Yiwulv Mountain Manchu Paper-Cut: The Application of Digital Media in Inheriting and Protecting Intangible Cultural Heritage
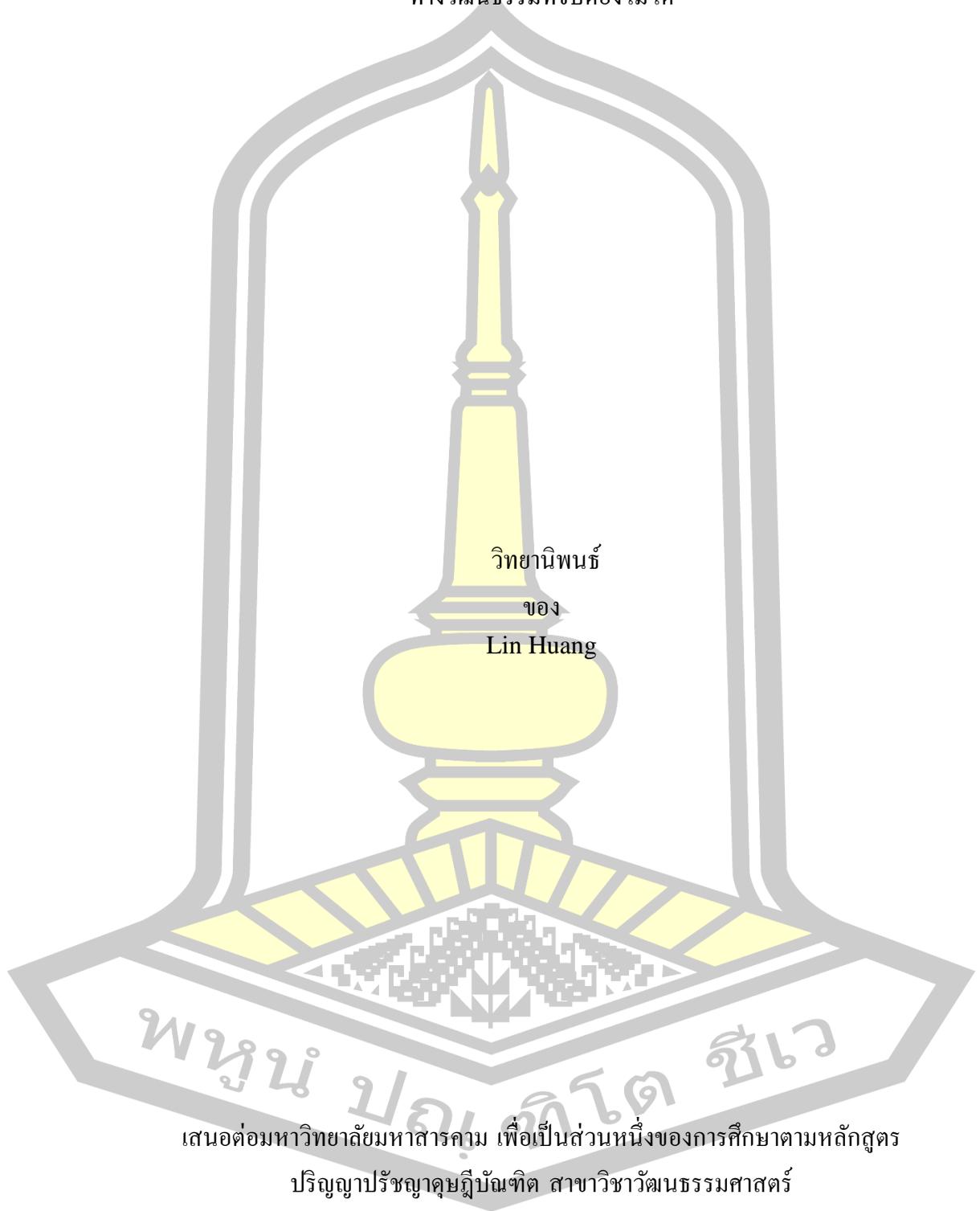
Lin Huang

A Thesis Submitted in Partial Fulfillment of Requirements for

degree of Doctor of Philosophy in Cultural Science

January 2024

กระดาษของชนเผ่าแมนจู ภูเขาอี้หวู่ลู่: การประยุกต์ใช้สื่อดิจิทัลในการสืบทอดและปกป้องมรดก
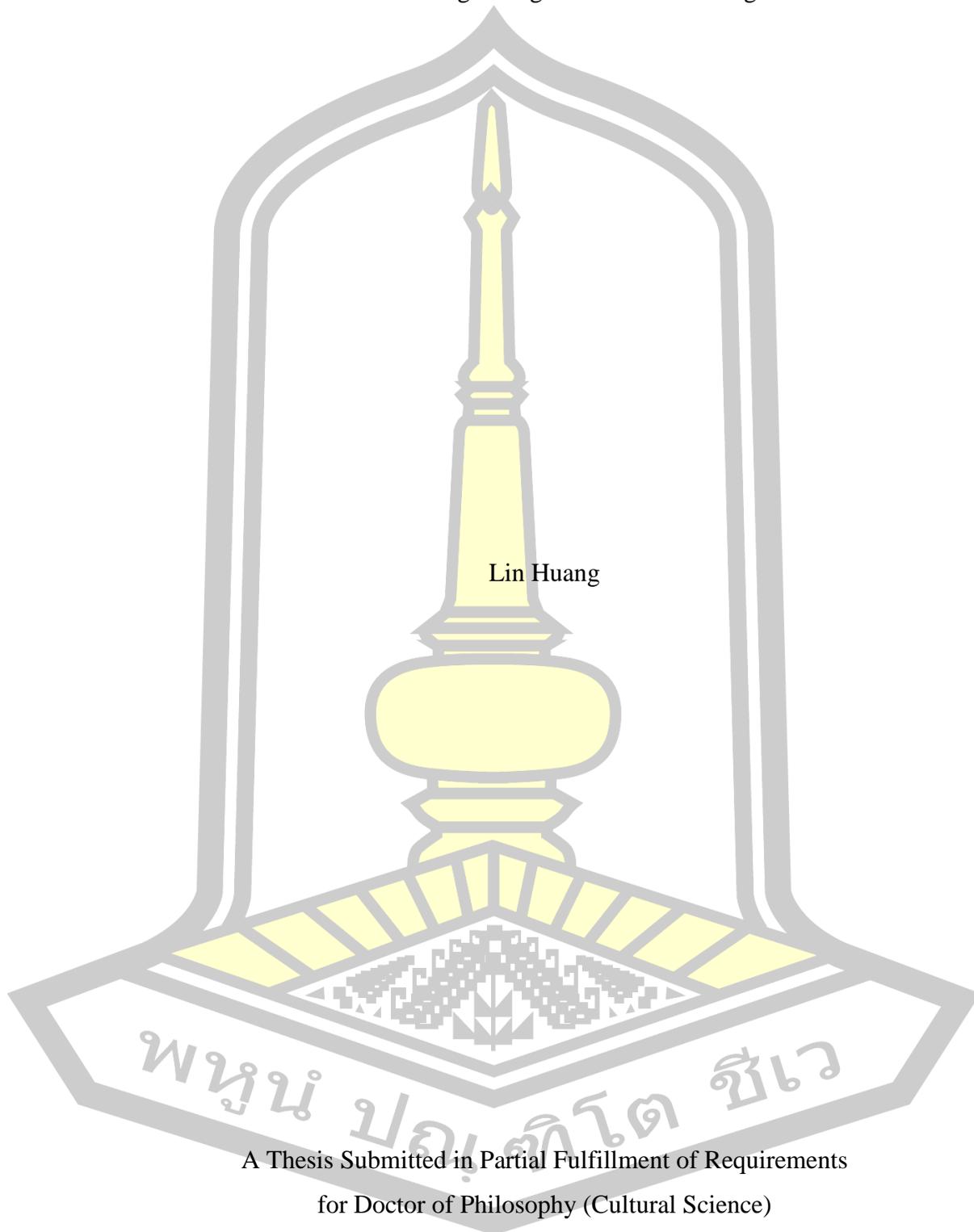ทางวัฒนธรรมที่จับต้องไม่ได้

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มกราคม 2567
ลิขสิทธิ์เป็นของมหาวิทยาลัยมหาสารคาม

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for Doctor of Philosophy (Cultural Science)

January 2024

The examining committee has unanimously approved this Thesis, submitted by Mr. Lin Huang , as a partial fulfillment of the requirements for the Doctor of Philosophy Cultural Science at Mahasarakham University

Examining Committee

.... Chairman
(Assoc. Prof. Nisanart Sopapol ,
Ph.D.)

.... Advisor
(Assoc. Prof. Sastra Laoakka ,
Ph.D.)

.... Committee
(Thitisak Wechkama , Ph.D.)

.... Committee
(Asst. Prof. Kittiphong Praphan ,
Ph.D.)

.... Committee
(Assoc. Prof. Sithisak Jupadaeng ,
Ph.D.)

Mahasarakham University has granted approval to accept this Thesis as a partial fulfillment of the requirements for the Doctor of Philosophy Cultural Science

....
(Asst. Prof. Peera Phanlukthao , Ph.D.)   (Assoc. Prof. Krit Chaimoon , Ph.D.)
Dean of Faculty of Fine - Applied Arts   Dean of Graduate School
and Cultural Science

TITLE	Yiwulv Mountain Manchu Paper-Cut: The Application of Digital Media in Inheriting and Protecting Intangible Cultural Heritage		
AUTHOR	Lin Huang		
ADVISORS	Associate Professor Sastra Laoakka , Ph.D.		
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ABSTRACT

The objectives of this research were 1) To study the historical origin, artistic value and cultural identity of Yiwulv Mountain Manchu paper-cut.2) To study the current problems of inheritance and protection of Yiwulv Mountain Manchu paper-cut.3) To study the Application of 3D Animation Technology in the Inheritance and Protection of Yiwulv Mountain Manchu paper-cut .This study is qualitative research. A qualitative study was conducted on the Yiwulv Mountain Manchu paper-cut in Jinzhou City as the research object. Research data were collected through relevant literature analysis, surveys, observations, interviews, in-depth interviews and group discussions. Research tools include survey methods, observation methods, interview methods, structured and unstructured focus group discussions. The population sample of this study consisted of 29 people, and cultural theory was used to analyze the data. The findings are presented through descriptive analysis. The results of the study are as follows.

Firstly, research on the historical and cultural origins, cultural value, and cultural identity of the Yiwulv Mountain Manchu paper-cut will help to enhance its cultural value and influence.Secondly, the analysis and research on the inheritance and protection status of the Yiwulv Mountain Manchu paper-cut were conducted. It was found that the oral, heart-to-heart and behavioral inheritance methods of Yiwulv Mountain Manchu paper-cut can no longer meet the current inheritance and protection status. In addition, the inheritors are aging seriously, and young groups are participating. The low degree of recognition and the vague recognition of cultural value and connotation have limited the inheritance and protection of the Yiwulv Mountain Manchu paper-cut. Finally, combined with the integration of digital media technology and art, the application of 3D Animation in the inheritance and protection of the Yiwulv Mountain Manchu paper-cut is used to solve the problems in its inheritance and protection. In the digital age, it will contribute to the diversified spread of Yiwulv Mountain Manchu paper-cut, and will expand the inheritance and protection of Yiwulv Mountain Manchu paper-cut to provide research models and references for the inheritance and protection of intangible cultural heritage.

Keyword : Yiwulv Mountain Manchu paper-cut, Digital media, Intangible cultural heritage, Inheritance and protection

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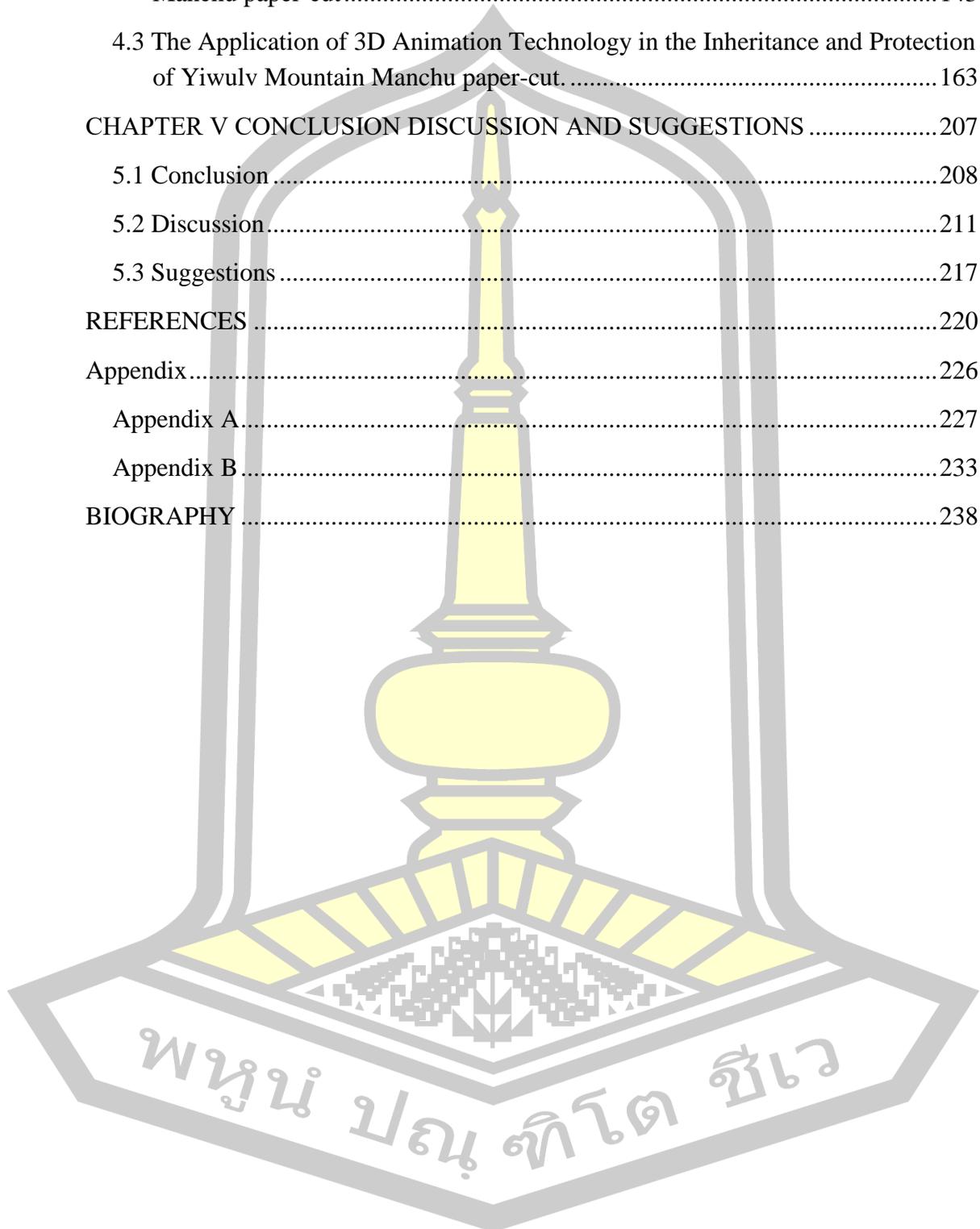
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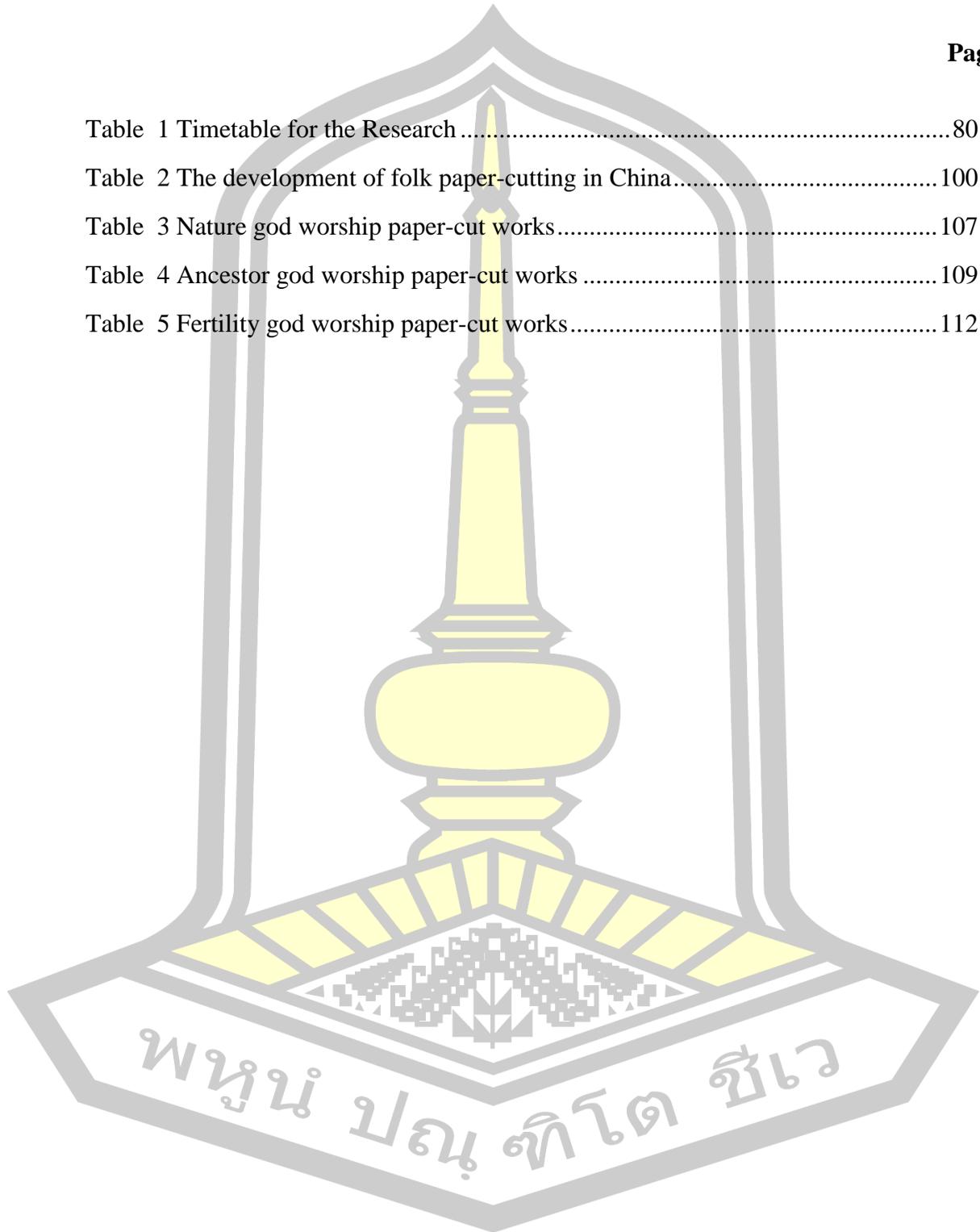
Lin Huang

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CHAPTER I

INTRODUCTION

1.1 Background of the Research

Jinzhou City, referred to as Jin, is a prefecture-level city under the jurisdiction of Liaoning Province, the People's Republic of China, located in the central and western part of Liaoning Province. Yiwulv Mountain, also known as Yiwu Mountain, Yiwulv Mountain, Lv Mountain, etc., is one of the main mountain ranges in western Liaoning Province, China. It is located at the junction of Beizhen City and Yi County in Jinzhou. The unique geographical environment and historical status make it a sacred mountain for the reproduction of ethnic minorities in Northeast China. Yiwulv Mountain is an ancient northern town in China. The town began in the Yu and Shun period, and has been throughout the entire history of the Chinese nation. It has been revered and worshiped by rulers of all dynasties. Yiwulv Mountain is a place where northern nomads and forest peoples live and breed. At the same time, it has left precious shamanic culture in Yiwulv Mountain. Later, due to the continuous immigration of the Han people from the Central Plains, the shaman culture of the northern peoples was influenced by the farming culture, forming a diverse and integrated cultural form. The people here inherit rich and diverse ethnic and folk cultures, and the Yiwulv Mountain Manchu paper-cutting is a typical representative of this cultural heritage. Yiwulv Mountain Manchu paper-cutting is a traditional art in Jinzhou City, Liaoning Province, and one of the national intangible cultural heritages.

The origin of Yiwulv Mountain Manchu paper-cut can be traced back to the Shamanism practiced by various ethnic groups in Northeast Asia. The Shamanistic idols made by people are its predecessors. This Manchu folk paper-cutting art is practiced in Beining City, Linghai City, Fuxin City, Yixian County, etc. in the Yiwulv Mountain area. It is passed down from generation to generation. The Yiwulv Mountain Manchu paper-cutting mainly expresses the Manchu people's primitive nature god worship, ancestor god worship, fertility worship and Manchu customs. It is rich in content and simple in pattern and shape. Among the traditional special rituals, Yiwulv Mountain Manchu paper-cutting is an important means for women to pass on

national culture to their children, and is an indispensable cultural symbol in sacrifices and festivals. In daily life, the decorative patterns of daily necessities are an indispensable carrier for the inheritance of the folk culture of the Yiwulv Mountain ethnic group. On May 20, 2006, the Yiwulv Mountain Manchu paper-cutting was approved by the State Council of the People's Republic of China to be included in the first batch of national intangible cultural heritage lists, with heritage number: VII-16. Under the impact of modern lifestyle, Yiwulv Mountain Manchu paper-cutting is gradually declining. At the same time, as the older generation of artists gradually passes away, there are few successors to Yiwulvshan Manchu paper-cutting. Therefore, it is necessary to formulate plans to protect this ancient ethnic folk art. (Wang, 2011)

The rapid development of digital media has severely impacted the living environment and dissemination of the intangible cultural heritage (Yiwulv Mountain Manchu paper-cutting). Through fieldwork and literature review, it was found that the oral and behavioral inheritance methods of Manchu paper-cutting in Yiwulv Mountain can no longer meet the current state of inheritance and protection. In addition, the inheritors are aging seriously, the participation of young people is low, and the cultural value and connotation recognition are blurred. As a result, the inheritance and protection of Yiwulv Mountain Manchu paper-cut have also been limited by dissemination. In an era when digital media is widely spread, local governments use traditional methods such as inheritance classes, holding paper-cut art exhibitions, and publishing books to pass on inheritance. These traditional inheritance methods can no longer meet the needs of the times. (Liu, 2021) Now in the digital era, intangible cultural heritage is no longer limited to traditional paper communication and oral communication. The application of digital media technology provides it with more communication opportunities. At the same time, the digital communication of intangible cultural heritage It is also a diverse and complex system. Therefore, it is necessary to find a suitable digital communication model and development path for intangible cultural heritage among the differences in communication content, digital display forms, and communication groups of intangible cultural heritage. (Tan & He, 2021). Use virtual reality technology to provide a rich paper-cut art experience. As an important intangible cultural heritage, the inheritance and protection of paper-cutting

art cannot just stop at top-down publicity and promotion. Government departments and artists must fully mobilize the participation of the public and deepen the public's understanding of paper-cutting art through the experience of digital media. Love and feelings, thereby forming a positive interactive experience and promoting the sustainable development of paper-cut art. (Shi & Guo, 2023)

In summary, the importance of this study is mainly reflected in the study of the historical origin, cultural value, and cultural identity of the Yiwulv Mountain Manchu paper-cut, which will help to enhance and develop its cultural value. By analyzing and researching the inheritance and protection status of Manchu paper-cutting art in Yiwulv Mountain, it will help to better understand the current situation and problems encountered in the development of Manchu paper-cutting art in Yiwulv Mountain. Through summary, its inheritance and development may be better realized. Combining the integration of digital media technology and art, the application of 3D animation technology in the dissemination of Yiwulv Mountain Manchu paper-cut was used to establish a research model. Through the inheritance and protection of Yiwulv Mountain Manchu paper-cut, it is extended to provide reference value for the inheritance and protection of intangible cultural heritage.

With the changes and development of society, the cultural value, cultural identity, inheritance and protection of Yiwulv Mountain Manchu paper-cut have encountered unprecedented challenges. It is understood that the inheritance and protection of Yiwulv Mountain Manchu paper-cut has encountered big problems. From the perspective of the current situation of the inheritors, the inheritors are aging seriously and young people have low participation, the creation of paper-cutting lacks cultural connotation and cultural identity, and the limitations of the communication media Problems such as insufficient innovative digital communication methods are serious. At present, there are serious deficiencies in the inheritance and protection of Yiwulv Mountain Manchu paper-cut at the application level of digital media. It needs to be supplemented and improved with the presentation method of the digital age to enrich the diversity of Manchu paper-cutting culture in Yiwulv Mountain and diversified dissemination to make it consistent with The aesthetic needs of the times reflect cultural identity. Only by clarifying the core issues of digital media inheritance and protection of the Yiwulv Mountain Manchu paper-cut, and using the

communication advantages of digital media technology, can we deepen people's understanding of the cultural connotation of the Yiwulv Mountain Manchu paper-cut, and finally break through the limitations of time and space to realize the cultural identity of the Yiwulv Mountain Manchu paper-cut. The development of digital media technology provides new development opportunities for the dissemination of Yiwulv Mountain Manchu paper-cut. It also shapes the cultural identity of Yiwulv Mountain Manchu paper-cut and builds an expression method and cultural space that adapts to the needs of the times. In the virtual space and media ecological environment of digital media, digital media technology is used to enrich the display and expression methods of Yiwulv Mountain Manchu paper-cut, and to broaden the cognitive channels and inheritance methods of Manchu paper-cutting culture in Yiwulv Mountain.

In this context, effective methods are adopted to inherit and protect the Yiwulv Mountain Manchu paper-cut, and enhance the identity of the Manchu paper-cutting culture in Yiwulv Mountain, so that it can develop better in the digital media era. To this end, the main goals of this study are threefold: 1) To study the historical origin, cultural value and cultural identity of Yiwulv Mountain Manchu paper-cut; 2) To study the inheritance and protection status of Yiwulv Mountain Manchu paper-cut; 3) The application of 3D Animation technology in the development of Yiwulv Mountain Manchu paper-cut Application in inheritance and protection. Through the application of digital media technology, a model of the inheritance path of Yiwulv Mountain Manchu paper-cut is constructed, and the communication advantages of digital media technology are used to deepen people's understanding of the cultural connotation of Yiwulv Mountain Manchu paper-cut, and ultimately break through the limitations of time and space to realize the cultural identity of Yiwulv Mountain Manchu paper-cut.

1.2 Objectives of the Research

There are 3 research objectives as follow:

1.2.1 To study the historical origin, artistic value and cultural identity of Yiwulv Mountain Manchu paper-cut.

1.2.2 To study the current problems of inheritance and protection of Yiwulv Mountain Manchu paper-cut.

1.2.3 To study the Application of 3D Animation Technology in the Inheritance and Protection of Yiwulv Mountain Manchu paper-cut.

1.3 Research Questions

1.3.1 What are the social and historical origins, cultural value and cultural identity of the Yiwulv Mountain Manchu paper-cut?

1.3.2 What is the current status of the inheritance and protection of the Yiwulv Mountain Manchu paper-cut?

1.3.3 How to apply 3D Animation Technology to the inheritance and protection of intangible cultural heritage (Yiwulv Mountain Manchu paper-cut) and establish an effective research model?

1.4 Importance of Research

1.4.1 This study will contribute to the improvement and development of the cultural value of the Yiwulv Mountain Manchu paper-cut by studying its historical origin, cultural value, and cultural identity.

1.4.2 This study will contribute to its inheritance and development by analyzing and studying the inheritance and protection status of the Yiwulv Mountain Manchu paper-cut.

1.4.3 This study combines the integration of digital media technology and art, and uses 3D animation technology in the dissemination of Yiwulv Mountain Manchu paper-cut to establish a research model. Through the inheritance and protection of Yiwulv Mountain Manchu paper-cut, it is extended to provide reference value for the inheritance and protection of intangible cultural heritage.

1.5 Definition of Terms

1.5.1 Yiwulv Mountain

Yiwulv Mountain refers to the northeastern end of the Liaoxi Corridor in Liaoning Province, China, and is connected to Yixian County, Beizhen City, and Linghai City in Jinzhou, Liaoning Province, Qinghemen District in Fuxin, and Fuxin Mongolian Autonomous County. Since ancient times, Yiwulv Mountain has been a sacred mountain

where ethnic minorities in Northeast China live and thrive. This is a mountain name with a sense of shamanic mountain worship. (Wang, 2011)

1.5.2 Yiwulv mountain Manchu paper-cut

Yiwulv Mountain Manchu paper-cut refers to the traditional art of Jinzhou City, Liaoning Province. This study describes in detail its type, materials, tools and techniques, production steps, manufacturer, form and content, cultural value and cultural identity, and current issues of inheritance and protection. Wang Xiuxia and Zhao Zhiguo are the national inheritors of Yiwulv Mountain Manchu paper-cut.

1.5.3 Shamanic culture

Shamanic culture refers to the paper-cutting with shamanic culture among the Manchu paper-cuttings in Yiwulv Mountain, which is its important feature. It is the shamanic culture that expresses the original Manchu nature god worship, ancestor god worship, and fertility worship.

1.5.4 Digital media

Digital media refers to 3D Animation technology, combined with virtual roaming technology to perform artistic expression and practical creation of Yiwulv Mountain Manchu paper-cut, and publish practical works of Yiwulv Mountain Manchu paper-cut with the help of information network. By establishing a research model, the research model is divided into 3D Animation preliminary design (concept application, conceptual design, sample extraction and sample design), 3D Animation mid-term production (model production, scene construction, 3D Animation rendering generation), and 3D Animation post-synthesis (3D Animation production). Animation synthesis, virtual roaming technology application).

1.5.5 The intangible cultural heritage

The intangible cultural heritage refers to the Yiwulv Mountain Manchu paper-cut, which belongs to the seventh item in the intangible cultural heritage list system, the category of folk art.

1.5.6 Inheritance and protection

Inheritance and protection refers to the current issues of inheritance and protection. Through digital media 3D Animation and virtual roaming technology, we can inherit and protect the Yiwulv Mountain Manchu paper-cutting to obtain an effective path reference.

1.5.7 Cultural Identity

Cultural identity refers to the fact that in today's era of economic globalization, the Yiwulv Mountain Manchu paper-cut, as a unique cultural symbol, conveys the value of Manchu culture, allowing the national community to recognize and understand the meaning of this symbol and form a cultural identity.

1.5.8 Semiotics

Semiotics refers to the Swiss linguist Saussure who proposed that symbols contain "signifier" and "referred" parts, that is, objects at the level of expression - the "shape" of the symbol and the connotative meaning of the thing being referred to. -The "meaning" of a symbol, only the combination of the two can form a complete symbol. and Cassirer's concept of semiotics.

1.5.9 The "5W" communication theory

The "5W" communication theory refers to the 5W communication theory proposed by Harold Lasswell, one of the founders of communication and an American political scientist. Lasswell proposed five basic components of the communication process, namely who, says what, in which channel, to whom, and with what effect. In the digital media practice creation process of this study, specific analysis based on the "5w" communication theory can make the research more systematic and logical.

1.5.10 Media creation

Media creation refers to the process of creating and transmitting information on a specific media platform through the content form, expression techniques, language methods and communication methods of the Yiwulv Mountain Manchu paper-cut. Use 3D Animation technology to inherit the Yiwulv Mountain Manchu paper-cut culture and promote the innovative inheritance and protection of the Yiwulv Mountain Manchu paper-cut culture

1.5.11 Learning culture

Learning culture refers to learning about the Yiwulv Mountain Manchu paper-cut , through 3D animation digital system, transfering knowlege about Yiwulv Mountain Manchu paper-cut culture of youth. By teaching young people the cultural connotation of Yiwulv Mountain Manchu paper-cut, they can have a deep understanding of the wisdom and creativity of paper-cutting culture.

1.6 Conceptual Framework

The historical origin, artistic value and cultural identity of Yiwulv Mountain Manchu paper-cut

Research Questions
1. What are the social and historical origins, cultural value and cultural identity of the Yiwulv Mountain Manchu paper-cut?
2. What is the current status of the inheritance and protection of the Yiwulv Mountain Manchu paper-cut?
3. How to apply digital media to the inheritance and protection of intangible cultural heritage (Yiwulv Mountain Manchu paper-cut) and establish an effective research model?

Research Objectives
1. To study the historical origin, artistic value and cultural identity of Yiwulv Mountain Manchu paper-cut.
2. To study the current problems of inheritance and protection of Yiwulv Mountain Manchu paper-cut.
3. To study the Application of 3D Animation Technology in the Inheritance and Protection of Yiwulv Mountain Manchu paper-cut.

Relevant Theoretical
1. Semiotics

2. Cultural Identity

3. "5W" Communication

4. Media Creation

Literature Reviews
Basic Surveys
Observations
Interviews
Focus Group Discussions

1. Historical origins
2. Cultural Value
3. Cultural Identity
4. The inheritance and protection current
5. The inheritance and protection problems
6. 3D animation pre-design
7. 3D animation Mid-production
8. 3D animation Post-synthesis
9. Assessment and feedback
10. Application of practical results

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Figure 1 Conceptual Framework

Source Huang lin (2023)

CHAPTER II

LITERATURE REVIEWS

In this study, the investigators reviewed the relevant literature to obtain the most comprehensive information available in this study. The researchers reviewed the following topics:

2.1 Related Chinese culture

    2.1.1 Chinese traditional culture

    2.1.2 Chinese folk art culture

2.2 Research contexts

    2.2.1 The culture of Chinese paper-cut

    2.2.2 The inheritance and protection of Chinese paper-cut culture

    2.2.3 Knowledge of the Yiwulv Mountain Manchu paper-cut

    2.2.4 Knowledge of digital media

2.3 Releted laws and policies

    2.3.1 Related National Policies

    2.3.2 Related Policies of Local government

2.4 Research area

    2.4.1 Knowledge of field survey area

    2.4.2 knowledge of the inheritor's area

2.5 Relevant Theoretical Knowledge

    2.5.1 Theories of semiotics

    2.5.2 Theories of communication

    2.5.3 Theories of cultural Identity

    2.5.4 Theories of media creation

2.6 Related Research

    2.6.1 Related Chinese Literature

    2.6.2 Related International Literature

2.1 Related Chinese culture

    2.1.1 Chinese traditional culture

Culture is a relatively large concept. Generally speaking, culture is a social phenomenon and the product of people's long-term creation. At the same time, it is a historical phenomenon and the accumulation of social history. Culture in a broad sense is the sum of all material and spiritual wealth created by human beings. It includes not only ideological parts such as world outlook, outlook on life, values, etc., but also non-ideological parts such as natural science and technology, language and writing. To be precise, culture refers to the history, geography, customs, traditional customs, lifestyle, literature and art, behavioral norms, ways of thinking, values, etc. of a country or nation. According to the definition of British anthropologist Edward Tylor, culture is "a complex whole that includes knowledge, beliefs, art, law, morals, customs, and the abilities and habits acquired as a member of a society." Its core is all kinds of knowledge as spiritual products, and its essence is communication. Culture is a phenomenon unique to human society. Culture is created by people and is unique to people. Only with human society can there be culture, and culture is the product of human social practice. In the long-term social practice of the Chinese people, the traditional Chinese culture with Confucianism, Buddhism, and Taoism as its pillars has been formed.

Traditional culture is a culture that reflects the characteristics and style of a nation and is a collection of civilization evolution. It is the overall expression of various ideological cultures and conceptual forms in the history of each nation. Its content should be various material, institutional and spiritual cultural entities and cultural consciousness that have existed in the past dynasties. It is a collective term corresponding to contemporary culture and foreign culture. Every country and nation in the world has its own traditional culture.

China's traditional culture, according to the sequence of Chinese history, has gone through the prehistoric eras of Chao, Suiren, Fuxi, Shennong (Yandi), Huangdi (Xuanyuan), Yao, Shun, Yu and other eras, to the Xia Dynasty Establish. Then it developed continuously. China's traditional culture includes cultural ideologies such as Confucianism, Buddhism, Zajia, Politicians, Taoism, Mohism, Legalism, Military strategists, Mingjia, and Yin-Yang schools. Specifically, it includes: ancient Chinese prose, poetry, lyrics, music, fu, national music, ethnic Drama, folk art, Chinese painting, calligraphy, couplets, lantern riddles, Shefu, drinking orders, Xiehouyu, as

well as national costumes, living customs, and classical poetry. Among them, Confucianism, Buddhism, Taoism, and the converging thought of "Trinity" have the most direct and profound impact on Chinese tradition. Traditional Chinese culture is based on the three schools of Confucianism, Buddhism, and Taoism, including thought, writing, and language, followed by the six arts, namely: etiquette, music, archery, imperialism, calligraphy, and mathematics, and then derived from a prosperous life. calligraphy, music, martial arts, folk arts, chess, festivals, folk customs, etc.

China's five thousand-year-old traditional culture carries the "root" and "soul" of the continuous development of Chinese context. Of course, Chinese traditional culture has its own inherent laws and mechanisms of inheritance, which are mainly related to the existence of "human beings" in the world. People are cultural beings. People create culture, and culture also transforms people. Because society and collectives composed of people always have common problems and confusions at the spiritual level of people, the meaning of life, values and other related aspects, and have the same and similar value orientations. At the same time, in this process, culture itself It also has strong integration, fusion and radiation powers. The core concept of Chinese traditional culture is "benevolence", and "benevolence" refers to everyone. In this regard, Mr. Zhang Dainian said: "The excellent tradition of Chinese culture has rich content, the most important of which are two basic ideological perspectives: First, interpersonal relationships Harmony, and the second is the coordination between nature and man. He further concluded: "The core of the excellent tradition of Chinese culture is the basic view on the meaning of life, the value of life, and the ideal of life, which can be called the humanistic view. This is also an eternal theme and topic in human society. Specifically, in the development process of human history, different eras will have their own special problems, but they will also have common dilemmas and confusions, especially when humans enter a civilized and cultural society. , faced with the challenge of dealing with the relationship between heaven and man, man, man and society, man and nature, and man and body and mind, there will be more of the same or similar needs, desires and confusions. Under such circumstances, we have accumulated a lot of The common experience of solving these problems is the most precious legacy that Chinese traditional culture has left for us. (Nie & Zhao, 2023)

Carrying forward China's excellent traditional culture and strengthening confidence in Chinese culture are the cultural foundation for strengthening confidence in the path of socialism with Chinese characteristics. The development of today's Chinese society has fully proved that to strengthen confidence in the path of socialism with Chinese characteristics, we must correctly understand and treat China's excellent traditional culture. To adhere to and develop the path of socialism with Chinese characteristics, we must implement the inheritance and development project of China's excellent traditional culture and make full use of the great wisdom accumulated by the Chinese nation over five thousand years. This is an important source of power for realizing the Chinese dream of the great rejuvenation of the Chinese nation. Culture is the blood of a nation and the spiritual home of the people. China's excellent traditional culture is the crystallization of wisdom formed by the Chinese nation during its long-term social practice. During the development of civilization for more than five thousand years, Chinese culture has been passed down from generation to generation and continues to flourish. It is the only civilization among the various ancient civilizations in the world that has developed without interruption to this day. The essence of China's excellent traditional culture is embodied in the core ideas of benevolence, people-centeredness, integrity, justice, harmony, and seeking greatness, as well as Chinese traditions such as self-improvement, dedication and joy, helping those in need, acting bravely when seeing justice, and filial piety and love for relatives. Virtue, Chinese humanistic spirit such as seeking common ground while reserving differences, expressing the Tao through literature, combining both form and spirit, being frugal and self-sufficient. These cultural essences subtly influence the way of thinking and behavior of the Chinese people, embody the unique spiritual pursuit and values of the Chinese people, and forge the The solid cultural consensus and strong spiritual ties that Chinese society has a fixed soul and emotional attachment play an extremely important practical role in enlightening the thoughts, nourishing the spirit and cultivating values of contemporary Chinese people. China's excellent traditional culture is an important spiritual support for the descendants of Yan and Huang to strive for self-improvement and unity and forge ahead. It is our most profound cultural soft power. It has laid a profound historical origin and a broad practical foundation for the path of socialism

with Chinese characteristics. Only by looking at a broader and deeper historical time and space, based on our unique cultural tradition, unique historical destiny, and unique basic national conditions, can we truly understand and adhere to the path, theory, system, and system confidence of socialism with Chinese characteristics. Cultural self-confidence creates a new pattern and new realm for the construction of socialism with Chinese characteristics in the new era.

Firm confidence in the path of socialism with Chinese characteristics stems from our creative transformation and innovative development of China's excellent traditional culture. The Chinese nation has gone through a difficult and tortuous road of development, condensed the Chinese national spirit with world significance, and created an extensive and profound Chinese excellent traditional culture. China's excellent traditional culture contains great potential to adapt to the development of the times. To vigorously promote the creative transformation and innovative development of Chinese culture, we must be based on fully absorbing the rich nutrition of traditional culture, carry out reform and innovation under the guidance of Marxism, and endow excellent traditions with With the connotation of the new era, culture forms a socialist culture with Chinese characteristics that is based on tradition, spans time and space, integrates China and foreign countries, is close to the present, and is full of charm. This is an important way to build socialism with Chinese characteristics and realize the Chinese dream of the great rejuvenation of the Chinese nation. (Wang, 2018)

To promote the creative transformation and innovative development of China's excellent traditional culture, we must adhere to the development path of socialist culture with Chinese characteristics, develop through inheritance, and inherit through development. It is necessary to root the essence of China's excellent traditional culture in the national cultural genes and implement it into the real life of society, give full play to the role of culture in leading, educating the people, serving society, and promoting development, and further enhance the value recognition and identity of China's excellent traditional culture.

2.1.2 Chinese folk art culture

"Folk art" refers to the art form that was created, applied and appreciated by ordinary working people at the lower social strata according to the needs of their own

lives in the process of historical development, and is perfectly integrated with life. Chinese folk art is a form of folk culture and art created by hundreds of millions of working people in their spare time. It is closely related to the living environment and way of life of the working people. It is a group art and continues to develop and develop along with various folk activities. Perfection is the main body of Chinese culture and art and an important part of traditional culture. It is an art form created by the working people based on commonly used materials and customs in various places, and passed down and developed from generation to generation. Therefore, it has distinctive cultural characteristics, aesthetic characteristics, language characteristics and modeling characteristics. These characteristics are the characteristics of China. The basic characteristics of folk art are the fundamental differences between folk art and other art forms. Traditional Chinese folk art works pay attention to emotional appeals, emphasize the close connection between man and nature, and emphasize the good wishes of the working people. Therefore, most of the works have a strong flavor of life and local flavor, with simple, true and positive emotions. Color is a concentrated expression of the most primitive and simple thoughts and language of the working people. Folk art comes from life. At first, it focused on the use characteristics. As material life becomes increasingly rich, the simple use characteristics can no longer meet people's needs. Therefore, beautiful decorative elements are added on the basis of use, so that it can satisfy both People's material needs can also meet people's spiritual needs. Throughout the process of development and inheritance, traditional folk art has formed its unique language characteristics. (Zhu, 2009)

Wang (2012) studied Folk art originated in rural thatched cottages, and most of the authors are rural people. They have been living in a closed, harsh natural environment and heavy and arduous working conditions for generations. Their cultural life is very monotonous, but this does not affect people's pursuit of beauty. Through music, art, dance and other forms of expression, folk artists express their understanding of the meaning of life, their wishes for a better life, and their sustenance for future ideals in different art forms to make up for and enrich the closed, monotonous to achieve the practical purpose of self-entertainment; folk art is one of the best ways to express people's aesthetic emotions, whether it is folk paper-

cutting, folk painting, folk handicrafts, or through activities such as weddings and funerals, religious sacrifices, etc. The decorations, murals, etc. express content that is closely related to people's lives, and convey people's yearning for a better life through art forms. Folk art authors are mostly local farmers and rural artists. Their creations are often based on the so-called "basic samples" passed down by their predecessors. They copy and learn from each other, with slight changes and limited use during the production process. His works are often used as tokens or gifts and are passed down from generation to generation in the corresponding groups through folk ritual activities. Auspicious prayer contents such as "dragon and phoenix present auspiciousness", "good luck brings fish", and "five sons succeed in the imperial examination" are displayed through folk paintings, paper-cuts, theater and other art forms. These themes express people's simple and beautiful wishes in the process of hereditary inheritance for thousands of years. It is through these ancient folk-themed stories, religious stories and other themes that folk art expresses people's yearning for a prosperous life and pursuit of beauty. The simplest beauty of people is shown in every cut, stitch and stroke, and it has become an indispensable part of folk cultural life. At the same time, it gradually formed a folk cultural form through unconscious activities.

Folk art is the crystallization of wisdom created and accumulated by working people in the process of production and life to meet the needs of their own spiritual life. It exists in the living soil of workers and exists along with various folk activities and the daily lives of ordinary people on the land of China, thus embodying the most basic potential artistic psychology and aesthetic ideals of mankind since ancient times. The ancient Chinese nation has created a splendid national culture in the long historical process, and folk art is an extremely important part of this cultural treasure house. Since the varieties, categories and specifications of folk art due to its specific characteristics, forms and functions are far beyond the scope of palace art, it has also formed a rich and colorful pattern, embodying various elements of traditional beauty, bold, gorgeous but Without losing simplicity and restraint. There are many types of folk art. Its main forms include paper-cutting, woodblock prints, folk paintings, blue calico, batik, embroidery, and clay toys. It is mainly based on plane shapes. In addition to the above, there are also kites, stone carvings, Wood carvings, ceramics,

cloth toys, sachets and other three-dimensional shapes composed of three-dimensional space. Different folk art works have different forms of modeling. It is a huge system. Whether it is woodcut New Year pictures, paper-cuts, clay sculptures, embroidery or other folk arts, they all have strong national elements, thus forming unique art. form. At the same time, it is limited to a certain production category and has its own special and independent modeling system. Folk art modeling has its particularity. In primitive society, plastic arts were directly related to the production of necessary material materials for human beings. In the long-term production activities of material materials, human beings have gradually mastered the method of "shaping according to the laws of beauty" by transforming the external world and themselves. Folk art modeling is based on practical purposes and has high aesthetic value. No matter how rich its external changes are and how colorful its style, its basic modeling factors are the result of the folk artist's unique observation and thinking methods. (Yin, 2012)

As a kind of folk culture, Chinese folk art has attracted more and more people's attention and shown its value today. In the long history of the dominance of literati culture, folk culture, as a latent culture of society, has always been antagonistic and complementary to literati culture, and has actually supported the survival of this ancient nation. Nowadays, folk culture is increasingly showing its solid foundation. Today, more and more people are exploring the most dynamic aspects of folk culture and applying it to their own artistic creations. Today, when human society is undergoing tremendous changes, traditional folk art will give out new vitality and hope along with the soil in which it exists.

2.2 Research contexts

2.2.1 The culture of Chinese paper-cut

As the birthplace of the world's paper-cutting culture, China's paper-cutting culture has entered the UNESCO "Representative List of Intangible Cultural Heritage of Humanity". Through understanding the current situation of paper-cutting culture, Chinese paper-cutting is a cultural species with a history of nearly 1,500 years. In 2009, it was selected into the UNESCO "Representative List of Intangible Cultural Heritage of Humanity". Today, there are more than 30 ethnic groups in China with living cultural traditions of paper-cutting. The cultural distribution of paper-cutting

involves the living areas and national cultural traditions of China's multi-ethnic groups. Paper-cutting is also the most universal and culturally diverse representative intangible material in China. Cultural heritage type.

Among the domestic research works on paper-cutting art, "History of Chinese Folk Paper-cutting" written by Wang (2006) is a very detailed and highly referenced introduction to the relationship between paper-cutting areas and people, sorting out the relationship through time. The history of the development of paper-cutting art. Chinese folk paper-cutting is a vital art created by hundreds of millions of working people in China. It has the broadest mass character, the most distinct regional characteristics, and the strongest modeling characteristics. It has a long history, is an art system formed by thousands of years of farming civilization, and is an important part of human intangible cultural heritage. At the turn of the century, with the rapid development of social economy, the natural economic production mode is rapidly transforming into the commodity economy, and the trend of globalization is increasing day by day. As a result, intangible cultural heritage has been increasingly impacted, and the folk paper-cutting art is also on the verge of extinction. The emergency situation requires urgent rescue and protection. Now, the rescue and protection of mankind's intangible cultural heritage has reached a worldwide consensus. UNESCO decided to "carry out the rescue and protection of the intangible cultural heritage of mankind" worldwide.

The Chinese government also attaches great importance to it and believes that "it is urgent to strengthen the protection of my country's intangible cultural heritage" and has begun to carry out a series of tasks such as census, recording, research, exhibition, and publication across the country. The Institute of Ethnology of the Chinese Academy of Social Sciences has established an "Oral Tradition Research Center", and some art colleges and universities have established "Intangible Cultural Heritage Research Centers". These measures and actions not only play a positive role in promoting the inheritance of China's civilization of the past five thousand years, but also play an important role in the sustainable development of the diversity of Chinese culture. The book mentions that Chinese folk paper-cutting is a vital art created by hundreds of millions of working people in China. It has the broadest mass appeal, the most distinct regional characteristics, and the strongest modeling

characteristics. It has a long history, is an art system formed by thousands of years of farming civilization, and is an important part of human intangible cultural heritage. Paper-cutting is rooted in the folk and is connected with folk customs and many aspects of life. Its full "earth flavor" contains the deep friendship between the people. From a sociological perspective, the relationship between folk paper-cutting and folk customs is by no means ordinary. Folk paper-cutting is related to folk customs, and folk customs are also indispensable. Especially the original paper-cutting fully reflects the hardworking and brave spirit of the Chinese nation and the kind-hearted mentality of the people. Artistic expression can directly reflect the reality of life, but it can also reflect it implicitly or indirectly in different ways. Some of our folk paper-cuts often reflect our nation's lofty ideals and ambitions, our righteous stance of being able to judge right from wrong, and our noble moral sentiments through myths and stories. This kind of expression is the core factor behind the formation of the themes of love for country, love for nation and love for homeland in folk paper-cutting in my country. This factor exists in different eras and in the hearts of people in different eras. With this brilliance of paper cutting, will it change color? Patriotism, love for the nation, love for homeland, and love for motherhood are the eternal themes of human art. Will it become outdated? In its long history, folk paper-cutting has been influenced by farming culture, and rich internal wine has been accumulated in its atmosphere. This book attempts to discuss its emergence, inheritance and development from the context of farming culture. The folk customs or folk culture mentioned earlier actually have many elements that overlap with agricultural culture. Agricultural culture is the cultural superstructure of the Chinese nation with agriculture as the social and economic foundation. In people's lives, all walks of life have an inseparable relationship with it. In feudal society, even the emperor could not get rid of it.

However, as an ideology, it has always been at the lower level of culture, unyielding to the "classical" "palace" culture. Its spread and inheritance do not rely on books and writings, but on the vast land, word of mouth. The working people's understanding of solar terms, tides, earthquakes and other natural phenomena, as well as the creation of medicine, folk architecture, folk art, folk European dance, etc. are all conceived and influenced by farming culture. In the past, research on art history

(painting history) paid less attention to the impact of farming culture on art history, and the concept was also relatively vague.

Now, I think this should be taken seriously. There are many historical points in this book. I followed the context of farming culture to find the basis, and then analyzed and judged. This is also my attempt at the moment. In the historical development of folk paper-cutting, due to the rolling of the times and the changes in social, political, economic and cultural structures, starting from about the early 20th century, two situations gradually emerged: one is the original traditional paper-cutting, which is the result of farming. product of civilization. Most of the authors of these paper-cuts are in rural areas, a considerable number of them are in ethnic minority areas, and a small number are craftsmen working as scholars. This kind of paper-cutting is authentic and full of mud morale. One type is the works of art lovers with high cultural literacy in modern times. They are either artists or art teachers. There are also some full-time cutting and engraving workers whose works, on the basis of inheriting the tradition of folk paper-cutting, have pioneered new ideas of the times. These two situations coexist in modern times. In the 1980s, these two situations were studied at an art theory symposium held in Beijing. Most people believe that as the development of national folk art, this is a trend and a flourishing phenomenon. The former must be maintained and the latter must be cultivated. This book also comprehensively introduces and explains the Chinese folk paper-cutting art from the early days of paper-cutting, the emergence of paper-cutting, the excavation of paper-cutting in the Northern Dynasties, paper-cutting recorded in the past dynasties, existing paper-cutting in the past dynasties, paper-cutting across the country in modern times, and modern paper-cutting artists. Its development context provides important documentation for this study.

In October 2009, at the fourth meeting of the UNESCO Intergovernmental Committee for the Protection of Intangible Cultural Heritage, 22 projects submitted by China were selected into the "Representative List of the Intangible Cultural Heritage of Humanity". Among them, projects related to traditional paper civilization include traditional rice paper production techniques, Chinese calligraphy, Chinese seal cutting, Chinese paper-cutting, and Chinese woodblock printing techniques. These five traditional projects not only connect ancient Chinese papermaking and

paper-related cultural types, but also indicate that these long-standing ancient cultural traditions are still alive in our daily lives today.

