the gym for Western sports exercises. Few young people really love traditional martial arts. Therefore, it is imminent to protect the traditional martial arts boxing genres [1]. The application of bionics involves all aspects of people's daily life, its application is extensive, and more and more studies based on the perspective of bionics. Research on animal bionics has also gradually increased [2]. For example, breaststrokes in swimming competitions, pictographic boxing in martial arts, and long jumps in track and field are all inspired by nature [3]. Chinese traditional boxing martial arts has also been applied to the concept of animal bionics, and has pushed the development of martial arts into a far-reaching impact. For example, Xingyiquan and Xiangquanquan fully utilize the natural characteristics of animals and the integration of martial arts, and have a profound impact [4]. However, there are relatively few researches on the application and integration of the two in modern society, and no deeper research and application has been made on the original basis, which makes the development of Chinese traditional martial arts face a dilemma.

Guo, P, etc. based on the existing literature and field investigation work, to understand and understand the history of Bruce Lee's kung fu. Taking the body as a modern cultural symbol embodying the ideological value orientation of contemporary society, it explains that Bruce Lee Kung Fu is a culture created on the basis of a combination of Japanese martial arts, Chinese chivalry heroes and Western science. Subsequently, Bruce Lee's martial arts and the development of Chinese martial arts were deconstructed through cultural creation and cultural nationalist ideas to test the "real" face of Chinese social history and cultural ideology [5]. In the process of development, Chinese traditional martial arts can continue to combine with other cultures and evolve into a form that conforms to social trends. Hong, M uses robotics and animal bionics to improve traditional wheelchairs. The improvement of the wheelchair simulates the movement of a four-legged animal. Four mechanical legs were added to the wheelchair. When a wheelchair needs to climb stairs or cross an obstacle, the wheels shrink and the four legs walk like four-legged animals. When the wheelchair needs climbing, the two hind legs of the wheelchair will push the wheelchair to climb and avoid sliding backwards [6]. This fully reflects that animal bionics has been applied to people's daily life and has fully promoted the development of society, but there is less research on the application of animal bionics to traditional martial arts.

This article aims to study the development of traditional boxing martial arts events from the perspective of animal bionics. This article uses literature research methods, survey methods and other methods to select some types of boxing. From the perspective of animal bionics, the influence of traditional boxing martial arts projects in various aspects is analyzed and explained. This paper theoretically analyzes the data collected through various channels, mainly analyzes the impact of animal bionics on the economic development of the traditional boxing martial arts industry and the integration with the two, and finally discusses and explains the experimental results. The results show that under the perspective of animal bionics, the enrollment of traditional boxing martial arts has shown an increasing trend in the past ten years, and the number of international students has also continued to rise. The total economic return in 2019 is significantly higher than in 2010, and the spread of martial arts is mainly through film and television media; And its audience is mainly middle-aged and elderly, and its youth is not high. Overall, the development prospects are good, and there is still much room for improvement in future development.

## 2. Proposed method

### 2.1. Animal Bionics

Animal bionics refers to the use of modern high-end bionic technology to imitate the various behavioral senses and superior abilities of biological creatures in order to serve human daily life more effectively. In our food, clothing and housing: inspiration for the making of clothes [7], the research and development of medicines, the construction of buildings, and the development of transportation are all inspired by nature. Imitation is a basic ability endowed by nature for all living things. As an advanced creature, humans study it in a deeper direction, and then form bionics.

#### (1) Research status at home and abroad

In recent years, research applications based on "bionics" have penetrated into all aspects of our daily lives. Whether in the shape of the building or in the setting of space, the traditional thinking mode has not been able to meet the needs of contemporary human beings. More and more engineering architects have come to the colorful nature to find inspiration; medicine for human health protection, Both in the research and development of medicines and the rational use of organ materials and models, they have also aimed at the biological world; the construction and development of some modern disciplines, as well as clothing and shoes that are closely related to human life, and science and technology. All kinds of instruments and equipment are constantly aimed at the biological direction; the same is true in the field of sports. The inspiration in swimming is breaststroke, martial arts in boxing, long jumps in athletics, squat start, etc. All are inspired by nature. biological. In addition, some researches also involve the application of sports injury and recovery in bionics. From the perspective of biomechanics, study the comparison between animal joint mechanics and human joint mechanics, so as to learn from the advantages of animals to improve the sports model of sports.

#### (2) Application of animal bionics in traditional martial arts

In the ancient tradition of martial arts, many experts and scholars have been interested in "bionics" and have done a lot of research. Such as: "Important Role of Cultivation of Image Thinking in Wushu Pictograph Exercises" written by Liu Jian, "Important Role of Cultivation of Animal Image Thinking in Martial Arts Fighting Exercises" by Liu Minghai and Liu Fengfu, Shi Bing and Cao Hua After "Research on the Application of Image Thinking in Wushu Teaching and Training", Wang Yaoyao and Zou Hua, "On the Application of Image Thinking in Wushu Routine Teaching"; Shi Bing and Cao Hua, "Research on the Use of Imagination Thinking in Wushu

Teaching and Training" Wait, their research focuses on the application of the "bionic" animal image thinking mode, which mainly describes the relevant characteristics and puts forward some suggestions to promote the use of this thinking in the teaching and training of martial arts. However, their research is limited to the surface application of bionics in the sports world. It does not list specific items for explanation, nor does it conduct in-depth research on the development context of a certain item.