The history of Chinese paper-cutting is also the history of the discovery of paper civilization and the process of continuous re-understanding of local artistic traditions. The origin and generation of paper-cutting is still an open question. However, with the discovery of new archaeological and documentary materials, and the in-depth field research, clues and clues have gradually emerged for many issues. Paper-cutting is changing from the original folk hand-made decorative pattern to a cultural species with more national cultural diversity and universality. So far, the discoveries of early ancient paper-cutting objects have been found in tombs and Buddhist grottoes along the Silk Road, which involve the Turpan region of Xinjiang, Dunhuang region of Gansu Province, and Longxian County of Baoji region of Shaanxi Province within China's Silk Road. . It should be said that China is the birthplace and hometown of paper-cutting in the world. The Silk Road is not only the road for the spread of Chinese papermaking and paper civilization, but also the place where the earliest physical paper-cut objects were discovered in the world. The Xinjiang Tuha Basin and Hexi Corridor in northwest China, as well as the western region of Guanzhong, Shaanxi, have become important areas for studying the occurrence of paper-cutting in ancient China. This is a road that extends from the starting area of the Silk Road to the west. This area is also the archaeological discovery area of ancient paper objects, from the earliest unearthed Baqiao paper in Shaanxi during the Western Han Dynasty; to the unearthed site of the Han Dynasty Ting Sui in Juyan Jinguan, Gansu Jinguan paper; Zhongyan paper unearthed from the kilns of the Western Han Dynasty in Zhongyan Village, Fufeng, Shaanxi; Tianshui, Gansu The article sorts out and examines the historical materials and physical objects related to paper-cutting from the aspects of documentary materials and archaeological discoveries, focusing on the archaeological discoveries The organization, classification, textual research and interpretation of early paper-cut objects from the Southern and Northern Dynasties to the Tang Dynasty.

In the cultural context of the Silk Road, the ancient paper-cutting objects unearthed or passed down along the Silk Road were organized and classified, and they were mainly divided into three categories: mourning paper-cutting, merit paper-

cutting, and humanoid soul-calling paper-cutting. From the perspective of living culture , found similarities between some unearthed ancient paper-cutting relics and the folk paper-cuttings that are living and inherited in the area today. The article starts from the concept and form of paper civilization, paper-cutting in ancient documents, the discovery of paper-cutting on the Silk Road, the cultural types and forms of early paper-cutting, the history of scissors and the hollowing out technology and form development of early ancient paper-cutting, the decorative pedigree of paper-cutting and its The development and evolution of Chinese paper-cutting art is explained in detail from a graphic narrative perspective. It explains that paper-cutting is the most universal cultural species in the lives of different ethnic groups. Due to its profound and long history, the living cultural tradition of paper-cutting carries long-standing cultural genes. This is reflected in the decorative genealogy and graphic narrative of paper-cutting of different ethnic groups. There is a clear reflection in it. (Qiao, 2018)

The credible documents cited in ancient historical classics are mainly classics after the Han Dynasty. Liang Zongmao of the Southern Dynasties recorded in "Jingchu Sui Sui Ji" that "the seventh day of the first lunar month is the day of human beings. Seven kinds of vegetables are used as soup to cut ribbons for human beings, or to carve gold thin sheets for human beings to stick on screens and wear on the temples; Compose poetry." "On the day of the establishment of the sun, the ribbon was cut for Yan Dai and the word 'Yichun' was affixed to it." There are also records in the Tang Dynasty that gold was engraved as "sheng", and the actual object can be seen in the fragmented picture of "human victory" collected in Shosoin in Nara, Japan (Figure 3). Documents about paper-cutting are recorded in the poetry of the Tang Dynasty. The poet Du Fu recalled his escape from the An-Shi Rebellion in "Peng Ya Xing", and there was a poem "The warm soup washes my feet, and the jian paper draws my soul." The poem records the Tang Dynasty The folk witchcraft custom of summoning spirits is recorded in "Youyang Zazu" written by Duan Chengshi of the Tang Dynasty as "cutting paper into small flags". This kind of spirit-calling witchcraft custom still exists in rural areas of northern Shaanxi today.

Figure 2 Fragments of Rensheng from the Tang Dynasty in the Shosangyuan
Collection in Japan

Source Catalog of Archaeological Notes of Zhengcangyuan

"Research on Paper-cuts Unearthed in Turpan" written by Jiang (2000) sorted out the paper-cuts unearthed from tombs in Turpan, Xinjiang: "The paper-cuts unearthed in Turpan were found in four batches of seven pieces by official reporters, including 5 from the Northern Dynasty, 1 from the Sui Dynasty, One piece from the Tang Dynasty (Figure 2)." Jiang Yuxiang mentioned in the article one of the paper-cutting fragments unearthed at 59TAM 306 in the North District of Astana Village, Turpan. Its restoration is "Hexagonal Deer Paper-cutting". This restoration When ordering the certificate, we discovered that the hexagonal shape was wrong. Based on the geometric angle of the inner square of the flower remaining in the paper-cut fragment, we determined it to be a octagonal shape (Figure 4). We also used the method of graphic restoration to also confirm that the fragments were restored to Bafang. Academic research requires scientific evidence, rigorous and serious attitudes and methods. Later, in the materials we collected on the research on the restoration of Turpan paper-cut fragments, we found that Wang Bomin mentioned in the article "Gaochang Duima" that his daughter Wang Ping also restored the paper-cut fragments. For all directions. In his 2014 master's degree thesis "Research on Ancient Paper-cut Artworks Unearthed from Dunhuang and Turpan", Zhang Yuping also proposed that the results of hand-cut paper-cut restoration of Turpan paper-cut fragments are also the same.
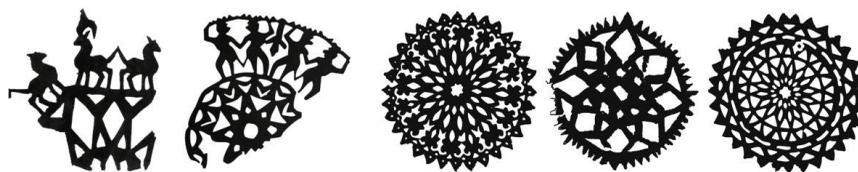
Figure 3 "Horse" paper-cut fragments, "Monkey" paper-cut fragments, "Silver Flowers" paper-cut gold, "Chrysanthemum Flowers" paper-cuts, paper-cut flowers
Source Huang lin (2023)
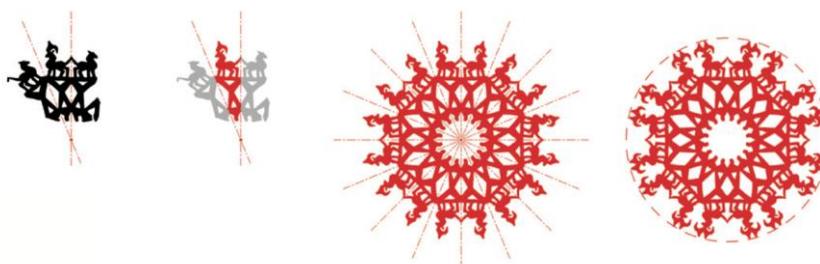
Figure 4 Restoration of "Horse" paper-cut fragments
Source Cao (2018)

"Chinese Folk Paper-cutting" written by Lv (1994) is a precious gift given to us by our ancestors. Its value in Chinese culture is immeasurable, just like the blood of the father's generation and the mother's milk running through the whole body - Traditional folk paper-cutting, as a flourishing flower of ancient Chinese civilization, will always nourish our spiritual body. Since folk paper-cutting is a product of folk customs in traditional Chinese culture, it must have been a "vulgar" thing, and vulgar things are often looked down upon. However, today's Chinese culture has undergone and is undergoing major changes. Old folk customs are gradually disappearing, while new folk customs are rapidly emerging. The ancient traditional folk paper-cutting art will no longer accompany modern and future folk customs with its original appearance. The book describes in detail the characteristics of the historical relics of folk paper-cutting in various parts of China in the order of geographical spatial

dimensions, and then explores the possibility of dialogue between folk paper-cutting art and contemporary art.

New Edition of Chinese Paper Cuttings contains many valuable Paper Cuttings works since ancient times. Chinese Paper Cuttings art has a long history, rich in form and content, and has a wide influence. This book has been carefully compiled into more than 600 Paper Cuttings works of art with highly representative and local characteristics throughout the country, which is of great value for collection, appreciation, reference and research. These Paper Cuttings works well reflect that Paper Cuttings art in China has a high standard, exquisite skills and strong vitality. (Wu, 2014)

"Paper Civilization in Villages - Investigation and Research on the Paper-cutting Art Tradition of Chinese Ethnic Minorities" protects the paper-cutting of Chinese ethnic minorities from the perspective of visual cultural heritage by recording oral narratives and images. The book contains a large number of ethnic minority paper-cutting. The cultural distribution of art. The main feature of this book is that from the perspective of visual cultural heritage, it appropriately sorts out the main field information recorded in oral surveys and images. On this basis, it adds the cultural background of relevant paper-cut type research and some basic cultural distribution-related information. , which constitutes the book's characteristics of rich text and pictures and direct and rich living cultural information. In addition, previous academic research results on paper-cutting in Han areas were relatively rich, but the research on paper-cutting in minority areas was in a state of discontinuity. The book in this project fills the gap in the research on minority paper-cutting, and is also a new and cutting-edge research on minority paper-cutting. A scientific and scientific presentation reflects the diversity and unity of Chinese national culture. It is a remarkable proof of the characteristics and personality of the Chinese nation and a model for promoting traditional Chinese culture. It provides a path and path for the in-depth investigation and research of the Yiwulv Mountain Manchu paper-cut in this paper. Window. In addition, other monographs introducing the art of paper-cutting mainly focus on the analysis and appreciation of paper-cutting techniques. But without exception, these works convey to people that folk paper-cutting is a cultural heritage inherited from generations. (Qiao, 2019)

"Thoughts on the Development and Changes of Chinese Folk Paper-cutting Research in Modern Times" talks about Chinese folk paper-cutting as a folk carrier of traditional culture accumulated by the Chinese nation for thousands of years. The understanding and research of Chinese folk paper-cutting in modern times has experienced the development of modern folk customs. The research on the folklore supporting value of Chinese folk paper-cutting in the field of science, the research on the national traditional artistic value of Chinese folk paper-cutting in the field of modern fine arts, and the continuous changes in the research on the intangible cultural heritage value of Chinese folk paper-cutting in the field of contemporary humanities. Summarizing the characteristics and laws of this change will be conducive to the in-depth development of our future research work and the continuous innovation of research angles, and will play its due role in the prosperity and development of Chinese paper-cutting art. Chinese folk paper-cutting is a folk custom carrier of the Chinese nation's traditional culture that has accumulated for thousands of years. It is a rich resource for exploring the excellent traditional culture of the Chinese nation. It is also an art form that is widely loved and recognized by the people. Chinese folk paper-cutting contains the essence of national culture and art, and is the materialized embodiment of the outlook on life, philosophy, aesthetics, morality, and values that the Chinese nation has summarized and retained during its thousands of years of survival and development. The understanding and research of Chinese folk paper-cutting has also undergone profound changes with the development of the times. Tracing the traces of this change and summarizing the characteristics and laws of this change will be more conducive to the in-depth development of our future research work and the continuous innovation of research angles. Play its due role in the prosperity and development of Chinese paper-cut art creation.

This article elaborates on the folklore supporting value of Chinese folk paper-cutting in the field of modern folklore, the research on the traditional national artistic value of Chinese folk paper-cutting in the field of modern fine arts, and the intangible cultural heritage value of Chinese folk paper-cutting in the field of contemporary humanities. The development and changes of Chinese folk paper-cutting research have laid a theoretical foundation for the research. Research on the value of Chinese folk paper-cutting intangible cultural heritage in the field of contemporary humanities

is based on the rapid development of Chinese society, the rapid growth of material wealth and changes in lifestyles that have caused the demise of traditional soil, and the social impact caused by traditional culture facing serious impacts. Reflecting on the results, the field of contemporary humanities has taken the mission of rescuing, protecting, and inheriting traditional Chinese culture to carry out research on the rescuing, excavation, and protection of Chinese folk paper-cutting. UNESCO has included intangible cultural phenomena such as human behavior, skills, and techniques into the scope of intangible cultural heritage protection, which has promoted the progress of research on the value of China's intangible cultural heritage in the field of contemporary humanities. . In short, Chinese folk paper-cutting has gone through its own historical development and changes, and has experienced changes in research perspectives from different disciplines in the fields of folklore, fine arts and humanities. Summarizing the characteristics and laws of this change will be conducive to the in-depth development of our future research work. and continuous innovation in research perspectives, playing a due role in the prosperity and development of Chinese paper-cutting art. (Zhu, 2010)

2.2.2 The inheritance and protection of Chinese paper-cut culture

The continuous attention to Chinese folk paper-cutting is the cultural perspective and practical theme of the folk art research of the Central Academy of Fine Arts. The research process of folk paper-cutting is a long one. This process is not an academic inquiry in a study, but an active social practice, closely connected with the destiny of the times and real life. The relationship between the Central Academy of Fine Arts and paper-cutting is rooted in the "big classroom" of rural life, from the folk collecting at Yan'an Lu Xun Art Institute during the Anti-Japanese War, to the rural paper-cutting census during the upsurge of national cultural revitalization in the early days of reform and opening up, to the national non-governmental organizations at the beginning of the 21st century. After the launch of the tangible cultural heritage project, China Paper-cutting was applied for World Heritage and a series of important practices. Three generations of the Central Academy of Fine Arts are important participants in inheriting and innovating the paper-cutting art.

Since the beginning of the 21st century, the Intangible Cultural Heritage Research Center of the Central Academy of Fine Arts has carried out a series of

cultural heritage practices around Chinese paper-cutting, combining the development of new disciplines of intangible cultural heritage with the needs of social reality, and promoting the whole society's understanding of Chinese folk paper-cutting as a world-famous paper-cutting. Overall cultural awareness of intangible cultural heritage. In the past 20 years, we have completed the investigation and research on the paper-cutting tradition of China's ethnic minorities, promoted the construction of the discipline, and enriched the practice of cultural heritage that meets social needs. As a universal and representative national artistic creation language, paper-cutting has also become a new type of modern exploration of artistic creation. The research mainly focuses on context and belief: folk paper-cutting and subject development; facts and methods: research on the living culture of village communities; experience and problems: diversified intangible cultural heritage inheritance practices; integration and creation: telling the story of the world with Chinese paper-cutting It is of great reference value for research to elaborate on the inheritance and protection practice of Chinese paper-cutting art from this perspective. Paper-cutting transcends language barriers and cultural strangeness, and is a popular method of cultural exchange among audiences from different countries. Chinese paper-cutting still retains its unique artistic charm in the Internet era. Paper-cutting, a method of "creating things with heart and hand," has a strong cultural affinity. Paper-cutting narratives have strong civilization carrying capacity and integration capabilities. The practice of paper-cutting also opens up the mind, body, and soul. An effective educational method to liberate the mind. Chinese paper-cutting has shown its unique charm in international cultural communication and exchanges in recent years. (Qiao, 2021)

Manchu paper-cutting is an important intangible cultural heritage in my country. In the context of the cultural industry, we should accelerate the editing and publishing of books related to Manchu culture, establish a database of Manchu paper-cutting maps, and increase the protection of the living environment of Manchu paper-cutting. The inheritors of Manchu paper-cutting should innovate and create from multiple perspectives. Paper-cutting works promote the new media inheritance of Manchu paper-cutting. Relevant departments should integrate and develop Manchu cultural resources, transform the advantages of Manchu cultural heritage resources

into cultural industry advantages, integrate Manchu paper-cutting into people's lives, and further promote the development of China's cultural industry.

Traditional culture is the core for promoting cultural consciousness, enhancing cultural self-confidence, and promoting cultural self-improvement. Manchu paper-cutting, as an important part of Chinese paper-cutting culture, has great potential in promoting the development of China's cultural industry. For the inheritance of Manchu paper-cutting art, we have edited and published books related to Manchu culture and established a database of Manchu paper-cutting maps; the state has provided financial and policy support to accelerate the rational development and utilization of Manchu paper-cutting; innovatively created Manchu paper-cutting works from multiple angles to promote the new media of Manchu paper-cutting Disseminate and inherit; integrate and develop Manchu cultural resources to promote the development of China's cultural industry. Manchu paper-cutting, as an intangible cultural heritage carrying Manchu history and culture, originates from life but is higher than life and serves life. The reason why Manchu paper-cutting can be passed down to this day is that it is a record of historical culture, an important resource for the development of the current cultural industry, and a typical representative of the world's cultural diversity. With the continuous development of society, Manchu paper-cutting needs to innovate in the use of materials, expression forms, and expression content on the basis of maintaining its traditional cutting and carving techniques, and combine new media technology with creative design in related fields to adapt to Consumer demand has allowed Manchu paper-cutting to be integrated into people's lives, transforming its cultural heritage resource advantages into cultural industry resource advantages, and being scientifically protected and effectively inherited in the process of promoting the healthy development of the cultural industry. (Yu & Zhang, 2018)

Through case analysis of the productive protection practice of paper-cutting art in many places, it is found that the government, mass cultural groups and inheritors (enterprises) should carry out social division of labor in the process of productive protection of intangible cultural heritage. The former is responsible for the intangible cultural heritage culture. Popularization and promotion, while the latter carries out technological innovation and artistic creation in an entrepreneurial form.

Under the corporate operation model, inheritors can take into account both economic motivation and cultural inheritance responsibilities, and through the improvement of corporate economic benefits, they can solve practical problems such as the cultivation of inheritor echelons and the construction of production, circulation and sales systems during development. Whether the government, mass cultural groups and inheritors can promote and expand the local people's daily participation in intangible cultural heritage culture in the modern context is a key factor that determines the overall effect of productive protection. The theory of productive protection of intangible cultural heritage is an original local theory proposed by Chinese scholars. However, it has encountered many problems in practical application. Among them, the problem that practitioners are most concerned about is what kind of productive protection practice model is good. Model? Through a comparative analysis of multiple cases in the practice of productive protection of paper-cutting art, this article finds that the parallel model of cultural and creative enterprise development and mass cultural activities adopted by Foshan's paper-cutting industry has better satisfied the national laws and regulations on the protection of intangible cultural heritage. various target requirements.

Through the analysis of the successful experience of Foshan's paper-cutting industry, several enlightenments are drawn that can help solve the current practical difficulties of productive protection, mainly including: the government, mass organizations and inheritors (enterprises) should carry out productive protection of intangible cultural heritage Socialized division of labor, the former is responsible for cultural popularization and promotion, while the latter specializes in innovation and creation; economic benefits have a positive role in promoting the protection and innovation of intangible cultural heritage and traditional culture, and enterprises that obtain good economic benefits can develop to solve the emerging inheritance problems; the selection and training of inheritors should go out of the traditional single-line teaching model of master and apprentice, and realize all-round training and echelon training based on the modern corporate environment; the daily participation of local people is an important factor affecting productivity An important factor in the effectiveness of protection should be combined with the changes of the times to discover the life utility and cultural value of intangible cultural heritage in the new

era, so that it can be embedded in the daily lives of people in as many quantities and as wide a level as possible. (Rao et al., 2018)

2.2.3 Knowledge of the Yiwulv Mountain Manchu paper-cut

In 2006, the Yiwulv Mountain Manchu paper-cut was selected into the first batch of national intangible cultural heritage lists for its rare and unique cultural value. In 2007, the Yiwulv Mountain Manchu paper-cut was successfully selected into UNESCO's "Representative List of Human Intangible Cultural Heritage" and "Urgent Needs" It is an item on the Intangible Cultural List that Must be Protected, thus establishing the status of the Yiwulv Mountain Manchu paper-cut.

The Yiwulv Mountain Manchu paper-cut centers on the worship of natural gods and combines all things in nature to show the idea of animism. It has obvious cultural symbols of Hongshan and the imprint of shamanism. It focuses on the original worship of natural gods, fertility worship, and ancestor worship in Yiwulv Mountain. and Manchu customs as the main expression content, retaining the most primitive paper-cut art form. Not only is the content mysterious and strange, it records a large number of ancient cultural symbols, but it is also simple in shape and simple in pattern. It does not require cumbersome and detailed cutting methods, nor does it seek exquisite and accurate shapes, but mainly relies on its broad and magnificent bearing and simple and ancient charm. Since the late 1980s, society and scholars have gradually focused on folk art as a cultural form, and have carried out various forms of investigation and research. Currently, there are many documents about Yiwulv Mountain Manchu paper-cut. The Yiwulv Mountain Manchu paper-cut has been recorded in history and has become part of the world's "intangible cultural heritage", worthy of the attention and inheritance of future generations. The content in the book "Wang Xiuxia, the Inheriter of Yiwulv Mountain Paper-cutting - Wang Xiuxia" is from the small to the big. From the life experience and ancestral stories of Wang Xiuxia, the successor of Yiwulv Mountain Paper-cutting, to the roots of Yiwulv Mountain Paper-cutting, the beliefs and legends carried in the graphics, the art of paper-cutting is narrated. cultural connotation and emotional core. For example, "The Lonely Mountain God", "Yiwulv of the Holy Mountain", "Collection of Chinese Folk Paper-cutting·Yiwulv Mountain Manchu paper-cut Scroll", etc. Although these works introduce the Yiwulv Mountain Manchu paper-cut, they mostly focus on the subject

matter and content of the works. There is still a need for in-depth research on the regional background and visual language of Yiwulv Mountain Manchu paper-cut.

The main content of "Chinese Folk Paper-cutting Collection: Medical and Witchcraft Lv Mountain Scroll" written by Wang (2011) introduces the Chinese paper-cutting tradition as an intangible cultural heritage with multi-ethnic cultural characteristics. Our attention cannot be limited to the study-style ancient history books. When looking for traces, we cannot understand paper-cutting only from a narrow artistic perspective. Our eyes and body and mind should be invested in life; in the rural fields where the paper-cutting tradition occurred and developed; in the real survival of the people who inherit paper-cutting. Get out of the situation. The tradition of paper-cutting is first of all a way of survival (life) in traditional farming culture, and secondly it is the art of paper-cutting created by people in daily life. The cultural connotation and artistic charm of paper-cutting occur in life and are closely connected with the creator of paper-cutting and with people-oriented cultural beliefs and behaviors. Paper-cutting is an art for survival. The basis for understanding intangible culture is the people who inherit the culture and their survival (life).

The book "Yiwulv Mountain Manchu Paper-cutting, the Spiritual Healer of the Mountains" tells the story of the mountain forest worship of the northern peoples, which preserves the dense virgin forest and constructs a majestic green barrier for Yiwulv Mountain. An important part is the sacrifice of the tree of life, the natural god who protects this mountain forest. The Manchu paper-cuts of Yiwulv Mountain have rich cultural heritage and strong emotional color. The paper-cut work with the theme of ancestor god worship is a sacred altar and the spiritual home worshiped by the people of Yiwulv Mountain from generation to generation. Yiwulv Mountain has a long and rich history and culture. It is located in Jinzhou City in the west of Liaoning Province. It is Beizhen, one of the five major mountain towns in ancient China. It has been the sacred mountain of Northeastern ethnic minorities since ancient times. This book introduces the long-standing folk paper-cutting art of Yiwulv Mountain, including people, gods, animals and various ancient totem colors. The selected paper-cutting patterns were included in the first batch of national intangible cultural heritage lists, so this book has a greater High art appreciation and reference value.(Wang, 2006)

The article "Yiwulv Mountain Manchu paper-cut" mainly outlines the culturally famous mountain Yiwulv Mountain, with its unique geographical and natural environment and historical evolution, which has nurtured and formed the unique cultural form of Yiwulv Mountain. The Manchu paper-cutting here has a unique shape, simple and naive, and presents original ecological symbols. Information, recording the material and spiritual civilization of the people of Yiwulv Mountain for thousands of years. In 2006, it was listed in the first batch of national intangible cultural heritage lists. It is the most typical representative of the ethnic cultural heritage of northern China. Yiwulv Mountain Manchu paper-cut is an art style created, applied and passed down by the people of Yiwulv Mountain to meet the needs of their own spiritual life. It expresses the most basic aesthetic concepts and spiritual qualities of Yiwulv Mountain folk art and has distinctive national and regional characteristics. As one of the first batch of national intangible cultural heritage projects, it has extremely precious artistic value.

Yiwulv Mountain Manchu paper-cut retains the most primitive form of paper-cutting art. Not only is the content mysterious and strange, it records a large number of ancient cultural symbols, but it is also simple in shape and simple in pattern. It does not require complicated and detailed cutting methods, nor does it seek exquisite and accurate shapes, but mainly relies on its broad and magnificent bearing and simple and ancient charm. It uses images and symbols to record the folk culture history of the Yiwulv Mountain people. What it presents is that the wind and clouds are cut out and the common people live on paper. The Manchu paper-cuts of Yiwulv Mountain are a historical picture showing the historical and cultural accumulation of Yiwulv Mountain for seven or eight thousand years from primitive society to today. Its value far exceeds its own aesthetic value, and has richer cultural value in philosophy, aesthetics, art, archaeology, history, ethnology, sociology and anthropology. A comprehensive review of the Yiwulv Mountain Manchu paper-cut works shows its distinctive artistic characteristics: centered on the worship of natural gods, combined with all things in nature, showing the idea of animism. The Yiwulv Mountain paper-cutting has obvious Hongshan cultural symbols and shamanistic imprints. Source Reflecting the rich vegetation of folk culture, Yiwulv Mountain Manchu paper-cut is the historical memory of local folk customs and an artistic expression that beautifies

people's lives. The shape is simple and concise, with thick and smooth lines. The form is simple but rich in connotation. The Yiwulv Mountain Manchu paper-cut contains huge tragic power. , has a strong artistic appeal.

The Yiwulv Mountain Manchu paper-cut, like many folk cultural heritages, inherits the wisdom of the ecological civilization of our ancestors! Its art form and cultural connotation inspire us to understand the interdependence between cultural diversity and natural ecological diversity, and the cultural Diversity is determined by the diversity of natural ecology. A unique natural ecological environment must be a unique cultural ecological environment. The Yiwulv Mountain Manchu paper-cut is a wonderful artistic work nurtured by the dense forests on the mountain and the grasslands at the foot of the mountain. She records the information that the ancestors of Yiwulv Mountain cherish and admire the natural ecological environment here, and records that it has survived due to the careful protection of the ancestors. (Song & Pan, 2015)

2.2.4 Knowledge of digital media

Intangible cultural heritage is an important part of human cultural inheritance and innovation, including oral traditions, performing arts, social practices, festivals, handicraft skills and other forms. It has important historical, cultural, social and economic value. However, with the rapid development of society and changes in the cultural environment, the inheritance and protection of intangible cultural heritage are facing new challenges and problems. The rapid development of digital technology has brought new possibilities and opportunities to the inheritance and protection of intangible cultural heritage. Digital technology can provide support and guarantee for the digital inheritance and protection of intangible cultural heritage. Digital technology can help digitally collect, preserve and disseminate intangible cultural heritage, making the form of intangible cultural heritage more diverse, flexible and convenient. Digital inheritance and protection can also realize the virtual reconstruction and display of intangible cultural heritage through digital technology, so that the connotation and form of intangible cultural heritage can be presented more comprehensively and in-depth. At the same time, digital technology can also support the online education and dissemination of intangible cultural heritage and promote the inheritance and development of intangible cultural heritage.

The development of digital technology also brings new challenges and problems. Digital inheritance and protection need to overcome the limitations and deficiencies of digital technology, including standardization and normalization issues in digital collection and preservation, copyright and intellectual property protection issues in digital dissemination, and multimedia technology issues in digital display and presentation. In addition, digital inheritance and protection also need to fully consider the characteristics and connotation of intangible cultural heritage, maintain its authenticity and tradition, and prevent excessive interference and changes in intangible cultural heritage by digital technology. Therefore, the development of digital technology provides new possibilities and opportunities for the inheritance and protection of intangible cultural heritage, but it also requires us to fully understand the limitations and challenges of digital technology and adopt scientific methods and strategies to ensure digital inheritance and protection. The quality and effect of digital inheritance and protection of intangible cultural heritage can be achieved in a sustainable way.

Du (2019) studied "Visual Language Study on the Paper Cutting Art of Yiwulv Mountain", With the rapid development of the social economy, the pace of globalization has become more and more rapid, and the distance between people has been continuously brought closer by technology. Correspondingly, urbanization is becoming more and more serious. People have lost their self-confidence and sense of belonging in the blind worship of the West. The gradual loss of the uniqueness of one's own nation has led to the blurring of geographical labels and the confusion of people's identity. In the northeastern part of China, the protection of ethnic culture in Liaoning Province is worrying. The construction of ethnic culture in most regions has remained at the surface culture of cultural facilities construction and cultural activities, and has failed to realize rural villager identity recognition at the psychological level. And the collective memory of the countryside, the deep construction of culture has long been in the desert state of cultural innovation. In 2006, the paper-cut art of Yiwulv Mountain in Jinzhou North Town of Liaoning Province was listed as a national intangible cultural heritage. The art of Yiwulv Mountain's paper-cutting art preserves the richness of the Northeast Shaman culture by symbolizing the living customs, emotional experiences and religious beliefs of the

Manchu people. Faced with the preservation and continuation of the history and culture in the paper-cutting of the Yiwulv Mountain, and the revitalization of the current environment has become a key issue to be solved, this topic will discuss the necessity and practical significance of semiotics in the study of visual language of traditional folk art.

By drawing on Susan Lange's relationship between abstraction, illusion and emotion in the process of artistic creation proposed by Susan Lange, he is from the four levels of art abstraction, artistic illusion, emotional expression and life form. The visual language of the paper-cut art of Yiwulv Mountain is deeply discussed. It aims to explore the rich connotation of the traditional paper-cutting visual language and to provide the possibility of multi-level and multi-level emotional experience of the illusion of paper-cut art language with the help of virtual reality technology. This article includes three aspects of research: first from symbolic to art semiotics, combing and summarizing Susan Lange's art semiotics; secondly, analyzing how the art of witchcraft and paper-cutting art as an art symbol through abstract forms, illusions, emotions and The form of life to express visual language; finally, through the reconstruction of the art of witchcraft and paper-cutting through virtual reality, explore how the new media art can be expressed as an expressive artistic language in the process of spatial remodeling, and re-grant the space illusion of paper-cut art with time. The dimension of the stretch, and experimental visual language design practice.

In Susan Lange's semiotic theory of art, art is a representation of universal human emotions. Focus on expression. The aesthetic value contained in the Yiwulv Mountain paper-cutting comes from the artist's deep emotional exploration of nature, life, religion, etc. in the yin and yang carvings. The emotional experience and spiritual value are condensed in the paper-cutting, which is also an instinctive field for human pursuit. A manifestation of universal emotions. Uncovering the emotional core and spiritual value in the visual language of Yiwulv mountain paper-cutting art, and then better protecting and inheriting this traditional culture, are the key issues to be solved in this article. This article uses Susan Lange's semiotic theory as the basis and basis for research to analyze the visual language of Yiwulv Mountain paper-cutting art. From the basic concepts of artistic symbols and creative activities, it briefly explains the internal structural relationships of abstraction, illusion, emotion and life forms of

artistic symbols. Paper-cut creators create illusions through artistic abstraction based on their emotional experiences in the real world. Paper-cut art expresses illusory space in the visual dimension in the form of illusion, in which rhythmic lines, rhythmic positive and negative shapes, and emotional fluctuations all constitute the movement of life in the illusory space. At this time, the paper-cut graphics are processed into artistic symbols, and the creator's metaphorical thinking is reorganized into a new life form in the illusion, and carries the emotional core of the Yiwulv Mountain paper-cut art, and emotion is the artistic essence of the Yiwulv Mountain paper-cut art. According to the analysis of the visual language of Yiwulv mountain paper-cutting art, it is concluded that its symbolization process is a transformation from the inside to the outside, and the expression of time and space in paper-cutting works should have new forms in the context of the technological era. This article explores the visual language reconstruction of the paper-cut art of Yiwulv Mountain by virtual reality from the perspective of conception, immersion and interactivity, and experimentally uses virtual reality to explore the new activity of the paper-cut art of Yiwulv Mountain. It is hoped that the research content of this article can provide new theoretical reference for the practical application of traditional art.

"Research on the Digitization of Intangible Cultural Heritage" written by Ding (2021) is composed of digital technology and intangible cultural heritage, the concept of digitization of intangible cultural heritage, the application of digital technology in the protection and inheritance of intangible cultural heritage, and the application of digital technology in the protection and inheritance of intangible cultural heritage. The content consists of the role of intangible cultural heritage research and inheritance, the application of digital technology in intangible cultural heritage education, and the prospects and problems of digital application of intangible cultural heritage. This is a book that comprehensively explains the research and application of digital technology in the protection and inheritance of intangible cultural heritage. It aims to explore the application of digital technology in the protection and inheritance of intangible cultural heritage and explore the role of digital technology in the protection and inheritance of intangible cultural heritage. The role of digital technology in research and inheritance, and the application of digital technology in intangible cultural heritage education and the prospects and problems of digital application of intangible

cultural heritage. This book has certain reference value for the research and practice of digitization of intangible cultural heritage.

Zheng (2021) "A Preliminary Study on the Construction Path of "Cultural Memory" of Intangible Cultural Heritage in the Context of New Media - Taking the Digitalization of Rice Paper Cultural Heritage as an Example" introduces that the development of new media and network information technology has changed the dissemination of intangible cultural heritage Channels and inheritance methods also shape new environmental conditions, expression methods and cultural space for the social construction of intangible cultural heritage "cultural memory". This article takes the construction of the "cultural memory" path of intangible cultural heritage in the context of new media as the research content, uses the literature research method and case study method, and combines the development trend of the construction of "cultural memory" in the new media era, and proposes the "cultural memory" construction of intangible cultural heritage. The new media construction path of "cultural memory" includes a comprehensive system composed of resource elements, service elements, technical elements and value perception elements, trying to provide reference ideas for the innovation of inheritance and protection methods of intangible cultural heritage "cultural memory". The rapid development of network technology and information technology has greatly changed people's communication methods, lifestyles and memory methods. Humanity has entered the new media era of information dissemination and social interaction. The new media era not only expands information sources, dissemination channels and communication methods, but also reshapes the way human cultural memory is stored and constructed. Intangible cultural heritage (hereinafter referred to as "intangible cultural heritage"), as precious spiritual civilization wealth and social traditional cultural memory, is a cultural heritage accumulated by the individual life practices of countless inheritors and the collective memory of society. In the context of new media, its survival status, inheritance and development have quietly changed. How to conform to the trend of the new media era to construct cultural memory of intangible cultural heritage has become an important issue.

However, intangible cultural heritage has inheritance and development requirements of authenticity, ecology and vitality. In the virtual space and media

ecological environment of new media, how to maintain the authenticity and systematic construction of cultural memory of intangible cultural heritage has become a The primary question; secondly, how to use new media technology to enrich the display and expression of intangible cultural heritage, broaden the cognitive channels and inheritance methods of intangible cultural heritage, and even create and innovate intangible cultural heritage that combines individual experience and collective memory. The social public communication and expression space of cultural heritage and cultural memory have also become key issues. This article takes the digitization of rice paper cultural heritage as a practical case, combines the thinking on the relationship between new media and cultural memory construction, attempts to analyze the cultural memory construction path of intangible cultural heritage in the context of new media, and attempts to provide innovative and non-material cultural heritage inheritance methods. New media construction provides ideas for the cultural memory space of material cultural heritage.

The traditional cultural inheritance path of intangible cultural heritage and product production methods have been unable to adapt to public needs and social development requirements. How to meet social needs and promote the integration of intangible cultural heritage resources into contemporary social life is particularly important. In this regard, on the basis of resource content mining, product and activity design and development, intangible cultural heritage "cultural memory" needs to actively use new media means and network information technology to innovate the storage, display and expression model of intangible cultural heritage "cultural memory" and methods, such as the use of mobile positioning, 3D display, virtual reality, human-computer interaction and other technologies, so that the public can absorb the cultural connotation of intangible cultural heritage and disseminate intangible cultural heritage knowledge, while enhancing their understanding of intangible cultural heritage through interactive and experiential methods. Recognition of the cultural value of intangible cultural heritage and identity of the inheritor of intangible cultural heritage.

Virtuality in Digital Museums is studied as the way to transmit heritage in a digital medium. The notion of virtuality is dissociated from its technological sense to be investigated with its full philosophical meaning. Three ways of virtualizing are put

into focus. An analogous kind of museography makes real museums simulations, giving perceptual values and mixing virtuality with the illusion of being in the presence of the "real thing". A documentary kind of museography based on computer technology communication and on indexical function of images, integrates Digital Museums as a part of the virtual means of brick and mortar museums. A third way of virtualizing is seen through use of an information visualization landscape metaphor. Virtuality is achieved directly through making logical order in 3D space with digital images specific aesthetics capacity.

Having started by defining "virtual" in a Deleuzian context, this notion has been distinguished from digital. One can see that heritage can be immanently present in digital representations as computers answer to human thought by giving it a renewed vision of real masterpieces, of museographical choices through a spatialized and visual kind of logic. There is no real conflict between musealia and representational substitutes. In a certain way, Digital Museums of any kind compensate the lack of original things with the ability to convey a virtual dimension in an informational and graphic way which augments reality. Virtuality comes best with informational spaces showing meaning in a sensory-intellectual way. Exclusive use of simulation does not bring any real virtual value to a Digital Heritage Museum. Exclusive documentary Digital Museums only transmit a virtual dimension to specialists, which does not suit public Museums' requirements. (Suzanne, 2015)

With the advent of the information age, the living environment of intangible cultural heritage has been severely impacted, and some cultural heritage passed down through oral and behavioral inheritance are gradually disappearing. At the same time, the vigorous development of digital media has provided new opportunities and development space for the dissemination of intangible cultural heritage, changed the dissemination channels and inheritance methods of intangible cultural heritage, and also shaped the "cultural memory" of intangible cultural heritage. "Society constructs new environmental conditions, modes of expression, and cultural spaces. In the virtual space and media ecological environment of digital media, how to maintain the authenticity and system construction of intangible cultural heritage cultural memory has become a primary research issue.

2.3 Related laws and policies

In the process of inheritance and protection of intangible cultural heritage in our country, the country, provincial and municipal governments have introduced relevant policies and laws to promote the inheritance and development of intangible cultural heritage in various places. This section will sort out the relevant policies of representative countries and Jinzhou Municipal Government to provide theoretical basis and reference value for the research.

2.3.1 Related National Policies

The "Intangible Cultural Heritage Law of the People's Republic of China" was adopted by the 19th Session of the Standing Committee of the 11th National People's Congress of the People's Republic of China on February 25, 2011, and is hereby promulgated. It will be effective as of June 1, 2011 Be implemented. Chapter 4 of the "Intangible Cultural Heritage Law of the People's Republic of China", inheritance and dissemination of intangible cultural heritage. Article 28 The state encourages and supports the inheritance and dissemination of representative items of intangible cultural heritage. Article 29 The cultural administrative department of the State Council and the cultural administrative departments of the people's governments of provinces, autonomous regions, and municipalities directly under the Central Government may identify representative inheritors of representative items of intangible cultural heritage approved and announced by the people's governments at the same level. Representative inheritors of representative items of intangible cultural heritage should meet the following conditions: (1) Proficient in the intangible cultural heritage they inherit; (2) Be representative in a specific field and have a great influence in a certain region ; (3) Actively carry out inheritance activities. To identify the representative inheritors of representative items of intangible cultural heritage, the provisions of this Law on the evaluation of representative items of intangible cultural heritage shall be implemented with reference to the provisions of this Law, and the list of recognized representative inheritors shall be published. Article 30 The competent cultural departments of the people's governments at or above the county level shall, as necessary, take the following measures to support the representative inheritors of representative items of intangible cultural heritage in carrying out inheritance and dissemination activities: (1) Provide necessary inheritance venues; (2)

Provide necessary funds to support their activities such as teaching apprenticeships, imparting skills, and exchanges; (3) Support their participation in social welfare activities; (4) Support other measures to support their inheritance and dissemination activities. Article 31 Representative inheritors of representative items of intangible cultural heritage shall perform the following obligations: (1) Carry out inheritance activities and cultivate successor talents; (2) Properly preserve relevant physical objects and materials; (3) Cooperate with cultural supervisors Departments and other relevant departments conduct intangible cultural heritage surveys; (4) Participate in public welfare publicity of intangible cultural heritage. If the representative inheritor of a representative item of intangible cultural heritage fails to perform the obligations stipulated in the preceding paragraph without justifiable reasons, the cultural competent department may cancel his representative inheritor qualification and re-identify the representative inheritor of the item; if he loses the ability to inherit, the cultural heritage The competent authority can re-identify the representative inheritor of the project.

Article 32 People's governments at or above the county level shall take effective measures in light of the actual situation and organize cultural authorities and other relevant departments to publicize and display representative items of intangible cultural heritage. Article 33 The state encourages scientific and technological research related to intangible cultural heritage and research on the protection and preservation methods of intangible cultural heritage, and encourages the recording of intangible cultural heritage and the compilation and publication of representative items of intangible cultural heritage. Activity. Article 34 Schools shall carry out relevant intangible cultural heritage education in accordance with the regulations of the education department of the State Council. News media should carry out publicity on representative items of intangible cultural heritage and popularize knowledge of intangible cultural heritage. Article 35 Public cultural institutions such as libraries, cultural centers, museums, and science and technology museums, intangible cultural heritage academic research institutions and protection institutions, as well as theatrical performance groups and performance venue operating units organized with fiscal funds, shall, according to their respective businesses, Scope, carry out the collection, research, academic exchanges of intangible cultural heritage and the publicity and

display of representative projects of intangible cultural heritage. Article 36 The state encourages and supports citizens, legal persons and other organizations to establish intangible cultural heritage display sites and inheritance sites in accordance with the law, and to display and inherit representative items of intangible cultural heritage. Article 37 The state encourages and supports the development of the special advantages of intangible cultural heritage resources and, on the basis of effective protection, the rational use of representative projects of intangible cultural heritage to develop cultural products and cultural services with local and national characteristics and market potential. . When developing and utilizing representative projects of intangible cultural heritage, representative inheritors should be supported in carrying out inheritance activities and the physical objects and places that are part of the project should be protected. Local people's governments at or above the county level should support units that make reasonable use of representative items of intangible cultural heritage. Units that make reasonable use of representative items of intangible cultural heritage can enjoy tax incentives stipulated by the state in accordance with the law. (The Central People's Government of the People's Republic of China, 2021)

Measures for the identification and management of representative inheritors of national intangible cultural heritage. Article 1 is to inherit and carry forward China's excellent traditional culture, effectively protect and inherit intangible cultural heritage, and encourage and support representative inheritors of national intangible cultural heritage to carry out inheritance. Activities, these measures are formulated in accordance with the "Intangible Cultural Heritage Law of the People's Republic of China" and other relevant laws and regulations. Article 2 The term "representative inheritor of national intangible cultural heritage" as mentioned in these Measures refers to someone who is responsible for the inheritance of representative items of national intangible cultural heritage, is representative in a specific field, and has great influence in a certain region. , an inheritor recognized by the Ministry of Culture and Tourism. Article 3 The identification and management of representative inheritors of national intangible cultural heritage shall be guided by Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era, adhere to the people-centered approach, promote core socialist values, protect and inherit intangible cultural

heritage, and promote The creative transformation and innovative development of China's excellent traditional culture.

Article 4 The identification and management of representative inheritors of national intangible cultural heritage should be based on improving the inheritance system of intangible cultural heritage, enhancing the sustainability of intangible cultural heritage, respecting the subject status and rights of inheritors, and focusing on communities and groups. sense of identity. Article 17 The competent cultural and tourism authorities shall take the following measures as necessary to support the representative inheritors of national intangible cultural heritage in carrying out inheritance, dissemination and other activities: (1) Provide necessary inheritance venues; (2) Provide necessary financial support They carry out activities such as teaching apprentices, passing on skills, and exchanges; (3) guiding and supporting them in carrying out activities such as recording, sorting, archiving, research, publishing, exhibitions, and performances of intangible cultural heritage; (4) supporting them in participating in learning and training; (5) Support their participation in social welfare activities; (6) Other measures to support their inheritance, dissemination and other activities. For representative inheritors of national-level intangible cultural heritage who have no source of income and are really having difficulties in living, the local culture and tourism authorities should coordinate with relevant departments to actively create conditions and encourage social organizations and individuals to provide funding to ensure their basic living needs. . Article 18 The representative inheritors of national intangible cultural heritage shall undertake the following obligations: (1) Carry out inheritance activities and cultivate successor talents; (2) Properly preserve relevant objects and materials; (3) Cooperate with the cultural and tourism authorities and other Relevant departments conduct intangible cultural heritage surveys; (4) Participate in public welfare publicity and other activities for intangible cultural heritage. (Ministry of Culture and Tourism of the People's Republic of China, 2021).

Xi Jinping: Make solid efforts to systematically protect intangible cultural heritage and promote Chinese culture to the world. Xinhua News Agency, Beijing, December 12, 2022. Xi Jinping, General Secretary of the CPC Central Committee, President of the State, and Chairman of the Central Military Commission, recently

issued important instructions on the protection of intangible cultural heritage, emphasizing that "Chinese traditional tea-making techniques and related customs" are included in the UNESCO Representative List of Intangible Cultural Heritage of Humanity. It is of great significance to promote Chinese tea culture. We must do a solid job in the systematic protection of intangible cultural heritage to better meet the people's growing spiritual and cultural needs and promote cultural self-confidence and self-improvement. It is necessary to promote the creative transformation and innovative development of China's excellent traditional culture, continuously enhance the cohesion of the Chinese nation and the influence of Chinese culture, deepen exchanges and mutual learning among civilizations, tell the story of China's excellent traditional culture well, and promote Chinese culture to the world. On November 29, my country's application for "Traditional Chinese Tea-making Techniques and Related Customs" passed the review at the 17th regular session of the UNESCO Intergovernmental Committee for the Protection of Intangible Cultural Heritage held in Rabat, Morocco, and was included in the UNESCO list. Organize a list of representative works of the intangible cultural heritage of mankind. At present, my country has a total of 43 projects included in the UNESCO Intangible Cultural Heritage List and Register, ranking first in the world.(People's Daily, 2022)

The Ministry of Culture and Tourism has released my country's first series of standards for the cultural industry in the field of intangible cultural heritage, "Collection and Description of Digital Resources for Digital Protection of Intangible Cultural Heritage", which will be implemented on September 29 and will be mainly used to guide and standardize various industries in our country. Collection and documentation of digital resources for representative items of intangible cultural heritage.

In 1992, UNESCO launched the Memory of the World Project, starting the digital journey of the world's intangible cultural heritage. With the rapid development of technology, the digitization of intangible cultural heritage has received wider attention around the world. China's digital protection of intangible cultural heritage has also attracted the attention of the country and all sectors of society. Especially in recent years, the mode of leveraging digitalization for intangible cultural heritage has changed. It was originally a auxiliary tool to help preserve, record, and display, and

has gradually evolved into a support method and scientific power to assist innovation and development.

In 2003, the UNESCO Convention for the Safeguarding of the Intangible Cultural Heritage encouraged state parties to protect intangible cultural heritage through scientific and technological means. In accordance with UNESCO's initiative, various state parties have begun to focus on applying digital and other technical means to the protection of intangible cultural heritage. At the beginning of our country's intangible cultural heritage protection work, we vigorously promoted the use of digital technology to strengthen the identification, archiving, preservation, and publicity of intangible cultural heritage.

In 2005, the General Office of the State Council issued the "Opinions on Strengthening the Protection of my country's Intangible Cultural Heritage." In 2006, the "Interim Measures for the Protection and Management of National Intangible Cultural Heritage" was promulgated, further proposing to "encourage local governments to popularize intangible cultural heritage knowledge through mass media and other means to promote social sharing." This shows that the promotion of intangible cultural heritage also requires the participation of digital technology to expand the dissemination effect of intangible cultural heritage. (Ministry of Culture and Tourism of the People's Republic of China, 2021).

In recent years, with the implementation of relevant policies for the protection of intangible cultural heritage in my country, the inheritance and protection of intangible cultural heritage have been continuously explored and practiced, and its development has gradually turned to innovation and integration. The rapid change of new information technology has promoted the protection of intangible cultural heritage, and development gradually enters the digital era. With the help of digital means, the current protection and innovation of intangible cultural heritage has achieved fruitful results at the production, communication and economic levels. However, while digital technology brings convenience, it also comes with many challenges. Therefore, it is urgent to rationally and efficiently use technological means such as digitalization to empower people by increasing professional planning and policy guidance for the digitization of intangible cultural heritage, accelerating the expansion of authoritative platforms to connect with social resources, and

cultivating young comprehensive talents to shoulder development responsibilities. Innovative development of intangible cultural heritage. This research will intervene in the digital communication of intangible cultural heritage from the perspective of digital media and empower the innovative communication of intangible cultural heritage.

2.3.2 Related Policies of Local government

In order to better promote the development of the city's intangible cultural heritage inheritance and protection base, Jinzhou Municipal Culture, Tourism, Radio, Film and Television Bureau will vigorously promote the following aspects of work:

1. Actively apply to the municipal government to retain the current Jinzhou Municipal Mass Art Museum (Jinzhou Municipal Intangible Cultural Heritage Cultural Heritage Protection Center) office building serves as a specialized inheritance and protection base for Jinzhou City's intangible cultural heritage. In 2006, under the proposal of the leadership of the Propaganda Department of the Municipal Party Committee, the province's first intangible cultural heritage inheritance and protection center built in the name of the government was built, which triggered a huge response in the province and was well received by all walks of life. In the past two years, the protection center has brought together more than 30 intangible cultural heritage projects in our city and more than 60 intangible cultural heritage inheritors to perform live performances. The number of visitors every year exceeds 20,000. However, because the usable area is only one and two floors, it cannot play the role of an intangible cultural heritage protection base. After the Municipal Culture and Art Center is completed, the Municipal Mass Art Center will be moved to the Cultural and Art Center. If the municipal government agrees to retain all the current office buildings of the Mass Art Museum and transfer them to the intangible cultural heritage inheritance and protection base, it will play a major role in the protection of intangible cultural heritage.

2. Use major events across the city as carriers to increase the publicity and protection of intangible cultural heritage to expand its influence among citizens and tourists. We will include the display and performance of intangible cultural heritage projects in large-scale activities such as the "Cultural and Natural Heritage Day", the Folk Culture Festival of the Five Cities in Liaoxi, and the Jinzhou Mass Culture

Festival, and increase the number of intangible cultural heritage projects through various forms such as media publicity and mass experience. Promotion of intangible cultural heritage. At the same time, certain support will be given to intangible cultural heritage projects and inheritors that are well carried out, have great social repercussions, and are liked by the masses, so that they can stand out in large-scale mass cultural activities across the city and provide demonstrations to more grassroots people. Exhibition services.

3. Actively coordinate with the Linghe District Government to open up a display and performance area for our city's intangible cultural heritage projects during the China Jinzhou Antique Culture Festival, expand the impact of our city's intangible cultural heritage projects, and let people go out to sea by borrowing boats. Intangible cultural heritage items and intangible cultural heritage products are integrated into antiques, calligraphy and paintings, providing a larger stage for intangible cultural heritage items and intangible cultural heritage products.

As the management unit of representative projects and representative inheritors of Jinzhou's intangible cultural heritage, the Bureau of Culture, Tourism, Radio, Film and Television has the responsibility to better expand the influence of our city's intangible cultural heritage projects and intangible cultural heritage products. To this end, we have promoted Work in the following aspects:

1. Increase the publicity of Jinzhou City's intangible cultural heritage projects and intangible cultural heritage products. The Municipal Bureau of Culture, Tourism, Radio, Film and Television regularly promotes the introduction of the city's intangible cultural heritage projects and related products in its official account, and uses publicity positions to continuously expand the influence of Jinzhou's intangible cultural heritage projects and intangible cultural heritage products. Since the Spring Festival of 2020, Jinzhou City has published a special issue of articles in Jinzhou Daily introducing the city's intangible cultural heritage protection work, and has published in major media and public accounts to introduce the city's intangible cultural heritage projects and intangible cultural heritage. There were 38 articles on tangible cultural heritage products, which expanded the influence of our city's intangible cultural heritage projects and intangible cultural heritage products among the masses.

2. Resist the pressure and hold the "Cultural and Natural Heritage Day" centralized display event of intangible cultural heritage. Since the Spring Festival of 2020, the country has been affected by the COVID-19 epidemic and gathering activities have been suspended. In order to expand the influence of Jinzhou's intangible cultural heritage projects and intangible cultural heritage products, our bureau organized a "Cultural and Natural Heritage Day" centralized display event of intangible cultural heritage projects and intangible cultural heritage products at Fengguo Temple in Yixian County. More than 40 intangible cultural heritage items and intangible cultural heritage products from all over the region were put on display, which was welcomed by the visitors and expanded the popularity of Jinzhou's intangible cultural heritage products.

3. Actively expand intangible cultural heritage projects and intangible cultural heritage products into scenic spots. The integration of culture and tourism is the focus of current cultural work. Jinzhou takes advantage of this feature of enriching tourism resources and actively participates in themed activities in major scenic spots, focusing on intangible cultural heritage projects and intangible cultural heritage products. We have applied for the Municipal Intangible Cultural Heritage Inheritance Base to be a point of tourism in our city, allowing more travel agencies to lead tourists to visit. At the same time, we have created the brand "Jinzhou Haolii" and established it in Northern Shengwen New Life, Jinzhou World Expo Park, Scenic spots such as North Putuo Mountain have set up special image stores to serve tourists. In the large-scale event just held in Jinzhou - the 15th North Putuo Mountain Mulberry Picking Cultural Festival, more than 20 intangible cultural heritage projects and intangible cultural heritage products in our city added beautiful scenery to the event and were welcomed by tourists.

4. Provide solid support for the industrialization of intangible cultural heritage projects. Our bureau is committed to industrializing intangible cultural heritage projects and actively recommends two intangible cultural heritage inheritance bases in Jinzhou to the Provincial Department of Culture and Tourism as intangible cultural heritage inheritance demonstration bases in Liaoning Province. At the same time, we actively provide comprehensive support for projects that can create intangible cultural heritage products. We have invited well-known product design, packaging, sales and

management teams to provide free consulting services to inheritors of intangible cultural heritage, design product styles and appearance packaging for intangible cultural heritage free of charge, open up sales channels, and invite internet celebrities. Bringing goods greatly saves the time of inheritors of intangible cultural heritage in producing intangible cultural heritage products and improves the quality of new products.