## 2.2. Traditional Boxing Martial Arts Classification

### (1) Classification of traditional boxing martial arts

Chinese martial arts is the crystallization of thousands of years of wisdom of our people, which fully demonstrates and inherits the excellent culture of the Chinese nation [8]. Boxing is the basic unit of traditional martial arts and is the product of the development of Chinese martial arts to a certain stage [9]. At this stage we know the classification of boxing mainly includes ten types, as shown in Figure 1. It is mainly divided into: 1. Changquan: Cha Quan, Hua Quan, Cannon Boxing, and Red Boxing are generally included in Changquan. 2. Nanquan: also known as Nanquan. It takes Fujian and Guangdong as the center and is widely spread on the Yangtze River. The southern area, so called Nanquan. 3. Taijiquan: It is the perfect combination of traditional Chinese dialectical theoretical thinking and martial arts, art, guidance, and traditional Chinese medicine. Hope. Set as the base, the thirteenth potential. The movements are soft and slow, with continuous arc movements everywhere, connected with each other. 4. Xingyiquan: The basic postures are the three-body posture, the basic fists are splitting, collapsing, drilling, cannoning, and horizontal five-boxing, and the dragon and tiger are absorbed. A boxing technique composed of monkeys, horses, turtles, chickens, pheasants, swallows, snakes, ostriches, eagles, and bears. 5. Eight pole boxing: a type of boxing with the main content of close, close, squeezing, leaning, etc. 6. Tongbei Boxing: Take five basic methods of throwing, slap, wear, split, slap, etc. as the main content, through the use of eight methods such as looting, cutting and fanning, etc., many biochemical boxing techniques have been generated. 7. Hook and Fist: A type of boxing that is based on fierce hacking and hard hits, long strokes and fast hits, and is compatible with short hands. 8. Fanziquan: a kind of short-boxing, tight and compact, intensive boxing, crisp and quick boxing. 9. Lying down boxing: Boxing with the main contents of falling, fluttering, rolling, flipping, etc. lying down and lying down. 10. Pictographic boxing: Boxing techniques that simulate the characteristics and forms of various animals, as well as the fighting and living images of some ancient characters.

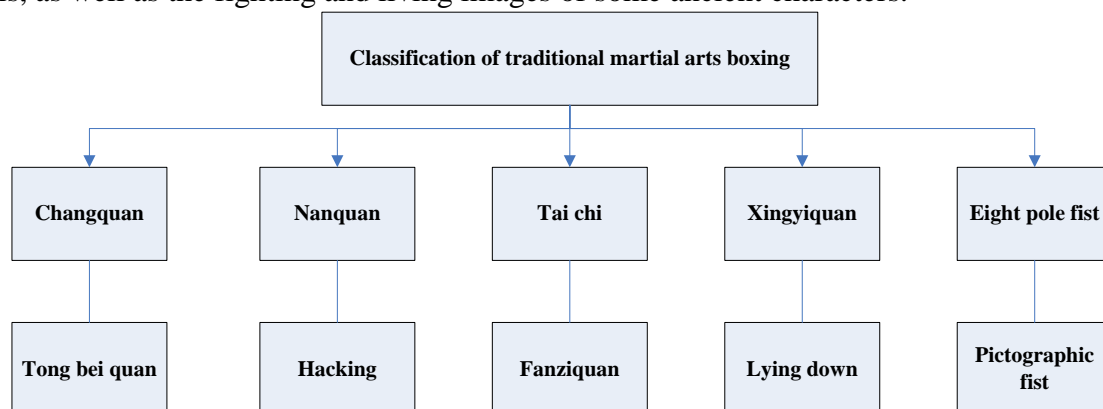


Figure1. Classification of traditional martial arts boxing

(2) Bionics application of traditional boxing martial arts

Xingyiquan is one of the ten major types of boxing. It uses the three poses as its basic postures, and uses the five methods of splitting, collapsing, drilling, cannoning, and cross five as its basic methods. It also draws dragons and tigers. A boxing technique composed of monkeys, horses, turtles, chickens, pheasants, swallows, snakes, ostriches, eagles, and bears. Xingyiquan fully combines the typical representative advantages of animals in nature, and shows the charm of animal bionics. In addition, pictographic fist is one of the examples of bionics. The pictographic fist is a boxing technique that simulates the characteristics and forms of various animals, as well as the fighting and living images of certain ancient characters. The pictographic boxing also simulates the characteristics and advantages of animals in the natural world. It fully proves that the ancient people of China observed and studied everything in nature and applied bionics to actual life. In today's society, Taijiquan is popular all over the world as a typical representative of traditional martial arts. Taijiquan pays attention to the harmony of yin and yang, uses Qi to replenish qi, and uses Rong Kegang to make full use of the fact that everything in nature is in harmony with each other. Charm. At the same time, modern Tai Chi is fully integrated into the meridian of traditional Chinese medicine, so as to achieve the effect of health and fitness. In today's society, Tai Chi has a certain degree of entertainment appreciation under the role of health care. The Tai Chi Fan and Tai Chi Sword all reflect the unique beauty and bring certain visual enjoyment. This is all bionics. Applications. Animal bionics has promoted the development of traditional martial arts to a certain extent.