According to relevant data, my country's laws in the cultural field have developed from the original two and a half "Cultural Relics Protection Law", the "Copyright Law" and the "Intangible Cultural Heritage Law" which are half culture-oriented and half technology-oriented, to the current five laws. They are the Copyright Law, the Cultural Relics Protection Law, the Intangible Cultural Heritage Law, the Film Industry Promotion Law, and the Public Culture Protection Law. The cultural field includes history, geography, customs, traditional customs, lifestyles, literature and art, behavioral norms, ways of thinking, values, etc.

Laws related to culture and art include the Copyright Law of the People's Republic of China: This law stipulates the rights of copyright owners, including copyright protection in literature, art, music, film and other fields, as well as related usage and management regulations.

Cultural Industry Promotion Law of the People's Republic of China: This law aims to promote the development of cultural industries, including the management of cultural and creative industries, art markets, and support and incentive policies for cultural industries.Intangible Cultural Heritage Law of the People's Republic of China: This law stipulates the protection, inheritance and management of intangible cultural heritage, including traditional skills, folk art, etc.

Film Industry Promotion Law of the People's Republic of China: This law aims to promote the development of the film industry, including regulations on film production, distribution, and screening, as well as the review and management of films.Urban Planning Law of the People's Republic of China: This law provides for the consideration of cultural heritage and cultural landscapes in urban planning and construction.Measures for the Management of the Art Market of the People's Republic of China: These regulations mainly involve the management of the art market, trading rules and intellectual property protection.These laws and regulations

have been continuously developed and improved to meet the needs of China's growing cultural and arts industry.

2.4 Research area

2.4.1 Knowledge of field survey area

Yiwulv Mountain, now referred to as Lu Mountain, is located in Jinzhou City, Liaoning Province, at the junction of mountains and mountains in Yi County, North Town, Liaoning Province. It is a national nature reserve. Yiwulv Mountain has a long history, accumulated from thousands of years of Chinese civilization. According to legend, during the Shun Dynasty, the country was divided into twelve states, and each state was granted a mountain as the town of a state. Lv Mountain Mountain was named the town mountain of Youzhou in the north. Yiwulv Mountain is one of the twelve famous mountains in Shunfeng. It is the northern Zhenshan Mountain of the Five Mountains of China. It ranks first among the three famous mountains in Northeast China (Yiwulv Mountain, Qianshan Mountain and Changbai Mountain) and has a lofty historical status. Since the Sui Dynasty, this mountain has become one of the "Five Town Mountains" of "Beizhen", thus becoming famous. When the emperors of the Yuan, Ming and Qing Dynasties came to the throne, they would go to the Beizhen Temple at the foot of the mountain to worship the mountain. Therefore, its reputation grew and it became the first famous mountain in the Northeast. It is well-known at home and abroad for its long and profound history and culture and beautiful and unique natural scenery. It has become a famous tourist attraction in northern China and a key national scenic spot. Lv Mountain, with four thousand years of cultural accumulation, proves its lofty status in history. The magnificent pavilions, terraces, buildings and pavilions; the dotted cliffs with inscriptions; and the ancient temples shrouded in smoke all reflect its former glory. It is the most precious cultural heritage left to us by history.

Yiwulv has beautiful peaks and mountains and many scenic spots. It is famous at home and abroad for its extraordinary majestic peaks and rocks, and is famous among the three eastern provinces. Most of the ancient buildings in Yiwulv Mountain were built in the Liao and Jin Dynasties and renovated in the Qing Dynasty. Among them, the mountain temple located at the foot of the mountain, the Beizhen Temple, is

the most famous. The temple is only 2.5 kilometers west of Beizhen County. It is built on a hillside, 109 meters wide from east to west and 240 meters long from north to south, covering a very large area. Buildings such as the Mountain Gate, Shenma Gate, Bell and Drum Tower, Main Hall, Royal Incense Hall, Neixiang Hall, Dressing Hall, and Sleeping Hall (back hall) are all arranged according to the slope. The main hall is the main building, which is dedicated to the mountain god of Yiwulv Mountain. When the emperors of the Yuan, Ming and Qing Dynasties ascended the throne, ceremonies were held in this hall to worship the mountain god from a distance and entrust him to protect the country. The roof of the hall is covered with green glazed tiles, the beams and beams are decorated with colorful paintings, and the walls inside the hall are painted with star images, making it look both majestic and solemn. There are many steles in Beizhen Temple, including 11 Yuan steles, 9 Ming steles, and 25 Qing steles. They are engraved with the inscriptions of emperors of the past dynasties or the records of rebuilding the temple. These inscriptions are important cultural relics for studying the history of Beizhen Temple and have high historical value.

"On the Cultural Connotation and Characteristics of Yiwulv Mountain" is an article written by the author Cui (2015). The article describes that Yiwulv Mountain is one of the five major town mountains in ancient China, ranking first among the mountains in Northeast China. Yiwulv Mountain is named after the tribe, named after the ancient tribe "Yili". Yiwulv Mountain is a famous historical and cultural mountain with a long history, rich cultural connotation and distinctive characteristics, which mainly includes mountain god worship and mountain-zhen culture, Khitan and Liao culture, diverse religious culture and rich and diverse folk culture. The unique geographical location, ethnic distribution and cultural ecology determine the long-lasting, ethnic, inclusive and rich heritage characteristics of Lv Mountain culture. Mountain culture, which uses mountains as humanistic and geographical markers, is part of regional cultural research, which highlights the natural geographical characteristics and cultural characteristics of different regions. Mountains are part of human's natural ecological environment. They are closely related to human historical activities and influence and even determine the form and content of human historical creation. Human beings create in specific mountain environments and endow mountains with rich cultural connotations, thus forming colorful regional cultures. Lv

Mountain Mountain is one of the five major town mountains in ancient times, ranking first among the three famous mountains in Northeast China (Lv Mountain Mountain, Qianshan Mountain, and Changbai Mountain). "Collection of Ancient and Modern Books·Zhi Fang Dian" said: "The territory of Jizhou, from Taihang to the east, has high dignity, but Yiwulv Mountain is the crown of all mountains." "Quan Liao Zhi·Shanchuan Zhi" contains: "In the territory of Liao, mountains are The medical witches are the most splendid."

Lv Mountain is not only graceful and beautiful, but also has a long history and rich cultural heritage. The history and culture of Lv Mountain is an important and integral part of Liaohai culture. Exploring the connotation and characteristics of Lv Mountain culture is of great benefit to a deep understanding of the historical origins and cultural characteristics of Northeastern culture. Lv Mountain sacrifice has shifted from folk belief in mountain gods to national ideology and has become a binding point for the cultural identity of different ethnic groups. Using mountain towns and mountain god worship as geographical and cultural connections, it accommodates and integrates the culture, psychology and belief worship of Han and ethnic minorities, demonstrating the unity of national territory, cultural inheritance and national integration identity. Zhenshan culture shows strong integration power and has irreplaceable spiritual and cultural significance. From the time when the Khitans moved to Lv Mountain until the fall of the Liao Dynasty, the Khitans had been active in Lv Mountain for more than 500 years. The Khitan people solidified their living customs and beliefs in Lv Mountain. Lv Mountain left a deep imprint on the Khitan national culture. Therefore, the Khitan Liao culture is an important factor in the Lv Mountain culture of medicine and witchcraft. Lv Mountain is also a famous religious and cultural mountain with diverse religious and cultural characteristics. Shamanism, Buddhism, and Taoism spread and coexist here. Among the ancient ethnic groups in Northeast China, they generally believed in polytheistic shamanism, forming worship of nature, totems and ancestors. Shamanism has been popular among the people and continues to exist. Historically, the Han, Donghu, Huiqi, and Sushen ethnic groups all migrated and settled in the Lv Mountain area. Therefore, different ethnic cultures, customs, and multi-level worship and belief forms intertwined, collided, and merged here, forming a Lv Mountain's colorful folk culture. These multi-ethnic folk cultures

collide and absorb each other in Lv Mountain, forming rich multi-ethnic folk cultural characteristics. The colorful regional culture of Yiwulv Mountain was jointly created by different ethnic groups in various historical periods. Its culture has a long history and distinctive characteristics.

2.4.2 Knowledge of the inheritor's area

Xinlitun Town, affiliated to Heishan County, Jinzhou City, Liaoning Province, is located in the northern part of Heishan County, bordering Yingchengzi Township to the east, Xuetun Township to the south, Furong Town, Fuxin Mongolian Autonomous County, Fuxin City, Fuxin City to the west, and Furong Town, Fuxin Mongolian Autonomous County, Fuxin City to the north. It is adjacent to Shijiazi Town, Fuxin Mongolian Autonomous County, Fuxin City, with an administrative area of 69.25 square kilometers. It is the hometown of Wang Xiuxia, the national inheritor of Yiwulv Mountain Manchu paper-cut. It is also one of the fieldwork locations for this study. Taitun, Empress Palace Town, is located in Jinzhou City at the end of Yiwulv Mountain and on the coast of the Bohai Sea. This is a traditional small farming village, close to Xiaoling River and adjacent to Bohai Bay in the south. Niangnianggong Town has a total of 68,000 acres of arable land. The land is fertile and suitable for farming and fishing. It is the hometown of Zhao Zhiguo, the national inheritor of Yiwulv Mountain Manchu paper-cut. It is also one of the fieldwork locations for this study.

2.5 Relevant Theoretical Knowledge

In this research, the following five theories will be used as guidance, including: Semiotic theory; "5w" communication theory ; Cultural Identity theory and Media Creation theory.

2.5.1 Theories of semiotics

Semiotics refers to the idea proposed by the Swiss linguist Saussure. From a linguistic perspective, he proposed that symbols contain "signifier" and "referred" parts, that is, objects at the level of expression - the "shape" and object of the symbol. Refers to the connotative meaning of things - the "meaning" of symbols. The signifier and the signified of a symbol are composed of two parts: the physical language

structure and the spiritual phonetic part. Only the combination of the two can form a complete symbol.

"Sign and Semiotics Redefined","Sign" is a frequently used word and semiotics has established itself in academia. The 120 years of world semiotics movement, however, has failed to provide a viable definition to the two most basic terms, resulting in serious chaos in their usage. The present paper attempts to define "sign" as "a perception understood as carrying meaning", and "semiotics" as "the study of meanings". Semiotics, therefore, studies not only signification but also interpretation. Based on this understanding, the paper tries to clear some terminological chaos, e.g., that between "sign" and "symbol", and the resulted chaos between the Chinese words "fuhao" and "xiangzheng". The author is willing to risk simplification and give a clearer definition of symbols as a starting point for discussion: symbols are perceptions that are believed to carry meaning. Meaning must be expressed using symbols, and the purpose of symbols is to express meaning. On the other hand: there is no meaning that can be expressed without symbols, and there are no symbols that do not express meaning. This definition seems simple and clear, and it repeatedly talks about the locking relationship between symbols and meanings. In fact, this definition involves a series of difficult problems that are still difficult to answer clearly, and can even lead to a series of surprising conclusions.First of all, since any meaning activity must be a semiotic process, and since meaning cannot be separated from symbols, then meaning must be the meaning of symbols. Symbols are not only tools or carriers for expressing meaning, but symbols are the conditions for meaning: Only with symbols can meaningful activities be carried out. Meaning cannot exist apart from symbols. Therefore, in order to define a symbol, we must define "meaning."To express any meaning, another meaning must be used; to determine that something is meaningful means that it triggers explanation and can be explained. Everything that can be interpreted as meaning is a symbol. Therefore, meaning has an equally clear and simple definition: meaning is the potential of a symbol to be interpreted by another symbol, and interpretation is the realization of meaning. (Zhao, 2013)

This research presents an ontological framework to conceptualize the cultural heritage semiotics through generation and application of data, information and

knowledge about them. Advances in computers have unleashed an enormous capacity to (a) acquire data and generate information and knowledge about cultural heritage, and (b) apply the knowledge and information to promote their understanding, use and experience. Computers can help augment, virtualize, visualize and comprehensively sense the cultural heritage without the barriers of time and distance. However, there is no roadmap for exploiting them systemically or systematically. The proposed framework shows how the semiotics of cultural heritage can be used to generate and apply knowledge to the advancement of cultural heritage through the artefacts, using the enormous power of modern computers. The ontological framework can be used to map the state of the research on the semiotics of cultural heritage and help develop a roadmap for research and practice. (Yaco & Ramaprasad, 2018)

Interpretation of Shanxi folk dress weaving and embroidery patterns from the perspective of semiotics, Shanxi folk dress weaving and embroidery patterns are an important part of Shanxi folk dress weaving and embroidery art, which are influenced by local people's living environment, folk customs, religious beliefs and other factors The influence shows distinct characteristics of life-oriented, regional, folk-custom and personal emotionalism. It is the historical and cultural deposit of five thousand years of Shanxi people's labor. In order to interpret Shanxi folk traditional culture more deeply and comprehensively, this article takes Saussure's semiotic theory as the starting point, adopts interdisciplinary methods, field investigation, theoretical and physical research methods, and analyzes the characteristics of Shanxi folk weaving and embroidery patterns. The theme and shape, composition and layout, color and material, stitching and craft characteristics are used to explore the "words and meanings" in the creation process and establish a systematic symbolic structure of Shanxi folk woven clothing embroidery patterns, which can provide a basis for the study of Shanxi folk woven clothing embroidery. Patterns provide new ideas and broaden the latitude.

Symbols have extremely strong interpretive and operational functions. As a traditional cultural symbol, patterns have practical and aesthetic functions. Interpreting patterns from a semiotic perspective makes the research structure of pattern symbols more systematic, the research context clearer, and the research thinking more pioneering. . The semiotic theory advocated by Saussure has influenced

many disciplines such as anthropology and sociology. In a sense, he is not only the founder of modern linguistics, but also the founder of semiotics and structuralism. His "General Linguistics Course" proposed the theory of the double-sided structure of symbols, using "signifier" and "signified" to interpret symbols, and this theory has been widely used in folk art research. Based on the theory of semiotics, this article uses interdisciplinary research methods to combine Shanxi folk clothing embroidery patterns with semiotics to establish a systematic and complete symbolic structure of Shanxi folk embroidery patterns; through the research on Gaoping embroidery, Fanzhi Jin embroidery, Field inspections were carried out on Heshun embroidery, Jiaocheng Duiling and other regional embroidery varieties to explore the characteristics and connotation of Shanxi folk traditional culture from its origin, in order to provide certain reference for other scholars to conduct related research and promote the creative transformation of intangible cultural heritage. and innovative development. (Jiang et al., 2022)

This paper examines the meaning-making process of UNESCO legal documents on cultural heritage from a sociosemiotic perspective. The data for the corpus-based study were analyzed quantitatively and qualitatively by applying the securitization theory to heritage studies. Research findings reveal three significant shifts in cultural heritage, i.e., from property to heritage, from tangible to intangible, and from material-centered to human-centered, which embodies the harmonious coexistence of humanity and nature, a philosophical idea embedded in traditional Chinese culture. As noted, terms targeting cultural heritage in UNESCO international instruments are the sign vehicle, generally mediated and shaped by social values, cultural beliefs, and conventional wisdom, etc. as a part of the interpretant, making different categories of heritage meaningful and interpretable. Characterized by temporality and spatiality, cultural heritage is subject to multiple interpretations. The meaning-making of international instruments for consideration is a sociosemiotic operation that can be construed through contextual factors and a process of social negotiation. This paper argues that a sociosemiotic approach to heritage studies is conducive to explicating the construction and deconstruction of heritage as discursive practices while offering some implications for future research. (Bouvier & Wu, 2021)

In summary, This research will study the concepts of "signifier" and "signified" in semiotics. Symbols have extremely strong interpretation and integration functions. As a traditional cultural symbol, the Yiwulv Mountain Manchu paper-cut has extremely strong usability and aesthetic functions. Interpreting paper-cutting art from the perspective of semiotics makes the research path of Manchu paper-cutting art in Yiwulv Mountain more systematic, the context clearer, and the research thinking more reasonable. The research of this article is based on the theory of semiotics, and the study of Yiwulv Mountain Manchu paper-cut is divided into concrete value, which is the "signifier", covering production techniques, modeling characteristics, and color composition; abstract value, which is the "signified", covers artistic themes, cultural value and cultural connotation.

2.5.2 Theories of communication

"5W" communication theory refers to the 5W communication theory proposed by Harold Laswell, one of the founders of communication and an American political scientist, in his "Structure and Function of Social Communication", which has great influence on the development of communication. The impact is far-reaching. Lasswell proposed five basic elements of the communication process, namely who (who), what (says what), in which channel (in which channel), to whom (to whom), and what effect is produced (with what effect). (Lasswell, 1948)

In big data era, data has become an important part of human lives and work. At the same time, data plays an important role in information acquisition and dissemination. At present, the influence of data journalism is gradually increasing. However, unlike other countries, China data journalism started late. To study the problems of data journalism and the trend of future development, we use the method of combining data and news to explore the status quo and dig out the existing problems. This article first summarizes the research status, research methods, and theoretical basis of data journalism's propagation path. Next, it uses Lasswell's 5W model: a new model to analyze data news from five aspects, namely, disseminator, disseminating channel, dissemination content, audience, and dissemination effect. Finally, based on content analysis, searching, and data mining, an indicator system is constructed for the current new media's news dissemination effect evaluation, and the Delphi method is used to assign weights to various indicators and make decisions

based on them. By analyzing the results, this paper identify the problems in the process of combining data journalism and new media platforms, and provide help for the future communication strategy of data journalism.(Li, 2022)

The English translation of intangible cultural heritage aims to better disseminate the spiritual wealth passed down from generation to generation by mankind, promote China's excellent traditional culture to the international community, and allow the world to better understand and recognize Chinese culture, thereby realizing the "going out" of Chinese culture. vision to enhance the country's cultural soft power and cultural influence. Therefore, the fundamental purpose of the English translation and dissemination of intangible cultural heritage is to reproduce the national aesthetics and collective wisdom embodied in China's intangible cultural heritage. This is the significance of the dissemination of intangible cultural heritage. But on the other hand, due to the heterogeneity and diversity of culture, the cultural psychology and cultural expectations of audiences in different countries vary widely. If we only focus on the reproduction of the cultural connotation of intangible cultural heritage and ignore the acceptance of the communication audience and the communication effect, it is likely that causing propagation failure. According to the 5w theory of communication by Lasswell, the founder of communication, among the five basic elements in the communication process, the most critical one is the communication effect, which is the focus of the other four factors. Therefore, in order to do a good job in the English translation of intangible cultural heritage and gain recognition from foreign audiences and achieve good communication effects, it is necessary to take into account both the reproduction of the cultural connotation of intangible cultural heritage and the communication effect. It is necessary to do sufficient research on the communication content and skillfully Select Jiangxi intangible cultural heritage culture that meets the audience's aesthetic psychology and cultural expectations as communication content, and also choose appropriate communication perspectives and media to vividly reproduce the cultural and artistic beauty, ecological beauty and national wisdom of Jiangxi intangible cultural heritage, making Jiangxi non-material cultural heritage. The English translation of material cultural heritage has achieved good dissemination results. (Liu, 2022)

The combination of artificial intelligence technology and communication science has many revolutionary advantages and is a productivity change in the media industry in the new era. However, immature new technologies inevitably cause some concerns. This article starts from Lasswell's "5W model" and reflects on the application of artificial intelligence technology in five aspects: communicator, communication content, communication channel, audience and communication effect. Today's communication field requires more complete and more humane artificial intelligence technology. Government departments should strengthen supervision, and enterprises should also assume corresponding social responsibilities. In terms of people's way of thinking, the application of artificial intelligence technology in communication can generally enable people to understand the world more timely and accurately. At the same time, we should be wary of the simplification, one-sidedness and inertia of thinking caused by it. change. (Zhang & Pan, 2018)

In this paper, based on the 5W theory of American scholar, Harold Dwight L asswellr, the research model of short video transmission of shadow play culture in Hua nxian County, Gansu Province is constructed. Through empirical research methods, thi s paper aims at the influence of 5W theory: Who, What, Which, Who, With What Effect. It is found that star communication has a significant positive impact on the transmis sion of shadow play culture, local villagers have a significant negative impact on the tr ansmission of shadow play culture, and professional teams have a significant positive i mpact on the transmission of shadow play culture. Text communication, picture comm unication, live video communication and cartoon communication all have a significant positive impact on the communication power of shadow play culture.(Wen, 2021)

This study will conduct a specific analysis based on the "5w" communication theory in the practical creation process of digital media, which can make the research more systematic and logical. The application of digital media in the inheritance and protection of intangible cultural heritage (the art of Yiwulv Mountain Manchu paper-cut) is an inevitable trend in the digital age. As a digital media designer, we will integrate the communication theory based on Lasswell's 5W and the concept of digital reproduction. The design of 3D Animation and virtual roaming space is used to

carry out the digital inheritance practice of Yiwulv Mountain Manchu paper-cut, and establish an inheritance path model based on the perspective of communication.

2.5.3 Theories of Cultural Identity

Cultural identity is the affirmation of the most meaningful things of the nation formed by people living together in a national community for a long time. The core is the recognition of the basic value of national culture; it is the spiritual bond that unites this national community and is the life of this national community. Continuing spiritual foundation. Cultural identity is an important foundation for national identity and national identity, and it is the deepest foundation. In today's era of economic globalization, Manchu paper-cutting, as a unique cultural symbol, conveys the aesthetic value of Manchu culture, allowing the national community to recognize and understand the meaning of this symbol, forming a cultural identity.

The author of this document participated With socio-economic status and socio-cultural mingling in dominant society for their livelihood are the most significant factors that consequently impact upon their thinking patterns of the individuals and community. Although technology such as mobile phones and the Internet has played an explicit role in the community today, preserving the traditional way of life without oblivion still exists. Digital culture therefore becomes an essential aspect of the community's way of life with the influence of digital media. (Tongdhamachart & Alwi, 2023)

Researchers and education theorists have been trying to understand the relationship between the learning and the social world. It has been a challenging research to integrate cultural identity into learning. Identity formation is a long complicated process and is gradually developed in social surroundings. Cultural backgrounds of learners are significant because ethnic, racial, linguistic, social, religious or economic differences can cause cultural disconnection leading corruption of motivation to learning. On the other hand, education inevitably brings shifts, however, learners' cultural identity plays a significant role in transmission of such values. The purpose of this study is to describe the relationship between learning and cultural identity. This research was done in a deductive approach which is a qualitative study and it is a descriptive and exploratory. Available research on learning at schools and cultural identity supports positive correlations between the

two as it draws on approaches that utilise learners' social and cultural experiences. Researchers have investigated successful learners and found valuable insights into cultural identity. Teachers should be aware of the cultural identities of the students and should be able to designate their learning characteristics and motivation enhancing their learning achievement. (Altugan A. S, 2015)

New media has been the main force accelerating the development of globalizing society in the last two decades. With its digital, convergent, interactive, hypertextual, and virtual nature, new media has brought human interaction and society to a highly interconnected and complex level. The rapid transformation of human society due to the impact of the convergence of new media and globalization directly influences the construction and development of cultural identity. The emergence of new media and globalization not only breaks through the limit of the traditional time and space, but also may challenge the meaning of cultural identity. The purpose of this chapter is to unravel the intricate relationships between new media, globalization, and cultural identity through the process of definition, interpretation, and critical analysis. Globalization has redefined the meaning of community with a new look at inclusiveness and collective sense of identity. The wall between traditional communities also collapsed due to the constant flush of globalization. This transformation, based on extension and expansion from the local to global level, provided citizens in the 21st century opportunities and challenges for learning how to harmoniously co-exist and develop an ideal future world. (Chen & Zhang, 2010)

This research summarizes and describes the cultural symbol identity, education and inheritance identity, innovation and development identity of the Yiwulv Mountain Manchu paper-cut. Through the perspective of traditional and modern development, this traditional art can achieve cultural identity in contemporary social life, injecting new impetus into the inheritance of Manchu culture. This kind of innovation is not only respect for tradition, but also a modern response to cultural identity, realizing cultural identity through innovation and development.

2.5.4 Theories of Media Creation

The concept of media creation involves the process of creative expression by individuals or teams using various media forms in the digital age. This includes

content production, storytelling, image creation, music production and many other aspects. Driven by the Internet and digital media technology, the scope of media creation continues to expand, covering more diverse media forms and creative methods. Media creation refers to the process of creating and transmitting information on a specific media platform through the form of content, expression techniques, language methods and communication methods.

This research outlines a methodological approach to the creation, production and dissemination of online collaborative audio-visual projects, using new social learning technologies and open-source video tools, which can be applied to any e-learning environment in higher education. The methodology was developed and used to design a course in the audio-visual communication degree at the Open University of Catalonia. It combines three pedagogical strategies in an e-learning environment: project-based learning, computer-supported collaborative learning and participatory culture as a new form of literacy. Here, we present the objectives, the different stages of development and an evaluation of the methodology. (Ornellas & Muñoz Carril, 2014)

This research mentioned, In the information age, the rapid development of digital technology has indirectly promoted innovative changes in the Internet, film and television media, etc. Digital media has gradually replaced traditional media forms and become the mainstream communication carrier. Animation art is an activity that transforms the world in the mind into a real image. It can play a good role in conveying emotions and help the public or artists express their own ideals of life or critical views on society. It integrates artistry and thought. By using digital media technology, animation works can be presented more three-dimensionally and intuitively, making the picture lively and vivid, giving people a good viewing experience. In this regard, based on the background of digital media, the author conducts an in-depth analysis of the creative path of animation art to provide support for the artistic development of digital media. "Research on Film and Television Art in the Digital Media Environment" written by Zhao Su and published by China Water Conservancy and Hydropower Press, takes the rapid development of digital technology as the research background, conducts an in-depth analysis around the digital development of film and television media, and systematically sorts out the film

and television in the digital era. The picture language, sound language, and lens techniques of the media provide a reference for understanding the animation creation and artistic aesthetics of digital media, and have good reference value. (Zhang & Chen, 2023)

In the new media era, with the advancement of technology, computer digital technology plays an increasingly important role in animation art creation. The emergence of paperless animation has transformed the important media carrier of traditional hand-drawn animation from physical paper or film into virtual digital ones. Symbols and the process of traditional animation creation can all be completed on the computer. People can connect the computer through a handwriting pad to create original paintings and animations. At the same time, people have also invented corresponding computer software to directly generate animations. Computer two-dimensional animation technology and computer 3D Animation technology have gradually become important means of animation creation, and the production, preservation, reproduction and dissemination of animation art are gradually becoming digital and information-based.

Hu (2017) studied In the new media era, the most eye-catching and commercially valuable thing is computer 3D Animation. Computer 3D Animation represents the highest level of animation technology development so far. Every release of a computer-based 3D Animation blockbuster represents another advancement in animation production technology. 3D Animation can continuously display every perspective of animated images, making various animated images lifelike, with smooth and natural movements, and can reproduce various complex scenes. It not only enriches the artistic expression of animation, but also transcends the performance limitations of general film and television art. At the same time, It also gives full play to the designer's imagination and creative thinking, so that the designer is almost not restricted by external conditions. The production of 3D animation mainly includes modeling, materials and lighting, textures, binding, animation, special effects, rendering, dubbing and soundtrack, synthesis and other links. 3D Animation uses computer software to create a virtual world in the computer, builds models and scenes in this virtual world, and completes animation production by designing the motion trajectory of the model, virtual camera motion and other

motion parameters. The world's famous three-dimensional computer animation production institutions continue to introduce new technologies and new works.

Through a review of media creation literature, this study starts from the creation process of 3D Animation. As a media creator, you need to think based on the basic value and connotation of culture, cultural identity, and the concepts of cultural inheritance and protection, and through the creation of 3D Animation Conduct in-depth analysis and elaboration of the process to improve the quality, depth and breadth of the creative works. This will guide the innovative inheritance and protection of Yiwulv Mountain Manchu paper-cut culture.

2.6 Related Research

2.6.1 Related Chinese Literature

Qin (2021) Research on the Digital Protection and Development of ICH: Taking the Huizhou Region as an Example

The author of this document participated With the transformation of the economy, the transformation of the society, and the rapid development of digital media technology and Internet technology, it is urgent to deepen the understanding of traditional Chinese culture in order to enhance cultural awareness and self-confidence, enhance the connotation of Chinese excellent traditional culture, tap the value of traditional culture, and inspire The vigor and vitality of China's excellent traditional culture. For this reason, the country puts forward the idea of "great cultural development and great prosperity". The development and prosperity of culture originate from the revival of traditional culture, especially the inheritance, display, dissemination and development of traditional culture by means of modern media— through the intersection of culture and technology. Integrating and innovating to promote traditional Chinese culture, constructing a database of cultural artworks and national cultural information resources, and studying the parallel and mutually beneficial operation mode of industrial operation of digital cultural content resources and public welfare services. Cultural heritage, which is the basic basis of cultural identity and cultural sovereignty, is disappearing at an alarming rate, even on the verge of extinction. ICH is facing a survival (inheritance) crisis—(subjectivity crisis, ecological crisis, etc.), and its development (communication) prospects are worrying.

Digital technology has revived many things that were on the verge of extinction. Traditional cultures and industries that seemed to be unrelated can form new connections and cross-borders with the help of digital technology, and expand many emerging business formats. This cross-border and The integration has just allowed some Chinese historical and cultural treasures such as traditional culture and cultural heritage to find new ideas for inheritance and development. For ICH, it is not only necessary to be preserved in the form of archives, but also to be passed down from generation to generation. It is also necessary to reinterpret and interpret it through new methods and methods, endow them with new cultural meanings, and make them relevant to modern life. That is to use digital information technology to recode, reconstruct and interpret ICH, and let the public accept it at the cultural level of digital technology. The article first inspects the ICH of Huizhou, and summarizes it according to the category of ICH, including its existence, protection, utilization status and practical problems faced--the number of inheritors of ICH projects is decreasing, the living space is compressed, Floating memory' faces disappearance, traditional means of communication, and narrowing of the scope of communication. Facing the above problems, we hope to make up for the continuation of the project through modern digital means.

This book focuses on the two basic concepts of "ICH" and "digitalization", and discusses the current situation of the existence, protection, dissemination, utilization and practical problems of ICH. Using Hall's encoding/decoding theory, Shannon's information theory, Boiseau's information space theory and Collins' interactive ritual chain theory, it provides a theoretical basis for the digital inheritance, protection, dissemination and utilization of ICH; it focuses on digital media The impact on the protection and development of ICH, how to deal with the digital abstraction and coding of ICH at the two levels of technology and culture, the core carrier of ICH digitization - the design, construction, management and operation of database , the communication logic and path of ICH in the current media environment, and the development and application of ICH digitization in different fields.

The book mainly discusses the application of digital technology in the protection and development of ICH, and takes Huizhou regional culture as an

example to conduct an in-depth discussion. Discussions are carried out from the overview of Huizhou regional culture, the theory and practice of ICH protection, the principles and methods of digital protection technology, and the application of digital protection technology in Huizhou cultural protection. Among them, Qin Feng gave a detailed introduction to the principles and methods of digital protection technology in the third chapter, including the concepts, characteristics and details of digital protection technologies such as digital archives, digital archives, digital libraries, digital museums, and digital exhibition halls. Method to realize. In the fourth chapter, Qin Feng took Huizhou culture as an example, discussed in detail the application practice of digital protection technology in cultural protection, and combined with actual cases to deeply analyze the advantages, limitations and future development of digital protection technology in Huizhou cultural protection direction. The book also introduces the status quo of ICH protection in Huizhou, discusses the application prospects of digital protection technology in the protection of ICH, and puts forward the application strategy of digital protection technology in the protection of ICH. Through the in-depth analysis of Huizhou regional culture, the introduction of digital protection technology and the sharing of application cases, Qin Feng comprehensively expounded the important role of digital protection technology in the protection and development of ICH in the book.

Xie (2022) Innovative Design of Artificial Intelligence in Intangible Cultural Heritage

Driven by artificial intelligence technology, the research of intangible cultural heritage innovative design is carried out. Firstly, the appearance modeling characteristics, decorative element characteristics, and composition form characteristics of typical in- tangible cultural heritage products are analyzed. According to the collected relevant data of intangible cultural heritage products and existing products, combined with the regional cultural characteristics of intangible cultural heritage products and other factors, the analysis Atlas of intangible cultural heritage product innovation design is constructed.

Based on perceptual engi- neering, the elements of intangible cultural heritage product innovation design for user participation are determined according to the needs and perceptual images of users. The shape grammar is used to extract the elements of

intangible cultural heritage products, deduce and deform them, and finally generate the preliminary design scheme. With the acceleration of market evolution, people's material life is becoming richer and richer, and their needs are be- coming more and more diversified. The demand for products is no longer just functional, but also pays more attention to the feeling of spiritual level, and has higher requirements for the aesthetic value and cultural value of products themselves. This study comprehensively uses questionnaire survey, user interview, and user perception preference analysis to analyze and study the personal needs of users and the methods and processes of user participation in design. Finally, the theory is applied to practice to complete the research on the innovative design of artificial intelligence in intangible cultural heritage.

This study uses the Atlas analysis method to analyze and summarize the characteristics of intangible cultural heritage products, constructs the analysis Atlas of intangible cultural heritage products, determines the design elements of in- tangible cultural heritage innovative products according to the needs of users, deforms and reconstructs the design elements of intangible cultural heritage innovative products based on the shape grammar, deduces the deformation, obtains new design elements that meet the aesthetic needs of users, and generates the initial design scheme. The fuzzy comprehensive evaluation method is used to score and evaluate the generated design scheme, and the scheme with the highest user satisfaction is selected for iterative opti- mization to obtain the final design scheme. Secondly, through a series of design practices, it provides users with independent creative space and platform to meet the di- versified needs of users. Finally, the design of intangible cultural heritage is verified by user-oriented design.

The main innovations of this study are as follows: (1) by combining traditional handicrafts with modern design ideas, the market transformation channels of intangible cultural heritage innovative design products are increased, and a user-oriented intangible cultural heritage innovative design model is established. (2) In view of the difficulties faced by intangible cultural heritage art, explore the needs of different users for intangible cultural heritage innovative products, let users participate in the design process of intangible cultural heritage innovative products, enable users to obtain the creative dominance of products, and improve users' con-

sumption experience. (3) According to the needs of users, this paper puts forward the design scheme of intangible cultural heritage innovative products to meet the needs of user groups and promote the wide dissemination of in- tangible cultural heritage culture.

Zhao & Zheng (2022) Government's Role in the New Era of Intangible Cultural Heritage Online Communication and Reflections

The 14th Five-Year Plan starts a new journey of building a comprehensive socialist modernization country. In this new phase, along with the popularization of the 5G network and technological innovation, the Internet is becoming more and more prominent in the communication media, which provides a new path for intangible cultural heritage preservation. This paper explores the role of the government in the online communication of intangible cultural heritage, starting from the user consumption model, or SIPS model, in the social media era. To realize the resonance of sharing of intangible cultural heritage, the government should adjust its role to meet the needs of the times and play its role as a planner, trainer, facilitator, and evaluator in the online communication of intangible cultural heritage, to promote the inheritance of national outstanding traditional culture and facilitate the successful implementation of the 14th Five-Year Plan for Cultural Reform and Development. We will also contribute to the smooth implementation of the 14th Five- Year Plan for Cultural Reform and Development. "The 14th Five-Year Plan period is the first five years of China's new journey of building a comprehensive socialist modern country, and it is also a critical period for promoting the construction of a strong socialist cultural state and creating a Chinese culture that shines in the era and the world. Entering a new stage of development, culture is an important element, and cultural construction must be placed in a prominent position in the overall work; to achieve the great rejuvenation of the Chinese nation, culture is an important source of strength, and we must adhere to promote the creative transformation of China's outstanding traditional culture, innovative development.

Intangible cultural heritage is an important part of the excellent Chinese traditional culture. Protecting, passing on, and promoting intangible cultural heritage is of great significance in continuing the historical lineage, strengthening cultural confidence, promoting civilizational exchange and mutual understanding, and

building a strong socialist cultural state in China. The government has always been the leading force in the protection of intangible cultural heritage, and it is also an important dissemination body, playing an important leading role in the promotion of intangible cultural heritage both internally and externally. In the new era, "Internet + Intangible Cultural Heritage" has gradually shown its strong advantages. The rapid development of new media technology has broadened the channels through which consumers can receive information, and has led to a shift from offline to online consumption, with live e-commerce, in particular, becoming a popular form of consumption.[14] In particular, live e-commerce has become a popular consumption method. Therefore, it is worth exploring what role the government should play in the process of online communication of intangible cultural heritage in the new era to strengthen the protection and transmission of intangible cultural heritage.

With its accuracy, openness, interactivity, experience, and low cost, the new media social platform breaks through the limitations of time, cultural background, geography, and interpersonal inheritance, demonstrating the great advantages of network communication in the development of intangible cultural heritage skills inheritance, which has a direct role in promoting the efficacy gathering of the intangible cultural heritage industry and the promotion of cultural tourism. It has a direct role in promoting the gathering of the effectiveness of intangible cultural heritage industry and promoting cultural tourism. It is foreseeable that the role and positioning of the government in the online communication of ICH will be further enhanced in light of the rapid changes in online technology and the ever-changing mode of ICH communication. It is worth exploring how to make use of the advantages of new social media platforms and communication forms to explore more efficient and people-friendly ICH communication strategies, maximize the role of the government, pass down excellent ICH skills and national spirit, and promote the development of ICH cultural industries. It is worth exploring and breaking through.

Luo (2022) The Characteristics and Paths of the Dissemination of Intangible Cultural Heritage in the Form of Animation in the New Media Environment

In recent years, the state and even the society pay more and more attention to the protection of the intangible cultural heritage. How to effectively protect and inherit the intangible cultural heritage is the main work at present. Based on the role

and influence of animation in the protection of intangible cultural heritage, this paper systematically discusses the promotion role of animation in the inheritance and dissemination of intangible cultural heritage. First, the role of animation communication in the protection of intangible cultural heritage. Finally, this paper takes the combination of intangible cultural heritage culture and animation as an example to discuss and design the combination of intangible cultural heritage protection animation and specific cases.

This paper regards animation as a cultural medium, which is of great significance to the effective protection, dissemination, and inheritance of the national intangible cultural heritage. This paper explores and studies the ways in which intangible cultural heritage can be disseminated and transmitted in the new media era. After demonstration, it was found that animation, as a medium and form, can be effectively combined with intangible cultural heritage and promote the inheritance and dissemination of contemporary intangible cultural heritage. By analyzing the survival dilemma of in- tangible cultural heritage due to the loss of its original function in the contemporary cultural context, this paper finds that the intervention of modern media can find a way out through mass communication and industrial inheri- tance. At the same time, it is proved that animation can integrate intangible cultural heritage elements into the in- dustrial chain from three different dimensions of animation, and inherit and disseminate intangible cultural heritage through cultural products and tourism development. Fi- nally, taking the combination of intangible cultural heritage and animation in many places as an example, it specifically pointed out how to transform intangible cultural heritage into animation form, and demonstrated its feasibility in the production of physical projects.

Liu (2023) Digitally Protecting and Disseminating the Intangible Cultural Heritage in Information Technology Era

The article studies the digital protection and dissemination of digital information based on intangible cultural heritage. The "digital era" is an important milestone, and there is no problem with the development of martial arts heritage. First, this paper explains that the development of the current martial arts heritage is not without drawbacks, for example, ecological margin- alization and imperfect development. Then, the author of this study determined the benefits of combining

incomplete martial arts technology with digital technology, and took the digital protection of Xingyi boxing as an example to explore its practice and specialize in digital protection. Then, the problems and procedures in digital protection are studied. Finally, with Xingyi boxing as an experiment, this form leads to separation. The experimental results show that, according to the full understanding of the status quo of nondigital defense culture, the protection measures to improve digital protection are put forward: determining the digital distribution process and writing models, completing knowledge presentation view, document creation, multimedia interactive platform development, and digital technology protection of public heritage, without any problems.

Digital protection is an organic combination of high technology and low capacity technology, which provides the ability of integrating digital resources for modern technological life. It can be said that digital protection provides new ideas and improvements through data development, motion-sensing technology and virtual reality research, and big data analysis. The guidelines for cultural protection are invalid and become a new source of illegal cultural protection. Technological progress has changed the protection of illegal culture and heritage. The protection of cultural heritage conflicts is different from the protection of cultural heritage. The fluidity of data dictates that the use of unprotected cultural heritage should create a robust, dynamic, and self-sustaining environment. Whether it is data processing, intelligent application of digital technology, or big data analysis, digital protection is not only a platform to record, pre- serve, and disseminate the intricate cultural heritage, but also provides a new way for the inheritance, innovation, and de- velopment of intangible cultural heritage. It can be predicted that with the modernization of digital technology, digital protection will provide stronger support for the protection and inheritance of technology.

However, while focusing on the development of cutting-edge technology, we need to go back to the basis of cultural heritage and find the combination of technology and culture. In essence, this combination reflects the positive interaction between digital technology and ownership of heritage and nonconforming assets. As the heritage culture is not valued, the inheritors and owners of the heritage cannot become important protection bodies, especially for industry in everyday life. At the

same time, perhaps digital conservation may decide that the com- bination of digital technology and cultural conservation is useless.

Yun & Cao (2023) The Application and Research of VR Animation Technology in Intangible Cultural Heritage: –Take Danzhai Miao Batik as an example

The author of this document participated With the rapid innovation and widespread use of digital technology, digitization has become an inevitable choice for the inheritance and development of intangible cultural heritage in contemporary times. This paper takes the intangible cultural heritage of Chinese Danzhai Miao batik as an example to study the advantages of VR animation technology applied in the digital transmission and protection of intangible cultural heritage. Combining historical books and documents and physical images, implementing digital restoration of the Danzhai Miao batik in Zbrush, topologizing the material mapping required for the artifacts in Adobe Photoshop, building the VR virtual display education space in 3ds Max, and rendering the final effect. By presenting the final results, the advantages of cooperation between interdisciplinary computer technology and intangible cultural heritage are reflected, and the future research of VR animation technology and 3D digital modeling technology in related fields is summarized. Better build a "panoramic" "experiential" "three-dimensional" digital scenes of intangible cultural heritage. It will provide strong support for the promotion and dissemination of Chinese intangible cultural heritage.

VR animation technology has advantages in the inheritance andprotection of intangible cultural heritage, which can display intan-gible cultural heritage in an all-round and multi-angle way. Withsuitable camera movements, voice text guidance and interactivesettings, it can greatly increase the audience's understanding ofthe Danzhai Miao batik, which can greatly increase the audience'sparticipation in the process of VR experience, making the audienceexperience rich fun as well as a good immersion The experience.The digital intangible cultural heritage is constructed mainly bydigital scanning and 3D modelling, adding scene restoration todemonstrate its historical function and unique manufacturing pro-cess, making the Danzhai Miao batik not just as a handicraft, butsomething more historical, storytelling, educational and inspiring,which broadens the advantages and significance of digital intangiblecultural

heritage. Intangible cultural heritage is a rich and diverse resource. Theapplication of digital technology promotes the digital developmentof intangible cultural heritage in terms of form, dissemination andexperience. The construction of digital scenes of intangible culturalheritage involves virtual and realistic, dissemination and experience scenes, creation and transformation scenes, and disseminationand experience scenes, which can promote the deep integrationof intangible cultural heritage with daily life, culture, education,entertainment and tourism, reshaping people's understanding ofntangible cultural heritage, experiencing its charm and consciouslyparticipating in the transmission and protection of it.

Meanwhile, we are considering that whether the digital intan-gible cultural heritage can be displayed through VR animationtechnology can be integrated into the Metaverse.3Metaverse is adiversified, open and shared world. The spiritual needs and enter-tainment needs are meaningful to build digital intangible culturalheritage in Metaverse. In the metaverse, the viewer can have anew look and identity, and people can enter the metaverse witha low latency, strong immersion and unconstrained by time andplace. Digital intangible cultural heritage will not only providethe metaverse with more professional roles and industrial chains,but will also help to build civilizational systems in the metaverse,better disseminate history and culture, the connotations of intan-gible cultural heritage and the spirit of artisans, and better serveas an educational tool, helping to break through the boundariesof intangible cultural heritage 's native time and space, allowingadults and children who cannot get up close to intangible culturalheritage in reality due to mobility, geography or any other unavoid-able factors to have a better understanding of it. It also provides abetter opportunity and platform for adults and children who areunable to experience and understand intangible cultural heritageat close range due to mobility, geography or any other unavoidablefactors. The application of VR animation technology in the protec-tion of intangible cultural heritage can bring intangible culturalheritage out of its predicament, combine with technology to give ita stronger vitality, let more people understand and love intangiblecultural heritage, so that intangible cultural heritage will not bein a desperate situation of no one to succeed it, promote mutualexchanges and cooperation in various contemporary fields, and letcontemporary people also benefit from intangible cultural heritage.

2.6.2 Related International Literature

Bekele et al. (2018) A Survey of Augmented, Virtual, and Mixed Reality for Cultural Heritage

This literature explores A multimedia approach to the diffusion, communication, and exploitation of Cultural Heritage (CH) is a well-established trend worldwide. Several studies demonstrate that the use of new and combined media enhances how culture is experienced. The benefit is in terms of both number of people who can have access to knowledge and the quality of the diffusion of the knowledge itself. In this regard, CH uses augmented-, virtual-, and mixed-reality technologies for different purposes, including education, exhibition enhancement, exploration, reconstruction, and virtual museums. These technologies enable user-centred presentation and make cultural heritage digitally accessible, especially when physical access is constrained. A number of surveys of these emerging technologies have been conducted; however, they are either not domain specific or lack a holistic perspective in that they do not cover all the aspects of the technology. A review of these technologies from a cultural heritage perspective is therefore warranted. Accordingly, our article surveys the state-of-the-art in augmented-, virtual-, and mixed-reality systems as a whole and from a cultural heritage perspective. In addition, we identify specific application areas in digital cultural heritage and make suggestions as to which technology is most appropriate in each case. Finally, the article predicts future research directions for augmented and virtual reality, with a particular focus on interaction interfaces and explores the implications for the cultural heritage domain.

In this article, we have surveyed augmented, virtual, and mixed reality from a cultural heritage perspective focusing on aspects such as tracking and registration, virtual environment modelling, presentation, tracking, and inputdevices, interaction interfaces, and systems. Moreover, we have categorised a number of CH-related augmented,virtual, and mixed reality applications into the general application areas of education, exhibition enhancement, exploration, reconstruction, and virtual museums. Also, we have discussed the technological requirements to support these areas. Though, the ultimate choice of enabling technology must depend on the experience that an application is intended to provide, we make the following suggestions as to which systems are more viable for a given purpose. Even though augmented, virtual

and mixed reality can all be used to achieve the above-mentioned purposes, our survey shows that augmented reality is preferable for exhibition enhancement. Similarly, virtual reality seems better for virtual museums, and mixed reality most viable for both indoor and outdoor reconstruction applications.

Ibrahim & Ali, (2018) A Conceptual Framework for Designing Virtual Heritage Environment for Cultural Learning

Virtual environment has the potential to be used as a medium to facilitate cultural learning. However, this requires guidelines on how to design the environment. This article provides a conceptual framework that guides the design of a virtual environment that facilitates cultural learning for casual users. The exploratory sequential mixed-method design approach was used as the basis for the overall research design. Five studies involving experts and end users were performed to identify and evaluate the framework components. The framework consists of four important components: (i) Information Design, (ii) Information Presentation, (iii) Navigation Mechanism, and (iv) Environment Setting, and outlines two types of design elements: basic elements, which are essential for cultural learning to take place, and extended elements, which provide options for enhanced user experience. Results from the framework evaluation suggest that the proposed design elements are useful in facilitating learning and that the experience of using the virtual environment affected the end users' sense of awareness and appreciation toward heritage value and preservation.

In this article, we have identified the contributing factors and their design elements that can be used as a guideline for virtual environment designers when designing virtual heritage environment for cultural learning. The four contributing factors identified are Information Design, Information Presentation, Navigation Mechanism, and Environment Setting. We acknowledge that features suggested by all four factors are already surveyed in a more general context. For example, navigation aids, minimaps, teleports, high quality of graphics, and contextual settings are features that have been extensively studied in virtual reality (VR) and virtual environment (VE) research. However, the studies are general (addressing specific issue related to VR or VE) and not specifically culture-oriented. Similarly, features suggested by information design have also been studied in research related to heritage interpretation

and museum study, while features suggested by information presentation have been extensively studied in research related to multimedia learning. However, to the best of our knowledge, studies that investigate the combination of these four factors in the context of virtual heritage research aiming to facilitate cultural learning in virtual heritage environment has not been attempted. Our research also examined and combined input from virtual heritage domain (environment setting and navigation mechanism) and heritage interpretation domain (information design and presentation) to produce a list of design elements to be incorporated into the design of virtual heritage environments aimed to facilitate cultural learning.

Skovfoged et al. (2018) The tales of the Tokoloshe: safeguarding intangible cultural heritage using virtual reality

This paper elaborates on the process of digitising Intangible Cultural Heritage, here exemplified by the oral tradition about the African cautionary tales of the Tokoloshe. First the core concepts of Intangible Cultural Heritage and its digitisation efforts are explained. This is followed by an explanation of what the tales of the Tokoloshe entails, and how it was used for constructing a fully playable Virtual Reality environment. The end product is a Virtual Reality installation of the cautionary tale being told around a campfire, from the perspective of an outsider. The player is then possessed by the Tokoloshe and must work with the village witch doctor to remove the bodily possession of the Tokoloshe. A full description of what is needed to play the demo is included in the last section of the paper.

Approaching the future protection of ICH as contextually bound variations of oral stories is non-trivial. Primarily, because the media used for this often takes a form being unappealing to future custodians - the children and youths of indigenous communities. This interactive installation has a two-fold objective. One is to explore the storytelling power embracing modern, technological systems - here exemplified with Virtual Reality. The other objective is to expose from a more techno-critial perspective how non-uniform cultural material becomes interpreted (explicitly and implicitly) by outsiders. Now not in the form of books, but as playable multisensory experiences. It is the ambition to use this installation; by making these cultural processes visible, to spur discussions on the tension fields spanning ICH and technology. Furthermore, it is part of the project vision to engage with community

members to use this installation as a mirror on which to discuss the future of ICH and technology as a plausible way to safeguarding.

Kocaturk et al. (2023) GDOM: An Immersive Experience of Intangible Heritage through Spatial Storytelling

This paper presents the design, development, and evaluation of GDOM (Geelong Digital Outdoor Museum) application that integrates intangible heritage stories into places of public significance through a 3D virtual immersive environment. The project makes an important contribution to community-centered intangible heritage, while bridging the gap between theory and practice of location-based, non-linear storytelling. Research by Design methodology has been adopted to integrate highly cross-disciplinary insights into the creation, reproduction, and evaluation of a tangible application. A web-based 360° panoramic image viewer platform has been utilised to design and curate an interactive heritage experience, by spatially linking stories (content) to specific locations. The key innovation is the location-based, non-linear and spatial storytelling inside a 3D immersive virtual space where users have the opportunity to interact with intangible heritage stories. GDOM application opened up new opportunities to connect people with intangible heritage to facilitate new forms of environmental knowing, spatial and cultural understanding, and the creation of a sense of place. An in-depth evaluation of GDOM, with both expert and non-expert user groups, confirmed the GDOM application as an effective tool to experience intangible heritage to facilitate better understanding of places compared to a physical experience of heritage in a museum. Potential context of application with immediate benefits have been reported as education and cultural tourism sectors.

To sum up, this research review conducts an in-depth investigation and research into the history of digital media, semiotics, communication, cultural identity, media creation, and the Manchu paper-cutting of Yiwulv Mountain. First, in the field of digital media, research shows that the rapid development of digital technology provides new opportunities for the inheritance of Yiwulv Mountain Manchu paper-cut. Digital media has infused the art of paper-cutting with the possibility of contemporary inheritance, prompting it to be better disseminated and protected in the digital age. The perspective of semiotics helps us interpret the symbols and symbols in the Manchu paper-cutting of Yiwulv Mountain and deepen our understanding of

the connotation of paper-cutting art. Secondly, communication studies point out that digital media has played an important role in the inheritance and protection of Yiwulv Mountain Manchu paper-cut. Through social media and online platforms, the Yiwulv Mountain Manchu paper-cutting has spread globally, providing a new way to transmit cultural identity. Cultural identity research emphasizes the importance of paper-cutting as a cultural symbol and its profound impact on the shaping and inheritance of national identity. In terms of media creation, the innovation of digital media has injected new creative methods into the Manchu paper-cutting of Yiwulv Mountain. The application of 3D Animation technology brings a new form of expression to traditional paper-cutting. It also provides digital solutions for protection and inheritance, achieving an innovative and sustainable inheritance model. This research review reveals the multi-level mechanism of inheritance and protection of Yiwulv Mountain Manchu paper-cut under the background of digital media era through in-depth study of literature in multiple fields. By combining the theoretical frameworks of semiotics, communication, and cultural identity, we conducted a comprehensive analysis of the cultural value of Yiwulv Mountain Manchu paper-cut, the impact of digital media on communication, and the application of media creation in inheritance and protection, laying the foundation for future related research and practice. Provides profound inspiration.
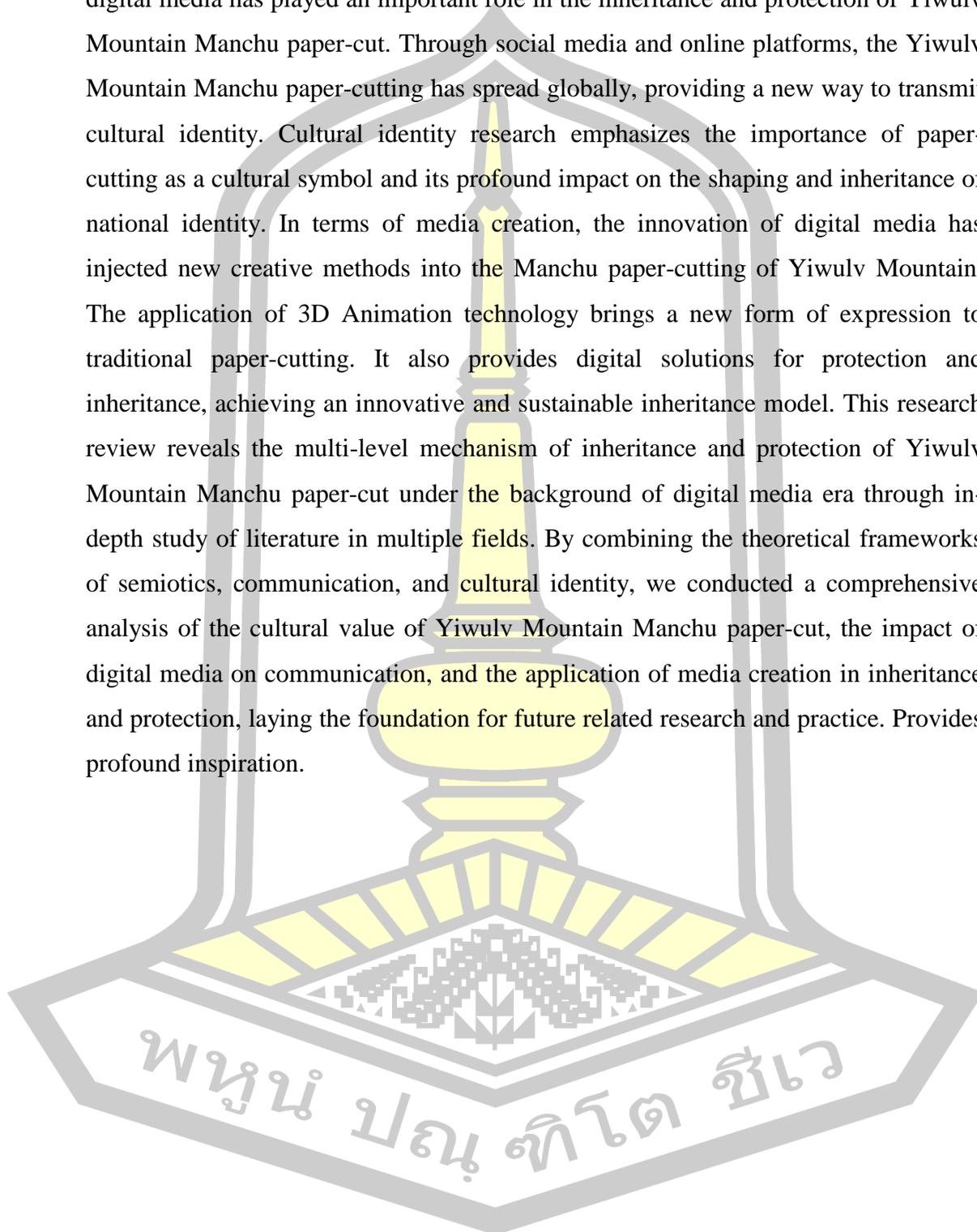
CHAPTER III
RESEARCH METHODOLOGY

This chapter uses qualitative research methods, and the researcher chooses Jinzhou Yiwulv Mountain in Jinzhou City as the research area. Since this area is an intangible cultural heritage with the representative folk paper-cutting art in Northeast China, the researchers selected key informants in the area as research clues. Therefore, this study was conducted as follows.

3.1 The Scope of Reaearch

    3.1.1 Content

    3.1.2 Research Method

    3.1.3 Study Period

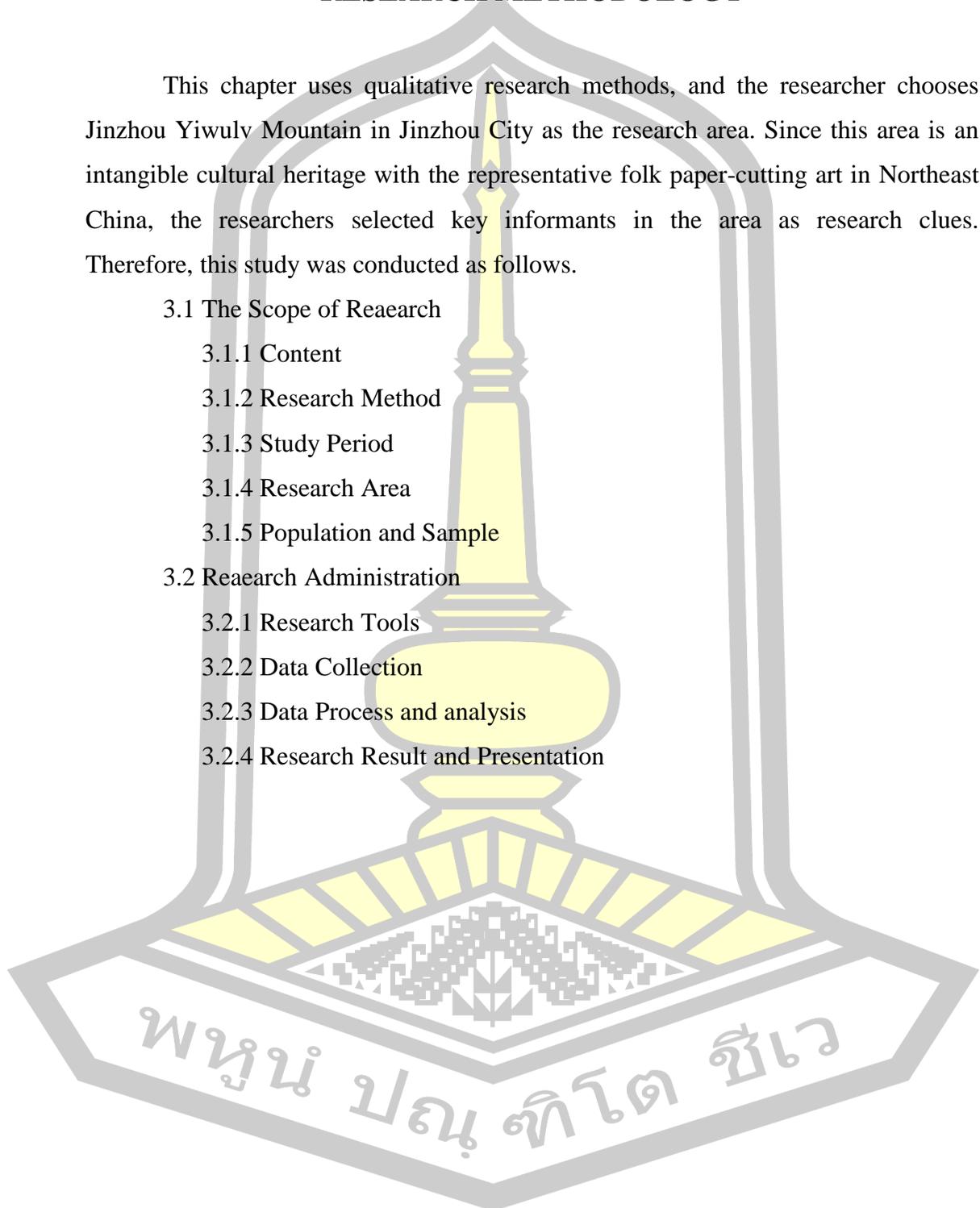   3.1.4 Research Area

    3.1.5 Population and Sample

3.2 Reaearch Administration

    3.2.1 Research Tools

    3.2.2 Data Collection

    3.2.3 Data Process and analysis

    3.2.4 Research Result and Presentation

3.1 The Scope of Reaearch

3.1.1 Reaearch Content

1. The historical origin, cultural value and cultural identity of Yiwulv Mountain Manchu paper-cut.

2. The current problems of inheritance and protection of Yiwulv Mountain Manchu paper-cut.

3. the Application of 3D Animation Technology in the Inheritance and Protection of Yiwulv Mountain Manchu paper-cut

3.1.2 Research Methods

This study uses mixed research methods to study the application of digital media in the inheritance and protection of Yiwulv Mountain Manchu paper-cut. The researcher collected data from relevant literature and research papers. Use fieldwork methods to collect data and information through surveys, observations, interviews, and focus group discussions. Data were analyzed using research concepts, theory, literature, and relevant research, and descriptive analysis methods were used to analyze the data based on the research objectives.

3.1.3 Research Period

Research time: September 2022 to November 2023

Table 1 Timetable for the Research

No.	Period	Time
1	Gather general information of the research	3 months
2	Plan for field research	2 months
3	Field research and data collection	4 months
4	Data analysis	2 months
5	Conclusion and submit the result	4 months

Source Huang Lin (2023)

3.1.4 Research Area

Yiwulv Mountain is one of the main mountain ranges in western Liaoning Province, China, located at the junction of Beizhen City and Yi County in Jinzhou.
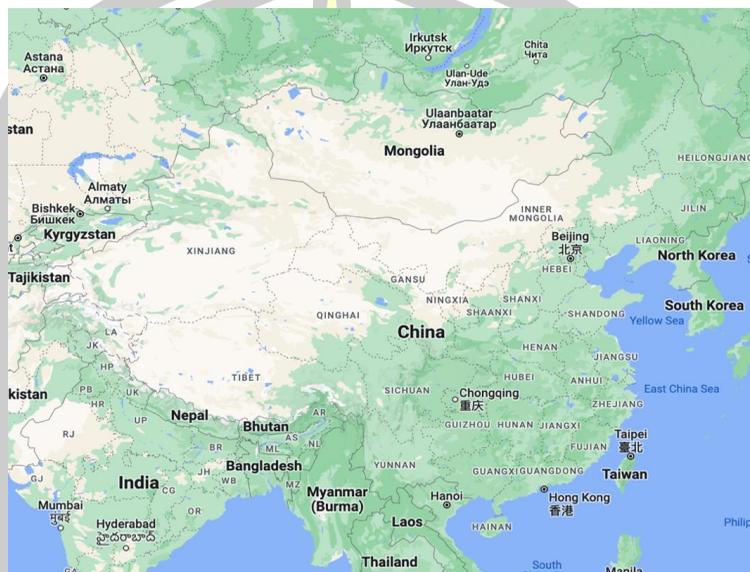

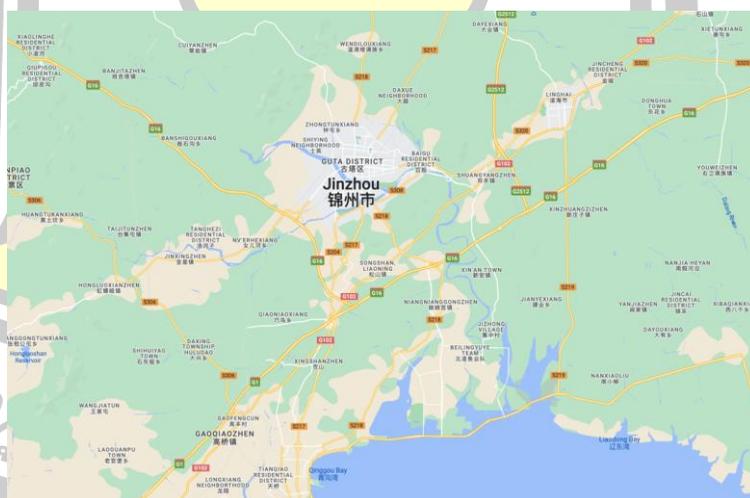Figure 5 China Liaoning Province Map

Source https://www.google.com/maps/

Figure 6 Map of Jinzhou City, Liaoning Province, China

Source https://www.google.com/maps/
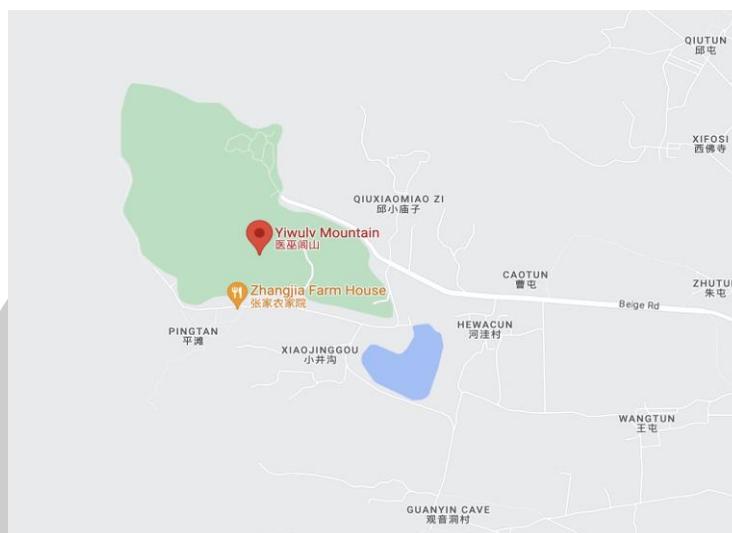
Figure 7 Location of Yiwulv Mountain area

Source https://www.google.com/maps/

3.1.5 Population and Sample

Based on the research objectives, used purposive sampling the researcher selected three groups of people as the interviewees in the field research. They are key informants, casual informants and general informants. The following selected criteria and selected personnel will be presented.

1. Key Informants:

The criteria for selecting key informants are:

1.1 People who have an in-depth understanding of the intangible cultural heritage culture of Jinzhou City, Liaoning Province, have long been committed to studying the Yiwulv Mountain Manchu paper-cut. Cultural experts who have an in-depth understanding of the paper-cutting art can provide theoretical knowledge, historical background, and artistic value of the Yiwulv Mountain Manchu paper-cut. and other related information. 1 person.

1.2 National representative inheritors who have long been engaged in the art of Yiwulv Mountain Manchu paper-cut can provide relevant information on the history and culture, paper-cutting techniques, paper-cut samples, etc. of Yiwulv Mountain Manchu paper-cut. 2 people.

1.3 Relevant scholars or researchers who are involved in the protection of intangible cultural heritage in Jinzhou City, Liaoning Province, should understand

the relevant policies and regulations, work planning trends and other relevant information on the inheritance and protection of intangible cultural heritage. 1 person.

Based on the above selection criteria, four key informants were selected, including:

Wang Guang, former chairman of Jinzhou Citizens' Association, expert consultant of Liaoning Folk Literature and Art Association, member of China Folk Literature and Art Association, director of China Folklore Association, member of Liaoning Provincial Intangible Cultural Heritage Protection Expert Committee, has long been engaged in folk literature, folk literature and folk customs academic and intangible cultural heritage protection and local history research. Participate in the excavation and protection of intangible cultural heritage in Jinzhou City. Won the first Chinese Folk Literature and Art "Mountain Flower Award" and "Liaoning Province Social Science Outstanding Scientific Research Achievement Award" and other awards. He was awarded the title of Folk Literary Artist of China People's Association for Morality and Art and Outstanding Cultural Volunteer of Liaoning Province.

Figure 8 Wang Guang

Source Huang Lin (2023)

Wang Xiuxia is from Jinzhou, Liaoning. The first batch of representative inheritors of the national intangible cultural heritage project paper-cutting (Yiwulv Mountain Manchu paper-cut).

Figure 9 Wang Xiuxia
Source Huang Lin (2023)

Zhao Zhiguo is from Jinzhou, Liaoning. The first batch of representative inheritors of the national intangible cultural heritage project paper-cutting (Yiwulv Mountain Manchu paper-cut).

Figure 10 Zhao Zhiguo
Source Huang Lin (2023)

Jing Mou, curator of the Mass Art Museum in Jinzhou City, Liaoning Province, and director of the Jinzhou Intangible Cultural Heritage Protection Center. Huang Jing, assistant to the curator, is responsible for the compilation and editing of materials related to Jinzhou City's intangible cultural heritage. All interviews were conducted on behalf of Huang Jing.

Figure 11 Huang Jing

Source Huang Lin (2023)

2. Casual Informants:

The selection criteria for the 10 general insiders and qualified representatives are as follows:

2.1 Conduct interviews and focus group discussions with designers, technical teams and related professionals engaged in digital media-related majors.

2.2 Informal interviews were conducted with relevant inheritors, practitioners and enthusiasts of the Yiwulv Mountain Manchu paper-cut, Jinzhou.

2.3 Informal interviews were conducted with local cultural-related practitioners in Jinzhou City.

3. General Informants:

Audience representatives: The audience is composed of two parts: It consists of two parts: local villagers in Jinzhou Yiwulv Mountain area; young people who are interested in Manchu paper-cutting in Jinzhou Yiwulv Mountain. From different perspectives, they will have a certain understanding of the history, culture, artistic value of Yiwulv Mountain Manchu paper-cut and the current difficulties faced by inheritance and protection. This will ensure the representativeness and diversity of the data information of this group of members. They have different majors. Background, cultural background, gender, age, etc. This can provide more comprehensive and rich data information feedback, making the research more in-depth.

At the same time, potential information providers are evaluated to understand their professional judgment and credibility to ensure that the information provided is reliable and of reference value. 15 people in total.

3.2 Reaearch Administration

3.2.1 Research Tools

The research tools used in this dissertation are mainly interview and observation on the basis of data collection and fact observation, the method focuses on process and structure analysis, strives to obtain target field survey data, and conducts qualitative research and interpretation on the research object. In order to obtain the research data, the researcher designed the questionnaire and designed the corresponding interview form and observation form according to different research objects. This thesis mainly adopts the following research method:

1. Basic survey method

This method is one of the most commonly used and important methods in the field of sociocultural research. Collect and analyze relevant research results through surveys, on-site investigations, etc. Taking this as a starting point and through literature analysis, researchers can understand relevant data and information on the historical origin and cultural value of Yiwulv Mountain Manchu paper-cut, including relevant theoretical research and research results on digital media. Through face-to-face surveys, researchers have face-to-face conversations with respondents, asking questions and listening to gain a deeper understanding of the inheritance and protection status of the research objects and other relevant information. Surveys have the advantages of large amounts of information and in-depth communication. This method has the advantages of high authenticity and diverse observation objects.

The literature for this article is mainly drawn from the following sources.

1.1 CNKI

CNKI, founded in June 1999, is an academic platform owned by Tongfang Co., Ltd. controlled by China National Nuclear Corporation Capital Holdings Co., Ltd. HowNet is the concept of National Knowledge Infrastructure (NKI), proposed by the World Bank in 1998. The CNKI project is an information

construction project aimed at realizing the dissemination, sharing and value-added utilization of knowledge resources throughout society.

1.2 Mahasarakham University Library website

The Academic Resource Center (AREC) is a government agency established under the Mahasarakham University Act. It was established on March 27, 1968 along with Mahasarakham College of Education and started operations on July 16, 1969 as Mahasarakham College of Education Library. The Office of Academic Resources whose primary mission is to support teaching and research. To develop and promote graduates, research and academic services of Mahasarakham University.

1.3 Wikipedia

Wikipedia, headquartered in the United States, is a multilingual encyclopedia-style collaborative project based on Wiki technology. It is an online encyclopedia written in multiple languages. Wikipedia is run by the non-profit Wikimedia Foundation, and Wikipedia accepts donations. It is characterized by free content and free editing. It is the largest and most popular reference work on the global Internet and ranks among the ten most popular websites in the world.

1.4 China Intangible Cultural Heritage Official Website

China Intangible Cultural Heritage Network·China Intangible Cultural Heritage Digital Museum is based on the spirit of the "Notice of the State Council on Strengthening the Protection of Cultural Heritage", under the leadership of the inter-ministerial joint meeting on the protection of intangible cultural heritage, and is supervised by the Ministry of Culture of the People's Republic of China , a public welfare intangible cultural heritage protection professional website sponsored by the China Academy of Arts, promotes the protection of China's intangible cultural heritage.

1.5 Jinzhou Municipal People's Government official website

The Jinzhou Municipal People's Government website is the portal website of Jinzhou Municipal Government. It is an important form for the municipal government to apply information technology to perform its functions. It is hosted by the Jinzhou Municipal People's Government and is managed by the municipal government office. It releases government information to the society and the public

and showcases Jinzhou. Economic development and people's lives, providing online services and public welfare services, and conducting interactive communication.

2. Observation method

It refers to research that observes research objects in their natural state to obtain corresponding data. In this study, the researcher went deep into the specific social environment of Yiwulv Mountain in Jinzhou City, including personally participating in inheritance activities related to the Yiwulv Mountain Manchu paper-cut, to understand the current inheritance and protection status of Yiwulv Mountain Manchu paper-cut.

Depending on the degree to which the observer is integrated into the field work, observation methods can be divided into participant observation and non-participant observation. Participant observation refers to the in-depth study of the subject's living conditions, weakening personal identification and willingness to participate, and conducting implicit observations during the actual participation process. In this study, the researcher participated in observing the inheritance and protection status of the Yiwulv Mountain Manchu paper-cut, and implicitly observed its current situation and problems. Non-participant observation means that the observer needs to maintain a certain distance from the research object. In this study, the researcher observed the research object from a third-party perspective to collect relevant data and form rich data for subsequent research.

Researchers use an objective perspective to observe phenomena, record them, and analyze them. Observation records: including taking relevant photos and videos.

3. Interview method

The interview method is to obtain research materials through formal or informal conversations with research subjects. The interviewees of this study include cultural experts related to Yiwulv Mountain Manchu paper-cut art in Jinzhou City, relevant personnel from Jinzhou municipal government departments, national inheritors of Yiwulv Mountain Manchu paper-cut art, digital media design teams, Manchu paper-cut art enthusiasts in Yiwulv Mountain, local residents, etc. , and conduct in-depth interviews with the interviewees. In addition, there is an interview record sheet.

According to the specific arrangements and settings in different situations, interviews can be divided into structured interviews and unstructured interviews.

Process of making the questionnaire (based on research objective).

3.1 Submit it to the instructor for review with relevant interview questions.

3.2 Make modifications based on the instructor's feedback and suggestions.

3.3 Invite research experts in relevant fields to inspect before use.

3.4 Modify according to the recommendations of relevant research experts before use in interviews.

3.5 Conduct interviews using adapted questions.

Interview records: Make a table listing the date, location and main information of the interviewees, such as name, age, gender, occupation, etc. Ask questions based on the designed questionnaire and focus on key topics in the theme design of this interview.

4. Focus group discussion

Focus group discussion is a discussion group composed of digital media designers or design teams, relevant cultural experts, paper-cutting enthusiasts and local resident representatives to collect information on the inheritance and protection status of the Yiwulv Mountain Manchu paper-cut, and the role of digital media in the inheritance and protection of intangible cultural heritage. Relevant data on the application, as well as opinions on the construction of a practical model for the application of digital media 3D Animation in the inheritance and protection of Yiwulv Mountain Manchu paper-cut, summarize and analyze the discussion results, make timely adjustments and optimize them.

3.2.2 Data Collection

1. Basic survey

The basic survey of this research mostly used literature research and field investigation methods. Through online and offline searches, we searched for domestic and foreign literature related to Chinese paper-cutting culture, Yiwulv Mountain Manchu paper-cut and digital media, and searched and analyzed relevant research

results. In order to provide valuable reference data and basic theoretical information for subsequent research.

Collected documentary materials and fieldwork contents:

- Relevant historical documents, historical biographies, artistic value and related inheritance and protection methods of Chinese paper-cutting and Yiwulv Mountain Manchu paper-cut.

- Digital media, 3D Animation and related art forms, expression methods, interactive methods, technical means, etc. used in intangible cultural heritage.

- Relevant laws and policies promulgated by the state regarding intangible cultural heritage and digital media, digital inheritance of intangible cultural heritage, relevant laws and policies promulgated by Liaoning Province, relevant laws and policies promulgated by Jinzhou City, etc.

2. Observation

Based on participatory and non-participant observation, the observation data mainly includes the cultural value, ritual activities, production skills, inheritance and protection methods of Yiwulv Mountain Manchu paper-cut, Jinzhou; the technical language, expression forms, interaction methods of digital media from the perspective of digital technology, etc. The method of observation and recording is through videography and note-taking. By recording the Yiwulv Mountain Manchu paper-cut, we observed and extracted the pattern symbols of the required samples from the field. Recording the inheritance and protection methods and activities of the national government can help us understand the current main methods of inheritance and protection, what are the shortcomings of the methods, and summarize and refine the shortcomings. Through this method, more and richer data information can be recorded for subsequent data collection and practical creation.

3. Interview

Interview data will be collected in the form of audio recordings and transcripts. The interview method is one of the most direct data collection methods. Before the interview, the questions, time and interview links should be set. After the interview, the interview records of different people should be summarized and recorded. This study obtained valuable data information and research materials through dialogue with relevant information providers. The main interviewees of this

study mainly include intangible cultural heritage cultural experts in Jinzhou City, Liaoning Province; national representative inheritors of the Yiwulv Mountain Manchu paper-cut; digital media designers; and relevant scholars engaged in the protection of intangible cultural heritage in Jinzhou City Or researchers; enthusiasts of Manchu paper-cutting art in Yiwulv Mountain, etc.

Main interview questions: information, location, interviewee (including name, nationality, gender, age, occupation, position), and then ask questions related to the research.

3.1 After the interview, organize and classify the relevant interview data content, and organize and classify the data information of each interview by date for subsequent data synthesis.

3.2 The interview data needs to be recorded in writing to facilitate integration and analysis and provide a basis for the argument of this study. After collecting the data, it needs to be reviewed in conjunction with other relevant studies so that data selection and analysis research can be conducted from an objective perspective.

4. Focus group discussions

Define research objectives and research questions:

Clarify the research objectives and research questions. In line with the three research objectives of this study, the following steps for focus group discussions were conducted.

- Select focus group panelists:

Identify participants in the focus group discussion who should represent the research topic relevant and target audience. Participants include cultural experts on the Yiwulv Mountain Manchu paper-cut, digital media artists, paper-cutting enthusiasts, local people, etc.

- Develop focus group discussion guide:

Include open-ended questions that can guide the discussion. Questions were aligned with what was relevant to the research objectives, while being provocative and open-ended so that participants could freely express their opinions and experiences.

- Arrange focus group discussion sessions:

Choose the right place and time. Make sure the meeting can accommodate participants and provide a comfortable environment.

- Conduct focus group discussions:

During the focus group sessions, the researcher formulated and asked relevant questions, and participants were guided to discuss the research questions. The discussion process is open and participants are free to express their views and ideas. The researcher listens and takes notes during this process, and will also participate in discussions during the process.

In the field of qualitative research, focus group discussions are the most effective method of data collection and provide an in-depth understanding of participants' perspectives and experiences.

3.2.3 Data Process and analysis

Summarize the collected research data, classify it according to the expected research objectives, integrate it into a summary table, and check the completeness of the research data. Analysis was conducted using triangulation techniques by integrating aggregated data to answer the research objectives. Researchers will use relevant theories to validate the findings. Ensure the completeness and adequacy of analysis and conclusions.

In view of the first research goal, the researcher conducted a detailed analysis and combing of the historical origin, cultural value and cultural identity of the Yiwulv Mountain Manchu paper-cut. The historical origin, cultural value and cultural identity of Yiwulv Mountain Manchu paper-cut will be explained.

For the second research goal, the researcher collected relevant information on the current status of inheritance and protection of Yiwulv Mountain Manchu paper-cut in recent years, organized and analyzed the current situation and problems, and concluded that the current inheritance and protection of Yiwulv Mountain Manchu paper-cut are facing question.

For the third research goal, the researcher used relevant literature, the current status and problems of the inheritance and protection of Yiwulv Mountain Manchu paper-cut, and the suggestions provided by the interviewees. Use relevant concepts and theories to build a practical model for the application of digital media in the inheritance and protection of Yiwulv Mountain Manchu paper-cut. Use the creative

path of pre-design, mid-term production, post-production synthesis, and evaluation feedback of 3D animation.

The practical creation process is as follows:

1. Historical origins

2. Cultural Value

3. Cultural Identity

4. The inheritance and protection current

5. The inheritance and protection problems

6. 3D animation pre-design (concept design, sample extraction, sample redesign)

7. 3D animation Mid-production (model production, scene construction, 3D animation rendering and generation)

8. 3D animation Post-synthesis (3D animation synthesis, application of virtual roaming technology)

9. Assessment and feedback

10. Application of practical results

3.2.4 Research Result and Presentation

This study used qualitative research methods. At the same time, descriptive analysis methods were used to collect data through surveys, observations, formal and informal interviews, and focus group discussions. Data synthesis was performed according to the research framework. The research results are mainly descriptively analyzed using three main concepts: Cassirer's concept of semiotics and Ferdinand de Saussure's (1916) concept of "signifier and signified" in semiotics;Harold Lasswell's (1948) "5W" theory in communication studies from the United States and the concept of digital cultural reproduction were used to study the research objectives. The purpose is to derive a research model for the application of digital media 3D Animation in the inheritance and protection of Yiwulv Mountain Manchu paper-cut, so as to enhance its cultural value and promote its sustainable development. It can provide academic support to future researchers, national government departments,

relevant cultural experts and other researchers. The results of the study will be submitted as a research paper.
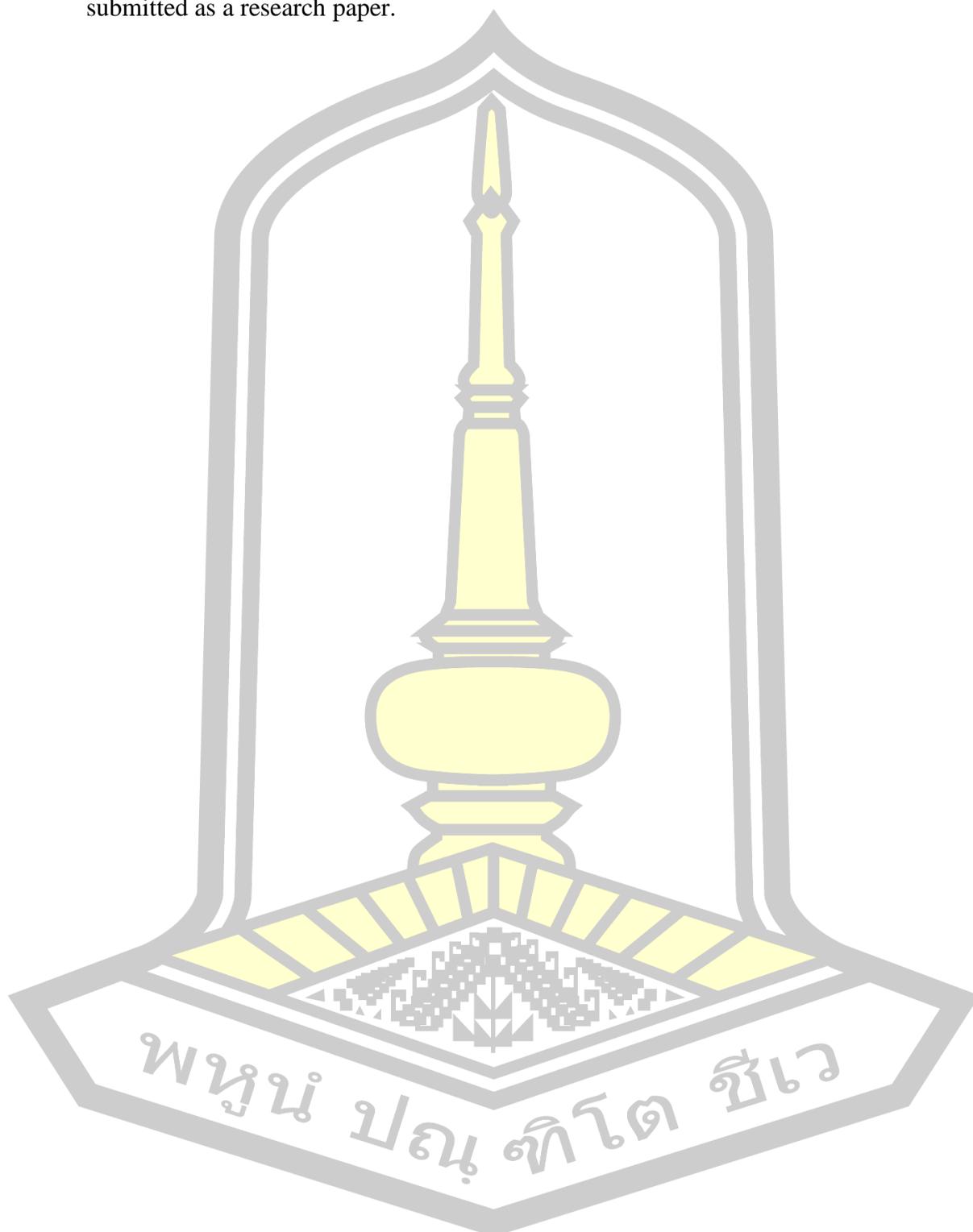
CHAPTER IV
RESEARCH RESULTS

This chapter will describe the historical origin, artistic value and cultural identity of Yiwulv MountainManchu paper-cut; analyze the current problems of inheritance and protection of Yiwulv Mountain Manchu paper-cut; summarize the theoretical model of the application of practical creation of digital media 3D animation in the inheritance and protection of Yiwulv Mountain Manchu paper-cut . Data were drawn from a literature review, surveys, interviews, observations, and focus group discussions. The theoretical model consists of four modules and six design links. Four modules: early design; mid-term production; post-synthesis; evaluation and feedback. Six design links: conceptual design; sample extraction; sample redesign; 3D animation production; 3D animation synthesis; and work evaluation feedback.

4.1 The historical origin, cultural value and cultural identity of Yiwulv Mountain Manchu paper-cut.

4.1.1 The historical origin of Yiwulv Mountain Manchu paper-cut.

4.1.1.1 The development of Chinese folk paper-cutting

4.1.1.2 The development of Manchu paper-cutting

4.1.1.3 The Development of Yiwulv Mountain Manchu paper-cut

4.1.2 The cultural value of Yiwulv Mountain Manchu paper-cut

4.1.2.1 The value of cultural inheritance

4.1.2.2 The value of cultural symbols

4.1.3 The cultural identity of Yiwulv Mountain Manchu paper-cut

4.1.2.1 The Identity of cultural symbols

4.1.2.2 The Identity of education and inheritance

4.1.2.3 The Identity of innovation and development

4.1.4 Summary

4.2 The current promble of inheritance and protection of Yiwulv Mountain Manchu paper-cut.

4.2.1 The inheritance and protection current of the Yiwulv Mountain Manchu paper-cut

4.2.2 The inheritance and protection problems of the Yiwulv Mountain Manchu paper-cut

4.2.3 Summary

4.3 The Application of 3D Animation Technology in the Inheritance and Protection of Yiwulv Mountain Manchu paper-cut.

4.3.1 Pre- design

4.3.2 Mid production

4.3.3 Post-synthesis

4.3.4 Evaluation feedback

4.3.5 Summary

This chapter is divided into three parts. The first part introduces the historical origin, artistic value and cultural identity of Yiwulv Mountain Manchu paper-cut. The second part introduces the current problems of inheritance and protection of Yiwulv Mountain Manchu paper-cut. The third part is the Application of 3D Animation Technology in the Inheritance and Protection of Yiwulv Mountain Manchu paper-cut. The research results were proposed through the descriptive analysis. The results are as follows.

4.1 The historical origin, cultural value and cultural identity of Yiwulv Mountain Manchu paper-cut

Through CNKI, Google Scholar and related library documents, we collected a large number of relevant historical documents, historical materials and books about Chinese folk paper-cutting, Manchu paper-cutting in Northeast China, Yiwulv Mountain Manchu paper-cut and Manchu culture. At the same time, through on-site inspections and communication with interviewees, national inheritors of Yiwulv Mountain Manchu paper-cut and relevant folk culture experts, we can further understand the information about Yiwulv Mountain Manchu paper-cut. The history and development of Chinese folk paper-cut art have been introduced in the literature review in Chapter 2 and will not be repeated here. This chapter will use qualitative

research methods, focusing on the modern history and development of Yiwulv Mountain Manchu paper-cut. The research is divided into three parts: the first part is the historical origin and development of Yiwulv Mountain Manchu paper-cut, which is explained through materials, form and content, tools, production steps and inheritors; the second part is the artistic value of Yiwulv Mountain Manchu paper-cut, and the third part It is the cultural identity of Yiwulv Mountain Manchu paper-cut.

4.1.1 The historical origin of Yiwulv Mountain Manchu paper-cut

4.1.1.1 The development of Chinese folk paper-cutting

China's folk paper-cutting is rooted in farming culture, has gone through a long period of development, and has made great contributions to the development of national culture. This part will briefly explain the development of Chinese folk paper-cutting from the early stage, embryonic stage, growth stage, development stage and prosperity stage of paper-cutting. The focus will be on the Manchu paper-cutting part of Yiwulv Mountain.

The early stage of the art of paper-cutting. From the Neolithic Age of primitive society to the Han Dynasty, the development of this period laid the foundation for the emergence of paper-cutting. The accumulation of experience in handicrafts, such as the stone tool making technology, pottery hollowing technology, animal bone carving and other handicrafts in the Neolithic Age, all brought the possibility of the later paper-cut art. (Wang, 2006)

Budding stage. Refers to the Han Dynasty and the Three Kingdoms period. The invention of paper in the Eastern Han Dynasty is closely related to the emergence of paper-cutting. Judging from the combination of the production of paper-cutting and the invention of paper, they have a certain causal relationship. The emergence of paper-cutting in China has a history of two thousand years. From the Han Dynasty to the Three Kingdoms period, it was the budding period of paper-cutting art among the people, which lasted for one and a half centuries. (Wang, 2006)

Growing stage. my country has had the art form of paper-cutting as early as the Southern and Northern Dynasties. There is a history of more than 300 years between the Northern and Southern Dynasties and the Sui Dynasty. Documents record that folk paper-cutting gradually grew with the needs of folk customs. The earliest paper-cut work discovered in China is the flower paper-cut from the Northern

Dynasties (386-581 AD) unearthed from the Astana Tomb in the Flame Mountains of Turpan, Xinjiang, which is more than 1,500 years old. The appearance of the paper-cuts "Horse", "Monkey" and "Tuanhua" shows that the paper-cutting art at that time had a very high artistic level. The paper-cuts that appeared in tombs were used for burials. The main expressions are animal patterns and plant patterns. The decorative style adopts a group pattern, and the color is yellowish with blue in between. The paper-cut works are displayed in "pairs", which shows that people had already mastered the foldability of paper at that time and created symmetrical and balanced artistic techniques. (Wang, 2006)

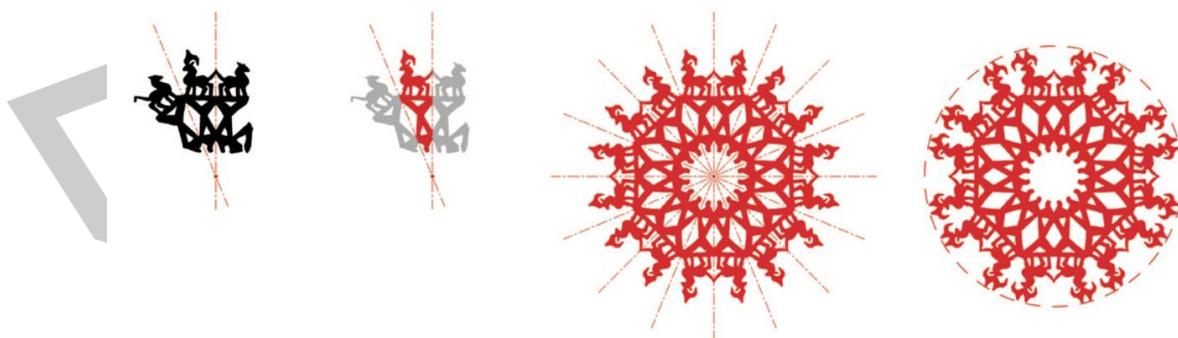Figure 12 " Dui Ma " paper-cut fragment

Source Huang Lin (2023)

Figure 13 Restoration of "Tsushima" paper-cut fragments

Source Cao (2018)

Development stage. In 618 AD, during the four hundred and fifty years of the Tang, Song and Yuan Dynasties, China's multi-ethnic folk paper-cutting was influenced by farming civilization, influenced by farming culture, and blessed by folk culture, which enabled the further development of folk paper-cutting art. . Paper-cut works in the Tang Dynasty were not only popular among the working people at the bottom. In China, folk paper-cutting is popular in the coastal villages in the southeast, the kiln dwellings in the Loess Plateau in the north, the snowy areas of Kangzang, and the Buddhist temples in Dunhuang on the frontier. A large number of Buddhist paper-cuts have been unearthed from the Mogao Grottoes in Dunhuang. In Chang'an, the capital of the Tang Dynasty, Bianliang, the capital of the Northern Song Dynasty, and Hangzhou, the capital of the Southern Song Dynasty, paper-cuts were sold in the neighborhoods, and they were even given as gifts in social interactions. After the Song Dynasty, the papermaking industry became more mature, the types of paper began to become diversified, and the styles and forms of paper-cutting also developed. Folk life needs paper-cutting to beautify it, which fully reflects folk customs and is a necessary artistic decoration for folk life. Therefore, paper-cutting began to enter people's daily lives and take root among the people. (Wang, 2006)

Prosperity stage. During the Ming and Qing Dynasties, Ming Dynasty: Ming Dynasty (1368-1644), Qing Dynasty: Qing Dynasty (1616-1912), paper-cut art entered a relatively mature and prosperous stage, which lasted for more than 500 years. Folk paper-cutting has developed on the basis of tradition, and has reached a mature stage in terms of expression content and artistic form. The paper-cuts were jointly created by the people of the revolutionary group. In the prosperous period, folk paper-cutting had rich themes and diverse forms of expression, and each region formed its own unique style. Folk paper-cutting art existed in rural areas in the north and south, especially an important handicraft mastered by women. With the passage of time, the application levels of folk paper-cutting art have become more diverse, people's demand has increased, and folk paper-cutting has penetrated into all aspects of people's lives. Paper-cutting appears in folk festivals, weddings and funerals, decorations in daily life, and religious ceremonies. Some folk paper-cut works from the Ming and Qing Dynasties were also put into the market for trading and were widely circulated. Until the Qing Dynasty, the Kangxi, Qianlong, and Jiaqing periods,

the development of paper-cutting had entered an unprecedented stage of prosperity. (Wang, 2006) The Manchu paper-cut art of Yiwulv Mountain developed from this stage.

From the period of the Republic of China to the founding of New China, it lasted more than 100 years. The development of folk paper-cutting during this period was strengthened by the rapid development of social economy and the trend of globalization. Due to economic turmoil and cultural impact, the art of paper-cutting declined and faced the danger of extinction. As the rescue and protection of intangible cultural heritage increases worldwide, the Chinese government attaches great importance and takes various active measures. At the same time, with the support of social groups, the folk paper-cutting art is active in more and more people. among occasions and art forms.

The origin of Chinese folk paper-cutting is farming culture. People's lives and labors have their own rules. What they see, hear and feel during their labors day after day forms their own culture and customs. Chinese folk paper-cutting also has a long agricultural era and has the universality of extensive multi-ethnic cultural integration. It also reflects the possibility of using paper in people's lives and the creative state and cultural confidence of the folk inspired by paper.

Table 2 The development of folk paper-cutting in China

Stage	Dynasty	Event
The early stage of paper-cut	Neolithic Age to Han Dynasty	The accumulation of experience in handicrafts brings possibilities to the production of paper-cut
Budding Stage	Han Dynasty and Three Kingdoms	The invention of paper is closely related to the emergence of paper-cutting
Growing Stage	Northern and Southern Dynasties to Sui Dynasty	The earliest real paper-cut works in China appeared

Development stage	Tang, Song and Yuan Dynasties	Influenced by farming culture and folk culture, folk paper-cutting has been further developed
Prosperity stage	Ming and Qing Dynasties	Folk paper-cutting has rich themes and diverse forms of expression, and each region has developed its own unique style. The Yiwulv Mountain Manchu paper-cut was developed during this period.
	About 1980-1990	Chinese folk paper-cutting has experienced the revival and prosperity of folk customs
	About 1995-1999	With the strengthening of social and economic development and economic globalization, traditional original paper-cutting has experienced a period of decline in folk culture and faces the risk of extinction.
	2006-2009	In 2006, the Yiwulv Mountain Manchu paper-cutting was selected into the first batch of national intangible cultural heritage lists; in 2009, as a combined item of Chinese folk paper-cutting, it was selected into the UNESCO intangible cultural heritage protection list. The national government has issued relevant policies to inherit and protect it.

		On a global scale, the rescue and protection of intangible cultural heritage is being carried out. The Chinese government has issued corresponding policies and regulations and carried out various active protection measures. All walks of life and paper-cutting inheritors are also actively carrying out inheritance and protection work. The inheritance of Yiwu Lv Mountain paper-cutting has been improved.
	2009-2023	

Source Huang Lin (2023)

4.1.1.2 The development of Manchu paper-cutting

With the development of the history of Chinese folk paper-cutting art, the folk art in Northeast China has also formed its own independent cultural system, which is connected with the cultural ecology, cultural consciousness, and philosophical concepts formed by mankind over thousands of years. China is a multi-ethnic country with fifty-six ethnic groups, among which the Manchus are one of the ethnic groups with a wide geographical scope and a large population. The Manchus are a hard-working, brave, and intelligent nation. They are also a nation that is good at absorbing foreign cultures and integrating innovation. The area of origin of the Manchus is Northeast China. In the long-term historical development, they have formed customs and culture rich in national characteristics. They are an important part of Northeast culture and a cultural treasure of the Chinese nation. The Manchu people live among white mountains and black waters. Paper entered this area very late. The Manchu people's aesthetic orientation has its own uniqueness. The Manchu people's paper-cutting fully embodies the culture, aesthetics and emotions of the nation.

Manchu paper-cut art originated from the Northeast and is one of the valuable assets of Chinese paper-cut art. Its expression content is closely related to

folk life. The materials and techniques are simple and direct, and express the love for life directly from the heart. It is the embodiment of the optimistic and positive spirit of the vast working people at the bottom of the Manchu ethnic minority. Manchu paper-cutting in the Northeast is not restricted by materials, techniques and production conditions. It can be taken at any time and can be made at any time. During the Huangtaiji period, the Jurchen (later known as Manchuria) people began to make paper. Before paper was invented, the Manchus in the Northeast had already used sheet materials such as animal skins, fish skins, birch bark, leaves, corn leaves, pepper skins, cloth and metal sheets to make objects that reflected nature and life. Art work. Due to limited material resources and the condition of living closely with nature all day long, these Manchus in the Northeast region who live at the bottom of society have continued to use these materials for a long time. The characteristics of the materials give these works a strong texture, forming a unique style and an artistic language representative of the Manchu nationality in Northeast China. An important reason for the continuation and development of Manchu paper-cutting in Northeast China is the local people's devout belief in shamanism and the idea of unity between man and nature. In a special historical period when human science was backward, shamanic sacrifices and witchcraft activities appeared as a social phenomenon in the lives of all walks of life at that time. (Wang & Jing, 2016)

In the vast black land of Northeast China, the rugged and bold Manchu people of Northeast China were nurtured. They integrate their character and life into the art of paper-cutting. The works reflect a sense of simplicity, depth and majesty. The Manchu paper-cutting art style in Northeast China emphasizes the contrast between black and white blocks, the virtual and solid arrangement, and the rhythm and rhythm of line changes. Manchu paper-cutting in the Northeast is full of shamanic mystery. The totem paper-cutting used in sacrifices is used to pray for protection and the paper-cutting used in witchcraft activities is used as a magic weapon to eliminate diseases and drive away evil spirits. The magical and strange style of Manchu paper-cutting in Northeast China is influenced by shamanic beliefs, forming a special style that is different from other regions and ethnic groups. (Wang & Jing, 2016)

Wang (interviewed, 2023) said that Yiwulv Mountain, located at the northeastern end of the Liaoxi Corridor, is the sacred mountain where various ethnic

groups in the Northeast region live and thrive, and it gave birth to the Hongshan culture of clan society. The unique geographical environment and historical evolution here make Yiwulv Mountain a place where grassland culture, mountain forest culture, Central Plains culture and marine culture merge. For thousands of years, the people here have inherited a relatively independent national and folk culture. The Yiwulv Mountain Manchu paper-cut is a typical representative of this cultural relic.

Over time, the Manchu community in Yiwulv Mountain gradually formed a unique cultural identity, and paper-cutting as a traditional art was carried forward in this context. The following are some characteristics of the development of Yiwulv Mountain Manchu paper-cut during its prosperous stage:

4.1.1.3 The Development of Yiwulv Mountain Manchu paper-cut

Paper-cut culture is a culture that continuously develops and changes with the evolution of history and reflects life. Paper-cut art also presents diversified artistic expressions in different regions and ethnic groups. The Manchu paper-cut in the Yiwulv Mountain area is an important part of it. The original paper-cutting art of Yiwulv Mountain Manchu paper-cut, with its unique and weird themes and modeling features, has left a precious cultural memory for the ancient mountain god culture of Yiwulv Mountain.

Wang (interviewed, 2023) said that Yiwulv Mountain Manchu paper-cut is an art form created and inherited by the people of Yiwulv Mountain for thousands of years. With a long history, paper-cut works are full of strong Manchu characteristics. The northern nomads and mountain forest peoples have protected Yiwulv Mountain for thousands of years, leaving a rich shamanic cultural heritage for Yiwulv Mountain. The Central Plains regimes of the past dynasties have enshrined Yiwulv Mountain in Zen, as well as the continuous immigration of Han nationalities in the Central Plains region in history. The shamanic culture of the northern peoples in Yiwulv Mountain has been influenced by the Central Plains farming culture, which has made the northern nomadic and mountain forest peoples who have been in the stage of resistance The shaman culture and the farming culture of the Han people in the Central Plains were integrated and unified, forming a new national community.

Through the collection and research of historical materials and interviews with experts, the art of Yiwulv Mountain Manchu paper-cut is one of the

representatives of China's intangible cultural heritage. It is mainly spread in the Manchu settlements in Northeast China, especially Liaoning and Jilin Provinces. Yiwulv Mountain Manchu paper-cut has a profound historical and cultural background in Manchu culture. Traditional Yiwulv Mountain Manchu paper-cut works usually feature animals and plants, myths and legends, and traditional patterns as themes, reflecting the Manchu people's reverence and blessing for nature, ancestors, and life. Although the Yiwulv Mountain Manchu paper-cut and the Hongshan culture have different historical backgrounds and cultural connotations, they both reflect the rich and diverse cultural traditions and religious beliefs of Northeast China. Although there is currently no direct evidence that the Yiwulv Mountain Manchu paper-cut has a direct historical connection with the Hongshan culture, both have related concepts of sacrifice and worship activities, and together represent the long and rich cultural heritage of Northeast China.

Through an interview with a local old man who loves paper-cutting in Yiwulv Mountain, we learned that, "If we want to explore the origin of the Manchu paper-cutting characteristics of Yiwulv Mountain, the social roots that formed this art should be the natural environment violations suffered by the people of Yiwulv Mountain thousands of years ago and the benefits given by other ethnic groups. pressure. Then the pressure formed will force the people to imagine and create some gods in reality to provide sustenance and comfort to their souls. They believe that those animals and plants with tenacious vitality and huge energy hidden in their bodies have powerful The vitality is what they should rely on and place their trust in. They even believe that these animals and plants in nature have a special blood relationship with themselves, so they begin to worship them as their ancestors. In this way, the unique local primitive The worship of gods was formed. The old man said that they would use local materials in their daily life, use wood to create, carve the image of the god who protects them, cut it with birch bark, and carry the created image of the protector with them to pray at any time. They protect themselves."

With the changes in history, primitive shamanism appeared with the migration of the Manchus, while the farming culture and feudal social customs from the Central Plains originated from the migration of the Han people. Since then, different religious cultures, customs and habits began to merge with the worship of

local animals and plants, forming a solid foundation for the Manchu paper-cutting art in the Yiwulv Mountain area. The worship of natural gods and ancestor gods in the Manchu folk paper-cuts in the Yiwulv Mountain area records the life and cultural status of the northern peoples who had animism and coexisted with the natural world. From the content point of view, the shamanic culture of nomadic and forest peoples worshiping natural gods and ancestor gods is the foundation of the Yiwulv Mountain culture. It is a paper-cut form based on the original Manchu nature god worship, ancestor god worship, shaman culture of fertility worship, and Manchu customs. It is spread in the Yiwulv Mountain area of Jinzhou and fully demonstrates the integration of modern Central Plains farming culture and Yiwulv Mountain mountain forest culture. . With strong local characteristics and distinctive ethnic characteristics, the Yiwulv Mountain Manchu paper-cut occupies an important position in the Chinese folk paper-cutting art. Unique regional characteristics, diverse aesthetic orientations, distinctive creative techniques, and systematic cultural symbols are important components of Chinese folk paper-cutting art.