### 2.3.Development Status of Traditional Boxing Wushu

(1) Advantages of traditional boxing martial arts development

In recent years, the development of Chinese traditional martial arts has developed a strategic study combining long-term development. The state has issued a number of support policies for traditional martial arts, and the new situation of promoting traditional martial arts is coming [10]. Chinese traditional martial arts is a unique cultural phenomenon with Chinese cultural heritage and Chinese cultural characteristics produced in this special region and special humanistic environment. It conveys profound Chinese traditional cultural heritage. Therefore, both at home and abroad, while practicing traditional Chinese martial arts, they can further appreciate China's excellent traditional culture, and more inherit the traditional Chinese culture [11]. In addition, traditional martial arts has practical methods of physical defense. Traditional martial arts has always been associated with traditional Chinese medicine health, qigong, and physical fitness. Many traditional Chinese fitness techniques, such as Wu Qin Xi, Ba Duan Jin, Tai Chi Internal Gong, are all related to traditional Chinese medicine. The meridians are closely connected, which can achieve the effect of health and fitness while practicing, which is the charm of traditional martial arts [12]. The health function of traditional martial arts has become a fitness culture of the Chinese nation, and it is also a major faction of oriental sports fitness. In addition, with the advent of the media age, traditional martial arts combined with the softness of dance show the unique charm of martial arts, such as Tai Chi Fan and Tai Chi Sword, while maintaining health, they also have a certain degree of appreciation, fully showing the profoundness of Chinese culture. Therefore, traditional martial arts has attracted a large number of domestic and foreign enthusiasts while possessing many advantages such as culture, health preservation and entertainment. At present, Taiji has gone abroad and is loved by the whole world. In the near future, traditional martial arts will certainly conquer the world

with its unique charm [13].

#### (2) Predicament of the development of traditional boxing martial arts

In recent years, with the mythology of martial arts in film and television dramas, people have a serious misunderstanding of traditional martial arts. People mentioned "Kung Fu", suddenly felt full of paper rivers and lakes, is evocative [14]. Since the 20th century, the modern sports represented by the Modern Olympic Games have become increasingly globalized. Under the suppression of the growing western sports culture, the traditional martial arts representing the 5,000 years of oriental civilization in China has been challenged, its development is at a relatively low level, and it has even reached a state of loss [15]. The unsatisfactory development of traditional martial arts in modern society is largely due to its inadequate viewing and entertainment, resulting in low economic benefits and seriously affecting the development of traditional martial arts [16]. In addition, traditional martial arts theoretical research cannot keep up with the times, cannot meet the needs of technological development, and has a significant lag. On the contrary, the rapid development of competitive martial arts has had an inevitable impact on traditional martial arts. Finally, the inheritance of traditional martial arts preserves the traditional feudal consciousness. Although it is conducive to the technical refinement and excellence of various schools and forms a unique technical style and tradition, it has also led to the inbreeding of some traditional martial arts, and even the loss of boxing [17]. The summary is shown in Figure 2.

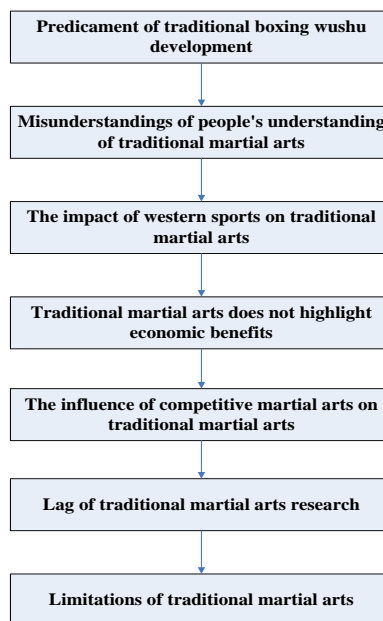


Figure 2. Predicament of traditional boxing Wushu development

### 3. Experiments

#### 3.1. Research Method

##### (1) Literature review method

During the research and writing of the thesis, you need to understand the theoretical knowledge

of various disciplines in many aspects. Therefore, you need to read a large amount of literature and limit the keywords of the article to download on Baidu Academic, Wanfang, China HowNet, and school libraries. Information about the new media era and piano art. Collect relevant materials, pictures, and data in the literature. Drawing on the theories developed, etc., it provides theoretical support and practical guidance for the issues studied in this thesis.

#### (2) Investigation method

The method of investigation and analysis is one of the most commonly used methods and methods in the scientific and technological research of higher education. The survey used conversations and questionnaires to understand people's views on the development of traditional boxing martial arts projects from the perspective of animal bionics. The survey method is a basic scientific research method and method commonly used in scientific and technological research. It comprehensively uses scientific methods such as historical method and observation method to systematically investigate the development of traditional boxing martial arts projects from the perspective of animal bionics. It also analyzes, synthesizes, compares, and summarizes a large number of data and data on the development of traditional boxing martial arts projects from the perspective of animal bionics collected through surveys. Regular scientific knowledge.