The focus of this study will be on the paper-cutting part of the Yiwulv Mountain Manchu paper-cut that has shamanic culture. The original Manchu worship of nature gods, worship of ancestor gods, and the shamanic culture of fertility worship are the most representative types of paper-cutting in Yiwulv Mountain. Through interviews with folklore experts and national inheritors of Yiwulv Mountain Manchu paper-cut, the paper-cut samples with themes of nature god worship, ancestor god worship and fertility god worship will be displayed below. The pictures and text come from the documents "Illustrated Catalog of Yiwulv Mountain Manchu paper-cut" and "Inheritance of Chinese Folk Paper-cutting - Volume in Yiwulv Mountain". The specific display is as follows:

Table 3 Nature god worship paper-cut works

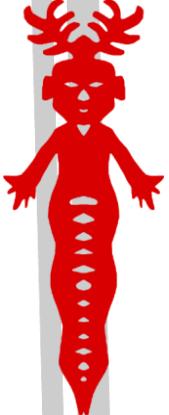| No.	Artist	Name	Introduction	Image	Type
1	Li shuqing	Tongtian Tree	The Babel Tree is a cosmic tree of the shamanic culture of northern ethnic groups who worship the mountains and forests. Shamans in the human world communicate with gods through the Babel Book. The Babel Tree is also called the "Tree of Life" and "Shaman Tree".		Nature god
2	Meng Xianzhen	Aobao Tree	Aobao means stone and sacred mountain in Mongolian. The gods of the ancestors inhabit the sacred mountains, and their worship of ancestors is connected with the worship of the sacred mountains. Sacrifice to the sacred mountain is the most sacred ceremony.		Nature god

3	Li shuqing	Tongtian Tree	The Babel Tree is a cosmic tree of the shamanic culture of northern ethnic groups who worship the mountains and forests. Shamans in the human world communicate with gods through the Babel Book. The Babel Tree is also called the "Tree of Life" and "Shaman Tree".		Nature god
4	Wang Xiuxia	Tree God	The shapes of trees and mountains are personified, the shapes of animals in the human body, the shape of the fish in the hands, and the branches growing out of the head and feet express the nature worship concept of the mountain people.		Nature god
5	Zhu Yuelan	Thunder God	The God of Thunder paper-cutting reflects the survival of shamanic cultural beliefs among the people of Yiwulv Mountain. They believe in animism and pray for peace.		Nature god

| 6 | Wang Xiuxia | Tiger god | The paper-cut pattern is a combination of man and tiger, reflecting the shamanic cultural concepts of animism, harmonious coexistence of man and nature, and man and animal. | | Nature god |
| 7 | Liu Chunlan | Tree God | It expresses the infinite reverence for nature, and also conveys the concept of animism and the harmonious coexistence of man and nature. | | Nature god |

Source Huang Lin (2023)

Table 4 Ancestor god worship paper-cut works

No.	Artist	Name	Introduction	Image	Type
1	Li shuqing	Lashou Ren	"Lashou Ren", Composed of nine connected people holding hands, it is the ancestor god and fertility god of the mountain and forest peoples. The nine hand-holding people connected together symbolized the		Ancestor god

			prosperity of the tribe. The long braid of the idol is a symbol of the identity of the ancestral god and the god of heaven.		
2	Zhao Yurong	Snake god	The snake god is a cultural symbol of ancestor god worship. The ancestors of Yiwulv Mountain believed that all creatures in nature have divinity and considered them to be their ancestors. Such symbols often carry deep cultural and religious implications.		Ancestor god
3	Li Mingyu	Qingniu Ancestor God	The paper-cut pattern of the Qingniu Ancestor God records the memories of the ancestors of the Khitan descendants who live in Yiwulv Mountain to this day.		Ancestor god

4	Liu Xieshi	Da fanche Mama	The statue of the old lady worshiped in Manchu homes records the traditional headdress of Manchu women called Da fanche.		Ancestor god
5	Wang Xiuxia	Ancestor God	The paper-cut pattern is in the shape of the statue of the ancestor god, and the long braid of the statue is a symbol of the identity of the ancestor god and the god of heaven.		Ancestor god
6	Li Shuqing	Three Fairies	The Legend of the Three Fairies records the birth story of Aisin Gioro Bukuri Yongshun, the founder of the Manchu people. The three ancestor gods are connected together, which may be the source of the ancestor gods and idols worshiped by the northern peoples.		Ancestor god

Source Huang Lin (2023)

Table 5 Fertility god worship paper-cut works

No.	Artist	Name	Introduction	Image	Type
1	Zhang Xirong	Liushu Mother	"Liushu Mother" is a fertility god that is commonly worshiped by Manchu people. The willow tree and woman are combined to worship the fertility god. These artistic symbolic languages convey the concept of fertility god worship and plant totem worship of the mountain forest people.		Fertility god
2	Liu Xieshi	Liushu Mother	The combination of a willow tree and a woman worshiped by Manchu people is the shape of the fertility god. The willow tree on the head of the statue reflects the plant totem worship concept of the mountain people. Pray that your descendants will prosper.		Fertility god

3	Wang Xiuxia	Huasheng Lianzi	It is a cultural symbol and an auspicious pattern. It is a symbol of fertility worship. It means more children, more blessings, and more prosperous descendants.		Fertility god
4	Wang Xiuxia	Jiuru Mother	In the Manchu creation myth, jiuru mother nourished and multiplied the creation goddess with her milk. 9 is the ultimate number in Manchu culture, symbolizing inexhaustibility.		Fertility god
5	Zhang Xirong	Pisces Mama	The worshiped Pisces statue has paper-cut shape covered with triangular feminine reproductive symbols. The fish shapes on both sides are covered with fish roe patterns, symbolizing many children and grandchildren, and praying for a prosperous family.		Fertility god
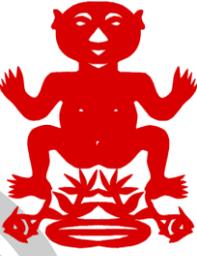
6	Wang Xiuxia	Liushu Mother	It expresses the image of the god of fertility and is also the protector of women and children. It is enshrined in the Liuhu mother with the word "xi" to pray for the health and safety of the couple and many children and grandchildren.		
7	Wei Shuzhen	Calabash Wa	Calabash wa is the god of giving birth to children. Multiple gourds combine to form a fat doll. The square hole money patterns, lotus patterns, and yin and yang symbols on the body all pray for more children, more blessings, and prosperity.		
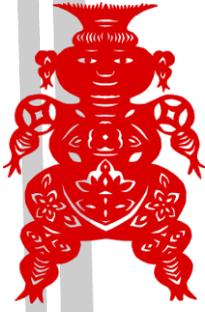
Source Huang Lin (2023)

The above samples were selected to be representative, able to reflect the technical characteristics of Yiwulv Mountain Manchu paper-cut, reflect diversity, and have representative cultural connotation and value. At the same time, it also provides theoretical basis and reference for the practical creation of research objective 3.

This research describes in detail its materials, tools and techniques, production steps, manufacturer, form and content, cultural value and cultural identity, a detailed description of the Yiwulv Mountain Manchu paper-cut is as follows:

1. Materials of Yiwulv Mountain Manchu paper-cut

Wang (interviewed, 2023) said that Due to the unique natural conditions and geographical environment of the Northeast, unique materials for Manchu paper-cutting are provided. Before the Manchus invented paper, people had already created works similar to paper-cutting. The materials used were mainly from nature, such as animal skins, fish skins, birch bark, leaves, corn leaves, pepper skins, linen cloth, etc. of ornamentation. The lifestyle of the Manchus has gone through hunting and farming, and the choice of paper-cut materials has also changed with the times. In the fishing and hunting era, birch bark, fish skin, and animal skin were mainly used; in the farming era, cloth, corn leaves, pepper skin, Mainly leaves. Nowadays, with the development of society, the widespread use of paper has replaced many natural materials.

Since traditional Manchu paper-cut materials are diverse, representative materials will now be described.

(1) Paper is the basic material for Yiwulv Mountain Manchu paper-cut. The traditional medical and witchcraft Manchu paper-cutting in Lv Mountain uses materials such as gold foil paper and silver foil paper used for window coverings and funerals. The later developed Yiwu Lv Mountain Manchu paper-cuts generally use single-sided red paper, and some use free creative parts of handmade paper and colored paper. Red is usually regarded as a symbol of happiness, prosperity and good fortune in Chinese culture. Paper of this color is often associated with important cultural activities such as sacrifices and ceremonies in the Manchu paper-cutting culture of Yiwulv Mountain. The red paper material is not only an aesthetic choice of material, but also involves the development of cultural traditions, religious beliefs and the needs of specific occasions. (Wang, 2011)

(2) Leaves. Before paper appeared, leaves were the oldest cutting and engraving material. Today, people still retain the skill of cutting and carving leaves. The ancestors of the Manchu people picked large leaves for paper-cutting, such as poplar trees, persimmon trees, sycamore trees, mulberry trees and other large leaves. After collecting them in early autumn, they dried and flattened them in the shade, and used scissors to cut out the paper-cut patterns. The natural texture on them Superimposed with natural colors, it forms a unique paper-cut style. (Wang, 2011)

(3) Leather. During the fishing and hunting era, the Manchu ancestors would use leather materials for cutting and carving creations. The leather is cut and carved as decoration, and the collar, cuffs, and hem of the clothes are trimmed with deerskin dyed black, and the patterns are mostly made of thin black leather appliqués. The shear patterns are mostly deer head pattern, geometric pattern, long coiled pattern, cloud scroll pattern, pattern pattern and flower and grass pattern. (Wang, 2011)

(4) Rags, silk fabrics, cut works of art or statues, etc., are recorded in the documents of the Liao Dynasty. Folks use cotton and linen to cut cloud patterns and embroider them for decoration, commonly known as "cloud patterns". Rags of various colors are also used for making paper-cut cloth stickers. These cloth stickers are used to make furoshiki, door curtains, cushions and other decorations. (Wang, 2011)

(5) Oil paper. Oil paper and kraft paper are soaked in tung oil and used to cut and engrave patterns for printing orchid cloth. (Wang, 2011)

Although paper dominates modern paper-cutting, those ancient materials derived from nature still have an important meaning in the memory of Manchu paper-cutting in the past. The natural texture and special craftsmanship presented by these materials provide contemporary people with respect and recognition of tradition.

The folk paper-cuttings of Yiwulv Mountain are rich in colors. The Manchu paper-cuttings of Yiwulv Mountain mainly come in red, green, blue, black and other colors. Different color styles represent different meanings. Red paper-cutting is the most commonly used color in Yiwulv Mountain paper-cutting. In Manchu belief, red represents the sun and fire. It can bring warmth to people and drive away wild beasts. Therefore, it is a symbol of warmth and protection, and it also represents auspiciousness and joy. Red represents life and hope, the beginning and end of life, which is the desire for life of the Manchu people in Yiwulv Mountain. During the festival, Manchu people decorate their houses with blessing characters cut out of red paper, zodiac pictures, hanging notes, etc., reflecting the festive atmosphere of the Spring Festival. Blue paper-cut, blue represents water in Manchu belief. Water is the source of life and is an expression of Manchu people's belief in nature. Blue,

yellow, white, red and black are the colors of the Manchu Eight Banners. During the Qing Dynasty, which was ruled by the Manchus, blue was designated as one of the colors available to ordinary people. Therefore, it is more common for ordinary people to use blue paper to make paper-cut works. Therefore, in the Yiwulv Mountain Manchu paper-cut, blue shows the natural scenery, carrying the Yiwulv Mountain Manchu people's yearning for a better life, and also embodies the Yiwulv Mountain Manchu people's custom of nature worship. Green paper-cut symbolizes vitality. The choice of green is not only an imitation of nature, but also a love for nature. The choice of green is not only the color of leaves and willow trees, but also represents respect for life and worship of nature. Black paper-cutting, black is also a commonly used color for Yiwulv Mountain Manchu paper-cut, and will be used in sacrificial activities. With the development of the times, traditional sacrificial activities have weakened, and the application of black paper-cutting has also faded out of people's vision. (Liu, 2021)

2. Tools and Techniques of Yiwulv Mountain Manchu paper-cut

Wang (interviewed, 2023) said that the main tools for Yiwulv Mountain Manchu paper-cut are large black scissors that are often used in Manchu daily life. At the same time, materials such as carving knives, chisels, and smoke lamps are used in making different types of paper-cut works.

(1) Scissors are the most commonly used tool for Yiwulv Mountain Manchu paper-cut. Generally, large black scissors with Manchu characteristics are used, which are also the most distinctive traditional tools. Wang (interviewed, 2023) said that the composition of Yiwulv Mountain Manchu paper-cut is relatively simple. In the cutting, it is mainly based on large-area contrasting black and white blocks. The cutting line is long. If there is no possibility of breakage, it needs to be able to be cut. Scissors with a large fit, which is why Manchu paper-cutting artists in Yiwulv Mountain generally use large scissors for their creations. After the Central Plains culture entered the Yiwulv Mountain area on a large scale, the paper-cutting of the Han people in the Central Plains had a great impact on the Manchu paper-cutting techniques of Yiwulv Mountain. Fine details were added to the paper-cutting works. In addition to using larger scissors during the paper-cutting process, In addition to processing the main shape part, still use small scissors to match it. Scissors are the

treasures of paper-cutting artists, and they are all sharpened and polished by themselves.

Figure 14 Four types of scissors used by national inheritor Wang Xiuxia

Source Wang (2011)

Figure 15 Scissors used by paper-cut artist Zhang Xirong

Source Wang (2011)

(2) Carving knife, the carving knife used by the Manchu people in Yiwulv Mountain to cut paper. It is mainly used for carving shadow puppets and printing and dyeing samples. In recent years, many paper-cut artists have borrowed carving techniques to cut and paste their cut-out works, creating good artistic effects.

Figure 16 The carving knife used by paper-cut artist Han Chunlin
Source Wang (2011)

(3) Chisel is a tool used by folk artists to make paper-cut paper hangings. There are two types of chisels: large and small. Use a hammer as an auxiliary striking tool. The large chisel is used to carve the hollow lines on the hanging paper pattern; the small chisel is used to carve the small hollow lines on the hanging paper.

Figure 17 The chisel used by paper-cut artists to carve hanging paper
Source Wang (2011)

(4) Fumigation lamp is an auxiliary tool. It is a lamp used to dye paper. In the old days, it was used to dye cut white paper into black.

Due to the characteristics of materials and customs, the traditional Yiwulv Mountain Manchu paper-cut has formed expression forms and techniques with unique regional characteristics. With the development of the times, some of these expression techniques have been passed down, and some are on the verge of extinction. The traditional Manchu paper-cut production process can be summarized as cutting, smoking, lining, burning, chiseling and tearing.

Shearing: Shearing is the main technique of Yiwulv Mountain Manchu paper-cut. Influenced by the Changbai Mountain region, Manchu paper-cutting is unique in its use of materials and functions. The traditional form of Manchu paper-cutting is individual patterns, but the simpler the individual patterns, the more important the shape of the outline is. Because most of the Manchu paper-cut materials are thicker, they are not suitable for making many internal hollows, so they focus on cutting the appearance and making simple hollows on the inside. This has become a cutting technique commonly used for individual patterns. Folding and cutting is a paper-cutting method that folds the paper in half, cuts from the fold, cuts along the outline of the pattern, and then uses partial half-folding to hollow out details. This method can avoid problems such as difficulty in cutting, hollowing out, and easy deformation due to thick materials. In the use and popularization of paper, the traditional skill of folding and cutting has been well inherited and continuously developed.

Smoked: This method comes from the Manchu people's preference for black and white colors. The blackened paper cuts will be pasted directly on the wall as a decoration for festivals and daily life. In recent years, with the popularization of colored paper and the updating of copying methods, this technique has gradually faded out of life.

Lining: This technique comes from embroidery. The most typical embroidery of the Manchu people is patchwork, in which black cloth or leather is used to cut out the outline of the shape, and then the shape is hollowed out. Finally, various colored cloths are placed under the hollowed out part to serve as a foil. This method later Also used in paper cutting. The paper used by the people is mostly matt paper, which can be blackened to form a sharp contrast with the earthen wall. When completed, it can be used to set off the colored paper behind. Due to the aesthetic

development of the times and the cumbersome process of this technique, it is no longer used and is on the verge of extinction.

Burning: The materials originally used for Manchu paper-cutting were all non-paper materials, whether birch bark, leaves, corn leaves or cloth. Because they are not easy to fold, burning with incense is a good method for hollowing out. In order to solve the problem of the cloth flying after being cut, the Manchus used incense burning method to process the edges and the hollowed out parts in the middle. Fabric will not flash after being ironed, and other materials can form a decorative effect with black edges after being ironed. Gradually, "burning" became a unique expression technique of Manchu paper-cutting. Due to the development of materials and the limitations of the expressive power of fire, this technique is rarely used nowadays.

Chiseling: The hollow shape is not important in Manchu paper-cutting. The process of chiseling and the traces left behind are the most important. The paper-cutting technique of chiseling is commonly used in religious ceremonies and is still used today.

Tearing: In previous funeral customs, for convenience, people would tear out paper figures or utensils for the deceased at the cemetery site, and burn them for the deceased to use in the afterlife. Nowadays, hand-torn items have been replaced by modern funeral items, but the traditional skill of paper-cutting has been well inherited and developed in paper-cutting education. (Qiao, 2018)

Through the summary of the above tools, materials, and techniques, we can see that the tools and techniques of Yiwulv Mountain Manchu paper-cut are diverse. Through the arrangement of materials, we can easily find that the cutting and carving technique is the main technique of Yiwulv Mountain Manchu paper-cut.

3. Making Steps of Yiwulv Mountain Manchu paper-cut

The traditional medical witch Lv Mountain Manchu paper-cutting process is very characteristic of Manchu culture. There is no draft before paper-cutting, and the scissors create according to the artist's inner conception. Therefore, the most distinctive part of Yiwulv Mountain Manchu paper-cut is the free and casual nature of the work, which is rough and powerful, and divided into regular parts. The

overall creative process requires the creator to have a deep understanding of Manchu folk culture and superb craftsmanship.

This study selects the work "Liu Hua Mama" by paper-cut artist Zhang Xirong as an example to sort out the paper-cut creation process. Through an interview with folklore expert Wang (2022), we learned that this work is a very representative one of the Manchu paper-cut works in Yiwulv Mountain, so it was selected as one of the samples for practical creation. The process of making paper-cuts varies depending on the techniques of each paper-cut artist, but they basically all use folding and shearing techniques. Here we summarize the steps of paper-cutting and present the key steps in the paper-cutting process.

The first step is to choose materials and origami. According to Figure 18, the main carrier of paper-cutting is paper. In the Yiwulv Mountain Manchu paper-cut, the paper commonly used is single-sided bright red paper, and the texture of these papers is slightly rough. In the creation of traditional Yiwulv Mountain Manchu paper-cut, the choice of materials is very free, which was introduced in detail above and will not be repeated here. Fold the selected single-sided red paper in half, and then fold it in half continuously. This is the preparation before creating paper-cut works.

Figure 18 Choose materials and origami

The second step is to make a draft. According to Figure 19, There is no need to draw a manuscript on paper, just start the paper-cutting creation after making a rough sketch. There is no rough draft before paper cutting, and the scissors create according to the artist's inner sketch. The direction of the scissors follows the inner

conception of the paper-cutting artist, "cutting follows the hand, and the hand follows the heart."

Figure 19 Make a draft, Create from the artist's inner sketch

The third step is to cut the main outline part. According to Figure 20, First cut the outline of the main body of the work, starting from the folded edge and cutting along the outline of the main body. The main body may be a pattern element of a character, animal, or plant. The smooth lines cut out show the skill of the paper-cutting artist.

Figure 20 Cut out the outline of the main body and cut along the outline of the main body.

The fourth step is to cut local elements. According to Figure 21, Use techniques such as hollowing out, disconnection, and penetration to cut out the decorative parts around the main pattern of the mother willow tree. After the main outline is completed, it involves cutting out local details. This part is the key to the paper-cutting process, requiring paper-cutting artists to use different techniques, such as penetration, hollowing out and other techniques, to finely cut and carve local details to create a vivid visual effect.

Figure 21 Cut local elements, After the main outline is completed, local details are cut and carved.

The fifth step is to sort out the details in depth. According to Figure 22, In-depth trimming of the edges and details of the pattern of the paper-cut work is done to ensure the overall effect. According to Figure 23, Then unfold the paper-cut work and the work is completed.

Figure 22 Carefully trim the edges and details of the paper-cut patterns.

Figure 23 Finished

Source Wang (2011)

4. Form and content of Yiwulv Mountain Manchu paper-cut

The conceptual characteristics of the Manchu paper-cut works of Yiwulv Mountain mainly reflect the totem worship concept of the Manchu people, who regard totems as cultural symbols of reproduction and reproduction. The images of the Babel Tree, the Tree of Life, and the Willow Mother in the Manchu paper-cut works of Yiwulv Mountain demonstrate the spiritual concept of totem worship of the Manchu people. The concept of symmetrical modeling is another important feature of Yiwulv Mountain Manchu paper-cut. In the shapes of the Manchu paper-cuts in Yiwulv Mountain, the even-numbered composition of patterns represents the world of life created by the combination of yin and yang. The shape of Yiwulv Mountain Manchu paper-cut is the result of satisfying people's imagination and creativity. People broke through the boundaries of real time and space and boldly combined various objects in nature into the same picture. The characteristics of this super-time and space shape express the meaning of Yiwulv Mountain. the good will of the people. At the same time, the shapes of shamanic culture and daily folk life shapes are also important modeling features in the Yiwulv Mountain Manchu paper-cut. The Manchu paper-cut works of Yiwulv Mountain have unique artistic value. As one of many art categories, paper-cutting gives the work a unique formal language through the inheritors' years of understanding of the environment in which they live. In the paper-cut works of Yiwu Lv Mountain, according to different expression forms, symmetry is one of the most representative forms from the perspective of composition of the paper-cut works. According to the composition of the work, it can be roughly divided into axial symmetry and central symmetry.

Wang (interviewed, 2023) said that Yiwulv Mountain Manchu paper-cut is an art of the working people of the Manchu minority and originates from local folk culture. Paper-cutting artists express their beliefs, customs, and emotions through different themes such as sacrificial paper-cutting, annual paper-cutting, ceremonial paper-cutting, and daily paper-cutting. The original paper-cutting of Yiwulv Mountain is the most precious and has the obvious style of Manchu paper-cutting. It mainly includes paper-cutting of god statues and shamanic witchcraft paper-cutting. These paper-cuts are the most representative of the Manchu paper-cuts in Yiwulv Mountain. These paper-cuts are mainly used in sacrifices, rituals, annual events and other

activities. As the pace of social development and progress accelerates, special ritual paper-cutting has slowly transformed into daily life. Traditional large-scale sacrificial activities such as ancestor worship and shaman dancing to gods have gradually decreased. The most representative Manchu paper-cuts in Yiwulv Mountain include paper-cutting of gods and paper-cutting handlers, which have moved from paper-cutting used in special ceremonies to daily life. For a long time, Manchu women have cut out paper-cut statues of "Mammy Man" and "Handle Man" as dolls. In the process of teaching children to play games, they have taught children to understand etiquette by simulating adult social life and interpersonal customs. The art of paper-cutting has become an important means of inheriting national folk culture.

The special ritual paper-cutting among the Manchu paper-cuttings in Yiwulv Mountain can be roughly divided into sacrificial paper-cutting and shamanic paper-cutting; daily life paper-cutting can be roughly divided into festival paper-cutting, ceremonial paper-cutting, daily paper-cutting and entertainment paper-cutting. The forms of these paper-cuts reflect the rich religious culture and sacrificial traditions of the Manchu people, as well as the rich traditional folk customs.

(1) Special ceremony paper cutting

Sacrificial paper-cutting:

Sacrifice paper-cutting is roughly divided into two important categories: flower offering and hanging note according to the traditional Yiwulv Mountain Manchu paper-cut. Wang (interviewed, 2023) said that the offering flower refers to the ancestor flower in the Yiwulv Mountain area. During the Lunar New Year, the cut flowers are pasted on the sorghum pole and inserted into the offering bucket to worship the ancestors. (The offering bucket here refers to a traditional folk culture and is usually used in rituals to worship ancestors and gods.) Yes The Manchu people in Yiwulv Mountain use paper-cutting as an important ritual activity for worship, which was called "White Sacrifice" in ancient times.

As society progressed, this kind of flower offering gradually evolved into window grilles and wall flowers affixed to window lattice during the Spring Festival. There are many types of flower paper-cuts, including "Tongtian tree", tree of life, Obo tree, potted flowers, pig head flower, cow head flower, deer head flower, Bagua diagram and other patterns. In the worship of nature gods of shamanic

culture, the custom of worshiping nature gods of mountain and forest peoples is retained. The Babel tree is the cosmic tree worshiped by northern peoples in shamanic culture, which embodies the mysterious view of the universe. In the ancient legends of the northern peoples, human shamans communicate with gods through the "Tongtian tree", so the Babel tree is also called the "Tree of Heaven", "Shaman Tree" and "Tree of Life". In Li Shuqing's paper-cut work " Tongtian tree ", people worship the willow tree totem, hoping to find peace under its protection. With the changes in society and the development of human beings, human beings have begun to draw power from nature for their own use. The awe of the natural world gradually turned into respect. People began to pray for a healthy life, good harvests, and prosperous children and grandchildren. They also hoped that women's reproductive capacity would be as luxuriant as the "Tree of Life" and that they would be blessed by the "Tree of Life" and continue to thrive. .

In the white sacrifices of the shaman sacrifices at Yiwulv Mountain, when killing animals to worship ancestors, the offerings should be covered with paper cuttings of pig's head flowers, cow's head flowers, and deer's head flowers. Later, it was used instead of offerings, and it became a flower offering. Mountain god paper-cutting is an important folk sacrificial paper-cutting. In Fuxin Manchu Autonomous County, northwest of Yiwulv Mountain, the Mongolian people will use nine paper-cut "Lashou Ren" to worship their ancestors at the foot of the mountain after the eighth day of the twelfth lunar month. The " Lashou Ren " paper-cut works reflect the Manchu concept of hair, with long braids standing upright. It is a symbol that the soul of the ancestor god is connected with the god of heaven. It is composed of nine connected people holding hands. It is the ancestor god and fertility god of the mountain and forest people. The number "nine" symbolized the extreme number under the social background of the time. The nine hand-holding people connected together symbolized the prosperity of the tribe. After the sacrifice is completed, the paper-cut handler should be burned in a fire set up with branches. The mountain god worship of the Manchu aborigines in Yiwulv Mountain includes the worship of ancestor gods and tree gods.

Figure 24 Tongtian Tree

Source Li Shuqing's Paper-Cut Works

Figure 25 Lashou Ren

Source Li Shuqing's paper-cut works

About the paper-cut producer, Li Shuqing, (1928-), Manchu, native of Zhong'an Township, Beizhen City, Jinzhou City. Li Shuqing grew up at the northern foot of Yiwulv Mountain. Her masterpieces include "Tree of Life", "Liushu Mother" and "Oxhead Flower". It records the remains of ancient nomadic culture and mountain forest culture in Yiwulv Mountain, which has valuable national historical material value. (Wang & Jing, 2016)

Shaman paper-cutting:

Shamanism is a folk belief activity developed on the basis of primitive beliefs. It is a primitive religion that believes in a variety of gods based on the

animism of all things and expressed in certain sacrificial activities. Shamanism is mainly popular in Northeast China. It has no fixed dogma and belief system. Its god system and beliefs are very extensive and complex. It can be roughly divided into three categories: nature god worship, ancestor god worship and creature worship. In the nature worship of shamanism, the worship of heaven and earth gods occupies a primary position. All things are derived from heaven and earth. This mysterious power is sanctified by shamanism and becomes the object of people's faith and worship. In ancient society, whether it was agricultural civilization, nomadic civilization, fishing and hunting civilization, heaven was the natural factor with the greatest production significance. In shamanism, all natural things are deified by people into the gods believed in by shamanism. Nature worship is the main content of shamanism and the most basic feature that distinguishes shamanism from other religions.

Wang (interviewed, 2023) said that among the people in Lv Mountain who have popular shamanistic cultural beliefs, the statues of gods serve as spiritual objects that welcome the new and send away the dead, and ward off disasters and pray for blessings. A large number of paper-cut gods are the remnants of the shamanic culture in which the residents of Yiwulv Mountain used idols to offer sacrifices in their production and life. When the Manchu ancestors in Yiwulv Mountain had extremely low productivity, their group consciousness was survival and reproduction. The worship of fertility gods for survival and reproduction is the main content of shamanic activities in primitive human religions. Under the concept of animism among shamans, a wide variety of images of protective gods and fertility gods were created. Praying for blessings, exorcising evil spirits, and seeking children are the main contents of shamanic dance and shamanic witchcraft.

In the original shamanic belief, "there are ghosts in the world. When these ghosts are attached to the human body, they will pose a threat to people or encounter disasters. Shamans can drive away these ghosts through specific rituals and eliminate disasters." Get rid of illness". The paper-cut "mammy person" stand-in is what the shaman uses in the dance ceremony. "Nanny" is a divine figure in the Manchu paper-cutting of the Medical Wu Lu Mountain, which can protect the safety of children and grandchildren and eliminate diseases and disasters. It is not only an

evil-doing statue to ward off diseases and disasters for descendants, but also a tool for shamanic witchcraft. This kind of shamanic paper-cutting is popular among the Manchu and Mongolian people.

The "Mammies" Yiwulv Mountain Manchu paper-cut also has an important paper-cutting shape, which is the "Liushu Mother" paper-cutting. This paper-cut pattern comes from the ancient plant totem of the Northeastern mountain forest people and the worship custom of the ancestor god Liushu Mother. The most important totem worship content of the Manchu people is the worship of willows and the worship of sacred trees. In many totem myths, people believe that their ancestors come from "Liushu ", so "Liushu " becomes the oldest ancestor of this nation. The "Liushu" is considered their ancestor god and a cultural symbol of fertility and reproduction. The Manchu people's totem concept of sacrificing "Liushu " and sacred trees was inherited and reflected in the paper-cutting of Yiwulv Mountain, becoming the most distinctive feature of their modeling concepts. " Liushu Mother " is a fertility god that combines a willow tree and a woman worshiped by Manchu folk shamans. The willow branches on the head of the statue and the feminine symbol patterns on the body reflect the plant totem worship concept of the mountain people. The goddess "Liushu" with willow branches on her head is called "Buddha" in Manchu and is either enshrined on the altar or posted on windows and walls. The appearance of this kind of idol originated from ancient times. The worship of "Liushu" in nature by northern nomads is closely related to the ecological environment in which they live. In the harsh winters and the arid steppes where the nomads live, water is the source of life. "Liushu" is a plant that likes to grow on the banks of water and rivers and has tenacious vitality. Finding "Liushu" means finding water and the source of survival and development of clan tribes. Therefore, the worship of willow by the ancestors of the northern peoples contains a sense of worship of water. . The belief of the mountain people in the "Liushu Mother" contains a strong sense of worship of the ancestral goddess which is an extension of totem worship. (Wang, 2011)

Figure 26 Liushu Mother

Source : Zhang Xirong's Paper-Cut Works

About the paper-cut producer, Zhang Xirong, (1923-). He grew up in a poor family and was illiterate, but he had extremely high artistic talent. She started paper-cutting when she was a teenager and has been doing paper-cutting for more than 70 years. Zhang Xirong's grasp of the traditional language of paper-cutting is flexible and versatile. In addition to the traditional Mama Ren, Liushu mothers, flowers, plants, insects, fish, birds and animals, the content of her paper-cut works also includes mythological stories, rural customs and folk customs. The lines of her works are stretched and full, with a strong rural atmosphere and profound shamanic cultural connotations. (Wang & Jing, 2016)

The Yiwulv Mountain Manchu paper-cut inherits the art of statues of the nomadic shamanic culture gods. The forms of these works are solemn, concise, simple and rough, with distinct sacrificial symbols and both form and spirit. After thousands of years of inheritance and development, it has been deposited and has become the most important national cultural information and unique shape symbol.

(2) Paper-cutting in daily life.

Festive paper cutting:

Festival paper-cutting is representative of the daily paper-cutting of people in the Yiwulv Mountain. After their hard work, they can only find fun and expression in the festival-rich folk cultural life. Festive paper-cutting is one of them.

Spring Festival paper-cutting refers to the use of paper-cutting to decorate homes and create a festive atmosphere during the Lunar New Year. Hanging notes, flower offerings, window flowers, and wall flowers are all types of paper cutting during the Spring Festival. Paper-cut paper hangings are affixed on the lintels of village courtyard doors, on the eaves of houses, on window frames and other locations in the courtyard during the Spring Festival. During the Spring Festival, paper-cutting is not only used to hang notes and offer flowers for ancestor worship, but also to paste wall and window flowers on walls, ceilings and windows. These wall flowers and window flowers have two functions: one is to ward off ghosts and evil spirits, and the other is decoration to decorate, beautify the environment and enhance the Spring Festival atmosphere. Most of them are mainly tiger, deer, cow, sheep, chicken and some symmetrical auspicious patterns. There are also cut out "mammies" mentioned above and pasted on the windows. There is another form of wall flowers that is posted on the ceiling. They are mainly group flowers. They are all group flower patterns with pairs of birds, pairs of swallows, pairs of butterflies, pairs of horses, and pairs of fish as the main body, reflecting the endless life and death. The peaceful scene of breathing. In recent years, wall flower paper-cutting among the Manchu paper-cuts in Yiwulv Mountain has become the main form of paper-cutting. In the past, many themes of god statue paper-cutting, flower offering paper-cutting, and sacrificial paper-cutting have been integrated into wall flower paper-cutting. This is also with the changes of the times and materials. With the improvement of living standards, the need for sacrifices has gradually weakened, and people have paid more attention to the decoration and beautification of life. The main themes of wall flower paper-cutting include "mammies", daughter-in-laws, the tree of life, flowers for offerings, and various flowers, birds and animals. (Wang, 2011) Regarding festival paper-cutting, it is also divided into Lantern Festival paper-cutting, Qingming Festival sacrificial paper-cutting, Dragon Boat Festival paper-cutting, etc. The Spring Festival paper-cutting is also the most widely used paper-cutting scene through on-site inspection.

Figure 27 Zhao Zhiguo, the national inheritor of Yiwulv Mountain Manchu paper-cut, puts up hanging notes during the Spring Festival

Source Wang (2011)

Figure 28 Liu Chunlan, a Manchu paper-cutting artist in Yiwulv Mountain, is pasting paper-cutting on windows for the Spring Festival

Source Wang (2011)

4.1.2 The cultural value of Yiwulv Mountain Manchu paper-cut

This study only sorts out and writes about the representative works of paper-cutting on shamanic culture. From the survey and interview data, it can be concluded that only paper-cut works with shamanic culture can represent the important themes of Yiwulv Mountain Manchu paper-cut.

The nomadic and mountain forest peoples of Northeast China have lived together in Yiwulv Mountain for thousands of years. Under the background of multi-ethnic integration, they have left a rich religious belief and humanistic history in

Yiwulv Mountain. As one of the most primitive religious cultures, shamanic culture is also the traditional culture of the Manchu people. Shaman worship spread among nomadic peoples and forest peoples is the basis of the Yiwu Lv Mountain culture. The ancestors of Yiwulv Mountain created rich cultural and artistic symbols and cultural concepts in their shaman sacrificial activities and primitive worship. In the folk life of Yiwulv Mountain, shaman paper-cutting is still passed down in the form of living paper-cutting, which has extremely important cultural value.

The Manchu paper-cuttings in Yiwulv Mountain feature the worship of nature gods, ancestor gods, and fertility gods, integrating unique Manchu cultural content and rich cultural symbols. Yiwulv Mountain Manchu paper-cut is an indispensable part of special rituals, festivals and daily life, fully embodying the content of Manchu culture. It is also a cultural symbol that appears in special ceremonies and daily life. It shows the Manchu people's profound understanding of religious beliefs, sacrificial rituals and folk traditions. Common cultural symbols in paper-cutting not only present the visual beauty of the symbols in form, but also carry precious Manchu cultural connotations. These cultural symbols are not only decorative artistic elements, but also important media that carry Manchu cultural values and spiritual beliefs. This is also the cultural value of Yiwulv Mountain Manchu paper-cut.

4.1.2.1 The value of cultural inheritance

Yiwulv Mountain Manchu paper-cut is a traditional Chinese folk handicraft with rich cultural connotations, reflecting the life, beliefs and aesthetics of the Manchu people. Through the previous summary and elaboration, we can see that Manchu paper-cutting is related to religious beliefs, especially in sacrificial rituals. The cultural symbols and patterns related to Manchu traditional religion in paper-cut works express the Manchu people's respect for gods and ancestors. This is also the most representative part of Manchu paper-cut. Paper-cutting is often used in traditional Manchu festivals. Paper-cut patterns are related to specific festival customs and rituals, conveying the Manchu people's participation and celebration of festivals, as well as the expression of beautiful meanings. Paper-cutting also reflects the folk customs of the Manchu people and depicts the production and living customs in daily life, which makes paper-cutting a cultural expression with strong local characteristics. Through the integration of special cultural elements, Yiwulv Mountain Manchu

paper-cut is not only a traditional handicraft, but also a vivid interpretation of Manchu culture and the inheritance and protection of culture, inheriting the historical development, cultural beliefs and folk life of the Manchu people.

1. The inheritance of shaman and totem culture

Shamanic culture and totem culture are the most unique cultures that distinguish Yiwulv Mountain Manchu paper-cut from other paper-cuttings. The most important totem worship content of the Manchu people is the worship of willows and the worship of sacred trees. In many totem myths, the Manchu people believe that their ancestors came from Liu, so Liu became the oldest ancestor of this nation. Therefore, "Liushu Mother" is the main form of expression in the Manchu paper-cut works of Yiwu Lv Mountain. The Manchu people's totem concept of worshiping willows and sacred trees has been inherited and reflected in the Manchu paper-cuttings of Yiwulv Mountain, and has become the most distinctive feature of their modeling concepts. These paper-cuts all reflect a common feature, which is to reflect the cultural concept of totem worship of the Manchu people through the deformation of willow branches or leaves. The willow tree is considered to be their ancestor god and the source of communication and reproduction between heaven and man. Cultural symbols. The totem worship and shamanic cultural worship embodied in the Manchu paper-cuttings of Yiwulv Mountain are integrated with each other. Shamanic culture mainly emphasizes living in harmony with nature, and animism is the core concept of shamanic culture.

Wang (interviewed, 2023) said that in current paper-cut works, the expression of traditional shamanic culture and totem culture is weakening, and the new era has given new cultural connotations, showing a multicultural tendency. The weakening of sacrificial symbols has brought them closer to life, and most of them interpret life based on customs and folk customs, spreading the understanding of the world among medical and witch people. But it is undeniable that current paper-cut works lack the cultural atmosphere of shamanic culture and totem worship, and lack the perception and longing for life. The Yiwulv Mountain Manchu paper-cut must maintain its own unique style. In the future inheritance and protection, attention should be paid to exploring the connotation of totem culture and shamanic culture to find its most authentic values. No matter in terms of content, subject matter or visual

expression, the expression of shamanic culture and totem culture is the most unique cultural value of the Yiwulv Mountain Manchu paper-cut.

2. Inheritance of survival and reproduction culture

Zhao (interviewed, 2023) said that the culture of survival and reproduction of Yiwulv Mountain Manchu paper-cut understands nature and human society by imitating the perceptual images of specific things in nature and social life, and establishing symbols with symbolic significance. The selection of these images are extremely concise and general and have rich symbolic meanings, which are expressions of people's regular understanding in real life. Works expressing reproduction and reproduction in Manchu paper-cutting carry profound cultural connotations. These paper-cutting works are beautiful sustenance for life, family and prosperity, and reflect the important values related to reproduction and reproduction in Manchu culture. This is not only a profound reflection on the origin of life, but also an emphasis on the continuation and inheritance of future generations. At the same time, the work also reflects the Manchu people's reverence for life and their deep understanding of the laws of nature. The scene of vitality and blooming flowers contained in the pattern implies the yearning for a better life. This is a concentrated expression of gratitude to nature, love for life, and hope for a better life in the future. It also fully reflects the value of inheriting the culture of survival and reproduction.

3. The inheritance of auspicious culture

The emergence and development of auspicious culture is a common phenomenon in human development. Auspicious culture was created in China when people pursued the desire for happiness, beauty, and peace. In China, auspicious culture extends from tribal totems to all aspects of people's clothing, food, housing and transportation; its inherent prophetic meaning extends from simple appeals of intuitive good wishes to a culture that heralds good luck, happiness, longevity, prosperity of descendants, etc., thus forming a Auspicious culture in national culture. The cultural inheritance of Yiwulv Mountain Manchu paper-cut embodies one of the concepts of auspicious culture.

Zhao (interviewed, 2023) said that the beautiful meaning of Yiwulv Mountain Manchu paper-cut is not only reflected in the decorative nature of the paper-cutting works, but also carries the values of Manchu culture and local wisdom.

Auspicious culture is a cultural concept formed by people's longing for a better future. Auspicious patterns are the concrete expression of this cultural concept. The patterns of the Manchu paper-cuts in Yiwulv Mountain reflect people's cultural aspirations for auspiciousness, which is also the value of its cultural inheritance. Whether it is the totem paper-cutting and shaman paper-cutting that reflect the primitive cultural stage, or the production and labor, weddings and funerals, education and entertainment under the agricultural civilization, we can see the emergence of auspicious cultural concepts.

At present, it can be seen in the Manchu paper-cut works of Yiwu Lv Mountain that no matter the changes in paper-cut elements and content themes, the auspicious cultural value of yearning for beauty is reflected in every paper-cut work.

4.1.2.2 The value of cultural symbols

Cassirer's semiotics expressed the importance of symbols in human culture and cognition. Cassirer believes that humans are animals that use symbols, and symbols play a mediating role in human cognition and communication. He emphasized the importance of symbol systems in the process of building culture. Different cultures have different symbol systems. These symbol systems shape people's cognitive framework for the real world and form unique cultural concepts and value systems. He emphasized the creativity and flexibility of symbols. He believes that human beings not only passively receive symbols, but are also able to create, interpret and reinterpret symbols, thereby constantly shaping and developing culture. The use of symbols is one of the ways to express human free will. Through symbols, humans can transcend direct perceptual experience and develop abstract thinking and creative expression, embodying the unique wisdom of humans.

Chinese folk art is related to the cultural roots and philosophical theoretical views of the nation. Chinese folk paper-cut culture is an art form rooted in the lives of ordinary people. Paper-cutting is rooted in the folk and uses folk life as a carrier to show the production and life of the peasants. As far as the Yiwulv Mountain Manchu paper-cut is concerned, paper-cutting artists express their own perceptions of life, personal emotional sustenance and religious beliefs in the form of cultural symbols and pass them on from generation to generation. The shamanic culture of nature god worship, ancestor god worship, and fertility worship in the Manchu paper-

cuttings in Yiwulv Mountain records the life state and cultural beliefs of the people in northern China who share a common ancestor with the animals and plants in nature, and coexist. This is a concentrated expression of the local wisdom and cultural identity of the northern peoples. It also implies the emotional foundation of sustainable human development and has extremely precious cultural symbol value. The Manchu paper-cut art of Yiwulv Mountain is an important component of shamanic totem cultural symbols and festival folk cultural symbols. It is an important material carrier in the inheritance of folk culture in Yiwulv Mountain. It is a kind of human dependence and reverence for nature, and is an external manifestation of the spiritual power to conquer nature. In expression.

In the process of historical inheritance, symbols themselves also carry the changes in meaning and their own adjustment and development. In other words, symbols as material carriers and meanings are a process of mutual adaptation, mutual promotion and coordinated development. And its own cultural value is reflected in the inheritance of this process.

In the Yiwulv Mountain area, the Manchu minority population accounts for a large proportion. Shamanism, an ancient primitive religion, has been widely believed by people in this area. The nature god and ancestor worship content of the Yiwulv Mountain Manchu paper-cut originates from the special geographical location and ethnic composition of Yiwulv Mountain. , records that northern peoples and natural animals and plants share common ancestors, interdependent life states and cultural forms.

Wang (interviewed, 2023) said that Yiwulv Mountain Manchu paper-cut is an important cultural and artistic symbol in sacrifices and festivals and folk activities. It is an important material carrier in the inheritance of folk culture in Yiwulv Mountain. It is the dependence and reverence for nature in the process of human survival. It is the spirit of conquering nature through the expression of cultural symbols. strength. The Manchu religious beliefs in the Yiwulv Mountain area are based on shamanic culture and contain rich philosophical thoughts. As an expression of artistic symbols, the Yiwulv Mountain Manchu paper-cut is a visual expression that transforms a simple imitation of nature into a cultural symbol. Paper-cut artists use the subjective experience of the inner world in the form of perceptual representations and

use paper-cut art symbols as a carrier to express emotions. The cultural symbols formed by the ancestors of Yiwulv Mountain through their exploration of the universe, the relationship between human beings and nature, express unique regional characteristics and national aesthetics, and have strong Manchu cultural characteristics. Its "all things have animism" and "the unity of nature and man" , the cultural concept of "harmony between man and nature" is the embodiment of its precious cultural value.

The Yiwulv Mountain Manchu paper-cut is a product of farming civilization, and there are aspects that are inconsistent with modern civilization. Even in modern civilized society, the memory of tradition can be seen everywhere. When people realize that modern society lacks recognition of cultural construction and identity, the demand for the value of traditional culture becomes even stronger. In today's society, people pay more attention to spiritual satisfaction, which also reflects people's awe and respect for life. Although people in farming civilization and modern society have different physical environments and different living and production methods, their understanding of life is the same. As a cultural symbol, the aesthetic characteristics of Yiwulv Mountain Manchu paper-cut can become a valuable component in the current social and cultural symbol system and can be interpreted by the times. Constructing new cultural symbols in the form of emotional cultural identity is what this era needs. (Liu, 2012)

The arrival of the digital age has changed many ways in which we inherit traditional culture. We realize that the cultural inheritance, cultural symbols and cultural value of Yiwulv Mountain Manchu paper-cut are of great significance to the current social development and cultural progress. Then we must conduct in-depth research on its inheritance and protection status so that we can better inherit and develop this intangible cultural heritage.

4.1.3 The cultural identity of Yiwulv Mountain Manchu paper-cut

Cultural identity is the affirmation of the most meaningful things of the nation formed by people living together in a national community for a long time. The core is the recognition of the basic value of national culture; it is the spiritual bond that unites this national community and is the life of this national community. Continuing spiritual foundation. Cultural identity is an important foundation for national identity

and national identity, and it is the deepest foundation. In today's era of economic globalization, Manchu paper-cutting, as a unique cultural symbol, conveys the aesthetic value of Manchu culture, allowing the national community to recognize and understand the meaning of this symbol, forming a cultural identity.

4.1.3.1 The Identity of cultural symbols

As a part of Manchu culture, Yiwulv Mountain Manchu paper-cut contains profound cultural identity. Through the artistic expression of paper-cutting, the Manchu people inherit rich historical traditions and cultural wisdom. This cultural tradition is very important to individuals and communities, and encourages people to identify more strongly with their cultural identity. Traditional cultural symbols and patterns are often used in Yiwulv Mountain Manchu paper-cut works, reflecting Manchu religious beliefs, nature worship and social structure. Through these symbols, cultural identity is concretely expressed in art.

In the art of Manchu paper-cutting, patterns are rooted in the symbols and totems of Manchu culture. These patterns are not only elements of artistic expression, but also concrete expressions of the Manchu people's cultural beliefs about prosperity, auspiciousness and blessing. Through paper-cutting, the Manchu people inherit the wisdom of their ancestors and deeply integrate their cultural identity into the creation of paper-cutting. Manchu paper-cutting is also a vivid interpretation of traditional values. Sacrifice, festivals and other elements often become sources of inspiration for paper-cut works. This is the love for the traditional Manchu lifestyle and the inheritance of Manchu culture.

Through the cultural symbols of Yiwulv Mountain Manchu paper-cut, the Manchu people have established their national cultural identity. This recognition is not only reflected in paper-cut works, but also integrated into the folk life of the Manchu people. Paper-cutting has become a carrier of culture, conveying the Manchu people's deep identification with history, beliefs, production and lifestyle through cultural symbols.

4.1.3.2 The Identity of education and inheritance

As a traditional handicraft, Yiwulv Mountain Manchu paper-cut carries rich cultural identity and inheritance responsibilities. This ancient and exquisite art form is not only the inheritance of cultural symbols, but also the inheritance of

education. Through the inheritance of paper-cutting, the Manchu people passed on cultural wisdom from generation to generation and forged a firm cultural identity. In the process of education and inheritance of Manchu paper-cutting, traditional skills and cultural connotations are passed on. Older paper-cutting artists pass on the paper-cutting techniques, the meaning of the patterns, and the cultural connotations behind them to the younger generation. This traditional education method of oral and heart teaching makes paper-cutting not only a traditional manual skill, but also a course about Manchu culture, cultivating future generations' deep understanding of cultural traditions.

By participating in the process of experiencing paper-cutting, the younger generation can deeply experience the unique charm of traditional skills and feel the local wisdom of the Manchu paper-cutting culture in Yiwulv Mountain. This kind of practical learning not only exercises skills, but also cultivates love and identity for culture. By examining the cultural symbols and patterns of paper-cut works, we can feel that cultural identity not only makes paper-cut works a bridge between tradition and modernity, but also provides strong support for the inheritance of Manchu culture in the digital age. Through the ancient traditional handicraft of paper-cutting, the Manchu people have developed a sense of pride and responsibility for cultural traditions, and have also realized cultural identity and value expression from the perspective of education and inheritance.

4.1.3.3 The Identity of innovation and development

Yiwulv Mountain Manchu paper-cut is one of the representatives of traditional handicrafts. Jing (interviewed, 2023) said that With the development of the times, paper-cutting is also taking on new vitality in the way of innovation and development, adapting to the progress and development of society, and realizing the continuation and inheritance of cultural identity. In this process, Manchu paper-cutting became not only a traditional skill, but also a modern expression of cultural identity.

Innovation and development also play a key role in the inheritance of Manchu paper-cutting. Through the innovative practice of artists, the younger generation can better understand and accept this traditional culture. Traditional handicrafts combined with modern design concepts have become a unique

reproduction of cultural symbols, attracting wider attention and recognition. This inheritance method not only continues the tradition of Yiwulv Mountain Manchu paper-cut, but also gives it a new era value and provides a new path for the inheritance of cultural identity. Manchu paper-cutting has achieved a new level of cultural identity through innovation and development. By blending tradition and modernity, handcrafting and digital technology, Manchu paper-cutting shows a richer and more diverse look, giving this traditional art new vitality in the contemporary era and injecting new impetus into the inheritance of Manchu culture. This kind of innovation is not only a respect for tradition, but also an era response to cultural identity.

4.1.4 Summary

Through sorting and summarizing this chapter, firstly, the historical origin of Yiwulv Mountain Manchu paper-cut is studied. Through an overview of the development of Manchu paper-cutting, the development of Yiwulv Mountain Manchu paper-cut is written in detail, from materials, tools and techniques, production steps, forms and Analyze from the perspective of content and observe the development and changes of Yiwulv Mountain Manchu paper-cut from the process. Secondly, the cultural value of Yiwulv Mountain Manchu paper-cut was analyzed and summarized. The value of cultural inheritance and cultural symbols was analyzed and summarized, and the cultural value of Yiwulv Mountain Manchu paper-cut was analyzed and summarized. The value reflected in cultural inheritance is mainly reflected in the inheritance of shaman and totem culture, the inheritance of survival and reproduction culture, and the inheritance of auspicious culture. The concept of Cassirer's semiotics is used to interpret the cultural symbolic value of Yiwulv Mountain Manchu paper-cut. The cultural symbols formed by exploring the relationship between the universe, human beings and nature express unique regional characteristics and national aesthetics, and have strong Manchu cultural characteristics. The cultural concept of "harmony and symbiosis with nature" is the embodiment of its precious cultural value. Finally, the concept of cultural identity of Yiwulv Mountain Manchu paper-cut is summarized. Through the identification of cultural symbols, the identification of education and inheritance, and the identification of innovation and development, this traditional art can achieve cultural identification in contemporary social life through

the perspective of traditional and modern development, injecting inspiration into the inheritance of Manchu culture. New motivation. This kind of innovation is not only respect for tradition, but also a modern response to cultural identity, realizing cultural identity through innovation and development.

4.2 The current problems of inheritance and protection of Yiwulv Mountain Manchu paper-cut

This chapter collects and analyzes data through fieldwork, literature review, expert interviews and group discussions. Through interviews with relevant folklore experts, government department managers, and digital media-related experts, corresponding data information was obtained. Through analysis and compilation, the current status of inheritance and protection of Yiwulv Mountain Manchu paper-cut was concluded. By analyzing, sorting and summarizing the data information, the following data were obtained:

4.2.1 The inheritance and protection current of the Yiwulv Mountain Manchu paper-cut

This part will elaborate on the following: the current situation of inheritors, the current situation of document publishing, the current situation of inheritance venue construction, the current situation of education and exhibition activities, and the current situation of digital communication.