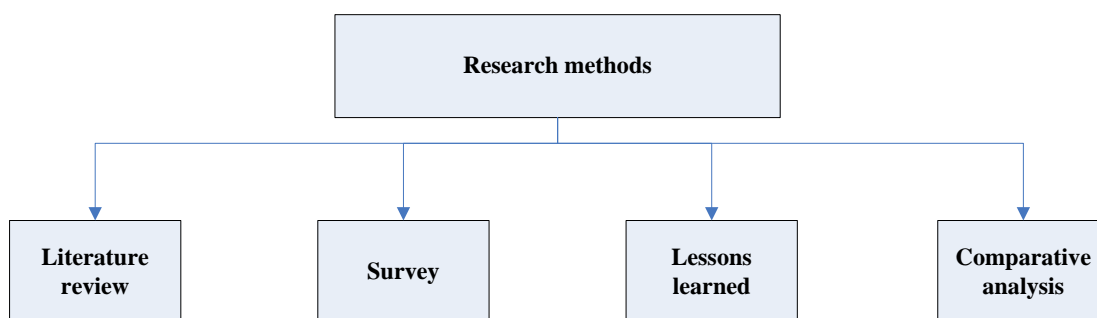
#### (3) Experience summary method

The main purpose of the application method of experience summary is to systematically summarize and analyze the analysis of the social management practice and the development process of human economic and social activities in China, and to make it more in line with systematization and theory. Rise to serve as an effective guidance method to promote advanced management experience. Experience summary and promotion of advanced methods The experience summary is one of the more effective and widely used experience summary and extension methods in the history of China's human economic and social science development process.

#### (4) Comparative analysis

The results of data collection and collation need to be compared and analyzed in order to know the development status of traditional boxing martial arts, and to know the impact of animal bionics on the development of traditional boxing martial arts projects.

The specific research method is shown in Figure 3.



*Figure 3. Summary of research methods*

### 3.2.Experimental Content

The experiment is mainly divided into two parts. The first part is to analyze the literature and related industry personnel to summarize the development, evolution and transmission



characteristics of traditional boxing martial arts from the perspective of animal bionics. The second part is to collect data from various channels for theoretical analysis.

As a traditional Chinese culture, traditional boxing martial arts has a history of thousands of years in China and has always been a typical representative of Chinese civilization. With the application of bionics research, the development of traditional boxing martial arts has undergone tremendous changes. Based on the analysis of the literature and relevant industry personnel, the development, evolution, and dissemination of traditional boxing martial arts from the perspective of animal bionics are summarized. There are roughly the following points.

1) Increased entertainment and appreciation. Traditional boxing martial arts mainly add mystery to the outside world through the apprenticeship of disciples and the form of disciples. With the development of modern networks and people's pursuit of living materials, traditional boxing martial arts gradually changed from the original form. Through bionic program display, open recruitment of martial arts schools, and international martial arts exchanges, etc., the transfer was well accelerated. In addition, the integration of martial arts and modern sports is also a big step forward. Traditional martial arts are tedious, and the integration with modern sports has accelerated people's perception and appreciation of martial arts. At the same time, martial arts has the effect of strengthening physical fitness, which can effectively improve the physical fitness of young people. With the continuous improvement of the current economic level, people's lives are getting better and better, and they have extra money and time to cultivate hobbies and emotions in all aspects. This is extremely beneficial to the development of martial arts. In addition, people in the past rarely have access to traditional martial arts, but now the government has issued a number of support policies and strongly supports the comprehensive development of moral, intellectual, physical, and art work. Many parents choose to train their children for certain basic studies in order to cultivate their children's strong physique. It has laid the foundation for the development of traditional boxing martial arts.

2) The audience has become wider. The division of traditional boxing martial arts is extremely heavy, adhering to the tradition that the main skills are not passed on, and maintaining its mysterious veil. The continuous progress and development of modern society makes it constantly change its characteristics in the process of economic adaptation to meet social needs. In the past, the main audience of martial arts was young people, as well as individual skilled people. With the reform of martial arts, martial arts is linked with traditional Chinese medicine health, qigong, and bodybuilding. According to the principles of animal bionics, it has been adapted into a form of sports suitable for most people. All ages. In addition, with the impact of globalization, many foreign friends have been greatly influenced by Chinese dramas and other forms of performance due to the influence of film and television dramas and other forms of performance. Compared with traditional martial arts, modern martial arts pays more attention to physical fitness and entertainment appreciation, and the audience has become wider.

3) The evolution of martial arts forms. Traditional boxing martial arts are divided into ten types, and different martial arts have different forms of boxing. Nowadays, with the continuous development of society, the mystery of martial arts has been gradually unveiled and people's understanding of it has become deeper and deeper. However, the unsatisfactory development of traditional martial arts in modern society is largely due to its insufficient ornamentality and entertainment, which leads to its low economic benefits and seriously affects the development of traditional martial arts. Nowadays, traditional martial arts is gradually integrated with modern sports, and the principles of animal bionics are applied to gradually change its form and increase its appreciation value and gradually become popular with the public.



4) Fusion development of animal bionics and traditional boxing martial arts. Xingyiquan in traditional boxing martial arts is a typical representative of bionics, drawing on dragons and tigers. The boxing technique composed of twelve animal images such as monkeys, horses, turtles, chickens, pheasants, swallows, snakes, ostriches, eagles, and bears, is a boxing technique that skillfully combines the advantages of natural creatures into one set. Today's Taijiquan also integrates the various meridians of the human body in one move and one style, so that people can fully feel the vitality of the body after contacting. This is the charm of traditional martial arts.