4.2.1.1 Regarding the inheritors.

This part mainly introduces the inheritance and protection of Yiwulv Mountain Manchu paper-cut through the Jinzhou Municipal Government and relevant departments in terms of the distribution of inheritors, development and relevant national policies:

The distribution of paper-cutting artists in Yiwulv Mountain is characterized by a wide overall distribution and a relatively concentrated concentration in some villages. Roughly distributed in Beizhen City of Jinzhou City, Yixian County of Jinzhou City, Linghai City of Jinzhou City, Heishan County of Jinzhou City, Jinzhou City, Fuxin City, Fuxin Mongolian Autonomous County, Jianping County of Chaoyang City, Lingyuan City of Chaoyang City, Chaoyang City Beipiao City. The inheritance and development of Yiwulv Mountain Manchu paper-

cut has been developed for many years. Its inheritance group is not only represented by national inheritors, such as Wang Xiuxia, Zhao Zhiguo, Zhang Bo and other national and provincial intangible cultural heritage inheritors and their disciples. It also includes non-representative inheritors, such as government administrative department personnel, college teachers, primary and secondary school art teachers, community officials, paper-cutting art enthusiasts and enthusiastic people. The representative inheritance of Yiwulv Mountain Manchu paper-cut is divided into six main inheritance lineages: Chen Yongguang lineage (Chen Gaoshi, Meng Xianzhen, Zhang Xilan, Zhang Guihua, Zhang Shihong, Liu Ying, etc.); Zhu Yuelan lineage (Zhu Zhanyi, Zhu Wangshi, Zhu Yuantong, Zhu Yongfu) , Liu Guiying, Liu Guiyun, Liu Shubo, Liu Suqiu, Guan Canghai, etc.); Ma Fengyun inheritance genealogy (Ma Jinshi, Yu Chang, Cao Min, Yu Aihong, Song Derui, Yu Ailing, Xu Chengcheng, Yu Aiying, Yu Aiping, etc.) ; Wang Xiuxia's inheritance genealogy (Wang Shouqing, Dong Yalan, Wang Deyin, Wang Dezhi, Wang Wangshi, Zhang Baojun, Wang Xuejiao, etc.); Zhao Zhiguo's inheritance genealogy (Zhao Sulan, Zhao Yushan, Zhao Lei, etc.); Zhang Bo's inheritance genealogy (Hou Guizhi, Hou Gaoshi, Zhang Hanwen, etc.). (Wang, 2023)

Figure 29 Interview with Wang Guang

Source Huang Lin (2023)

The support of the Ministry of Culture and relevant government departments for intangible cultural heritage has also attracted more inheritors who have learned skills through apprenticeship. According to Article 10 of the "Intangible Cultural Heritage Law of the People's Republic of China" promulgated in 2011, "for intangible cultural heritage in Africa" Organizations and individuals that have made

significant contributions to the protection of tangible cultural heritage shall be commended and rewarded in accordance with relevant national regulations." And the second point of Article 20 of the "Liaoning Provincial Intangible Cultural Heritage Regulations" stipulates that "enjoy the inheritance stipulated by the government" Relevant policies such as "person subsidy" and the third point stipulating "obtaining corresponding remuneration for inheritance, dissemination work or other activities" have provided material guarantees for the inheritance and development of Yiwulv Mountain Manchu paper-cut, so as to facilitate better work. Liaoning Province promulgated the "Liaoning Province Intangible Cultural Heritage Regulations" in 2014. In Article 21, the obligations that representative successors should fulfill are clearly stated, that is, the number of successors is stipulated to "cultivate successor talents in the form of master-to-teacher or other methods, and there should always be no less than two apprentices." To ensure the inheritance of intangible cultural heritage. Through the promulgation of laws and regulations, the state clarifies the concept and value of intangible cultural heritage, as well as the responsibilities and obligations for inheritance and protection. These regulations include the establishment of a list of intangible cultural heritage, the protection of the rights and interests of inheritors, and the investigation and research of intangible cultural heritage, which provide a legal basis for the inheritance and protection of intangible cultural heritage.

As the public pays attention to the protection of intangible cultural heritage, and departments and inheritors at all levels publicize the Yiwulv Mountain Manchu paper-cut, more and more people are studying under it. However, the number of people inheriting in the family has been relatively reduced, which shows that there are fewer people in the family who are willing to inherit, and there is a greater risk of inheritance. Moreover, the total number of representative inheritors is still small and the overall number is in a sluggish state, so it is still necessary to expand the inheritance group.

In summary, the inheritance method of Yiwulv Mountain Manchu paper-cut has been passed down from generation to generation, and its main inheritance method has changed, that is, from relying mainly on family inheritance to the direction of master-disciple inheritance. The change in the inheritance method also expresses the trend of a sharp decrease in the number of representative inheritors of

the family, indicating that there are fewer people in the family who are willing to inherit the Iwulv Mountain Manchu paper-cut, and there is a risk of no one to inherit it. It is necessary to increase the number of inheritors by facing the society. Through the analysis of the number of people, scope, and inheritance methods of the Manchu paper-cutting inheritance in Yiwulv Mountain, it was found that although the Manchu paper-cutting inheritance in Yiwulv Mountain has been developed for a long time, its lack of independent management capabilities has gradually reduced the number of inheritors, the scope of inheritance, and the number of family inheritors. reduction, so a distinctive planned development model has not been formed.

4.2.1.2 Regarding the publication of literature and works.

This part mainly introduces the inheritance and protection of Yiwulv Mountain Manchu paper-cut through the Jinzhou Municipal Government and relevant departments in terms of the publication of literature and the construction of related cultural and historical materials:

According to Figure 30, There are also many literatures on the Iwulv Mountain Manchu paper-cut. The Yiwulv Mountain Manchu paper-cut has been recorded in history and has become part of the world's "intangible cultural heritage", worthy of the attention and inheritance of future generations. The content in the book "Wang Xiuxia, the Inheriter of Yiwulv Mountain Paper-cutting - Wang Xiuxia" is from the small to the big. From the life experience and ancestral stories of Wang Xiuxia, the successor of Yiwulv Mountain Paper-cutting, to the roots of Yiwulv Mountain Paper-cutting, the beliefs and legends carried in the graphics, the art of paper-cutting is narrated. cultural connotation and emotional core. Wang Guangzhu's book "The Divine Doctor of the Mountains, Yiwulv Mountain Manchu Paper-cutting" tells the story of the mountain forest worship of the northern people, which preserves the dense virgin forest in Yiwulv Mountain and builds a majestic green barrier. It is an important part of the long-standing folk paper-cutting art of Yiwulv Mountain. It is the tree of life that is worshiped to protect the natural god of this mountain forest. The Manchu paper-cuts of Yiwulv Mountain have rich cultural heritage and strong emotional color. The paper-cut work with the theme of ancestor god worship is a sacred altar and the spiritual home worshiped by the people of Yiwulv Mountain from generation to generation. For example, "The Lonely Mountain God", "Yiwulv of the

Holy Mountain", "Collection of Chinese Folk Paper-cutting·Yiwulv Mountain Manchu paper-cut Scroll", etc. Although these works introduce the Yiwulv Mountain Manchu paper-cut, they mostly focus on the subject matter and content of the works. There is still a need for in-depth research on the regional background and visual language of Yiwulv Mountain Manchu paper-cut.

Up to now, the Jinzhou Culture and Art Center has conducted in-depth exploration of Zhao Zhiguo's paper-cut works and artistic experiences over the years, and compiled the audio and text materials of the interview with Zhao Zhiguo by Jing Biao, director of the Jinzhou Intangible Cultural Heritage Protection Center, into a book manuscript, and conducted It has been adjusted and revised many times and has been handed over to relevant publishing houses. After the publication of this book, it is another paper-cutting inheritance and protection book after "Integrated Chinese Paper-cutting: Yiwulv Mountain Scroll", "Yiwulv Mountain Manchu paper-cut Catalog", "Yiwulv Mountain Manchu paper-cut Instructions", and "Yiwulv Mountain Manchu paper-cut Instructions". Inheritor - Wang Xiuxia" is another oral history of a representative inheritor of national intangible cultural heritage. The early plan to publish the oral history of the national representative inheritor of Yiwulv Mountain Manchu paper-cut was completed. The book "Collection of Chinese Folk Paper-cutting·Yiwulv Mountain Scroll" was successfully selected into the Chinese folk cultural heritage rescue project, which is of great significance for the research on the inheritors of Yiwulv Mountain Manchu paper-cut.

Figure 30 Published book in Yiwulv Mountain Manchu Paper-Cut

Source Huang Lin (2023)

4.2.1.3 Regarding the construction of heritage venues and facilities.

This part mainly introduces the inheritance and protection of Yiwulv Mountain Manchu paper-cut through the Jinzhou Municipal Government and relevant departments in terms of the construction of inherited venues and related folk culture venues as follows:

Huang (interviewed, 2023) said that the paper-cutting classroom was designed and decorated in 2020. The decoration design elements of the paper-cutting classroom all adopt Manchu paper-cutting elements from Yiwulv Mountain, and the paper-cut displays are the works of the representative inheritors of Yiwulv Mountain Manchu paper-cut. It has been put into use with a usable area of 68 square meters and can accommodate 30 students at a time. It provides a long-term free teaching place for inheritors and students.

According to Figure 31, The Yiwulv Mountain Manchu paper-cut classroom is specially used to teach the Yiwulv Mountain Manchu paper-cut skills. Here, paper-cutting craftsmanship, pattern creation and other techniques are taught to students to promote the inheritance and development of this traditional art. Classrooms are usually hosted by experienced paper-cutting artists, who will introduce the history, cultural background, and specific paper-cutting techniques to students. Students can learn paper-cutting methods through practical operations. This kind of teaching classroom helps to cultivate a new generation of paper-cutting artists, and also helps to promote the inheritance and innovation of Yiwulv Mountain Manchu paper-cut in the contemporary era.

Figure 31 Paper cutting training room
Source Huang Lin (2023)

According to Figure 32, Jinzhou Intangible Cultural Heritage Inheritance Base is currently the only comprehensive intangible cultural heritage inheritance base planned, invested and established by the government in Liaoning Province. There are a total of 40 intangible cultural heritage projects. The inheritance base will deeply explore various intangible cultural heritages in Jinzhou City, enrich and enrich the base's display and performance projects, and play an active role in display, performance, sales, and learning exchanges. As part of the inheritance base, Yiwulv Mountain Manchu paper-cut promotes its inheritance and protection, and promotes cultural exchange and understanding.

Figure 32 Jinzhou Intangible Cultural Heritage Inheritance Base

Source Huang Lin (2023)

In 2021, with the support of Liaoning Province, the Jinzhou Municipal People's Political Consultative Conference, and the party committees and governments of Jinzhou City and Linghai City, the local government began to build the "Bianqiangzi Huxi Folk Culture Village" to explore the development of integrated cultural and tourism industries to achieve cultural brand building Connect with marketization. Enter Huxi Folk Culture Village. The walls of the wall landscape along the way are covered with cultural elements of Yiwulv Mountain Manchu paper-cut. The overall layout of the folk culture village is decorated with Yiwulv Mountain Manchu paper-cut elements. It can be seen from this that the importance of Yiwulv Mountain Manchu paper-cut is among the intangible cultural heritage of Jinzhou City.

Figure 33 Field Survey on "Bianqiangzi Huxi Folk Culture Village" in Jinzhou City

Source Huang Lin (2022)

As a platform for cultural inheritance, the folk culture village can help inherit and protect local traditional culture and folk customs. Display traditional paper-cutting handicrafts, folk skills, traditional culture, festivals, etc. in the cultural village to attract tourists and local residents to understand, learn and participate in the

inheritance of traditional culture. It also plays a key role in the development of local tourism and economy and promotes the development of cultural tourism.

4.2.1.4 Regarding education, training and exhibitions.

This part mainly introduces the inheritance and protection of Yiwulv Mountain Manchu paper-cut through the Jinzhou Municipal Government and relevant departments in terms of education, training and holding relevant exhibitions and publicity as follows:

Huang (interviewed, 2023) said that Jinzhou Culture and Art Center organizes representative inheritors of intangible cultural heritage at all levels to go to campus from time to time to carry out training activities. In order to better inherit and protect the Yiwulv Mountain Manchu paper-cut, Jinzhou City Culture and Art Center has integrated the inheritance and protection of the Yiwulv Mountain Manchu paper-cut into local universities and primary and secondary school classrooms, and recommended inheritance and protection bases, including Bohai University, Hujia Primary School in Heishan County, Pinghe Primary School in Taihe District, Baitaizi Central Primary School in Linghai City, Qianyang Primary School in Yixian County, Xin District Primary School in Beizhen City, and Wang Xiuxia and Zhao Zhiguo, national inheritors of intangible cultural heritage, have established paper-cutting training institutes. Paper-cutting artist Zhang Bo works in Beizhen City The education center, Beizhen New District Primary School, and Liaoning Agricultural Economics School have established inheritance bases.

The Jinzhou Culture and Art Center organized experts and inheritors of intangible cultural heritage to provide training and guidance to the Manchu paper-cutting campus inheritance base in Yiwulv Mountain. It also organized teachers and students to participate in paper-cutting competitions and paper-cutting art exhibitions. Divide activities into training for teachers and training for students. During the epidemic period, training was changed to online, teachers and students were organized to participate in theme paper-cutting competitions, and micro-exhibitions were launched on the WeChat public platform. Promote the deep integration of campus culture and paper-cutting through the free distribution of the first and second volumes of "Yiwulv Mountain Manchu paper-cut Learning Guide". At the same time, we jointly carry out training for the campus paper-cutting teacher team with the

Jinzhou Municipal Education Bureau to promote the integration of paper-cutting into the campus education and teaching system, and continue to steadily promote the continued and in-depth development of the campus intangible cultural inheritance base based on existing experience. Relying on the fourth batch of national public cultural service system demonstration projects of Jinzhou Mass Art Museum, 48 hours of extended evening public welfare training are carried out for working staff every year, and 8 hours of paper-cutting public welfare training are arranged. Arranged 8 hours of paper-cutting public welfare training for 30 students. By the end of the course, the students could complete simple works independently. A training plan is formulated before winter and summer vacations every year, and 10 hours of paper-cutting public welfare training are arranged. Accepts students in grades 1-6. At the end of the course, the results will be displayed and completion certificates will be issued to participating students. During the epidemic, offline courses could not be carried out normally, so inheritors were organized to record online training courses and exhibited them on the WeChat public platform of Jinzhou Mass Art Museum.

Entering campuses and communities to display and perform heritage activities. Bringing intangible cultural heritage into campus and community activities is a practical project to benefit the people in Liaoning Province. In 2019, we visited Jinzhou Medical University, Tuanshanzi Village, Qilihe Town, Yi County, and other places. In 2020, we visited Sheshanzi Village, Duanjia Town, Heishan County, Central Primary School of Hujia Town, Heishan County, Huangshanbao Village, Baitaizi Town, Linghai City, and Yi County Northwest Street Community, Yizhou Street, County, Gutun Village, Wuliangdian Town, Heishan County, Kuluotai Village, Zhongan Town, Beizhen City, Longnandong Community, Longjiang Street, Linghe District, Nanjun Community, Taihe Street, Taihe District, Shiying, Guta District Zhongtun Village of the sub-district, in 2021 we will go deep into the Political Work Department of the First Mobile Detachment of the Armed Police First Mobile Corps, Ganniutun, Cuiyan Town, Linghai City, Jinzhou, Taijing Community, Lingnan Street, Jinzhou High-tech Industrial Development Zone, Jinzhou Yixian University Shixiazi Village, Yushubao Town, Xishahezi Village, Goubangzi Street, Beizhen City, Jinzhou, Heishan Street, Heishan County, Jinzhou, Liaoning Vocational University of Science and Technology, and Yingpan Village, Yingpan Township,

Taihe District, Jinzhou City, demonstrated skills on site through inheritors, and the host narrated Introduction, etc., and at the same time, by inviting the audience to the stage to interact with the inheritors, the public can experience the charm of paper-cutting art up close.

According to Figure 34, In June 2023, the "Revitalization of Intangible Cultural Heritage to Welcome the Dragon Boat Festival Ode to Craftsmanship" 2023 Liaoning Province Intangible Cultural Heritage Tradition was hosted by the Liaoning Provincial Department of Culture and Tourism and the Public Cultural Service Center, and hosted by the Shenyang Municipal Bureau of Culture, Tourism, Radio and Television, and the Ethnic and Religious Affairs Bureau. The skills exhibition and the 9th Shenyang Intangible Cultural Heritage Expo kicked off at Hongmei Cultural and Creative Park. In the folk custom lane exhibition area, the Yiwulv Mountain Manchu paper-cut national-level intangible cultural heritage project was exhibited, welcoming many visitors to exchange experiences with intangible cultural inheritors. National-level inheritor Zhao Zhiguo and his apprentices created paper-cuttings for everyone on the spot. (Pan, 2023)

Figure 34 2023 Liaoning Intangible Cultural Heritage Traditional Skills Exhibition and the 9th Shenyang Intangible Cultural Heritage Expo

Source Huang Lin (2023)

According to Figure 35, In 2023, the "Jinzhou Municipal Party Committee Propaganda Department, Jinzhou Municipal Bureau of Culture, Tourism and Radio and Television, Jinzhou Municipal Public Cultural Service Center, and hosted by Jinzhou Municipal Mass Art Museum (Jinzhou Municipal Intangible Cultural Heritage Protection Center) and Jinzhou Municipal Art Research Institute will Appreciate the Charming Jinzhou with Intangible Cultural Heritage—Exhibition of Excellent Manchu Paper-cut Works in Yiwulv Mountain." In the exhibition hall,

representative inheritors of Manchu paper-cutting at all levels in Yiwulv Mountain and teachers and students from the inheritance base demonstrated paper-cutting skills to the visiting audience and participated in activities. (Huang,interviewed, 2023)

Figure 35 2023 Yiwulv Mountain Manchu paper-cuts Excellent Works Exhibition
Source Huang Lin (2023)

4.2.1.5 Regarding the establishment of digital communication aspects.

Huang (interviewed, 2023) said that Jinzhou Intangible Cultural Heritage Protection Center continues to carry out field research work to enrich the archive resources of Yiwulv Mountain Manchu paper-cut. We continued to carry out field research and went to Gaotaizi in Jiudaoling to collect Manchu paper-cutting works in Yiwulv Mountain, and collected information about national and provincial inheritors of paper-cutting. We also went to the home of Wang Chengde, an old Manchu paper-cutting artist in Yiwulv Mountain, to collect paper-cutting works collected in his early years and his own paper-cutting. The works were filmed and interviews were conducted. We went deep into the country of Zhao Zhiguo, the national representative inheritor of Yiwulv Mountain Manchu paper-cut, and recorded Zhao Zhiguo. At the same time, we digitally preserved the collected information in counties and districts to supplement the resources of the Manchu paper-cutting archives in Yiwulv Mountain. At present, there are 86 paper-cutting artists in the western Liaoning area, more than 1,300 exquisite paper-cuttings have been collected, more than 2,500 photos have been recorded of the Manchu paper-cutting culture and ecological environment in Yiwulv Mountain, 20 CDs have been produced, and more than 200,000 words of text have

been written, establishing personal profiles for 86 paper-cutting artists. Archive database system. Based on the original "Yiwulv Mountain Manchu paper-cut" national intangible cultural heritage digitization pilot work entered into the digital management system resource data, 500 related photos, 50 hours of audio and video, and more than 100,000 texts were additionally included.

4.2.2 The inheritance and protection problems of the Yiwulv Mountain Manchu paper-cut

Through field survey data analysis, it is concluded that although the Yiwulv Mountain Manchu paper-cut has received full support from the state and the government, and the inheritance and protection have improved, with the accelerated development of global economic integration and digital informatization, the Yiwulv Mountain Manchu paper-cut still needs to survive. The natural ecology and social environment of the country have undergone fundamental changes. The Yiwulv Mountain Manchu paper-cut, which is spread only through the traditional way of inheritance and heart-to-heart teaching, is accelerating its demise. The rescue protection and effective dissemination of the Yiwulv Mountain Manchu paper-cut has become an urgent need. urgent problems to solve. Through field interviews, document data compilation and analysis, the following issues related to the dilemma of inheritance and protection of Yiwulv Mountain Manchu paper-cut are summarized and elaborated.

This part will elaborate on the following: issues about inheritors, issues about cultural connotation and cultural identity, and issues about inheritance media.

4.2.2.1 About the inheritor level

The aging of inheritors and the reluctance of young people to participate have resulted in a decrease in the number of inheritors. Through field research, it was concluded that the Manchu paper-cutting artists in Yiwulv Mountain have declining eyesight and are plagued by diseases, and their number is still decreasing. This has had a negative impact on the living inheritance and protection of the Yiwulv Mountain Manchu paper-cut, and the dissemination power of Yiwulv Mountain Manchu paper-cut has been reduced. Gradually declining.

The inheritors of Yiwulv Mountain Manchu paper-cut are gradually aging. This phenomenon calls for our deep reflection on the inheritance of traditional

handicrafts. As time goes by, older inheritors gradually become the main inheritors of this art, but at the same time they also face a series of challenges brought by aging. The challenges posed by aging to the inheritance and protection of Yiwulv Mountain Manchu paper-cut are first reflected in the reduction of the talent pool. As the number of older inheritors gradually decreases, the interest and participation of the new generation of young people in traditional crafts is relatively low, resulting in vacancies in the team of inheritors. This makes inheritors face considerable difficulties in cultivating and teaching the next generation. Paper-cutting, a traditional handicraft, requires a high degree of patience and meticulous craftsmanship, and the aging inheritors may face great limitations in this regard, making it difficult to implement the inheritance in practice.

Wang Xiuxia, the national inheritor of Yiwulv Mountain Manchu paper-cut, is a typical representative of the traditional handicraft of Yiwulv Mountain Manchu paper-cut. However, as time went by, she faced physical limitations, which affected her paper-cutting creation, teaching, and participation in related activities. In the field of traditional Yiwulv Mountain Manchu paper-cut, national inheritor Wang Xiuxia has always attracted people's attention for her exquisite skills and profound shamanic cultural heritage in paper-cutting. Through her creation, teaching and exhibitions, she has made great efforts to inherit and promote the Yiwulv Mountain Manchu paper-cut. However, with age and physical condition, her participation in inheritance and protection has been limited. Wang Xiuxia, a national-level inheritor, is currently unable to create paper-cuts and participate in related activities. Her craft is an important part of the Manchu paper-cutting tradition in Yiwulv Mountain, so she is unable to personally participate in the creation, which puts the inheritance of this craft in difficulty. Although the national inheritor Wang Xiuxia faces age and physical limitations, she has made a huge contribution to the inheritance and protection of Yiwulv Mountain Manchu paper-cut. The research of this article records her experience and skills by using digital media means, and conducts a contemporary translation of the artistic symbols of her paper-cut works so that a wider audience can learn and learn from them. (Wang, interviewed, 2023)

The inheritance of Yiwulv Mountain Manchu paper-cut is facing a crisis because the younger generation is unwilling to participate. Young people are

unwilling to devote themselves to the inheritance and protection of Yiwulv Mountain Manchu paper-cut. First of all, young people lack enough interest in the inheritance of Yiwulv Mountain Manchu paper-cut. In modern society, entertainment methods and career options are diversified, and traditional handicrafts seem outdated and difficult to arouse the strong interest of the younger generation. Yiwulv Mountain Manchu paper-cut requires long-term investment and study, which conflicts with the values of today's young people who adapt to the fast pace. Secondly, the lack of inheritance platforms and mechanisms is also the root of the problem. In modern society, the inheritance of traditional handicrafts usually requires the participation of relevant people from various industries. The inheritors of intangible cultural heritage are not necessarily limited to the inheritance of skills. They can also realize the full realization of the intangible cultural heritage through creative practice and the joint participation of multiple media. Media inheritance. In addition, the pressure and competition of modern life are also one of the reasons why young people are reluctant to invest in the inheritance of paper-cutting. Many young people prefer to choose careers and skills that can be directly converted into economic returns. However, the learning cycle of traditional handicrafts is long and the returns are relatively slow, which to a certain extent hinders the participation of the younger generation. (Zhao, interviewed, 2023)

However, in the face of this current situation, first of all, we can provide a more interactive learning experience by innovating traditional handicraft teaching methods and combining them with modern digital technology. Secondly, social and cultural institutions need to work together to provide more resources and platforms. They can also realize the inheritance of all media through creative practice and the participation of multiple media, so as to promote the Yiwulv Mountain Manchu paper-cut to find a new inheritance mechanism in modern society.

Figure 36 Interview with Zhao Zhiguo, the national inheritor

Source Huang Lin (2023)

4.2.2.2 About cultural connotation and identity level

At present, the creation of Manchu paper-cut works in Yiwulv Mountain has the inheritance problem of lack of cultural connotation and conceptual identity, causing most of the paper-cut works to lose the expression of cultural connotation. Most of the inheritors of folk paper-cutting by rural women who were born at the beginning of the last century have passed away. They are the last generation of the ancient farming civilization and have the deepest memory of folk customs and oral culture and hand-transmitted paper-cutting skills. We can clearly see this from their paper-cut works. Folk cultural characteristics of the shamanic era. At present, the younger generation only inherits the skills of paper-cutting, while the connotation of folk culture is gradually lost. In the process of inheriting and protecting Yiwulv Mountain Manchu paper-cut, artists and scholars did not pay enough attention to their local cultural knowledge, which caused the intangible cultural heritage to lose the overall meaning of local culture during the inheritance process, which inevitably caused the problem of lack of cultural connotation and identity. (Wang, interview, 2023)

In some current inheritance studies, researchers mostly compile some textual clues about Yiwulv Mountain Manchu paper-cut from written documents and historical records, but rarely through long-term field observations and interviews, truly understand the history of Yiwulv Mountain Manchu paper-cut from the perspective of local people. and cultural connotation, resulting in a lack of understanding of its cultural connotation and cultural identity. The lack of exploring

new forms of expression based on cultural connotation has led to the dilemma of solidification and simplification in its inheritance.

The existence of multiculturalism in modern society has caused collisions and conflicts between different cultures. The culture of Yiwulv Mountain Manchu paper-cut may feel competition and substitution from other cultures in this multicultural society, which affects the stability of cultural identity.

4.2.2.3 About the level of inheritance media

The "Opinions on Promoting the Implementation of the National Cultural Digitalization Strategy" issued by the General Office of the CPC Central Committee and the General Office of the State Council clearly stated the goal of "presenting a panoramic view of Chinese culture and sharing the results of Chinese cultural digitization for all people" and required strengthening the data entry standards for Chinese cultural databases. The "14th Five-Year Plan for the Protection of Intangible Cultural Heritage" issued by the Ministry of Culture and Tourism of China lists key tasks such as the intangible cultural heritage recording project and the intangible cultural heritage new media communication plan. Driven by national policies and through continuous practice and exploration, the digital model of intangible cultural heritage has changed. It was initially an auxiliary tool to help preserve, record, and display, and has gradually become an important tool to help the innovation and development of intangible cultural heritage. Scientific motivation.

According to the national policy on the digital protection of intangible cultural heritage, it can be concluded that the current inheritance and protection of Yiwulv Mountain Manchu paper-cut has the following problems in digital inheritance:

Limitations in the scope of inheritance: First, there are limitations in the scope of the inheritance area. During field surveys, it was found that the inheritance of Yiwulv Mountain Manchu paper-cut is mostly concentrated in Jinzhou City, Liaoning Province, China and surrounding cities. As a result, the inheritance of Yiwulv Mountain Manchu paper-cut is only limited to the local area and has not really spread. Get out there and be seen by a wider audience. In real life, it is difficult for most people to come into contact with the Yiwulv Mountain Manchu paper-cut. Only by going to art museums, exhibitions or participating in related inheritance and practice

activities can they have close contact and view. This situation has caused the Yiwulv Mountain Manchu paper-cut to lose the diversity of communication media, and the scope of inheritance has been limited. Secondly, the lack of inheritance institutions limits the inheritance of traditional handicrafts. In the absence of professional inheritance institutions and training platforms, inheritors face certain difficulties in teaching and training. The normative and systematic nature of inheritance is affected, and inheritance activities cannot receive wider organization and support, which restricts the inheritance of traditional handicrafts on a larger scale. In addition, changes in the social environment have also had an impact on the inheritance of Manchu paper-cutting. The fast pace and diversity of modern society make people more inclined to pursue novel and practical skills and entertainment methods. The inheritance of traditional handicrafts therefore faces competition from modern lifestyles. The social demand for paper-cutting has decreased, which has limited the scope of inheritance.(Tai, interview, 2023)

In order to expand the inheritance scope of Manchu paper-cutting, comprehensive measures have been taken. Establish a wider range of communication media and inheritance institutions, provide digital training and educational resources, and attract more young people to participate in the learning of traditional handicrafts. At the same time, through cultural promotion and publicity activities through digital media, we can increase society's awareness of the Yiwulv Mountain Manchu paper-cut, promote wider social participation, and help broaden the inheritance media and scope.

Insufficient digital transformation: The lack of effective digital communication means makes it difficult to fully display the Yiwulv Mountain Manchu paper-cut in the Internet era.

Huang (interview, 2023) said that in the current era of rapid digital development, the inheritance and protection of Yiwulv Mountain Manchu paper-cut have not fully taken advantage of digital technology, which has affected its sustainable development in modern society. First, it is difficult to build a digital platform. The construction of the digital platform has difficulties in attracting talents and the relative shortage of digital resources, which limits the display of Yiwulv Mountain Manchu paper-cut on the Internet. Insufficient innovative display methods

for digital transformation have limited the innovation and digital inheritance of the digital works of Yiwulv Mountain Manchu paper-cut, and cannot be well displayed and disseminated to the world through the Internet. Secondly, there is insufficient digital support for education and training. This is mainly reflected in the dissemination of the connotation of paper-cut works and Manchu culture and the digital inheritance of the paper-cut technique itself. In the context of digital transformation, the education and training of Yiwulv Mountain Manchu paper-cut is difficult to give full play to the advantages of digital technology in teaching, and there is a lack of online education platforms and virtual training resources. It is difficult for the inheritors of Yiwulv Mountain Manchu paper-cut to effectively pass on their skills to fans further away, which restricts the depth of cultural connotation and the breadth of the transmission distance of traditional skills. Additionally, digital media is not interactive enough. Interactivity is crucial to the inheritance and promotion of traditional culture, allowing audiences to truly participate in cultural inheritance in the virtual world. However, due to the lack of rich and diverse digital media interaction methods, the Yiwulv Mountain Manchu paper-cut may not be able to attract the attention of the younger generation on social media and other platforms, resulting in limitations in its dissemination in the digital age.

Insufficient application of digital media technology: The Yiwulv Mountain Manchu paper-cut relies on traditional material carriers, although it has its own characteristics in its communication channels and methods. But it focuses more on vertical transmission over time, that is, genealogy inheritance, using human carriers to spread culture through oral and heart-to-heart teaching. As the older generations of inheritors leave, those pure cultural connotations also die. This over-reliance on the transmission method of inheritors limits the breadth and depth of the inheritance effect of the Yiwulv Mountain Manchu paper-cut art in the digital age. Although this original form of traditional inheritance retains the traditional charm of the Manchu paper-cutting art in Yiwu Lu Mountain, it does not conform to the aesthetic and cultural value orientation of the modern audience. They are not interested in this traditional and solidified form of inheritance. Therefore, based on digital If the times do not make more digital attempts from the perspective of innovation in inheritance, it

will be difficult to achieve emotional resonance in the form of inheritance and emotional identification. (Huang,interview, 2023)

While digitally inheriting the Yiwulv Mountain Manchu paper-cut, we can rely on rich digital technology. The intervention of digital media makes the dissemination of intangible cultural heritage scientific, modern and diversified. Some research and practice have also made great achievements. Excellent results, but there are still some development problems when digital media is involved in the dissemination of intangible cultural heritage. This is what we should pay attention to when using digital media to disseminate intangible cultural heritage. First, through literature review, it was found that some current research on digital inheritance and protection of intangible cultural heritage has the phenomenon of "emphasis on technology and neglect of culture". In the process of practical creation, the "cultural connotation" and "digital technology" of digital inheritance and protection must be taken into consideration to make the work more complete. In the process of digital inheritance and protection, the basic characteristics and cultural connotation of intangible cultural heritage should be respected, which is also in line with the inherent requirements of intangible cultural heritage. Second, the involvement of digital media in the inheritance and protection of intangible cultural heritage requires the in-depth participation of inheritors and relevant cultural experts. Inheritors and relevant research experts on intangible cultural heritage play an important role in the development of intangible cultural heritage because they are practitioners of local cultural ontology. They can construct many expressions of culture according to the inherent logic of culture. They are truly The key to participating in co-creation of culture. Therefore, digital inheritance and protection of intangible cultural heritage theoretically require the in-depth participation of inheritors and relevant cultural experts.

4.2.3 Summary

By summarizing the current status of the inheritance and protection of Yiwulv Mountain Manchu paper-cut, from the perspective of the current status of inheritors and the national government's support policies for paper-cutting inheritors, the perspective of literature publication, the perspective of inheritance venue construction, the perspective of education and training and holding exhibitions, and

the establishment of digitalization Summarizing from the perspective of communication, we can draw the current status of inheritance and protection of Yiwulv Mountain Manchu paper-cut. By summarizing the dilemma of inheritance and protection of Yiwulv Mountain Manchu paper-cut, from the perspective of the aging of inheritors and low participation of young people, the cultural connotation and lack of cultural identity in the creation of paper-cut works, the limitations of communication media and innovative digital communication Summarizing from the perspective of insufficient means, we draw the current problems encountered in the inheritance and protection of Yiwulv Mountain Manchu paper-cut. At present, the inheritance and protection of Yiwulv Mountain Manchu paper-cut need to be supplemented and improved by the presentation method of the digital age, enriching the diversity of Manchu paper-cutting culture in Yiwulv Mountain, and diversifying its dissemination to make it meet the aesthetic needs of the times. Only by clarifying the core issues of digital media inheritance and protection of the Yiwulv Mountain Manchu paper-cut, and using the communication advantages of digital media technology, can we deepen people's understanding of the cultural connotation of the Yiwulv Mountain Manchu paper-cut, and finally break through the limitations of time and space to realize the cultural identity of the Yiwulv Mountain Manchu paper-cut.

4.3 The Application of 3D Animation Technology in the Inheritance and Protection of Yiwulv Mountain Manchu paper-cut.

In this chapter, the researcher will conduct practical creation based on the application of digital media 3D Animation in the inheritance and protection of the Yiwulv Mountain Manchu paper-cut. The researcher constructs the research model based on the creative process.

Researchers use the following to build a constructive research model. The theoretical model consists of four modules and six design links. Four modules: Pre-design; mid production; post-synthesis; evaluation and feedback. Six design links: conceptual design; sample extraction ; sample redesign; 3D animation production; 3D animation synthesis; and evaluation feedback.

In 2022, the "Opinions on Promoting the Implementation of the National Cultural Digital Strategy" issued by the General Office of the Central Committee of

the Communist Party of China and the General Office of the State Council clearly stated the goal of "presenting a panoramic view of Chinese culture and sharing the results of Chinese cultural digitalization by all people" and required the strengthening of Chinese cultural database data storage standard. The "14th Five-Year Plan for the Protection of Intangible Cultural Heritage" issued by the Ministry of Culture and Tourism of China lists key tasks such as the intangible cultural heritage recording project and the intangible cultural heritage new media communication plan. Driven by national policies and through continuous practice and exploration, the digital model of intangible cultural heritage has changed. It was initially an auxiliary tool to help preserve, record, and display, and has gradually become an important tool to help the innovation and development of intangible cultural heritage. Scientific motivation.

Wang (interviewed, 2023) said that we have learned that the traditional Yiwu Lv Mountain Manchu paper-cutting art is mainly inherited through oral teaching and the family and master-disciple system. This inheritance method is effective for the transmission of paper-cutting culture and the teaching of skills. , but with the passage of time and the development and changes of society, this traditional inheritance method faces the possibility of cultural connotation and inheritance gaps. Secondly, because the inheritance of Manchu paper-cutting art in Yiwu Lv Mountain relies on traditional hand-making and field teaching, this limits its wider spread. Therefore, without the intervention of digital media inheritance methods, it is difficult to effectively spread its cultural connotations and values to a wider area and more young people, resulting in a gradual decrease in its recognition in modern society. Through digital technology, the cultural connotation and symbols of the Yiwulv Mountain Manchu paper-cut can be re-innovated in digital media, thereby inheriting and protecting the Yiwulv Mountain Manchu paper-cut.

Huang (interviewed, 2023) said that there is currently a lack of research on the application of digital media in the dissemination of Yiwulv Mountain Manchu paper-cut art. There is a lack of research on the Yiwulv Mountain Manchu paper-cut art, both from the national government level and from the artist level. Digital inheritance and protection platform. To sum up, the current inheritance of Yiwulv Mountain Manchu paper-cut does lack the intervention of digital media inheritance methods, which brings great limitations to its inheritance. This chapter makes practical

creations based on the application of digital media in the inheritance and protection of Yiwulv Mountain Manchu paper-cut. It combines digital technology to promote the dissemination and inheritance of Yiwulv Mountain Manchu paper-cut in the digital age, so that more people can understand, respect and inherit this art. Important national art.

Jing (interviewed, 2023) said that Jinzhou Intangible Cultural Heritage Protection Center in Liaoning Province has established relevant departments for digital inheritance of intangible cultural heritage in recent years. However, it has not yet achieved success in terms of technology, staffing and other factors. Better results. He believes that it is urgent to accelerate the digital inheritance and professional guidance of intangible cultural heritage, so that more digital innovative professionals can join the inheritance of intangible cultural heritage, and make rational and efficient use of digital media and other technological means. Empower the innovative inheritance and protection of intangible cultural heritage.

Based on this, as a professional practitioner of digital media, we make professional practical attempts for the inheritance and protection of intangible cultural heritage through digital technology, and conduct research on 3D Animation design and creation practice models by using the concepts of semiotics, communication and digital cultural reproduction. , constructing a path model for digital animation inheritance and protection of Yiwulv Mountain Manchu paper-cut.

4.3.1 Pre- design

The researcher will work on the preliminary design part,Through relevant expert interviews, group discussions and other methods, we conduct research on the use of research concepts, 3D Animation concept design, sample extraction, and sample design. The research results are as follows:

4.3.1.1 Use of theoretical concepts

This chapter uses Saussure's semiotics "signifier" and "signified", Lasswell's "5W" communication theory and the concept of media creation to conduct a research strategy analysis on the ontology of 3D Animation practice creation, making the research more focused Logic, science and rationality. (Figure 38)
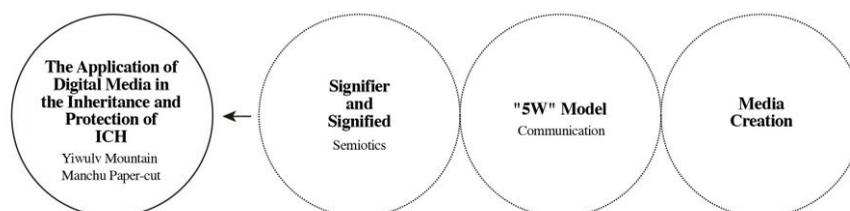
Figure 37 Research framework for the application of digital media in the inheritance and protection of intangible cultural heritage

Source Huang Lin (2023)

Firstly, Design concept based on semiotic concepts. Semiotics was first proposed by the Swiss linguist Saussure (1916). From a linguistic perspective, he proposed that signs include "signifier" and "referred" parts, that is, objects at the level of expression - the "shape" and referent of signs. The connotative meaning of things - the "meaning" of symbols. The "signifier" and "referred" of a symbol are composed of physical language and spiritual semantics. Only the combination of the two can form a complete symbol system. Any meaning in human culture must be expressed through symbols, and all meanings are symbolic meanings (Zhao Yiheng, 2013). As a traditional cultural symbol, Yiwulv Mountain Manchu paper-cut has both practical and aesthetic functions. Interpreting the paper-cutting art from a semiotic perspective will make the research path of Yiwulv Mountain Manchu paper-cut more systematic and the research thinking more reasonable.

Using the concepts of "signifier" and "signified" in Saussure's semiotics to study the figurative and abstract values of digital Yiwulv Mountain Manchu paper-cut can provide an in-depth analysis of the integration of this traditional art form and digital media. Signifier: In the digital Yiwulv Mountain Manchu paper-cut, the signifier includes the specific presentation of the digital paper-cutting, including patterns, colors, lines, etc. These are physical features that the viewer can directly perceive. The concrete value of the digitalized Yiwulv Mountain Manchu paper-cut lies in its visual beauty and technical details. Digital media allows for more sophisticated pattern designs and visual effects, making paper-cut works more vivid and attractive. Viewers can appreciate the aesthetic value of digital paper cutting. Signified: The signified is the abstract or cultural connotation represented by the

digital Manchu paper-cuts in Yiwulv Mountain. This includes cultural traditions, historical background, emotional and spiritual significance. The abstract value of the digitalized Yiwulv Mountain Manchu paper-cut lies in the cultural and historical information it conveys. Through digital media, paper-cut works can spread Manchu traditional stories, religious symbols, folklore and other abstract elements. This helps to inherit and promote Manchu culture and let more people understand and appreciate it.
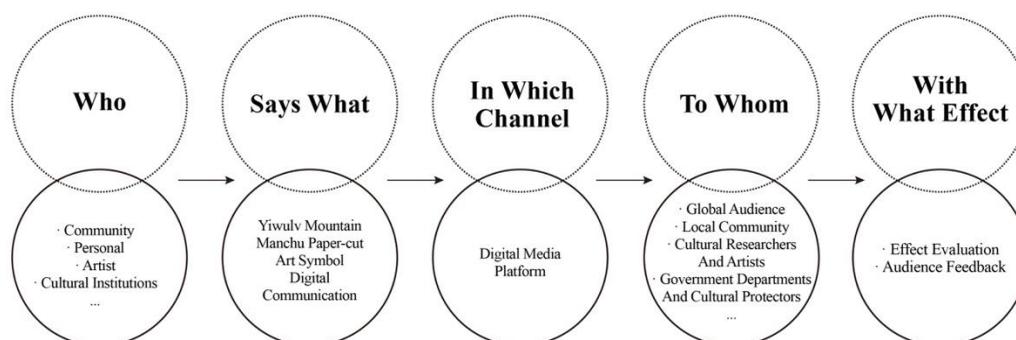

Figure 38 Research Path Based On "5W" Communication Theory

Source Huang Lin (2023)

Secondly, Based on the communication rules under the "5W" communication theory. As a digital media designer, I will carry out the practice of digital inheritance of Yiwulv Mountain Manchu paper-cut by integrating the communication theory based on Lasswell's 5W and the concept of digital reproduction into the design of 3D Animation and virtual tour. Harold Lasswell, one of the founders of communication studies and an American political scientist, proposed the 5W communication theory in his "Structure and Function of Social Communication", which had a profound influence on the development of communication studies. Lasswell proposed five basic elements of the communication process, namely who (who), what (says what), in which channel (in which channel), to whom (to whom), and what effect is produced (with what effect) . (Harold Lasswell, 1948) Conducting specific analysis based on the "5w" communication theory during the practical creation process of digital media can make the research more systematic and logical. Based on the theoretical concept of "5w" communication theory and combined with the practical creation and exploration of digital media, it

aims to promote the dissemination and inheritance of the Yiwulv Mountain Manchu paper-cut in the digital age. "Who" is the inheritor and disseminator. In the dissemination of intangible cultural heritage (Yiwulv Mountain Manchu paper-cut) art through digital media, it is first necessary to clarify "who" is the inheritor and creator of culture. This may be a community, an individual, an artist, a cultural institution or a specific group. ; "Says What" refers to cultural communication content. From the extraction and digital re-creation of the artistic symbol concepts of the intangible cultural heritage (Yiwulv Mountain Manchu paper-cut), practical creation using 3D Animation technology in the digital media major, the symbols of the intangible cultural heritage (Yiwulv Mountain Manchu paper-cut), including the digitization of cultural symbols Translation, so as to widely share and disseminate its cultural connotation through digital media platforms; "In Which Channel" is a digital media platform. Digital media provides a variety of communication channels, including social media, online video, virtual reality, etc. "To Whom" refers to the target audience of communication. Through the analysis of the audience of Yiwulv Mountain Manchu paper-cut, they include local community members, global audiences, cultural researchers and scholars, cultural protection organizations and government departments, cultural creators and artists, etc.; "With What Effect" refers to evaluation and feedback. The practical creation model of the application of 3D Animation in the inheritance and protection of Yiwulv Mountain Manchu paper-cut needs to be evaluated for its effectiveness. This includes understanding audience feedback, engagement, influence, and more. Digital media provides data and analytical tools that can be used to monitor and evaluate communication effectiveness.

By combining Lasswell's "5W" theory with digital media to disseminate intangible cultural heritage, inheritors and cultural institutions can plan and execute digital inheritance projects more systematically. This combination can help ensure the effective communication of cultural elements, while also providing tools to quantify and evaluate the effectiveness of communication activities in order to continuously improve and optimize communication strategies. This helps protect, inherit and promote intangible cultural heritage so that it can better adapt to the needs and challenges of the modern digital age. It is of great significance to combine Lasswell's

"5W" theory of communication with digital media to spread intangible cultural heritage, because this combination helps to achieve the following key goals and values: pinpointing target audiences and optimizing content Create and select, choose appropriate communication channels, accurately disseminate and customize information, and evaluate communication effects and feedback.

Thirdly, Inheritance and development based on the concept of media creation .The concept of media creation does not have a specific single proposer. It is gradually formed during the evolution of media studies, communication studies, art and other fields. This concept covers digital creation activities, including but not limited to creative expressions of text, images, audio, video, etc. on media platforms.

The concept of media creation involves the process of creative expression by individuals or teams using various media forms in the digital age. This includes content production, storytelling, image creation, music production and many other aspects. Driven by the Internet and digital media technology, the scope of media creation continues to expand, covering more diverse media forms and creative methods.Media creation refers to the process of creating and transmitting information on a specific media platform through the form of content, expression techniques, language methods and communication methods.

Media creation is a kind of cultural productivity, which is not only a reflection of social reality, but also a process of creation and dissemination of cultural ideas. Media creation is not only a way of cultural expression, but also a communication medium for social values. Media creation carries the dissemination of knowledge and is also an important medium for cultural inheritance. In the process of creating 3D Animation, as a media creator, you need to think based on the basic value and connotation of culture, cultural identity, and the concepts of cultural inheritance and protection, and express it specifically in your works, thereby improving the quality of your creative works. , depth and breadth. This will guide the innovative inheritance and protection of Yiwulv Mountain Manchu paper-cut culture.In terms of cultural inheritance, media creation is not only limited to the reproduction and inheritance of traditional culture, but also includes the promotion and innovation of traditional culture. It is an important means to create high-quality cultural products

and cultural content and promote the innovative inheritance and protection of intangible cultural heritage.

Finally, Inheritance and development based on the learning culture. Learning culture refers to learning about the Yiwulv Mountain Manchu paper-cut, through 3D animation digital system, transfering knowlege about Yiwulv Mountain Manchu paper-cut culture of youth. By teaching young people the cultural connotation of Yiwulv Mountain Manchu paper-cut, they can have a deep understanding of the wisdom and creativity of paper-cutting culture. This is not only the inheritance of skills, but also the transmission of culture, beliefs and values. By learning the cultural knowledge of Yiwulv Mountain Manchu paper-cut, the younger generation can experience the cultural connotation and value behind the traditional art.

In the rich cultural tradition of Yiwulv Mountain Manchu paper-cut, learning culture plays a key role, especially when it comes to the learning process of teenagers. This study focuses on the creative practice of digital media. Learning culture involves young people through the exhibition form of digital media 3D Animation, providing a deeper learning experience for young people. This learning method is not only the transfer of knowledge, but also an immersive experience of the Manchu paper-cutting values and lifestyle in Yiwulv Mountain.

4.3.1.2 Concept Design

Zhao (interviewed, 2023) said that conceptual design is an important step in the early stage of 3D Animation creation. It conceives complete creative concepts and ideas and provides guidance and reference for subsequent design practice and production links. After the concepts are organized, analyzed, in-depth, and optimized, we can use this as a guide for drawing key frame sketches for subsequent 3D Animations. The purpose of sketching is to more standardize the subsequent execution of the work. Therefore, this article puts conceptual design first in the study of the 3D Animation art creation process, which can better lay the foundation and support for subsequent creation. The main functions of the conceptual design of 3D Animation creation include: elaboration of the overall concept content of the design concept, spatial situation, theme concept, design style, modeling style, etc., and setting sample modeling design, scene construction, and material types for subsequent

creation , texture, color matching and other detailed information all provide good support.

Wang (interviewed, 2023) said that the Yiwulv Mountain Manchu paper-cut originated from the ancient shamanic culture, and uses shamanic culture as the main theme and connotation. It embodies the shamanic religious concept of " Animism ", so it is determined The conceptual name of the 3D Animation practice creation is "Animism". "Animism" is created based on the shaman culture paper-cutting in the Iwulv Mountain Manchu paper-cut. In the "Pantheon" of northern shamanism, the Sky Palace has always occupied an important position. It can be said that the concept of the original sky came into being in the early days of shamanism, which is the cornerstone of its religious thought. The worship of nature in the sky is the concept and awareness of primitive people who worshiped natural objects and natural forces as having life, will and greatness. (Fu, 1990)

In the creation of 3D Animation works, the main expression clues are based on the primitive worship of nature gods, worship of ancestor gods, and worship of reproduction. On this basis, samples are extracted, designed and reorganized. According to the different carriers of the original worship activities of the Manchu people in the Yiwulv Mountain area, paper-cutting is summarized into different totem images into animal god shapes, plant god shapes and god puppet shapes.

Ma (interviewed, 2023) said that While retaining the connotation of shamanic culture, the work deepens the weird and simple charm of shamanic paper-cutting. It uses the sample of the Iwulv Mountain Manchu paper-cut created by the paper-cutting artist as the basic pattern, and geometrically processes the complicated and detailed language. The simple and majestic shape is exaggerated and redesigned with the most characteristic form of paper-cutting art - symmetrical composition, to generate graphics and patterns with more contemporary characteristics, giving the beautiful meaning and characteristics of the times to the traditional Chinese paper-cutting elements. During the design process, in order to better demonstrate the strong visual effects brought by the Manchu paper-cutting in Lv Mountain, the witch doctor, the work uses red as the main color, which is the most paper-cutting color, and adds the meaning extension of digital media to the graphics. Through digital virtual Spatial presentation allows the audience to have an immersive visual experience in the virtual

world. The virtual space takes the "Pantheon" scene of shamanism as the main design idea, and builds a sky-cosmic scene design with the significance of shamanic totem worship. The paper-cut buildings and gods rotate or float, boundless and ever-changing, forming a A virtual reality shamanic universe world is created. Viewers can enter the virtual scene through human-computer interaction and appreciate the shamanic cultural connotation and cultural value of the Yiwulv Mountain Manchu paper-cut, as well as the shocking visual and auditory effects.

Figure 39 Font design for 3D Animation title " Animism"

Source Huang Lin (2023)

4.3.1.3 Sample extraction

The samples in this article were collected and extracted from the Manchu paper-cut works of Yiwulv Mountain. Based on the original shamanic culture of nature worship, fertility worship and ancestor worship in Yiwulv Mountain, this is the foundation of Yiwulv Mountain culture. A large number of folk paper-cuts in Yiwulv Mountain inherit the shamanic cultural content of nomadic and forest peoples and the plastic art of idols. This paper-cut symbol records the ancient nature worship, totem worship, and shamanistic beliefs of the people in northern China. It also records the life status and cultural symbols of the people in northern China who had a common ancestor with animals and plants in nature and coexisted with each other. (Wang, interviewed, 2023)

The formation of this shamanic cultural symbol is due to the influence of the "Animism" concept unique to the belief system, and it is transformed into a visual symbol language that can be passed down through oral transmission. Therefore, shamanic cultural symbols are inherently practical and highly recognisable. The

shamanic cultural symbols in the Yiwulv Mountain Manchu paper-cut are mainly isomorphic in the form of humans, animals, and plants, which are highly creative and cultural in visual aesthetics. Therefore, the shamanic cultural symbols in the Yiwulv Mountain Manchu paper-cut are of great research value. The researchers collected, summarized and classified samples of shamanic cultural symbols in Manchu paper-cutting through interviews with relevant experts. They mainly divided the shamanic cultural symbols in paper-cutting into There are three categories of human symbols, animal symbols, and plant symbols, which respectively combine the shamanic cultural concepts of natural god worship, ancestor god worship, and reproductive worship.