## 4. Discussion

### 4.1. Analysis on Economic Development of Traditional Boxing Wushu Industry from the Perspective of Animal Bionics

(1) The prosperity of an industry can be seen from its successors in developing education. The increase in the number of students reflects that the prospects of industry development are generally not bad. Conversely, if the succession of an industry is insufficient, the vitality of the industry is often worrying, and it is difficult to develop without it. In recent years, with the development of internationalization, the number of international students in China has gradually increased, and there are many foreign students interested in martial arts colleges. We have collected data through various channels and obtained the enrollment of Chinese martial arts colleges in the past ten years. It is found from Table 1 that the enrollment situation in the past ten years has been on the rise, and the number of international students has continued to rise. The histogram of Figure 4 shows the prosperity of the traditional boxing martial arts industry.

*Table1. Enrollment of Chinese wushu colleges in the past decade*

Years	Domestic students (Ten thousand)	Foreign students (Ten thousand)
2019	12.6	2.8
2018	12.2	2.6
2017	11.8	2.3
2016	11.2	2.0
2015	10.8	1.7
2014	10.5	1.4
2013	10.1	1.3
2012	9.2	0.9
2011	8.8	0.8
2010	7.3	0.7

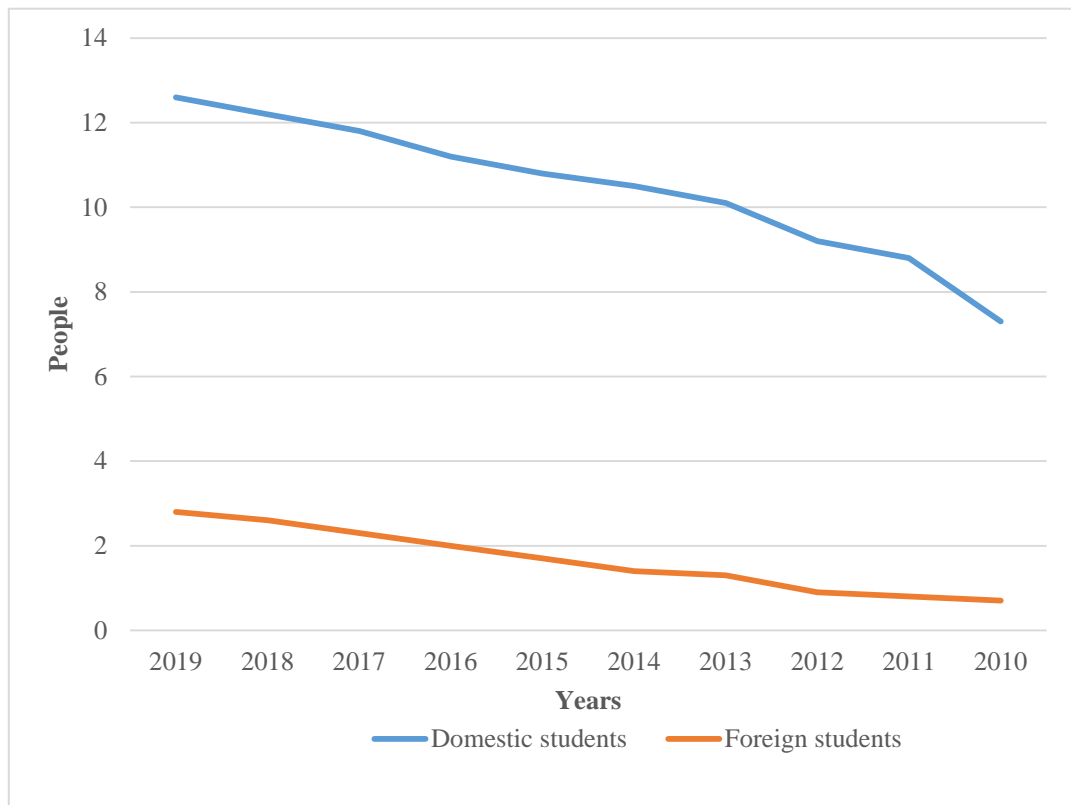


Figure 4. Enrollment of Chinese wushu colleges in the past decade

With the development of all walks of life, traditional martial arts gradually integrate into all aspects of people's daily life. Martial arts are involved in daily life: martial arts fitness, security, martial arts hall, film and television entertainment and so on. Data collection through various channels shows the comparison of economic benefits between 2010 and 2019. According to Table 2, the total economic return in 2019 is higher, which fully proves the vigorous development of the martial arts industry. Figure 5 shows that the economic benefits of martial arts fitness have increased significantly in 2019, proving that people have gradually realized the special effects of traditional martial arts for physical fitness. The data collection table is shown in Table 2 and Figure 5.

Table 2. Comparison of economic benefits of traditional martial arts in 2010 and 2019

Classification	2010( $1 \times 10^4$ )	Percentage(%)	2019( $1 \times 10^4$ )	Percentage(%)
Martial arts fitness	9.2	16.4	17.2	20
Security	23.5	41.9	32.4	37.6
Martial arts hall	9.1	16.2	15.1	17.5
Television entertainment	11.2	20	17.2	20
Others	3.1	5.5	4.2	4.9