The main samples were selected according to the objects studied in Research Objective 1, and "Tongtian Tree", "Liushu Mother", "Lashou Ren", etc. were extracted as the main character settings of the 3D Animation. " Tongtian Tree " is a paper-cut work created by Li Shuqing. In Manchu culture, it also implies the continuation and prosperity of life and is a sacred symbol. Among the paper-cut works, the Tree of Life demonstrates the shamanic cultural concept of nature worship in the Manchu paper-cut art of Yiwulv Mountain, as well as its unique charm and profound cultural connotation. " Liushu Mother " is a paper-cut work created by Zhang Xirong. It is one of the representative shapes among the Manchu paper-cuts in Yiwulv Mountain. Willow Mother is a fertility god that is commonly worshiped by Manchu people. The willow tree and woman are combined to worship the fertility god. The willow branches and leaves on the head of the statue and the surrounding feminine symbol patterns. These artistic symbolic languages convey the concept of fertility god worship and plant totem worship of the mountain forest people. "Lashou Ren": a paper-cut work created by Li Shuqing. Composed of nine connected people holding hands, it is the ancestor god and fertility god of the mountain and forest peoples. The number "nine" symbolized the extreme number under the social background of the time. The nine hand-holding people connected together symbolized the prosperity of the tribe. In the concept of shamanism, the human soul is hidden in the hair. The long braid of the god statue is a sign that the soul of the ancestor god is connected with the gods. It also reflects the philosophical concept of the unity of heaven and man and the animism of all things. Realize the concept of harmonious coexistence and harmonious coexistence between man and nature.
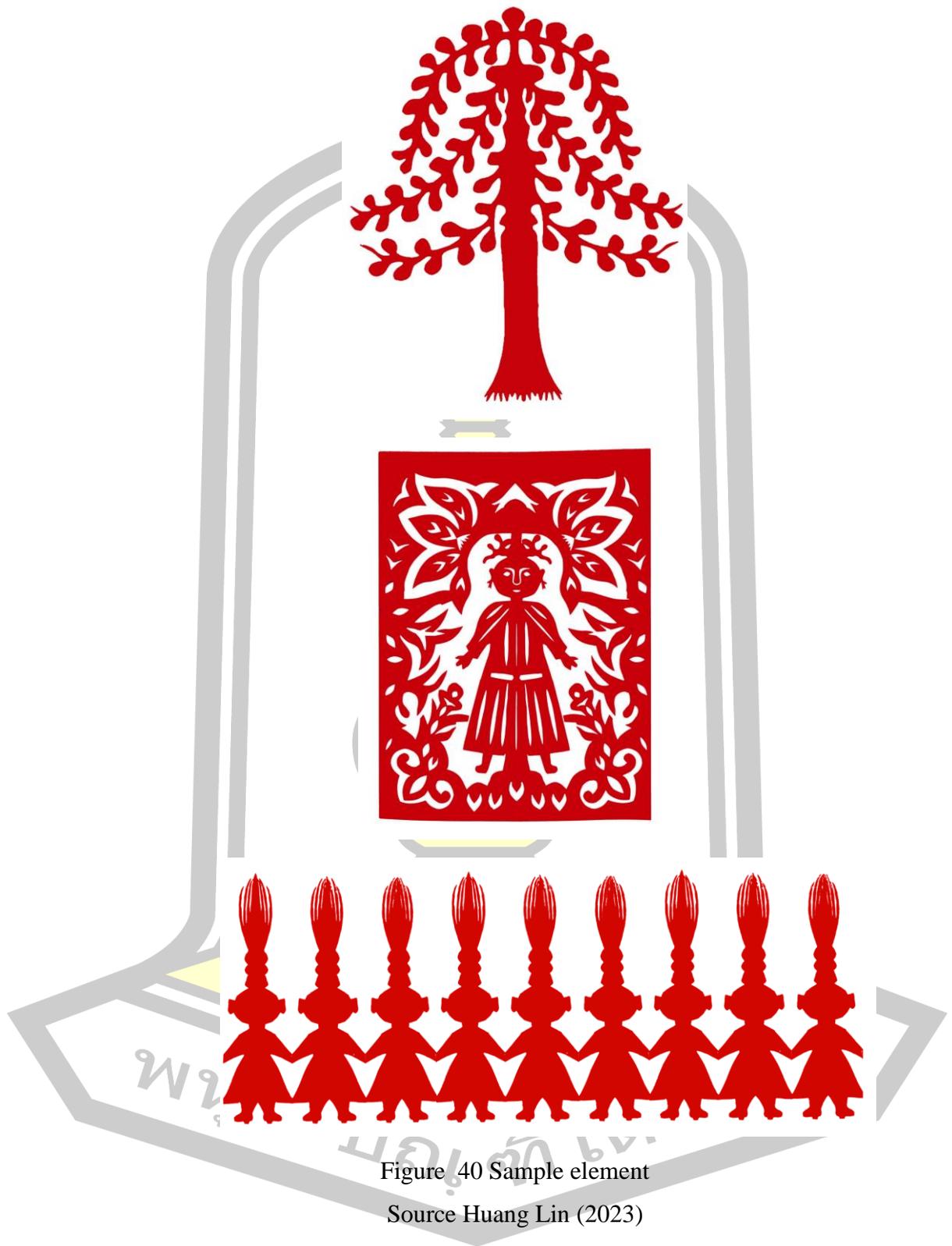
Figure 40 Sample element

Source Huang Lin (2023)

4.3.1.4 Sample design

Yin (interviewed, 2023) said that sample design refers to the extraction and transformation of cultural symbols from paper-cut samples. Cultural symbols are not only a medium for conceptual communication, but also the core of visual language, playing an important role in the process of information transmission. Symbols can transmit information more directly and subjectively, allowing audiences in different countries to intuitively receive information content. They are the carrier of information transmission. In the context of digital media and diverse information, the dissemination of artistic symbols and cultural connotations is required to be unified. For the digital translation of paper-cut art symbols of shamanic culture, the most important thing is to comply with the "animism" and "animism of all things" of shamanism. Under the two core concepts of "totem worship", we carry out the contemporary translation of cultural symbols.

If the shamanic culture of Yiwulv Mountain Manchu paper-cut is to be inherited and accepted, and to rejuvenate in the current trendy society, it must start from the perspective of excavation and redesign of its cultural symbols, and the traditional paper-cutting Symbols are organized and innovated. In the process of innovative design of shamanic cultural symbols, it is necessary to redesign sample symbols based on the principles of geometric extraction, abstract generalization, exaggerated expression, and systematic reconstruction design, while ensuring the accurate communication of shamanic cultural and artistic symbols. , thereby ensuring accurate communication and dissemination of information. (Zhang, interviewed, 2023)

1. Geometrically extract artistic symbols. In the process of constructing cultural symbols in 3D Animation, the originally extracted samples are geometrically summarized and integrated. The cultural symbols and cultural connotations formed through geometric sample graphics are the basis for constructing the visual expression language of 3D Animation, and this process It also requires the participation of cultural experts and inheritors of Yiwulv Mountain Manchu paper-cut, so that the important cultural symbol forms of the sample symbols can be accurately refined, thereby enriching the aesthetic experience of the geometric cultural symbols and giving them their own unique language functions. (Yin, interviewed, 2023)

2. Abstract and summarize artistic symbols. Abstraction Summary Cultural symbols are divided into two levels of abstraction, one is the abstraction of the shape of cultural symbols, and the other is the abstraction of the concept of cultural symbols. The summary of cultural symbols in this article is established under the concept of concrete abstraction. The so-called concrete abstraction is an abstract activity that does not break away from the specific image, or an abstraction that relies on the outline, appearance, and characteristics of the image of objective things. (Chen, 2005) The redesign of cultural symbol samples in this article is the imitation and deformation of the extracted sample materials. It is a visual art of "adding" and "deleting" the sample materials on the basis of retaining the typical characteristics of the sample materials. chemical treatment.

3. Exaggerate expression symbols. It is an exaggerated expression of the extracted sample cultural symbol shapes. At the modeling level, in order to express the visual impact of the Manchu paper-cutting cultural symbols in Yiwulv Mountain, bold cuts and changes were made to the modeling features of the cultural symbols, and the parts that best expressed the main concepts were exaggerated. For this reason, the sample prototype part of the Manchu paper-cut cultural symbols in Yiwulv Mountain may only be partially preserved. Carry out detailed characterization and expression of the modeling parts that need to be exaggerated. The extracted sample cultural symbols are selected and exaggerated to form a cultural symbol rich in rhythm and rhythm, visual impact and artistic beauty. The creation focuses on the exaggerated shape and conceptual angle of the Manchu paper-cutting cultural symbols of Yiwulv Mountain, and combines it with shaman culture to highlight the distinctive artistic characteristics and cultural value connotation of the Manchu paper-cutting cultural symbols of Yiwulv Mountain. (Zhu, interviewed, 2023)

4. Reconstruct the combination symbol. The cultural symbol monomers designed through the integration of geometry, abstraction, and exaggeration will be reconstructed and combined to form a new cultural symbol. First, a reconstruction combination model is established, which is divided into four, six, and eight repeated distribution models. The sample redesigned cultural symbol monomer is copied and rotated to form the final cultural symbol language in the 3D Animation design. Through research objective 1, the shapes of the earliest folk paper-cut works

unearthed in China are integrated, combined with the symmetrical composition characteristics of the Manchu paper-cut works in Yiwulv Mountain, and the multi-point repeated composition method is selected to construct the model when reconstructing cultural symbols.
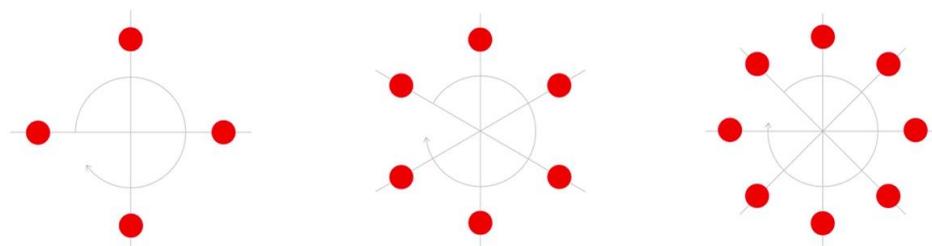

Figure 41 Reconstruct the combined model

Source Huang Lin (2023)

Based on the principle of reconstructing combined symbols, cultural symbols are created as follows:
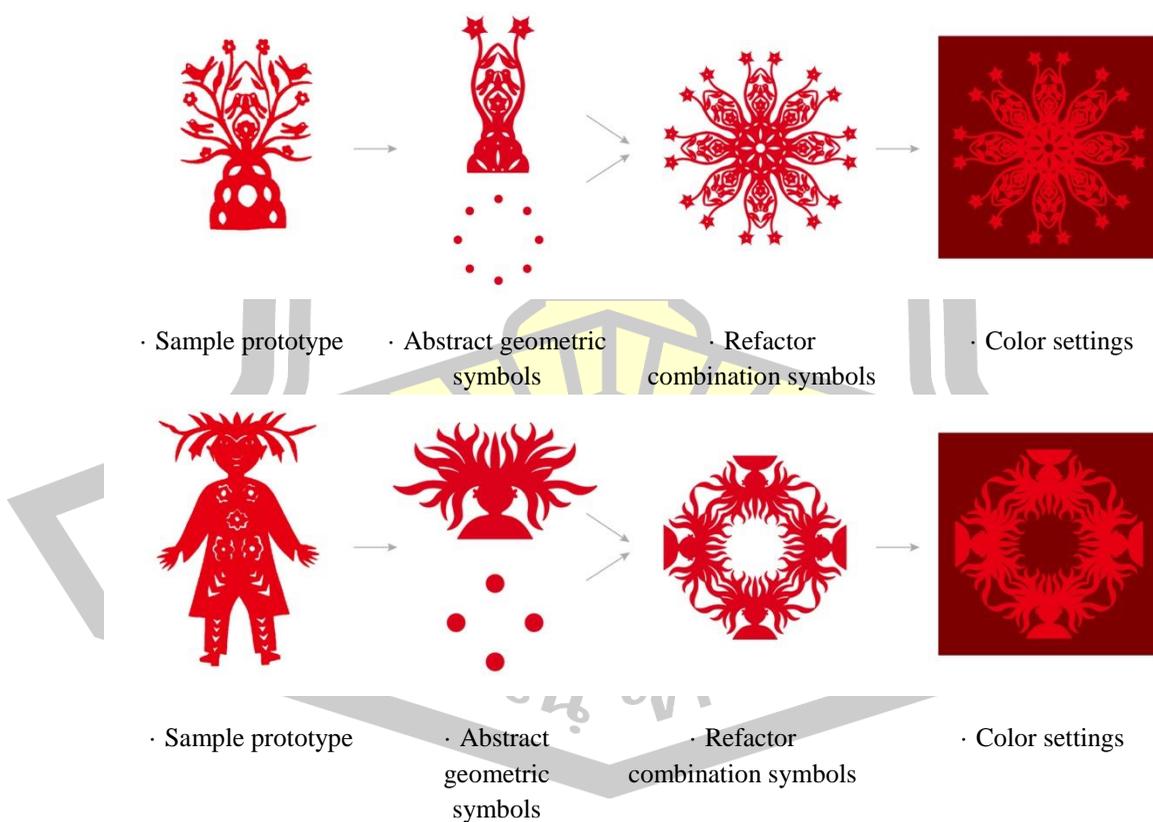

· Sample prototype   · Abstract geometric   · Refactor   · Color settings
                        symbols   combination symbols

· Sample prototype   · Abstract   · Refactor   · Color settings
                      geometric   combination symbols
                      symbols

Figure 42. Sample symbol design process

Source Huang Lin (2023)
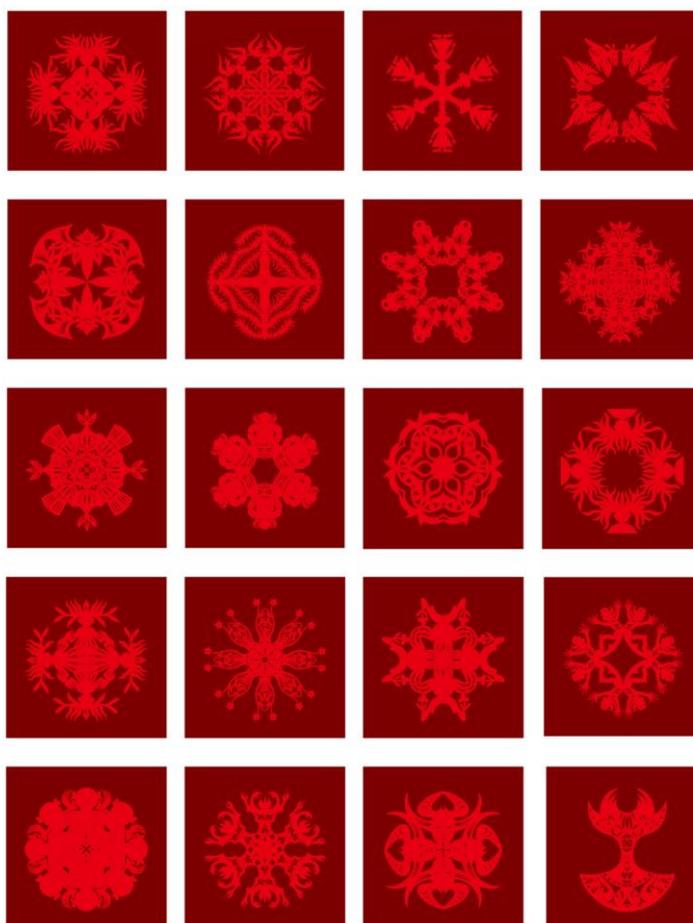
Figure 43 Sample symbol design
Source Huang Lin (2023)

4.3.2 Mid production

Researchers will produce parts in the mid-term, Through relevant expert interviews, group discussions and other methods, we conduct research on 3D animation model production, scene construction, and rendering generation. The research results are as follows:

4.3.2.1 Model making

The model production in the 3D Animation production process is to redesign the cultural symbol elements based on the extracted samples, and carry out the transformation process from two-dimensional plane modeling to three-dimensional three-dimensional modeling. The final modeling and scene presentation results are combined with camera settings, color design, material design and lighting

design to complete the rendering of 3D animation. The model in this part refers to the three-dimensional shape in 3D Animation. Model production is to realize the presentation of the modeling form and structural relationship of artistic symbols. This part is the basic work for subsequent dynamic design presentation. (Mei, interviewed, 2023)

The production part of this part of the model is based on the method of image data generation, which is a relatively eclectic method of model data input. The multi-angle images of the object are standardized and defined based on the key points and structural positions of the three-dimensional shape and then are calculated by computer software. generate. The method of production using 3D expression software CINEMA 4D. The creation and editing of three-dimensional modeling software are used to create three-dimensional models on the computer. (Deng, 2019)

The model production in this part is relatively simple, using rotation, push and pull methods to present cultural symbols in a three-dimensional manner (Figure 9). This relatively simple presentation method can well highlight the three-dimensional and digital presentation of the Yiwulv Mountain Manchu paper-cut art. The theme retains the characteristics of paper-cutting art in the traditional sense, but also carries out a three-dimensional transformation of the three-dimensional space, achieving a digital breakthrough under the traditional concept.
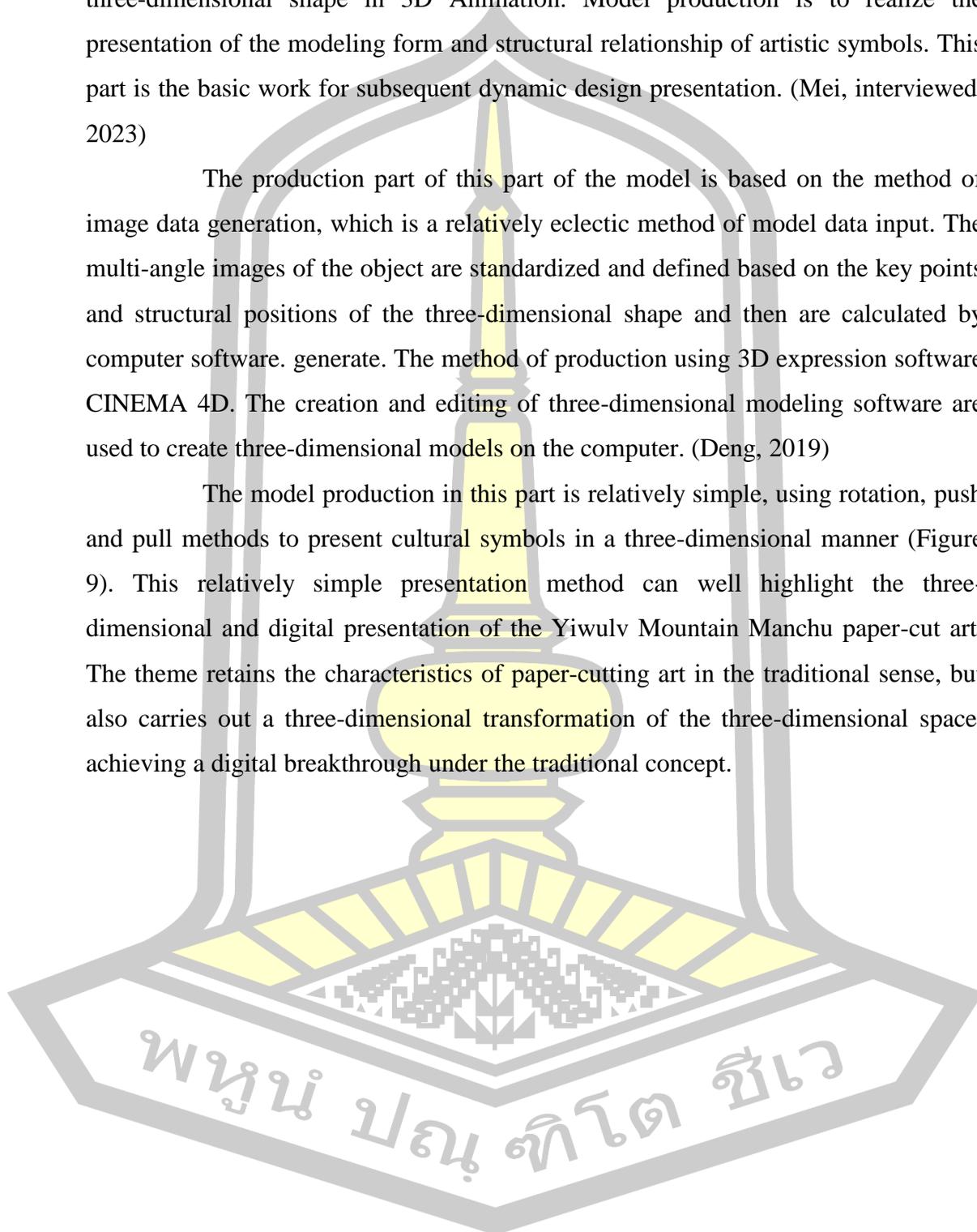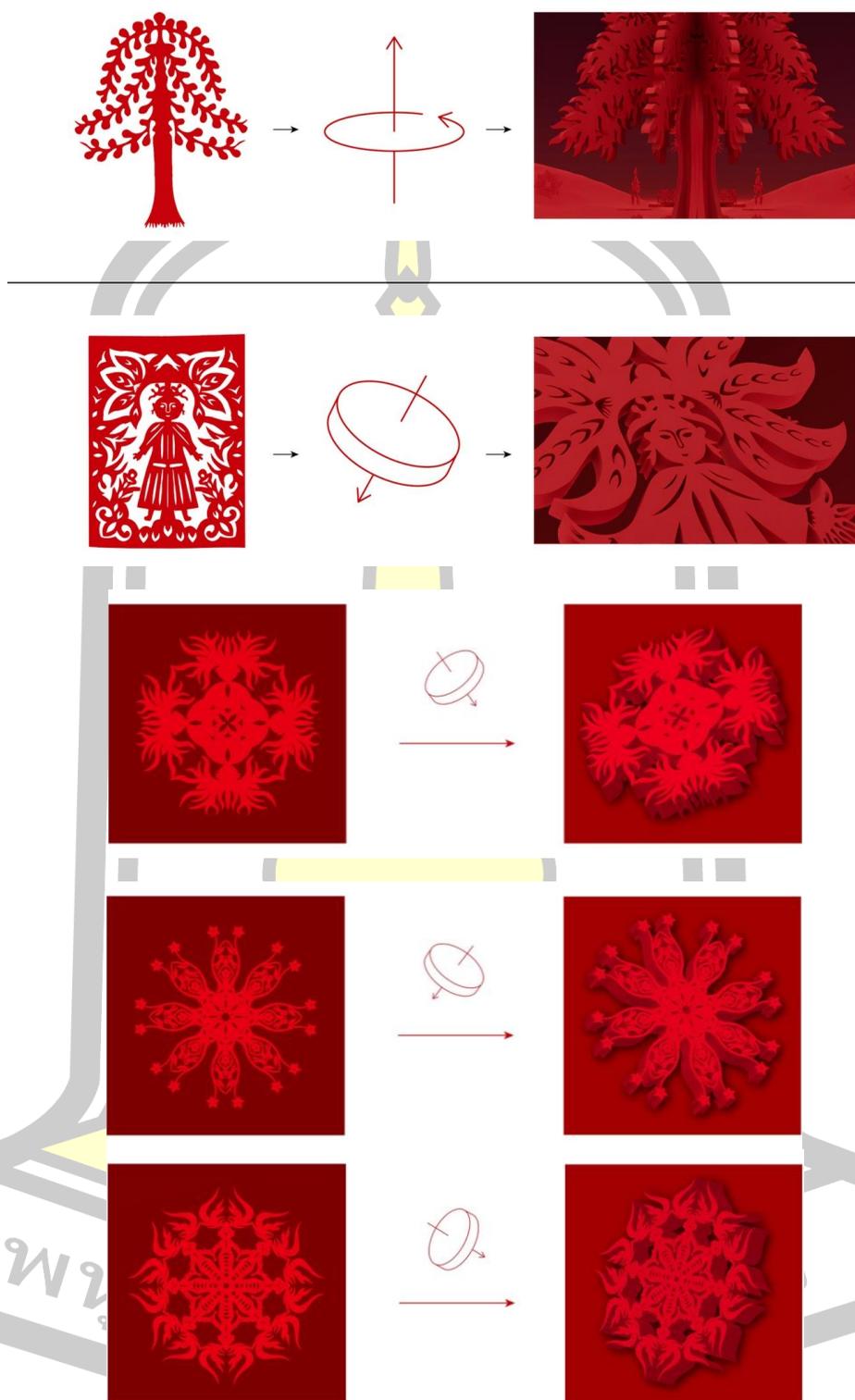
Figure 44 Three-Dimensional Model Production

Source Huang Lin (2023)

The production of 3D Animation models is an important part of the mid-term production work. Model performance in the creative process mainly involves model production based on conceptual design. The production and in-depth modeling of the model is based on the presentation of details and changes in each link based on dimensional changes. Starting from this stage, the artistic symbols and visual language of the final 3D Animation work are gradually established, and a clear visual art style is determined. The establishment of the concept of the three-dimensional model is based on the theory and cognitive methods of traditional plastic arts, with the technical realization characteristics as clues. The presentation method of the model is based on the sorting and induction of the ontological characteristics of artistic symbols, and in the shape of the model The method must comply with the technical characteristics of three-dimensional composition rules. In 3D Animation, the production of models is mainly reflected in the relationship construction of body language structure. Body refers to the outer edge shape and silhouette of an object, structure refers to the collocation and arrangement of various parts of the whole, and the inner structure and combination of artistic symbols. Relationship is an important element in the impact of modeling on the senses, and plays a role in defining the relationship between the whole and the parts and determining the visual experience of the modeling. There are no isolated concepts of form and structure in the three-dimensional coordinate system. The two transform and interact at any time with different observation angles. Guiding the visual coordination between the two by understanding the conversion of dimensions is the essence of the work and research on three-dimensional model representation. (Deng, 2019)

4.3.2.2 Scene building

Sha (interviewed, 2023) said that in the process of constructing 3D Animation scenes, important components such as the construction of scene space, the expression of composition form, and the structural relationship between models must be fully considered. The three-dimensional model scene construction uses three-dimensional modeling software to create a virtual space to display the cultural symbols, cultural connotation and value of the Yiwulv Mountain Manchu paper-cut. The three-dimensional modeling software involved in this article is CINEMA 4D. When using CINEMA 4D software to create a virtual space, the models produced in

the previous part can be digitally combined and constructed to create a virtual scene that conforms to its cultural connotation and create a saga about the world. The world of Manchu paper-cutting allows people to immersively feel and experience the cultural and artistic charm of Yiwulv Mountain Manchu paper-cut. Then, when constructing the virtual scene space, it is necessary to consider details such as the size, color, shape, and material of the model to ensure the authenticity and credibility of the created scene. In addition, in the construction of virtual scenes, the use of lighting is also very important to ensure that the visual effects and atmosphere of the scene are accurate and that the concept of the work can be effectively conveyed.

The scene of the 3D Animation of "Animism" includes the direct creation of a virtual space visible on the screen and the virtual imagination space extended by the perception of the artistic value of the execution object. Creating a sense of space is an important purpose of scene performance, and works of art serve as an expression of the creator's subjective consciousness. In the creation of the 3D Animation of "Animism", the virtual space scene built after the materialization of cultural symbols is based on the scene of the "Pantheon" as the main spatial expression, and the design of the sky and universe scene with the significance of shamanic totem worship is built, and the paper-cutting The constructed buildings and gods either rotate or float, are vast and ever-changing, forming a virtual reality shamanic universe. The finiteness of this concrete form and the infinity of abstract forms give the sense of space the aesthetic significance in the work. . The nearly infinite changes in the form of the built scene space make the existence of the sense of space present the dual attributes of concreteness and abstraction, and at the same time, it also gives the scene space a wireless space for imagination and artistic charm.

In the process of setting up the scene, grasping the lens language is also an important link. Comprehensive scene merging and lens design techniques can theoretically achieve unlimited expansion of creative space. This feature itself is in line with the relationship between the camera lens viewing range and the real world space - extracting and defining parts. The camera viewfinder determines the boundaries of the picture, extracting and emphasizing the picture content from the overall scene. Through the camera movement and lens group connection, the direct or indirect connection between the content inside and outside the painting is realized,

and the integrity and objectivity of the internal and external space are determined. Through the changes in the time dimension and the comprehensive experience of the perceptual dimension, the work is given an extension of the off-screen space, and relies on sound, visual guidance and other techniques to achieve invisible but perceptible off-screen space information transmission. At the same time, the detailed expression of three-dimensional objects is not limited by the image resolution, breaking through the limitations of two-dimensional picture drawing technology. The lens movement can be expressed across a large span from macro to micro, and the sense of space can be infinitely expanded. (Deng Qiang, 2023) The pictures presented in every lens language must be expressed with concepts that fit the theme. Factors such as the composition of the picture, the tendency of movement, the relationship between form and light and shadow, and the tone of the picture all serve to create a sense of space.

Regarding the scene composition design of the 3D Animation design, the selected composition is based on the corresponding data obtained from interviews with paper-cut artists to set the composition. It is not difficult to see from the history of paper-cutting in the first chapter of the article that the art of paper-cutting is famous for its unique symmetrical and balanced composition. In the typical works of Yiwulv Mountain Manchu paper-cut, symmetrical elements are used throughout to create a harmonious visual effect. Cut paper artists achieve this symmetry by arranging patterns, shapes and lines symmetrically along a central axis, and by using similar patterns and elements on the left and right sides. The balanced layout of these artistic symbols not only makes the work look stable and balanced, but also gives a visual feeling of auspiciousness and reunion. In interviews with paper-cut artists, the techniques and importance of paper-cut composition are explored in depth.

On the basis of symmetry and balance, changes and contrasts will also be skillfully used to enhance the visual impact and layering of the work. Composition is not an immutable rule, but a flexible creative method that can be adjusted according to different themes and emotions you want to express. In this interview, the paper-cut artist explains the importance of paper-cut composition in the artistic creation process. (He, interviewed, 2023)

Based on the above interview content, we finally chose to use the symmetrical scene composition method to create and present 3D Animation. Symmetrical composition is not limited to the symmetry of scene construction, but is closely integrated with the theme concept created, expressing a broader perspective and richer theme concepts. The symmetrical composition divides the composition space with baselines to achieve a balance between the visual center point and the picture. This makes the approximate positional relationship of the element objects of the 3D Animation clear. During the creative process, the main element objects are placed at the visual center point to achieve a balanced left and right picture of the symmetrical composition. The practical creation scene construction of 3D Animation is based on the connotation of shamanic culture. The entire 3D Animation is divided into three main scenes, namely worship of natural gods, worship of ancestor gods, and worship of animal gods. The main scene design is combined with samples. The designed model cluster constructs the virtual scene of the 3D Animation of "Animism".
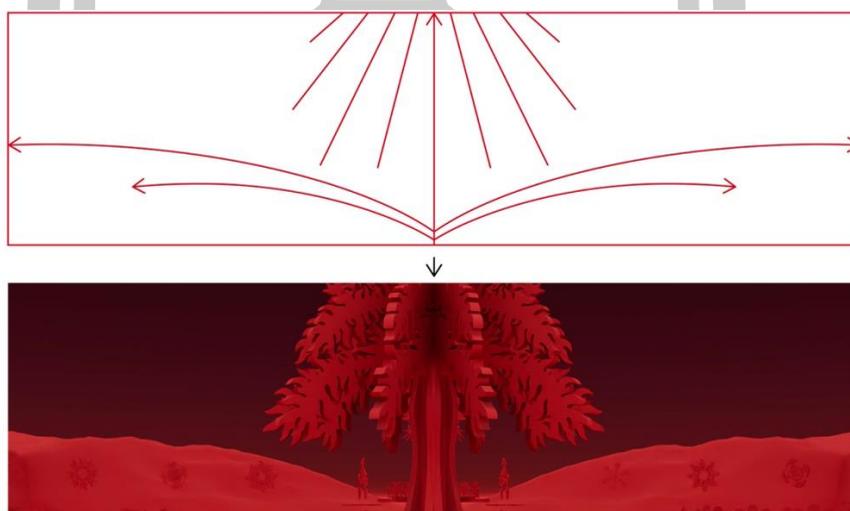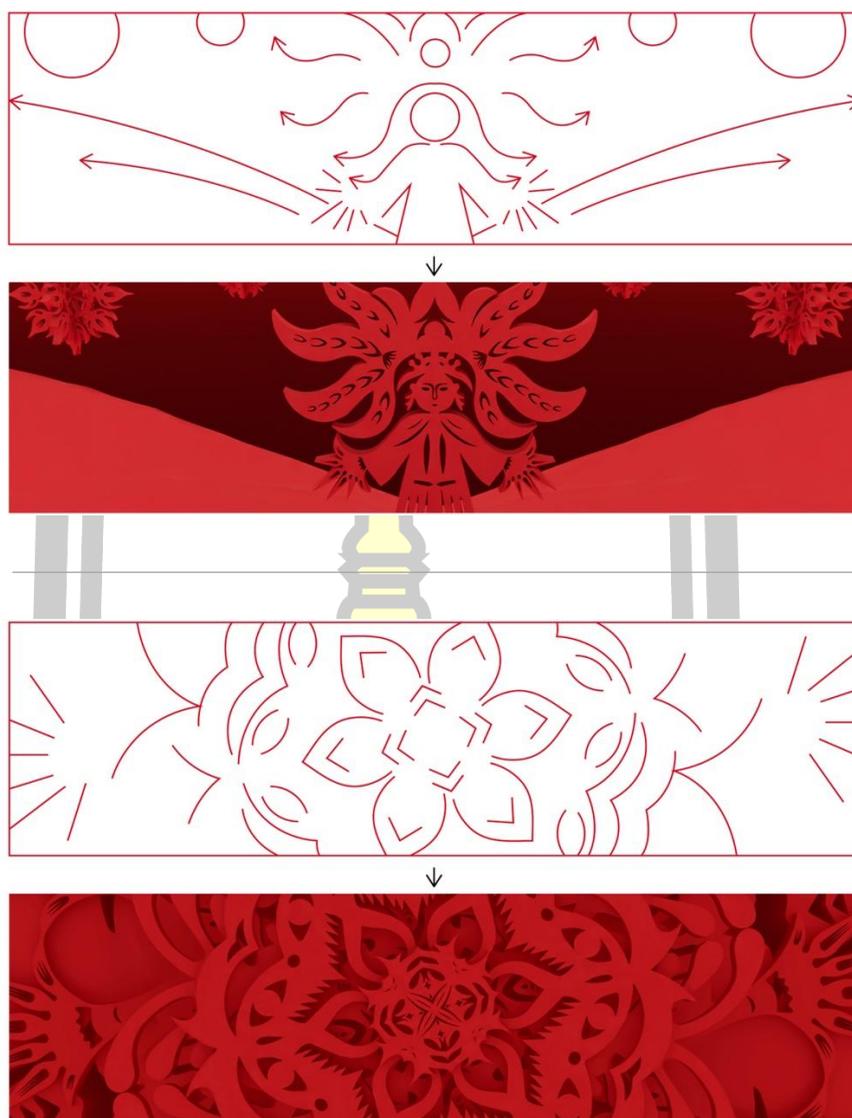
Figure 45 Scene composition design

Source Huang Lin (2023)

4.3.2.3 Render generation

The rendering methods of 3D animation are divided into offline rendering and real-time rendering. The research on this practical creation mainly uses offline rendering, which is a rendering method that was produced in the early days of 3D animation and continues to this day. Render pre-made frames to produce content and effects that are fully controlled by the designer. The cost of achieving high-precision picture performance through offline rendering is the increase in rendering time. At any time, offline rendering has endless demand for hardware resources. (Deng, 2019)

Offline rendering of 3D animation refers to calculating and rendering each frame of the animation separately, then storing these rendered frames as image files one by one, and finally synthesizing these image files into the final animation sequence. process. Unlike real-time rendering, offline rendering can use more computing resources over a longer period of time to achieve high-quality images and visual effects. Offline rendering has the following advantages: (1) Presenting high-quality images: Offline rendering can use more computing time to improve image quality, including higher resolution, more complex lighting and material effects, and longer Rendering time to ensure the image looks its best. (2) Rich levels of rendering scenes: Offline rendering is suitable for complex three-dimensional scenes, including a large number of objects, advanced lighting and shadow effects, and special effects that require multiple renderings. (3) Flexible splitting of rendering levels: Offline rendering allows the scene to be divided into multiple rendering levels. Each level can be rendered separately and then synthesized into the final image to increase the control and flexibility of rendering. (4) Post-production optimization: Since an image sequence is generated, image processing, color correction, special effects addition, etc. can be performed in post-production after offline rendering to further enhance the visual effect.

Ma (interviewed, 2023) said that "Animism" 3D animation rendering steps: (1) Scene preparation: First, prepare the scene in the 3D modeling software, including modeling, material settings, lighting and camera settings . (2) Rendering settings: Set rendering parameters in the 3D animation software, adjust resolution, frame rate, rendering engine selection, etc. respectively. (3) Animation production: Create key frame animation effects. (4) Offline rendering: Start the rendering process, and the rendering engine will calculate and render the image frame by frame. Each frame is a separate image file, usually in a format like PNG, TIFF, or EXR. (5) Image sequence storage: Each frame rendered will be stored as an image file and numbered in sequence. These image files are usually stored on your computer's hard drive.

Offline rendering is a method commonly used to produce high-quality 3D animations, especially for projects that require complex rendering and post-production. It allows artists to spend more time and computing resources on each

frame to ensure that the final animation reaches the desired visual impact and quality level.

4.3.3 Post-synthesis

4.3.3.1 3D animation synthesis

Sha, L. S. (interviewed, 2023) said that a very important part of the visual effects presented by the final shot in animation production is improved by the post-synthesis process. The design concept of layered synthesis in post-production synthesis originated from the design and exploration of layered cels by large film and television studios such as Disney in the United States. The post-synthesis process is the integration of the results of the animation production process. The layer-body relationship in animation post-synthesis refers to the adjustment, processing, and integration of image elements at different levels that make up the picture during the synthesis process. 3D animation rendering outputs volume elements in a 3D scene as image elements. The technical essence of space layer operation is to realize the mutual transformation of three-dimensional space modeling construction technology and two-dimensional image processing technology, so as to maximize the advantages of these two technologies in terms of effect and efficiency. It reflects the interactive relationship between space and hierarchy and conveys the reconstruction of space and time.

This practice creation uses the post-synthesis software Adobe After Effects, which is a very powerful animation synthesis and post-production software that can be used to create, edit and synthesize various types of animations. The following are the specific steps for post-synthesis of 3D animation in "Animism": (1) Create a new project: Open After Effects and create a new project. You can choose settings related to your project's resolution, frame rate, and duration. (2) Import materials: In the project panel, import the rendered video materials. You can drag and drop the materials into the project panel or use the "Import" option in the "File" menu. (3) Create composition: In the composition panel, create a new composition (Composition). Compositing is the main workspace of an animation project, where you combine footage, create animations, add effects, and more. (4) Add materials to the composition: Drag and drop the imported pre-rendered video materials into the composition panel, and they will appear in the timeline. (5) Editing and adjustment:

Using the timeline tool, you can edit and adjust the duration and sequence of the material. (6) Add effects: After Effects provides a wealth of effects and presets, which can be applied to food materials or compositions to create special effects. You can add text animation, color correction, blur, masking and other effects. (7) Create keyframe animation: Use keyframes to create animation effects. Select an attribute (such as position, rotation, opacity) and set keyframes on the timeline, then change the attribute's value at different points in time. After Effects automatically interpolates between keyframes to create smooth animation. (8) Audio processing: If you have audio material, you can import it into synthesis, and perform audio editing and synchronization as needed. You can add audio effects, fades, audio layers, and more. (9) Preview and adjustment: Use the preview panel to view the animation effect. Make adjustments and modifications as needed. (10) Rendering and output: After completing the 3D animation, use the "Add composition to rendering queue" option in the "Composition" menu to configure the rendering settings, then start rendering the final animation and output the final 3D animation video file.

It is important to mention here the synthesis and editing steps of 3D Animation shots. The more complex the aesthetically presented shot effects are, the longer it takes for the audience to understand the visual information and script development content conveyed by the shots and pictures. Therefore, a very important part of the overall production is to adjust the editing time of key shots in post-editing. The lens, background, and light design of 3D Animation are more complex and have a stronger sense of visual design. (Deng, 2019)

To sum up, the post-editing and synthesis of 3D animation is a key step for the final animation effect. This process involves color correction, special effects, audio processing, synthesis technology and other aspects to ensure that the animation achieves the expected visual and auditory effects.
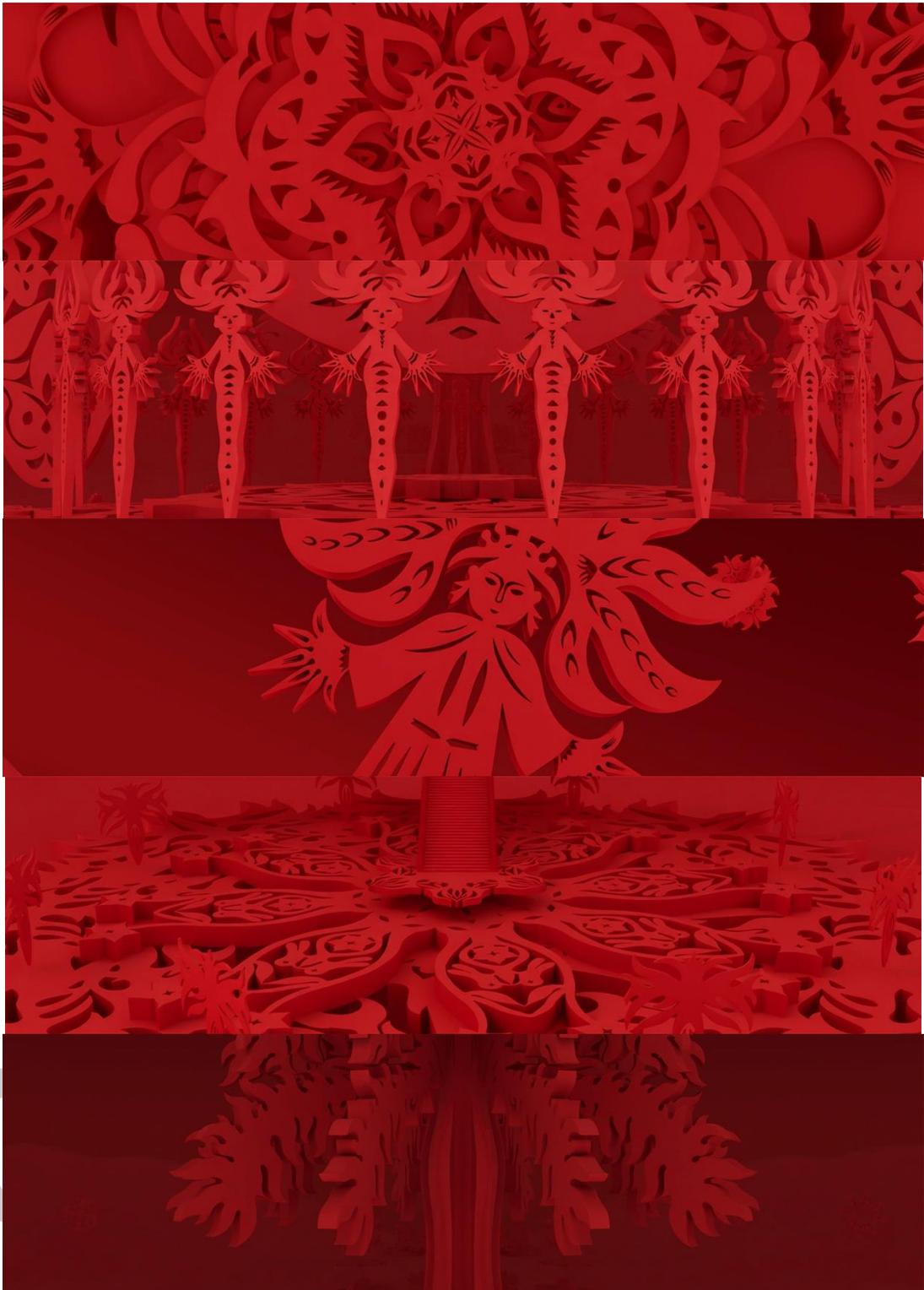
Figure 46 "Animism" 3D animation QR code
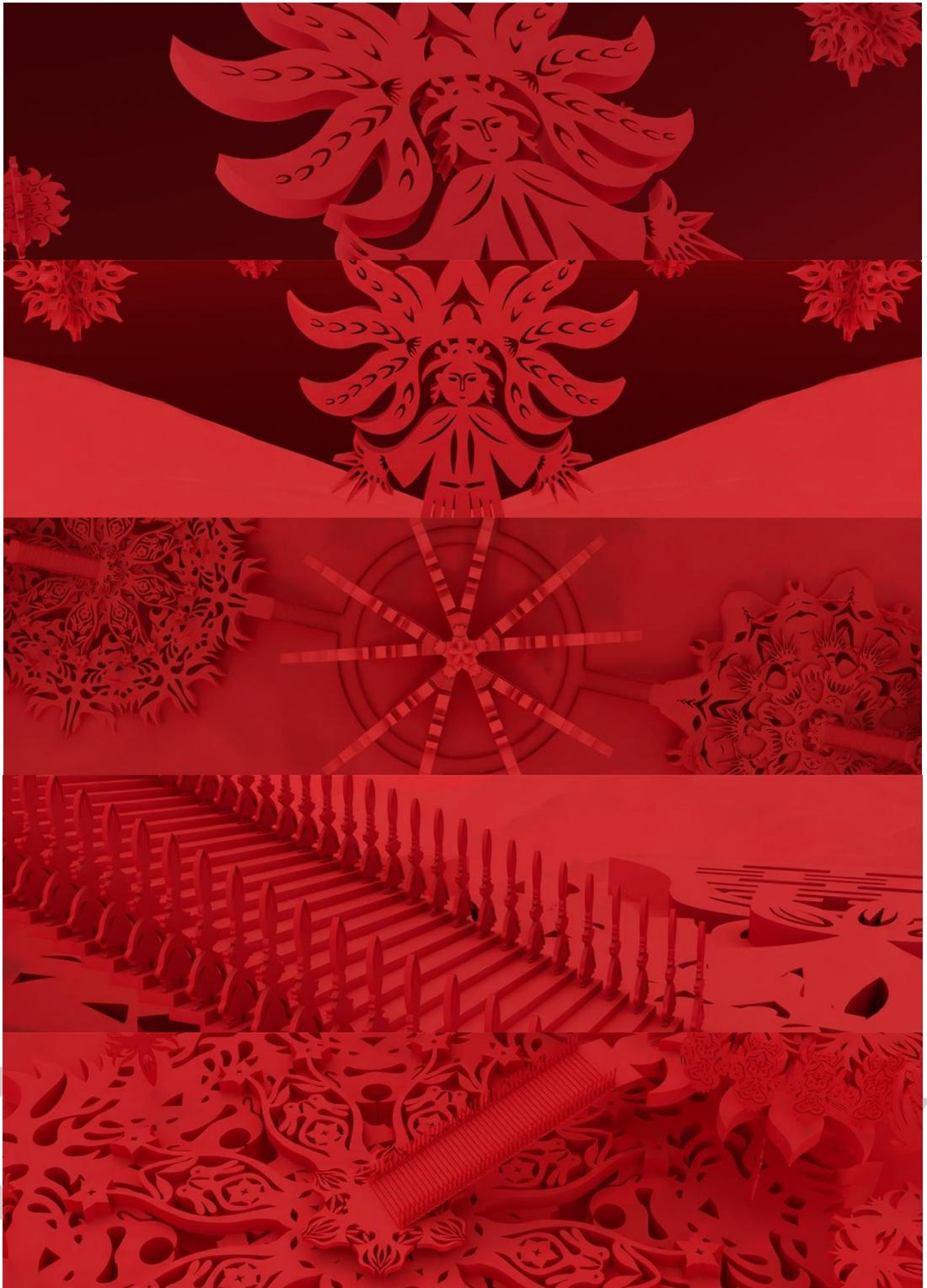
Figure 47 Key frame display of 3D Animation "Animism"

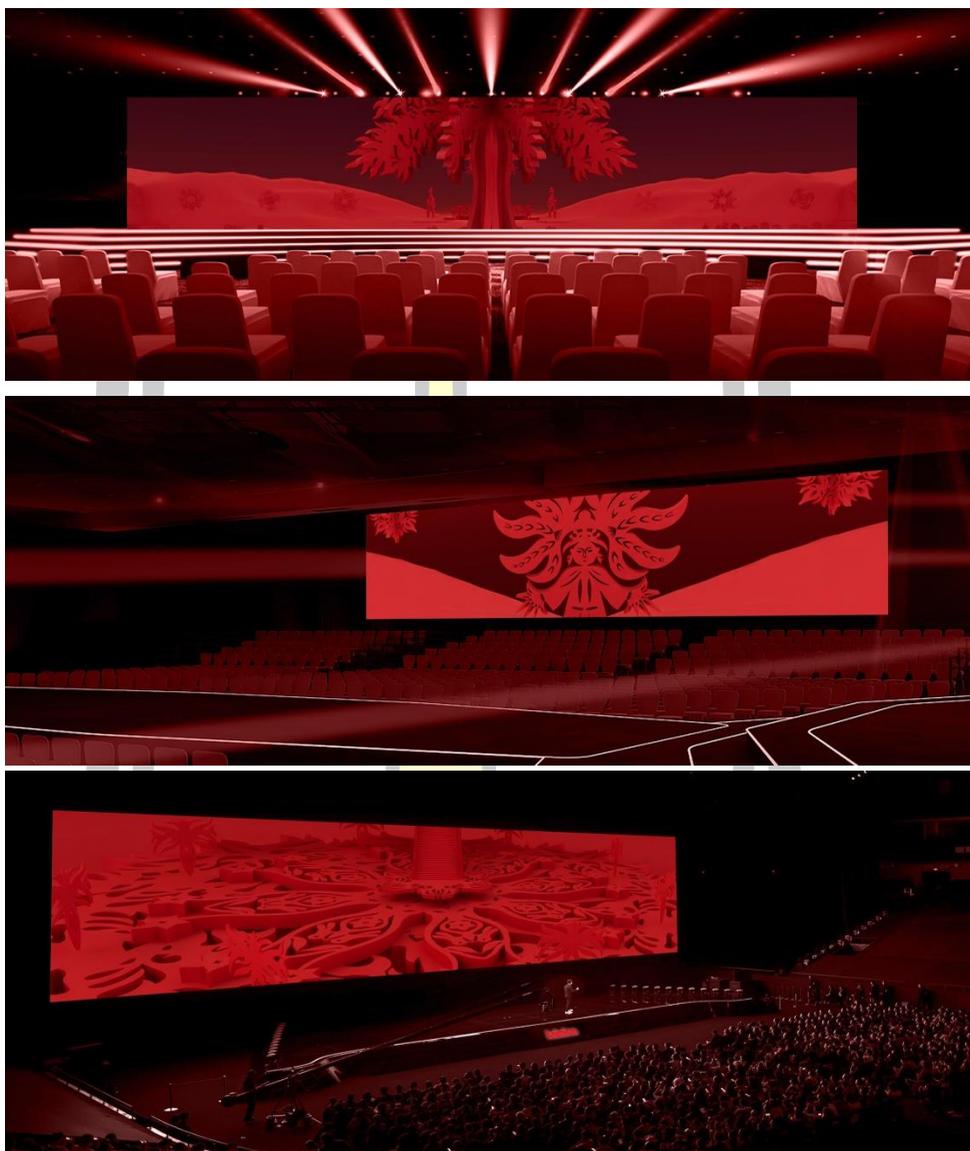Source Huang Lin & Ma Qianqian (2023)

Figure 48 3D Animation display

Source Huang Lin (2023)

4.3.3.2 Virtual roaming technology application

Virtual Reality is a virtual panoramic simulation environment created by computers through digital means. It is based on vision and hearing. What is displayed is a mirror reproduction of the real world or any overall environment that is completely artificially created without thinking about the world. The experiencer is fully immersed in it and can interact in various forms with the virtual environment or objects in the space through certain technical means. Immersive interactive virtual

reality is an experience method that covers the field of view, such as VR/AR, is immersive, can walk in space, can be interacted with body sense, and is based on the spatial information rendered by the virtual reality engine. (Wu, 2019)

Ma (interviewed, 2023) said that about the characteristics of virtual roaming: (1) Interactivity. Interactivity in virtual reality technology refers to the user's ability to interact with the virtual environment and the elements within it. This interactivity can be achieved in a variety of ways. Using sensor technology, the virtual reality system can capture the user's gestures, such as waving, making fists, grabbing, etc., and translate these gestures into interactive operations in the virtual environment, allowing users to directly Use your hands to interact with the virtual space to achieve gesture recognition and tracking. Applying it to the inheritance and protection of intangible cultural heritage can achieve better inheritance and protection. (2) Immersion. Immersion in virtual reality technology refers to the immersive feeling and experience that users get in a virtual environment. Virtual reality makes users feel as if they are in a real or fictional environment through realistic images, sounds and tactile feedback, as if they are actually there. Through stereo sound effect technology, virtual reality can simulate sound sources from different directions, making users feel that the sound comes from a specific location in the virtual environment, enhancing the sense of auditory immersion. Well-designed virtual reality scenes and plots can arouse emotional resonance among users, allowing them to have an emotional connection with the characters and stories in the virtual environment, increasing their sense of immersion. Virtual reality technology emphasizes a completely immersive experience, which separates participants from the real environment and immerses them in the virtual world and creates interactions. (3) Conceptuality. Creators can use virtual reality technology to build a real world picture or a world imagined in their own minds. Users can roam in the environment built by the creator. The perspective can be switched at will, and they can also move around at will, using the virtual environment to unleash their imagination and creativity. force.

Figure 49 Virtual reality interactive display

Source Huang Lin (2023)

This study applies virtual roaming technology in virtual reality (VR) technology, which is an engaging experience that allows users to immerse themselves in a virtual environment, move and explore freely. Its goal is to create a feeling as if they are in a virtual world, allowing users to personally experience and interact with scenes, objects and characters in the virtual environment. Virtual roaming technology uses equipment including computer technology, sensors, displays, etc. to create a

realistic virtual environment, allowing people to roam immersively in it to experience the real visual experience brought by the virtual environment space. In the application of digital animation in the inheritance and protection of Yiwulv Mountain Manchu paper-cut, the interactive technology in virtual roaming is integrated into 3D Animation, allowing the audience to immerse themselves in the world of paper-cutting art. Such a virtual paper-cutting world can provide a more vivid The unique, interesting and intuitive way of inheritance and protection of intangible cultural heritage has allowed more people to actively pay attention to and understand the Yiwulv Mountain Manchu paper-cut. All scenes can use virtual roaming to achieve three-dimensional, immersive, and interactive experience effects, allowing people to truly and vividly feel the atmosphere and charm of intangible cultural heritage.

Figure 50 Virtual scene tour display

Source Huang Lin (2023)

The intervention of virtual roaming in 3D Animation is of great significance to the inheritance and protection of intangible cultural heritage. The following is a detailed explanation:

1. Inheritance and protection of intangible cultural heritage: Virtual roaming can realize the inheritance and protection of intangible cultural heritage by simulating and reproducing the scenes and performances of intangible cultural heritage. Intangible cultural heritage often includes oral traditions, performing arts, festivals, etc., which can be preserved and disseminated in digital form through virtual tours to prevent their gradual disappearance.