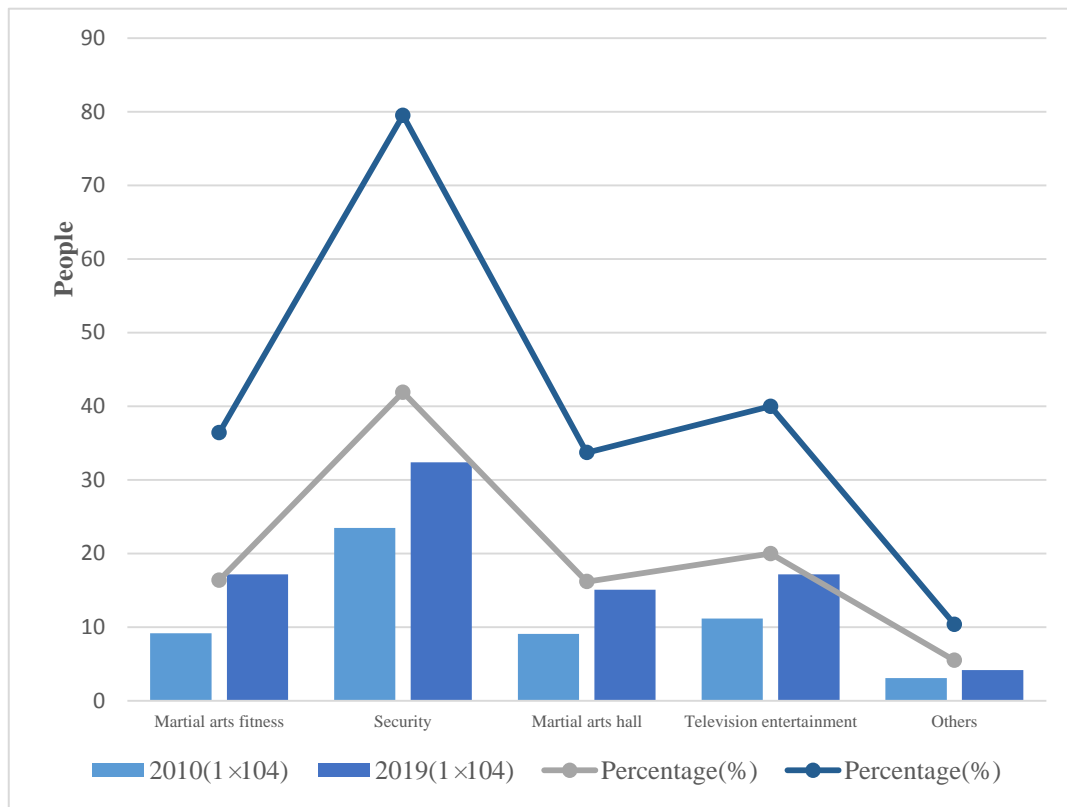


Figure 5. Comparison of economic benefits of traditional martial arts in 2010 and 2019

#### 4.2. The Spread of Traditional Boxing Wushu from the Perspective of Animal Bionics

(1) By designing a web questionnaire, we investigated the ways in which 3,000 people in different industries and ages learned about martial arts. Statistics found that 35% of people learned about martial arts through film and television dramas, and 33.4% of people learned martial arts through martial arts performances. It fully reflects that the dissemination of martial arts is mainly through film and television media, and people's perception of them mainly comes from videos and pictures. The source of martial arts colleges has the worst communication effect, reflecting the lack of martial arts inheritance and many problems. The data collection table is shown in Table 3 and Figure 6.

Table 3. The spreading way of traditional boxing wushu from the perspective of animal bionics

Way	People	Percentage(%)
Martial arts performance	1001	33.4
Movies	1050	35.0
Health and fitness	450	15.0
Security	230	7.7
Sports event	219	7.3
Martial arts college	50	1.6

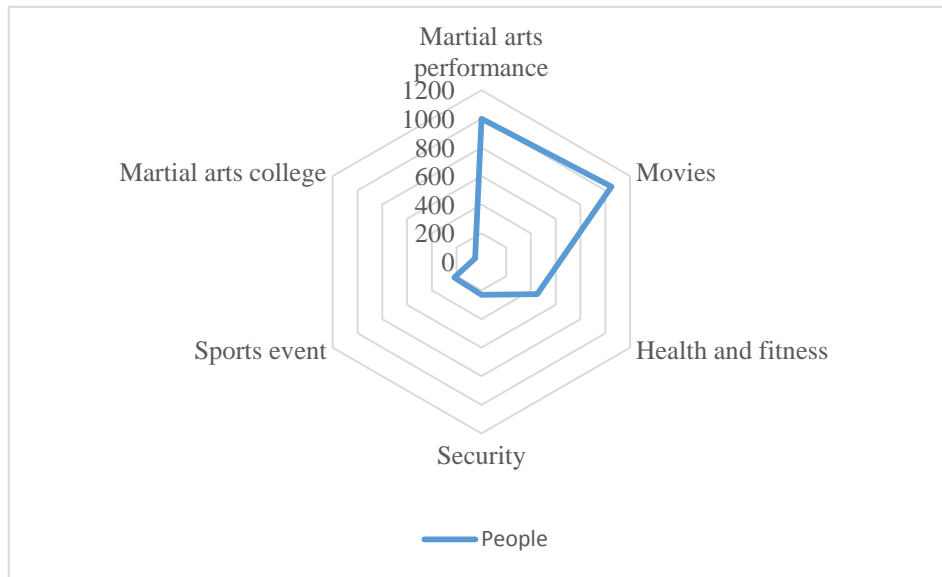


Figure 6. The spreading way of traditional boxing wushu from the perspective of animal bionics

(2) In addition to investigating the spread of traditional martial arts, its application in health and fitness has also received considerable attention. In recent years, the rise of Taijiquan has fully stimulated people's love for traditional martial arts. But in terms of keeping fit, martial arts has played an important role. With the development of diversification, health and fitness involves a variety of methods, such as yoga, boxing, running, tai chi, square dance, ball and so on. By investigating the health and fitness methods of 500 people aged 18-70 years, the statistical results found that 18-35 years olds mostly choose yoga, boxing, running and ball fitness methods, and 35-70 years olds have Tai Chi and square dance. This fully proves that the popularity of martial arts among the younger generation is poor, and it also shows that the martial arts of young people are not high, they are too old-fashioned and need to be further improved. The data collection table is shown in Table 4 and Figure 7.

Table 4. Comparison of health fitness methods for different age groups

Classification	18-35	Percentage(%)	35-70	Percentage(%)
Yoga	51	20.4	6	2.4
Boxing	52	20.8	3	1.2
Running class	60	24	24	9.6
Ball	65	26	20	8
Tai Chi	10	4	102	40.8
Square dance	12	4.8	95	38

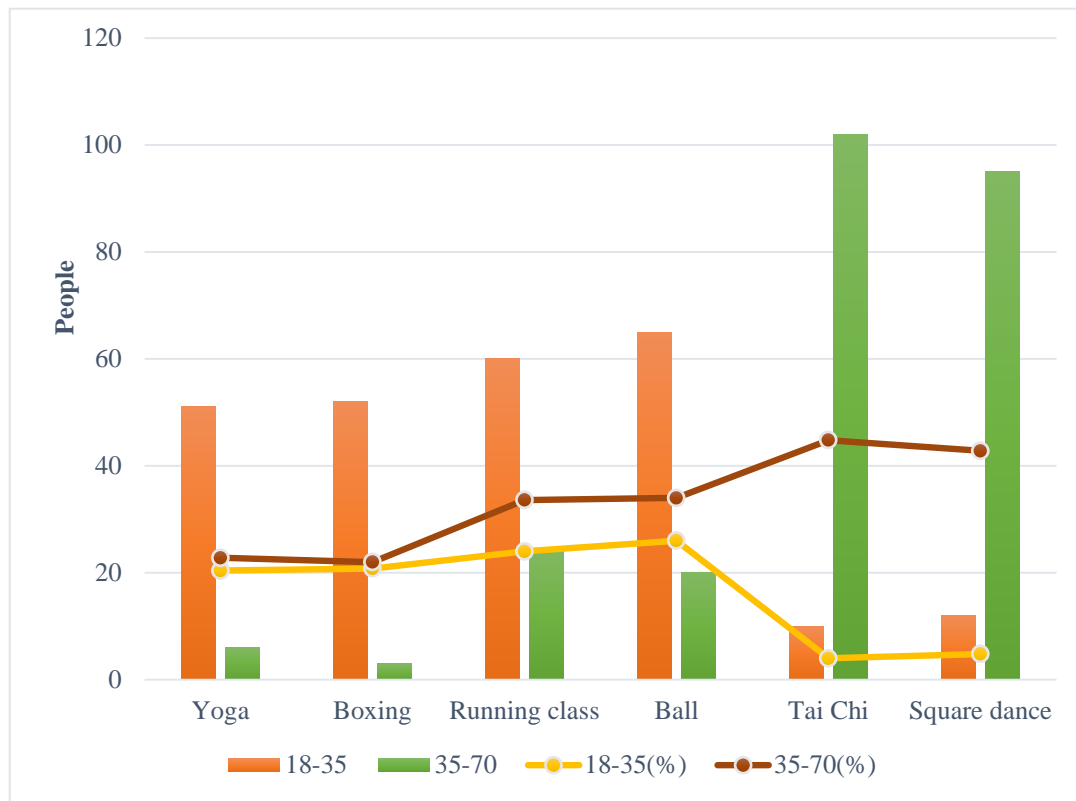


Figure 7. Comparison of health fitness methods for different age groups

## 5. Conclusion

(1) An introduction to animal bionics and traditional boxing martial arts, an explanation of the purpose and significance of the study, and the current status of the study.

(2) Briefly introduce the methods used in this paper. This article mainly uses the methods of literature research and survey. From the perspective of animal bionics, the influence of various aspects of the development of traditional boxing martial arts and the integration and development of the two are analyzed and explained.

(3) Through the analysis of the literature and relevant industry personnel, the development, evolution, and dissemination of traditional boxing martial arts from the perspective of animal bionics are summarized. There are roughly the following: increased entertainment and appreciation, a wider audience, Traditional martial arts is gradually integrated with modern sports, and the principles of animal bionics are applied to gradually change its form and enhance its appreciation value. It is gradually loved by the public; the integration and development of animal bionics and traditional boxing martial arts.

(4) Collect various aspects of data through various channels for theoretical analysis. The analysis shows that under the perspective of animal bionics, the enrollment of traditional boxing martial arts has been on the rise for the past ten years, and the number of international students has also continued to rise. The total economic return in 2019 is significantly higher than in 2010, and the overall development prospects are good.

(5) The dissemination of martial arts is mainly through film and television media; and its audience is mainly middle-aged and elderly, and its youth is not high. Compared with modern sports, the popularity of traditional martial arts is not high. Although it has caused health and fitness to be loved by the majority of middle-aged and elderly people, it is not accepted by young people and there is still much room for improvement in future development.

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### Data Availability

Data sharing is not applicable to this article as no new data were created or analysed in this study.

### Conflict of Interest

The author states that this article has no conflict of interest.

### References

- [1] Kershner, S., & Kelly, R. (2020). "Rights and Consent in Mixed Martial Arts", *Journal of the Philosophy of Sport*, 47(1), pp.105-120. <https://doi.org/10.1080/00948705.2019.1653193>
- [2] Saeed M. Aljaberi, Ali Saadon Al-Ogaili, *Integration of Cultural Digital form and Material Carrier form of Traditional Handicraft Intangible Cultural Heritage, Fusion: Practice and Applications*, 2021, Vol. 5, No. 1, pp: 21-30 (Doi:<https://doi.org/10.54216/FPA.050102>)
- [3] Wang, C., & Liu, J. (2017). "A Study on the Teaching Content of Martial Arts in Primary and Secondary Schools from the Perspective of Cultural Inheritance", *Advances in Physical Education*, 8(1), pp.1-6. <https://doi.org/10.4236/ape.2018.81001>
- [4] Meng, F. (2016). "Urban and Rural Primary and Secondary School Martial Arts Teaching Strategy Research Under Powerful Cultural Country Construction Target", *Journal of Computational and Theoretical Nanoscience*, 13(12), pp.10224-10228. <https://doi.org/10.1166/jctn.2016.6246>
- [5] Guo, P., Ma, S., & Li, W. (2017). "An Examination of Bruce Lee's kung fu from the Perspective of Japanese Martial arts: the Chinese Culture of Chivalrous Heroes and Western science", *Asia Pacific Journal of Sport and Social Science*, 6(2), pp.126-142. <https://doi.org/10.1080/21640599.2017.1323821>
- [6] Hong, M. (2016). "A Kind of New Wheelchair Based on Robot and Bionics Technology", *International Journal of Smart Home*, 10(12), pp.117-130. <https://doi.org/10.14257/ijsh.2016.10.12.12>
- [7] Valeria Palermo, Katerine Igal, Mar ú B. Colombo Migliorero, Angel G. Sathicq, & Gustavo P. Romanelli. (2016). "Valorization of Different Wastes and Their Use for the Design of Multifunctional Eco-Catalysts", *Waste & Biomass Valorization*, 8(1), pp.1-15. <https://doi.org/10.1007/s12649-016-9634-x>
- [8] Gande Akhila, Hemachandran K, Juan R Jaramillo, *Indian Premier League Using Different Aspects of Machine Learning Algorithms*, *Journal of Cognitive Human-Computer Interaction*, 2021, Vol. 1, No. 1, pp: 01-07 (Doi:<https://doi.org/10.54216/JCHCI.010101>)

- [9] Ko, L. M., Ting, M. C., & Lee, P. C. (2017). "The Development of Chinese Martial Arts in Taiwan Since 1949", *The International Journal of the History of Sport*, 34(15), pp.1603-1616. <https://doi.org/10.1080/09523367.2018.1482874>
- [10] Dortants, M. (2018). "Regulating Full Contact Martial Arts and Combat Sports: How Governmentality as an Analytical Framework Informs Practices of the Governing of Sports", *International Journal of Sport Policy and Politics*, 10(2), pp.255-269. <https://doi.org/10.1080/19406940.2017.1389764>
- [11] Byunghun Lee, Mehdi Kiani, & Maysam Ghovanloo. (2016). "A Triple-loop Inductive Power Transmission System for Biomedical Applications", *IEEE Transactions on Biomedical Circuits & Systems*, 10(1), pp.138-148. <https://doi.org/10.1109/TBCAS.2014.2376965>
- [12] Leslee Goldstein, Sanford I. Nidich, Rachel Goodman, & David Goodman. (2018). "The Effect of Transcendental Meditation on Self-efficacy, Perceived Stress, and Quality of Life in Mothers in Uganda", *Health Care for Women International*, 39(5), pp.1-24. <https://doi.org/10.1080/07399332.2018.1445254>
- [13] YoungIl, N. (2016). "The Future of Asian Traditional Martial Arts", *The International Journal of the History of Sport*, 33(9), pp.893-903. <https://doi.org/10.1080/09523367.2016.1233866>
- [14] Richards, S. (2019). "The Patriotic Narrative of Donnie Yen: How Martial Arts Film Stars Reconcile Chinese Tradition and Modernity", *Celebrity Studies*, 10(2), pp.276-284. <https://doi.org/10.1080/19392397.2019.1601427>
- [15] Xu, F. (2019). "Dissemination and Inheritance of Wushu Spirit in The Context of Cultural Globalization and it Social Environment", *Ekoloji*, 28(107), pp.2767-2772.
- [16] Choi, G. H., Ko, H., Pedrycz, W., Singh, A. K., & Pan, S. B. (2020). Recognition system using fusion normalization based on morphological features of post-exercise ecg for intelligent biometrics. *Sensors*, 20(24), 7130. <https://doi.org/10.3390/s20247130>
- [17] Guodong, Z., & Green, T. A. (2018). "I Am the Greatest Boxer": Articulating Group Identity Through Chinese Folk Drama", *Journal of American Folklore*, 131(521), pp.250-271. <https://doi.org/10.5406/jamerfolk.131.521.0250>