2. Deep interaction and participation experience: Virtual tour allows users to participate in the presentation of intangible cultural heritage in an interactive way. Users can freely move, explore, and interact with cultural elements in the virtual environment to gain a deeper understanding and experience of intangible cultural heritage rather than just passively viewing it.

3. Global popularization and dissemination: Virtual roaming technology can spread intangible cultural heritage around the world through the Internet. This allows people to experience and learn cultural traditions without having to visit the site in person, thereby promoting the global dissemination and awareness of intangible cultural heritage.

4. Virtual reconstruction and preservation: Some intangible cultural heritage may be damaged by time, environment or human factors in reality. Through virtual tours, these cultural elements can be virtually reconstructed and preserved in a digital environment to ensure their permanent preservation.

5. Cultural education and transfer: Virtual tours can be used for education and training to transfer intangible cultural heritage to the younger generation and cultural researchers. Through interactive virtual learning experiences, people can have a deeper understanding and learning of traditional culture.

6. Promote cultural exchanges and dialogues: Virtual roaming technology can promote exchanges and dialogues between different cultures. Through virtual tours, people can experience and understand the traditions of other cultures, thereby enhancing cross-cultural understanding and respect.

7. Sustainability of cultural preservation: Virtual roaming technology provides a new way for the sustainable protection of intangible cultural heritage. Digital intangible cultural heritage can be passed on and continued to develop between future generations without being limited by time and physical space.

To sum up, virtual roaming plays an important role in the inheritance and protection of intangible cultural heritage. Through the characteristics of digitization, interactivity and global communication, it provides a new way of spreading and preserving traditional culture, helping to ensure that these precious cultural elements can be passed on to the next generation. At the same time, virtual roaming also promotes cultural diversity, exchanges and dialogue, helping to build a more diverse and inclusive cultural society.
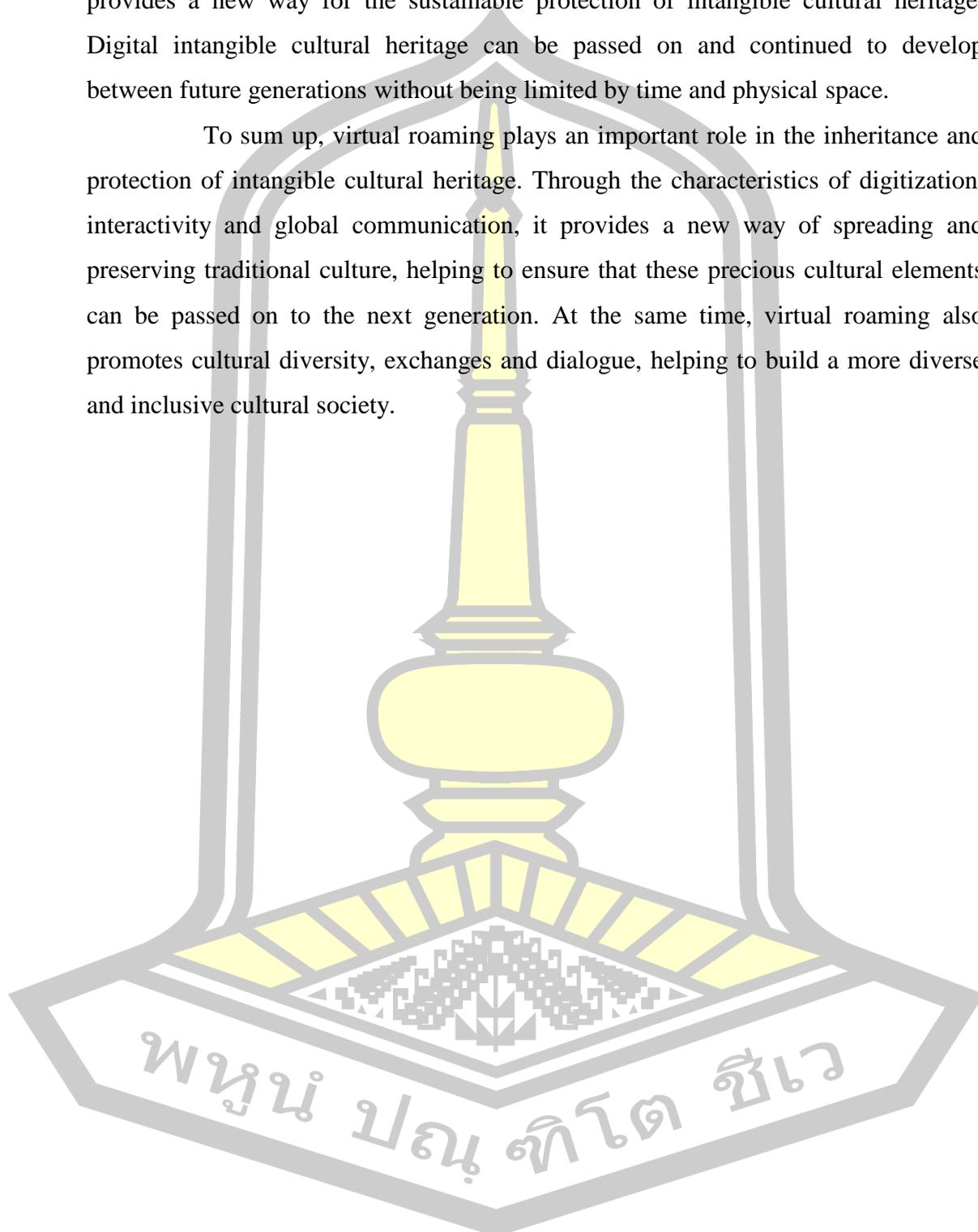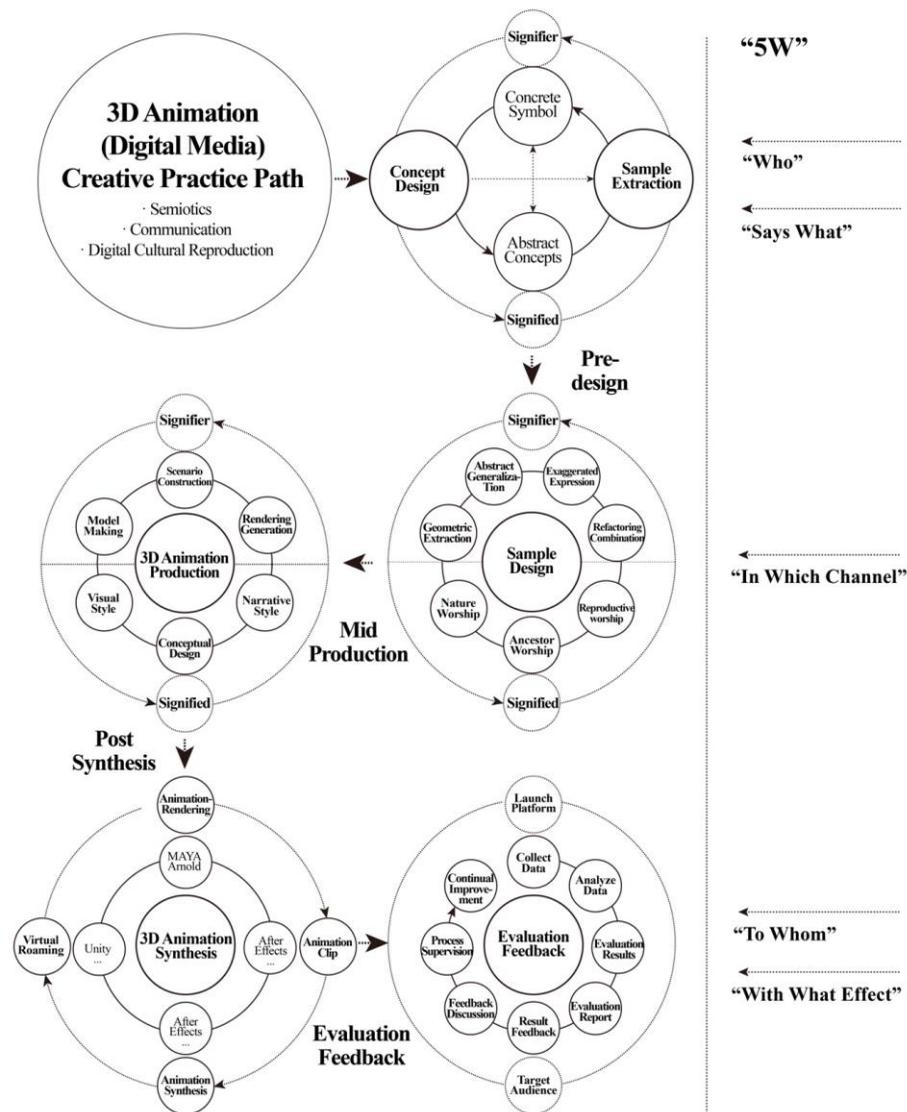
Figure 51 Practice Path Model for 3D Animation (Digital Media) Creation

Source Huang Lin (2023)

4.3.4 Assessment and feedback

Evaluation and feedback from authorities

Zhao & Yin. (2023) Authoritative experts in digital media. The evaluation of 3D animation and creative models is divided into the following aspects:

Artistic effect evaluation: 3D Animation usually contains elements such as sounds, images, and interactions, which can create an immersive visual experience for the audience through the screen. In the creation of 3D Animation, local cultural connotations, paper-cut symbols and other elements can be integrated to provide more

possibilities for the digital inheritance and protection of Manchu paper-cuts in Yiwulv Mountain. For the audience, they can learn about the intangible cultural heritage of Yiwulv Mountain Manchu paper-cut through such 3D Animation works. 3D Animation also realizes the combination of two-dimensional plane space and three-dimensional space of paper-cut symbols, conveys the expected information, and has strong narrative and immersiveness. The creation of this 3D Animation can accurately depict the cultural symbols, cultural connotation and aesthetic value of the Yiwulv Mountain Manchu paper-cut. It conveys the Manchu culture of Yiwulv Mountain and condenses the Manchu paper-cut cultural symbols of Yiwulv Mountain into representative cultural symbols, which are conveyed through digital media.

The creation theme of the 3D Animation is accurate, has a modern design style, is in line with the digital process of the times, and has the designer's unique personal style characteristics. First of all, the creator extracted and redesigned the unique sample symbols of Yiwulv Mountain Manchu paper-cut, Jinzhou, China, and integrated it into the 3D Animation design, which well reflected the artistic characteristics of Yiwulv Mountain Manchu paper-cut and perfectly matched the theme. Secondly, the virtual roaming technology is integrated into the 3D Animation to bring a better sense of immersion to the design of the 3D Animation, allowing the audience to experience the immersive experience, understand the unique intangible cultural heritage of the Yiwulv Mountain Manchu paper-cut, and feel its Cultural connotation and value, thus making design a part of Manchu culture. Experience the artistic beauty of Yiwulv Mountain Manchu paper-cut. The works reflect the creator's unique design thinking, rich cultural heritage, and sense of responsibility for the inheritance and protection of traditional Chinese culture. The creation of 3D Animation uses advanced digital technology and has novel visual forms. Compared with other traditional inheritance methods of Yiwulv Mountain Manchu paper-cut, it helps to create unique cultural symbols, allowing the Yiwulv Mountain Manchu paper-cut to be distinguished from the inheritance and inheritance of many other paper-cutting arts. stand out in protection. Through the dissemination of digital media, more audiences can participate and truly experience the cultural value and shocking visual symbol effect of the Yiwulv Mountain Manchu paper-cut.

Technology implementation evaluation: The combination of 3D Animation and virtual tour technology enables the audience to obtain a better immersive experience. Through the realistic performance of 3D Animation and the interactivity of virtual tour, users can be in a virtual reality. This sense of immersion allows the audience to be more deeply integrated into the virtual world of cultural space, thereby improving the audience's perceptibility and achieving participatory inheritance. Virtual tour technology enables users to become participants in the scene, not just spectators. Through interactive control and navigation, users can freely explore the virtual environment and interact with its elements. It greatly increases the interactivity and participation of the audience, and allows for better cultural inheritance and participation. At the same time, suggestions should be provided on improving technical implementation, optimizing performance, and ensuring fluency to ensure that the work can run effectively on various devices and media platforms.

Audience participation evaluation: In the evaluation of audience participation in interactive works of 3D Animation and virtual tours, the works performed well in terms of visual effects and fidelity. The graphical quality and use of special effects in the 3D animations are impressive, creating engaging virtual environments. Realistic scene design and sophisticated visual effects enhance the user's immersion and lay a good foundation for the overall experience. In terms of interactivity and user experience, it provides users with an easy and smooth way to participate in virtual tours. Guided prompts to help users better understand how to use interactive elements. 3D Animation works are rich in creativity and storyline, have clear development clues, and allow the audience to experience coherence throughout the entire interaction process. Experts recommend more comprehensive testing on different devices to ensure that the work runs smoothly on various hardware environments. Optimizing technical details and improving performance levels will help improve the consistency of user experience.

Wang & Huang, (2023) Leading experts on culture and government. The evaluation of 3D animations and creative models is divided into the following aspects:

Evaluation of cultural and social factors: When evaluating 3D Animation works, we also focus on cultural and social factors. The works show a certain degree of diversity and inclusiveness in terms of cultural expression. The scenes and

elements fully take into account the cultural elements of Manchu paper-cutting, which helps to inherit and protect the cultural symbols and values of Yiwulv Mountain Manchu paper-cut. In terms of social interaction, the work shows some highlights in providing virtual social experience. Users can share three-dimensional animated works, which helps create an opportunity for a shared cultural experience. Another point worthy of attention is that the cultural elements of the work well interpret the cultural characteristics of the local society. He has a deep understanding of the cultural symbols and cultural connotations of Yiwulv Mountain Manchu paper-cut. His works play a very good role in inheriting and protecting the Yiwulv Mountain Manchu paper-cut. The work has well promoted cultural exchanges and understanding. By introducing the cultural symbol elements of Yiwulv Mountain Manchu paper-cut, the 3D Animation work has become a bridge for the inheritance of Yiwulv Mountain Manchu culture. Realizes the importance of shared culture and promotes cultural understanding in interactive experiences.

Evaluation of practical applications: The creation path model of 3D Animation works provides users with a clear and systematic experience. The design of the path model will help provide a research paradigm for more research on the digital inheritance and protection of intangible cultural heritage. Experts agree with the structure and navigation of the creative path model. In terms of the design of the creative path model, the design ideas of the path model are clear and can well reflect the overall creative idea of 3D animation. The path model can be used to provide the process and ideas of each step of creation to better adapt to individual differences of users and improve the usage rate of the creation path model. At the same time, the path model has the flexibility to be applied to different scenarios and purposes. Experts agree that the path model can be applied to more areas of inheritance and protection of intangible cultural heritage to maximize its practical value.

In terms of inheritance and protection, the digital form of 3D Animation works can also spread the Manchu paper-cutting culture of Yiwulv Mountain more widely. Experts recommend promoting the works to online platforms, such as digital virtual museums or educational resource websites, so that more people can access and learn this traditional art. At the same time, consider organizing relevant activities in schools and communities to further promote the inheritance of paper-cutting by the Yiwulv

Mountain people in Manchu medicine. At the same time, the government will also share the works in the form of education and exhibitions. Through more precise cultural expression, enhanced interactivity, promotion to online platforms and cooperation with inheritors, the works are expected to become a powerful tool for the inheritance and protection of Yiwulv Mountain Manchu paper-cut. Enabler.

Research applied to learning culture

1. History of knowledge development Yiwulv Mountain Manchu paper-cut

The first lesson is to present the historical origins of Yiwulv Mountain Manchu paper-cutting and its developmental relationship with the Manchu paper-cutting culture. The recordings are carefully written, starting with materials, tools and techniques. The process of production, form, and analysis from a content perspective. and observe developments and changes over time.

Secondly, the students learned the content that was analyzed and summarized the cultural value of Yiwulv Mountain Manchu paper-cutting art. The created works are symbolic media giving cultural meaning. The value is reflected in the cultural heritage that inherits beliefs about sacred things, shamans, demons, and totems that convey auspiciousness as well as inheriting the culture of survival and reproduction through the media of paper-cutting art. The concept of Cassirer's semiotics is used to interpret the cultural symbolic value of Yiwulv Mountain Manchu paper-cut.

The cultural symbol conveyed through the art of carving is based on the imagination of the relationship between the universe, humans, and nature. It expresses the unique characteristics of the people of this region. The aesthetics of the art elevates it to the value of national heritage. This shows strong Manchu cultural characteristics. The concept of culture that "Harmony and coexistence with nature" are ultimately the embodiment of precious cultural values that deserve to be conveyed to art learners.

This traditional paper-cutting art can convey the cultural identity and way of life of people in contemporary society through the perspective of experiences of traditional and modern development by using 3D animation programs by specifying meaningful symbols to design stories. Song Lai brings such patterns to create innovation and development to support education and heritage and inspire the inheritance of Manchu culture. The new motivation to understand knowledge through

this type of innovation is a response to the understanding of content through Modern media to make learners aware of their cultural identity through innovation and development has been developed.

The media has been created as a path that can be recreated in the future. It is another way to promote digital heritage and protect cultural heritage. In summary, this study is to summarize the historical origins of Yiwulv Mountain Manchu paper-cuts and conclude that the inheritance of shaman and totem culture. Inheritance of culture, survival and reproduction And inheriting auspicious culture is the most important thing. cultural aspects b Cultural symbols born from the exploration of the relationship between the universe, humans, and nature express regional characteristics and national aesthetics. and there are strong Manchu cultural characteristics in society.

2. The process of designing and developing digital media for learning about cultural heritage.

Application of 3D animation technology in inheriting and learning the art of Yiwulv Mountain Manchu paper cutting. From the current status and problems of inheritance Protection and learning of the art of paper cutting In the current situation, creating 3D animation works that have unique artistic value helps to solve the problem of learning about cultural heritage. 3D animation is a design program that can explain details from the original perspective from the content format that needs to be presented through the system. The design incorporates virtual tour technology. Access to virtual tours and evaluation by trusted experts following the creative process. The first step in learning transfer media is Study the art of paper cutting media design concepts Designing with 3D animation for distribution to students Bring media to improve and report results.

In addition, principles of concept theory, semiotics, communication, and design have been used to reproduce culture in the digital system. Create a theoretical model of 3D animation in inheritance and protection as well as filming for students. The cultural concept of "harmony and symbiosis with nature" is the embodiment of its precious cultural value. The cultural symbols, education and inheritance, innovation and development of Yiwulv Mountain Manchu paper-cut are important media means to realize their cultural identity. Through the perspective of traditional and modern

development, this traditional art can achieve cultural identity in contemporary social life and provide a good foundation for Manchu culture. has injected new impetus into its heritage. This kind of innovation is not only respect for tradition, but also a modern response to cultural identity, realizing cultural identity through innovation and development.

In summary, the inheritance and protection of Yiwulv Mountain Manchu paper-cut is worrying. It needs to be supplemented and improved in the digital age to enrich the diversity of Manchu paper-cutting culture in Yiwulv Mountain and diversify its dissemination to make it meet the aesthetic needs of the times. Only by clarifying the core issues of digital media inheritance and protection of the Yiwulv Mountain Manchu paper-cut, and using the communication advantages of digital media technology, can we deepen people's understanding of the cultural connotation of the Yiwulv Mountain Manchu paper-cut, and finally break through the limitations of time and space to realize the cultural identity of the Yiwulv Mountain Manchu paper-cut. Based on the research objectives 1 and 2, the researcher sorted out the remaining history and value of Yiwulv Mountain Manchu paper-cut and the current status and problems of inheritance and protection. Focusing on the perspective of art and culture, the researcher constructed a three-dimensional animation work with unique artistic and cultural value to solve the problem. corresponding questions. With the conceptual theory of semiotics and communication as the core support, a theoretical model of three-dimensional animation in the inheritance and protection of Yiwulv Mountain Manchu paper-cut is constructed. This will provide new thinking and practice for the application of digital media in the inheritance and protection of intangible cultural heritage, thereby promoting the digital inheritance and protection of intangible cultural heritage.

The researcher focuses on the perspective of art and culture to create 3D animation works with unique artistic and cultural value to solve the problem. cultural misunderstanding So it was created. This will give you new ideas and practices. For the application of digital media in the inheritance and protection of cultural heritage. 3D animation media has been applied to design media art for Luxun academy of fine arts Art exchange exhibition, which is the application of digital media in the inheritance and protection of intangible cultural heritage. for students interested in

digital Media Arts. Number of 40 people, first group student 8 people Sophomores 12 Junior students: 8 and Senior students 12 people All groups of students have knowledge and understanding of the art of paper cutting through modern media.

4.3.5 Summary

Based on the current status and problems of the inheritance and protection of Yiwulv Mountain Manchu paper-cut collected in Research Objective 2, the researcher focused on the perspective of art and culture and constructed a 3D Animation work with unique artistic and cultural value to solve the corresponding problems. It is designed and elaborated from the perspectives of conceptual design of 3D animation, sample extraction, sample design, 3D model production, 3D scene construction, 3D animation rendering generation, combination of virtual tour technology, virtual tour accessibility, and authoritative expert evaluation. With the core support of semiotics, communication, and media creation concept theory, a theoretical model of 3D Animation in the inheritance and protection of Yiwulv Mountain Manchu paper-cut is constructed. This will provide new thinking and practice for the application of digital media in the inheritance and protection of intangible cultural heritage, thereby promoting the digital inheritance and protection of intangible cultural heritage.

3D Animation injects modern innovative elements into the Yiwulv Mountain Manchu paper-cut. Through the creative use of 3D Animation technology, we can give traditional paper-cutting innovative inheritance and protection, integrate it into contemporary culture, and attract the attention of a wider audience. Through evaluation, the creation theme of the 3D animation is accurate, has a modern design style, is in line with the digital process of the times, and has the designer's unique personal style characteristics. The creator extracted and redesigned the unique sample symbols of Yiwulv Mountain Manchu paper-cut, Jinzhou, China, and integrated it into the 3D Animation design, which well reflected the cultural value of Yiwulv Mountain Manchu paper-cut and perfectly matched the theme. Integrating virtual roaming technology into 3D Animation brings a better sense of immersion to the design of 3D Animation, allowing the audience to experience an immersive experience. The works reflect the creator's unique design thinking, rich cultural heritage, and sense of responsibility for the inheritance and protection of traditional Chinese culture. The creation of 3D Animation uses advanced digital technology and

has novel visual forms. Compared with other traditional inheritance methods of Yiwulv Mountain Manchu paper-cutting, it helps to create unique cultural symbols and cultural identity, making the Yiwulvshan Manchu paper-cutting art distinguishable from many other paper-cutting arts. stand out in its inheritance and protection. Through the dissemination of digital media, more audiences can participate and truly experience the cultural value and shocking visual symbol effect of the Yiwulv Mountain Manchu paper-cut.

The application of 3D Animation technology in the inheritance and protection of Yiwulv Mountain Manchu paper-cut not only injects new vitality into traditional culture, but also provides innovative and sustainable means of inheritance and protection. Through digital representation, we can better convey, preserve and share this precious intangible cultural heritage.
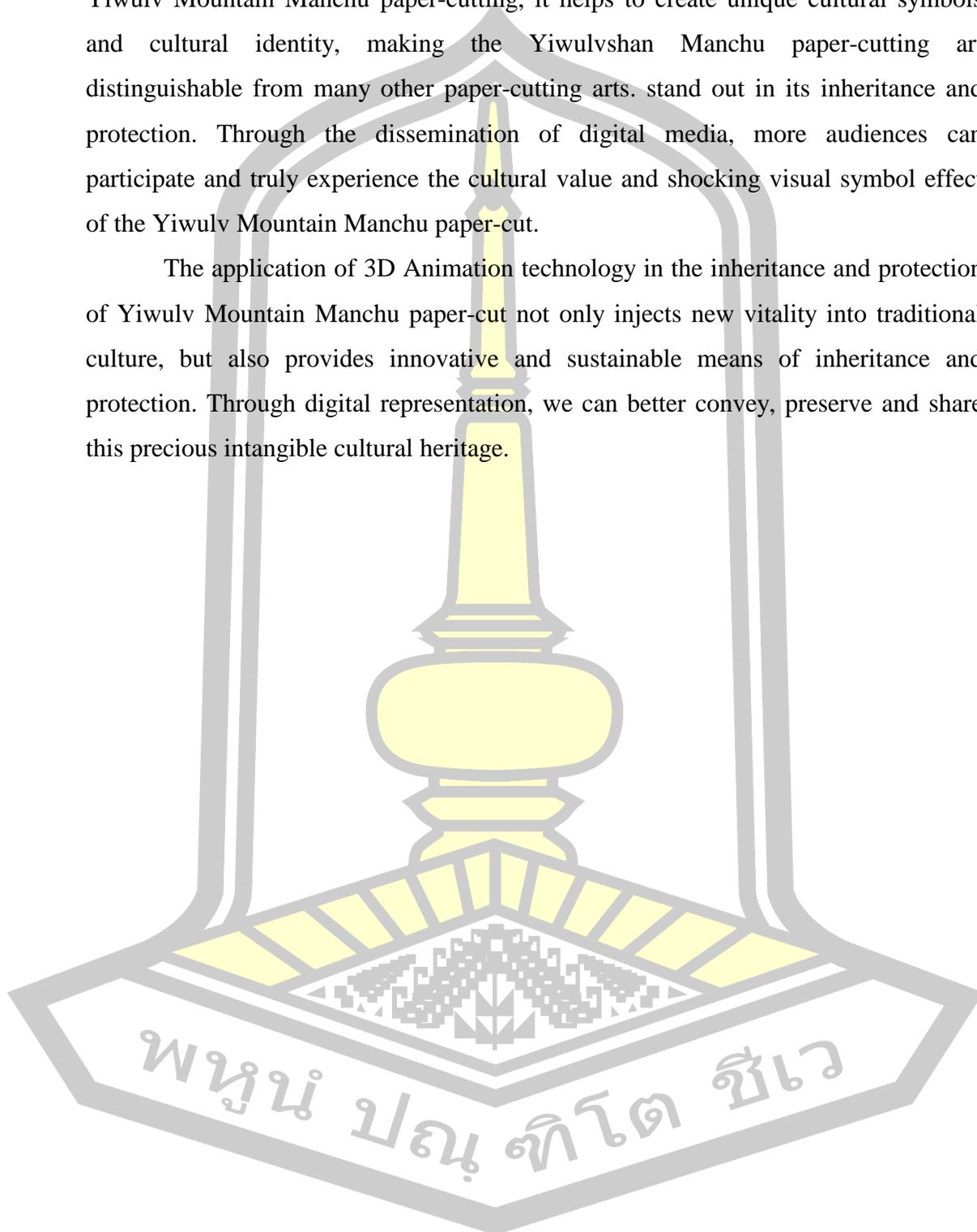
CHAPTER V
CONCLUSION DISCUSSION AND SUGGESTIONS

This chapter provides a detailed summary of the research theme "Yiwulv Mountain Manchu paper-cut: Application of Digital Media in the Inheritance and Protection of Intangible Cultural Heritage". This study provides a detailed summary and discussion of the historical origin, artistic value, inheritance status, inheritance issues of the Yiwulv Mountain Manchu paper-cut art, and the construction of a practical model for the application of 3D Animation in the inheritance and protection of the Yiwulv Mountain Manchu paper-cut art. The historical background, current situation, and problems of new media installation art in Dalian's urban commercial space and the construction of a theoretical model of immersive new media installation art in Dalian's urban commercial space were summarized and discussed. Finally, the conclusion proposes and details recommendations for future research:

Objectives of the Research

1. To study the historical origin, artistic value and cultural identity of Yiwulv Mountain Manchu paper-cut.

2. To study the current problems of inheritance and protection of Yiwulv Mountain Manchu paper-cut.

3. To study the Application of 3D Animation Technology in the Inheritance and Protection of Yiwulv Mountain Manchu paper-cut

5.1 Conclusion

5.1.1 Summary of the historical origin, artistic value and cultural identity of Yiwulv Mountain Manchu paper-cut.

5.1.2 Summary of the current problems of inheritance and protection of Yiwulv Mountain Manchu paper-cut.

5.1.3 Summary of the Application of 3D Animation Technology in the Inheritance and Protection of Yiwulv Mountain Manchu paper-cut.

5.2 Discussion

     5.2.1 Discussion on the Cultural Value of Yiwulv Mountain Manchu paper-cut under the theory of semiotics.

     5.2.2 Discussion of the opportunities and challenges for the inheritance and protection of Yiwulv Mountain Manchu paper-cut.

     5.2.3 Discussion on the application value of digital media under the theory of communication in the inheritance and protection of Yiwulv Mountain Manchu paper-cut.

5.3 Suggestions

     5.3.1 Suggestions for applying the research results

     5.3.2 Suggestions for the further study

5.1 Conclusion

     5.1.1 Summary of the historical origin, artistic value and cultural identity of Yiwulv Mountain Manchu paper-cut.

     Through sorting and summarizing this chapter, firstly, the historical origin of Yiwulv Mountain Manchu paper-cut is studied. Through an overview of the development of Manchu paper-cutting, the development of Yiwulv Mountain Manchu paper-cut is written in detail, from materials, tools and techniques, production steps, forms and Analyze from the perspective of content and observe the development and changes of Yiwulv Mountain Manchu paper-cut from the process. Secondly, the cultural value of Yiwulv Mountain Manchu paper-cut was analyzed and summarized. The value of cultural inheritance and cultural symbols was analyzed and summarized, and the cultural value of Yiwulv Mountain Manchu paper-cut was analyzed and summarized. The value reflected in cultural inheritance is mainly reflected in the inheritance of shaman and totem culture, the inheritance of survival and reproduction culture, and the inheritance of auspicious culture. The concept of Cassirer's semiotics is used to interpret the cultural symbolic value of Yiwulv Mountain Manchu paper-cut. The cultural symbols formed by exploring the relationship between the universe, human beings and nature express unique regional characteristics and national aesthetics, and have strong Manchu cultural characteristics. The cultural concept of "harmony and symbiosis with nature" is the embodiment of its precious cultural

value. Finally, the concept of cultural identity of Yiwulv Mountain Manchu paper-cut is summarized. Through the identification of cultural symbols, the identification of education and inheritance, and the identification of innovation and development, this traditional art can achieve cultural identification in contemporary social life through the perspective of traditional and modern development, injecting inspiration into the inheritance of Manchu culture. New motivation. This kind of innovation is not only respect for tradition, but also a modern response to cultural identity, realizing cultural identity through innovation and development.

5.1.2 Summary of the current problems of inheritance and protection of Yiwulv Mountain Manchu paper-cut.

By summarizing the current status of the inheritance and protection of Yiwulv Mountain Manchu paper-cut, from the perspective of the current status of inheritors and the national government's support policies for paper-cutting inheritors, the perspective of literature publication, the perspective of inheritance venue construction, the perspective of education and training and holding exhibitions, and the establishment of digitalization Summarizing from the perspective of communication, we can draw the current status of inheritance and protection of Yiwulv Mountain Manchu paper-cut. By summarizing the dilemma of inheritance and protection of Yiwulv Mountain Manchu paper-cut, from the perspective of the aging of inheritors and low participation of young people, the cultural connotation and lack of cultural identity in the creation of paper-cut works, the limitations of communication media and innovative digital communication Summarizing from the perspective of insufficient means, we draw the current problems encountered in the inheritance and protection of Yiwulv Mountain Manchu paper-cut. At present, the inheritance and protection of Yiwulv Mountain Manchu paper-cut need to be supplemented and improved by the presentation method of the digital age, enriching the diversity of Manchu paper-cutting culture in Yiwulv Mountain, and diversifying its dissemination to make it meet the aesthetic needs of the times. Only by clarifying the core issues of digital media inheritance and protection of the Yiwulv Mountain Manchu paper-cut, and using the communication advantages of digital media technology, can we deepen people's understanding of the cultural connotation of the

Yiwulv Mountain Manchu paper-cut, and finally break through the limitations of time and space to realize the cultural identity of the Yiwulv Mountain Manchu paper-cut.

5.1.3 Summary of the Application of 3D Animation Technology in the Inheritance and Protection of Yiwulv Mountain Manchu paper-cut.

Based on the current status and problems of the inheritance and protection of Yiwulv Mountain Manchu paper-cut collected in Research Objective 2, the researcher focused on the perspective of art and culture and constructed a 3D Animation work with unique artistic and cultural value to solve the corresponding problems. It is designed and elaborated from the perspectives of conceptual design of 3D animation, sample extraction, sample design, 3D model production, 3D scene construction, 3D animation rendering generation, combination of virtual tour technology, virtual tour accessibility, and authoritative expert evaluation. With the core support of conceptual theories such as semiotics, communication, and digital cultural reproduction, a theoretical model of 3D Animation in the inheritance and protection of Yiwulv Mountain Manchu paper-cut is constructed. This will provide new thinking and practice for the application of digital media in the inheritance and protection of intangible cultural heritage, thereby promoting the digital inheritance and protection of intangible cultural heritage.

In summary, the conclusion of this study is to summarize the historical origins of Yiwulv Mountain Manchu paper-cut and conclude that the inheritance of shaman and totem culture, the inheritance of survival and reproduction culture, and the inheritance of auspicious culture are the most significant cultural aspects of Yiwulv Mountain Manchu paper-cut. Where the value lies. The concept of Cassirer's semiotics is used to interpret the cultural symbolic value of Yiwulv Mountain Manchu paper-cut. The cultural symbols formed by exploring the relationship between the universe, human beings and nature express unique regional characteristics and national aesthetics, and have strong Manchu cultural characteristics. The cultural concept of "harmony and symbiosis with nature" is the embodiment of its precious cultural value. The cultural symbols, education and inheritance, innovation and development of Yiwulv Mountain Manchu paper-cut are important media means to realize their cultural identity. Through the perspective of traditional and modern development, this traditional art can achieve cultural identity in contemporary social

life and provide a good foundation for Manchu culture. has injected new impetus into its heritage. This kind of innovation is not only respect for tradition, but also a modern response to cultural identity, realizing cultural identity through innovation and development.

In summary, the inheritance and protection of Yiwulv Mountain Manchu paper-cut is worrying. It needs to be supplemented and improved in the digital age to enrich the diversity of Manchu paper-cutting culture in Yiwulv Mountain and diversify its dissemination to make it meet the aesthetic needs of the times. Only by clarifying the core issues of digital media inheritance and protection of the Yiwulv Mountain Manchu paper-cut, and using the communication advantages of digital media technology, can we deepen people's understanding of the cultural connotation of the Yiwulv Mountain Manchu paper-cut, and finally break through the limitations of time and space to realize the cultural identity of the Yiwulv Mountain Manchu paper-cut. Based on the research objectives 1 and 2, the researcher sorted out the remaining history and value of Yiwulv Mountain Manchu paper-cut and the current status and problems of inheritance and protection. Focusing on the perspective of art and culture, the researcher constructed a 3D Animation work with unique artistic and cultural value to solve the problem. corresponding questions. With the conceptual theory of semiotics and communication as the core support, a theoretical model of 3D Animation in the inheritance and protection of Yiwulv Mountain Manchu paper-cut is constructed. This will provide new thinking and practice for the application of digital media in the inheritance and protection of intangible cultural heritage, thereby promoting the digital inheritance and protection of intangible cultural heritage.

5.2 Discussion

5.2.1 Discussion on the Cultural Value of Yiwulv Mountain Manchu paper-cut under the theory of semiotics.

Through literature review, the research on the artistic value of Yiwulv Mountain Manchu paper-cut was carried out. After reviewing the literature, it was found that Liu Xinlin had an in-depth discussion on the artistic value, historical value and commercial value of Yiwulv Mountain Manchu paper-cut in his research. First of all, in terms of artistic value, the composition of the Yiwulv Mountain Manchu paper-

cut entrusts the different expressions of the beautiful meanings of the Manchu people in Yiwulv Mountain; in terms of image, it highlights the extremely tense side of the Manchu people in Yiwulv Mountain; in terms of color, it reflects the directness of the Manchu people in Yiwulv Mountain. Simple and innocent character and aesthetic taste. Secondly, in terms of historical value, the Yiwulv Mountain Manchu paper-cut embodies the local sacrificial culture, primitive beliefs, etiquette and social etiquette and other profound and unique historical and folk culture, and is a manifestation of the wisdom of the Yiwulv Mountain Manchu people. (Liu, 2021)

Study the regional customs and national characteristics of the Yiwulv Mountain Manchu paper-cut. Researcher Wang Yue conducted an in-depth analysis of it from the perspective of regional cultural characteristics and visual language, and compared it with paper-cut art from other regions. It is sorted out and displayed from multiple perspectives such as the humanistic background, modeling characteristics and color expression of the Yiwulv Mountain Manchu paper-cut, reflecting the extremely important artistic status of the Yiwulv Mountain Manchu paper-cut in the paper-cutting art. Only through in-depth research and analysis of the Yiwulv Mountain Manchu paper-cut can we not only understand its superficial shape, but also truly understand its deep meaning, and be able to talk about its innovation and development. (Wang, 2016)

Through literature review and through the perspective of semiotic theory, researcher Du Xiaoxuan's research was conducted from the perspective of artistic semiotics. She pointed out that the paper-cutting art of Yiwulv Mountain records the living customs, emotional experiences and religious beliefs of the Manchu people through symbols, and retains the rich Northeastern shamanic culture. Faced with how to preserve and continue the historical culture in Yiwulv Mountain paper-cutting, and regain its vitality in the current environment, it has become a key issue to be solved. This topic will discuss the necessity and practical significance of semiotics in the study of the visual language of traditional folk art. By drawing on the relationship between abstraction, illusion and emotion in the artistic creation process proposed by Susan Lange in the theory of artistic symbols, this paper analyzes Liaoning from the four levels of artistic abstraction, artistic illusion, emotional expression and life form. The visual language of Yiwu Lv Mountain's paper-cutting art is discussed in depth,

aiming to explore the rich connotation of the visual language of traditional paper-cutting art, and the possibility of using virtual reality to express the multiplicity of illusions and multi-layered emotional experiences of the paper-cutting art language. (Du, 2019)

The researcher believes that studying the artistic value of Yiwulv Mountain Manchu paper-cut cannot be studied based on its own artistic value alone, but the importance of theoretical and conceptual research should be emphasized. Through a review of the literature, it was found that previous relevant studies were conducted solely from the perspectives of historical value, cultural value, and artistic value. During the literature review, it was found that Du Xiaoxuan's research was a study of the Yiwulv Mountain Manchu paper-cut from the perspective of artistic semiotics. The research is discussed from the perspectives of artistic abstraction, artistic illusion, and emotional expression. Most studies stay in the discussion from the perspective of abstract value.

To sum up, first of all, the innovation of this study lies in the use of semiotic theory to summarize the research topics, the use of Saussure's semiotics concepts of signifier and signified to explain and integrate, and the research on the Yiwulv Mountain Manchu paper-cut It is divided into concrete value, which is the "signifier", covering production techniques, modeling characteristics, and color composition; abstract value, which is the "signified", covering art themes, cultural values, and cultural connotations. In the eyes of researchers, the interlocking relationship between symbols and meanings is the basic starting point of semiotics. Symbols have a strong interpretation and integration function. As a traditional cultural and artistic symbol, the Yiwulv Mountain Manchu paper-cut has extremely strong practical and aesthetic functions. Interpreting the paper-cutting art from a semiotic perspective is a better research path for the Yiwulv Mountain Manchu paper-cut. The system, the context is clearer, and the research thinking is more reasonable. Secondly, the new discovery of this study is that the religious beliefs reflected in the paper-cutting art of Yiwulv Mountain are based on shaman culture and contain rich philosophical thoughts and cultural emotions. Formed through exploration, the Yiwulv Mountain Manchu paper-cut is an important spiritual carrier. It expresses unique regional characteristics and national aesthetic consciousness, has distinctive cultural characteristics, and cultural

symbols have strong Manchu cultural characteristics. Its "all things are animistic" and "animistic". The cultural concepts of "harmony between man and nature" and "harmony between man and nature" also reflect the importance of this study.

5.2.2 Discussion of the opportunities and challenges for the inheritance and protection of Yiwulv Mountain Manchu paper-cut.

Through literature review, this paper studies the dilemma of inheritance and protection of Yiwulv Mountain Manchu paper-cut. After reviewing the literature, it is found that the inheritance method of Yiwulv Mountain Manchu paper-cut has been passed down from generation to generation, and its main inheritance method has changed, that is, from relying mainly on family inheritance to master-disciple. Development in the direction of inheritance. The change in the inheritance method also expresses the trend of a sharp decrease in the number of representative inheritors of the family, indicating that there are fewer people in the family who are willing to inherit the Iwulv Mountain Manchu paper-cut, and there is a risk of no one to inherit it. It is necessary to increase the number of inheritors by facing the society. Through the analysis of the number of people, scope, and inheritance methods of Manchu paper-cutting inheritance in Yiwulv Mountain, it was found that although the Manchu paper-cutting inheritance in Yiwulv Mountain has developed for a long time, the number of people inheriting it has gradually decreased, the inheritance scope has narrowed, and the number of family members has dropped sharply, so it has not formed a characteristic planned development model. (Liu, 2021)

The researcher agrees with the dilemmas faced by the inheritance and protection of the Yiwulv Mountain Manchu paper-cut described by the above researchers. However, based on the researcher's literature review, field investigation, observation and interview, practical research and other methods, new problems were discovered. The research results include communication dilemmas at the cultural level and the media level.

1. Cultural identity level

Researchers pay more attention to the inheritance of the cultural connotation and value identity of the Yiwulv Mountain Manchu paper-cut. Through literature review, field investigation and interview research, the researchers found that some of the current Manchu paper-cut creations in Yiwulv Mountain lack cultural

connotation and conceptual identity, causing most paper-cut art works to lose their original cultural concepts. In some current inheritance studies, researchers mostly piece together some information and clues about the Manchu paper-cutting art of Yiwulv Mountain from written documents and official historical records. They rarely use long-term field observations to truly understand the origins of the Manchu paper-cutting art of Yiwulv Mountain from the perspective of local people. The historical and cultural connotations have resulted in a lack of understanding and cultural identity of the local wisdom of Yiwulv Mountain Manchu paper-cut.

2. Media communication level

The researchers found that the inheritance and protection of the Yiwulv Mountain Manchu paper-cut is not innovative enough and integrated with the communication methods of the digital age. Over-reliance on the transmission method of inheritors has limited the breadth and depth of the inheritance effect of the Yiwulv Mountain Manchu paper-cut in the digital era. Although this traditional inheritance method retains the traditional charm of the Yiwulv Mountain Manchu paper-cut, it does not conform to the aesthetic and cultural value orientation of the contemporary audience.

Through a more detailed discussion of the inheritance dilemma of Yiwulv Mountain Manchu paper-cut, we can find that its inheritance must be innovative and developed in line with the development needs of the times. It is supplemented and improved by inheritance and communication methods in the digital age to enrich the diversity of Manchu paper-cutting culture in Yiwulv Mountain, and the diversity of communication makes it meet the aesthetic needs of the times. Innovative inheritance and development must respect its traditional cultural connotation, innovate in communication methods, and retain its original simple and rough style characteristics. Then, protecting and inheriting the intangible cultural heritage Yiwulv Mountain Manchu paper-cutting art through digital means will help achieve its permanent preservation and promote its innovation, dissemination and inheritance.

5.2.3 Discussion on the application value of digital media under the theory of communication in the inheritance and protection of Yiwulv Mountain Manchu paper-cut.

Through a literature review, it was found that Yu, (2023) said that folk art occupies an important position in China's long history and culture. As an important part of traditional culture, folk art is the crystallization of the wisdom of working people. With the continuous development of social economy and culture, the cultural connotation and artistic charm of folk art have been greatly improved, and it has been closely integrated with modern digital media, allowing traditional folk art to be inherited and developed to adapt to the times. The use of digital media to inherit and innovate folk art will help promote the international spread of folk art. At the same time, the design concept of folk art also provides innovative ideas for digital media. Therefore, the research on the inheritance and protection strategies of applying digital media to folk art has become particularly important.

With the widespread use of digital technology, digitization has become an inevitable choice for the continuation and inheritance of intangible cultural heritage in the contemporary era. The digitization of my country's intangible cultural heritage has formed a digital feature that integrates form, communication, and experience, and is increasingly showing a digital scenario that combines online and offline. The digital scenarios of intangible cultural heritage include protection and inheritance scenarios, creation and transformation scenarios, and dissemination and experience scenarios. In the future, the construction of data standard system and intelligent technology research and development should be accelerated to promote digital creative transformation and innovative development, and improve the inheritance-centered, A co-creation system with the participation of multiple subjects builds a "panoramic", "experiential" and "three-dimensional" digital scene of intangible cultural heritage. (Wen & Zhao, 2022)

Starting from the new concept of intangible cultural heritage protection, it is proposed to apply innovative design to the protection and inheritance of intangible cultural heritage. Extract design elements from intangible cultural heritage and carry out innovative design practices respectively. Researchers try to extract cultural elements from intangible cultural heritage, apply them to product design and development, and explore innovative designs for the protection and inheritance of intangible cultural heritage. Innovative design is an advanced creative activity, which is based on comprehensive knowledge and involves many aspects such as philosophy,

science, technology, art and culture. Use experiential innovative design as a means to inherit and protect intangible cultural heritage, focusing on interaction with people, so that intangible cultural heritage can appear in people's daily lives and become part of cultural life, thereby being better protected and inherited. (Wang, 2012)

To sum up, the researcher found through literature review that the relevant literature on the application of digital media in the inheritance and protection of intangible cultural heritage is more about exploring how to digitally transform intangible cultural heritage without combining relevant Systematic integration and innovation of theoretical concepts. The findings of this study are based on the theory of "5W" communication to study the application of digital media in the inheritance and protection of intangible cultural heritage. It uses innovative 3D Animation combined with virtual roaming technology to realize the inheritance and protection of intangible cultural heritage. The application value of digitalization.

5.3 Suggestions

5.3.1 Suggestions for Applying the Research Results

The application of research results can be divided into the following parts. First of all, the relevant government agencies for the inheritance and protection of intangible cultural heritage in Jinzhou City can use the research results as a reference to guide the inheritance and protection of the Manchu paper-cut art in Yiwulv Mountain and related intangible cultural heritage. Through the research results on the application model paradigm of digital media 3D Animation in the inheritance and protection of Yiwulv Mountain Manchu paper-cut, it provides effective reference for the inheritance and protection of intangible cultural heritage, and realizes the digital inheritance and sustainable development of intangible cultural heritage.

Secondly, the research results can be applied to art education in digital media-related majors in schools. The researched practical model can be applied to relevant courses and teaching on the inheritance and protection of intangible cultural heritage, providing theoretical and practical reference for art education. This contributes to the innovative inheritance of intangible cultural heritage.

Third, the research results can be applied to cultural tourism promotion. The application of digital media 3D Animation in the inheritance and protection of

intangible cultural heritage can be used in the promotion of local cultural tourism to provide interactive cultural experiences. At the same time, it can promote local cultural characteristics and attract tourists to participate in culture and experience culture. to promote the development of local tourism.

Fourth, the research results can be applied to digital virtual museum exhibitions. The works created through practice can be applied to digital virtual museums to simulate traditional exhibition spaces, so that more audiences around the world can appreciate the Yiwulv Mountain Manchu paper-cut online.

Finally, the research results can also be applied to social media promotion. The creative works resulting from the research will be shared and promoted on social media to showcase the artistic charm of Yiwulv Mountain Manchu paper-cut and trigger attention and protection of this intangible cultural heritage. The public can communicate and share on the Internet platform.

In summary, we can see that the application results of digital media in the inheritance and protection of intangible cultural heritage can be applied to government agencies, school education, cultural tourism promotion, virtual museum display, social media platform promotion, etc. The above methods can This transformation allows modern people to contact and understand traditional national culture through the Internet platform, which shortens the distance between audiences. On the other hand, by enhancing the influence of traditional culture, more and more people, especially young people, can enhance their sense of identity with their own national culture and devote themselves to the inheritance and development of traditional culture. This is truly cultural innovation first. Inheritance and international exchange and cooperation.

5.3.2 Suggestions for the Further Study

In order to further improve the research results on the application of digital media in the inheritance and protection of intangible cultural heritage and promote the development of this field, future researchers can focus on the following research suggestions:

1. Application of artificial intelligence in the inheritance and protection of intangible cultural heritage: The application of artificial intelligence technology in the inheritance and dissemination of intangible cultural heritage will, on the one hand,

break through people's cognitive structure of cultural communication and make intangible cultural heritage The subjects of inheritance are more diversified, and the forms of communication are more diverse. Artificial intelligence technology can promote more effective dissemination and higher-quality utilization of intangible cultural heritage by establishing a larger cultural communication platform and efficiently transforming more cultural resources. Provide researchers with more research possibilities.

2. Sustainable development and cultural protection: Researchers can consider the sustainable development role of digital media in the inheritance of intangible cultural heritage and study how to promote the sustainability and community participation of intangible cultural heritage through digital technology.

3. Interdisciplinary research: Encourage researchers to attempt interdisciplinary cooperation and combine digital media with anthropology, sociology, computer science and other disciplines to more comprehensively understand and promote the innovative inheritance of intangible cultural heritage.

To sum up, future research can conduct more in-depth exploration on the cutting-edge technologies of digital media, such as artificial intelligence, virtual reality, augmented reality and other digital technologies; it can also explore from the perspectives of social media, mass interaction, sustainable development, and international communication. Conduct discussions; conduct interdisciplinary research, etc. Further deepening the exploration of the inheritance and protection of intangible cultural heritage will help promote the development of digital media in the field of inheritance and protection of intangible cultural heritage, and bring more ideas and challenges to the innovative inheritance of Chinese traditional culture.

In short, digital media technologies and platforms provide space for traditional cultural innovation, stimulating new forms of artistic expression and the possibility of cultural evolution. In the digital age, we have the opportunity to integrate intangible cultural heritage into everyone's life and revitalize traditional culture. Through interdisciplinary research and international cooperation, we can jointly explore how digital media can better serve the inheritance and protection of intangible culture and achieve sustainable inheritance.

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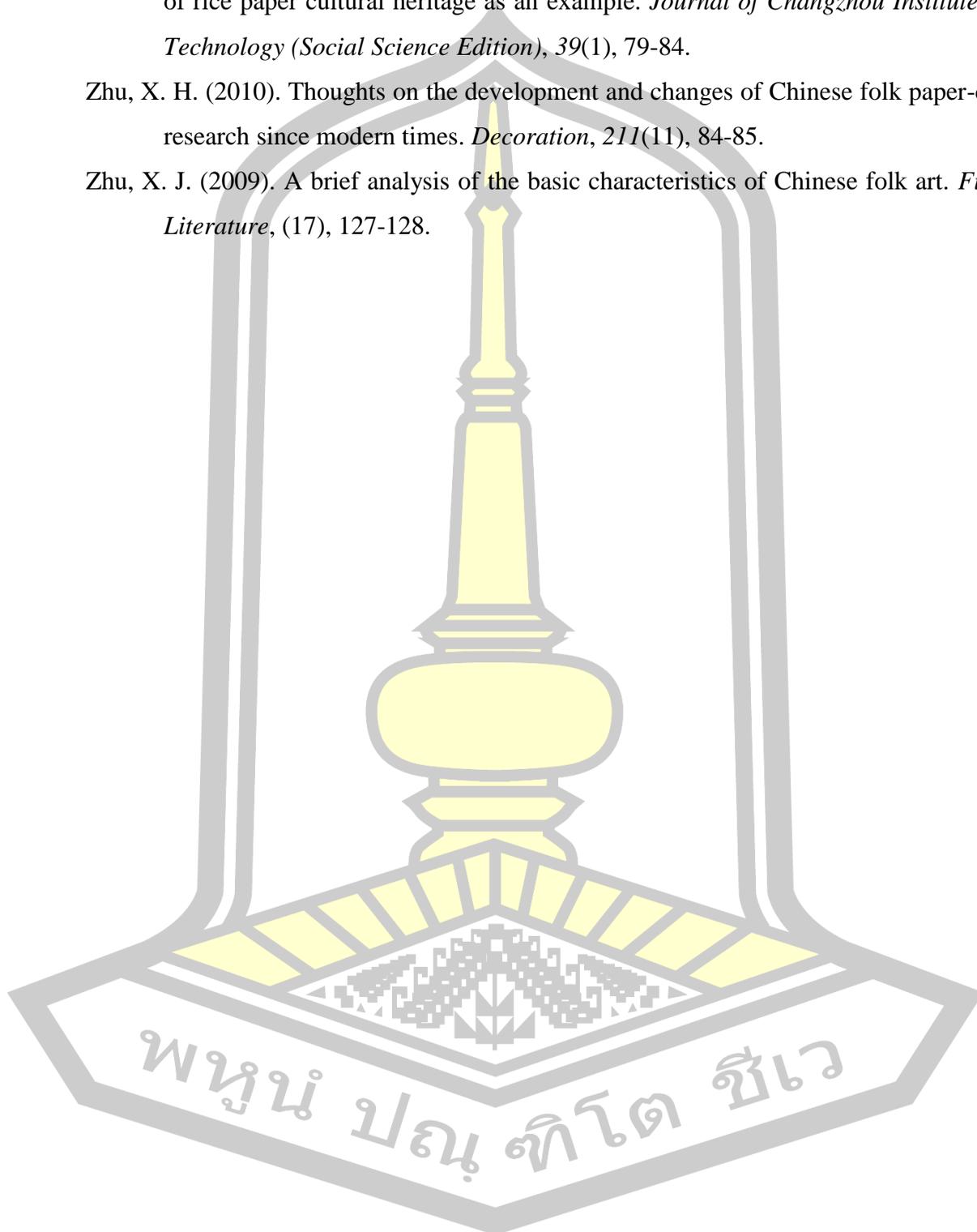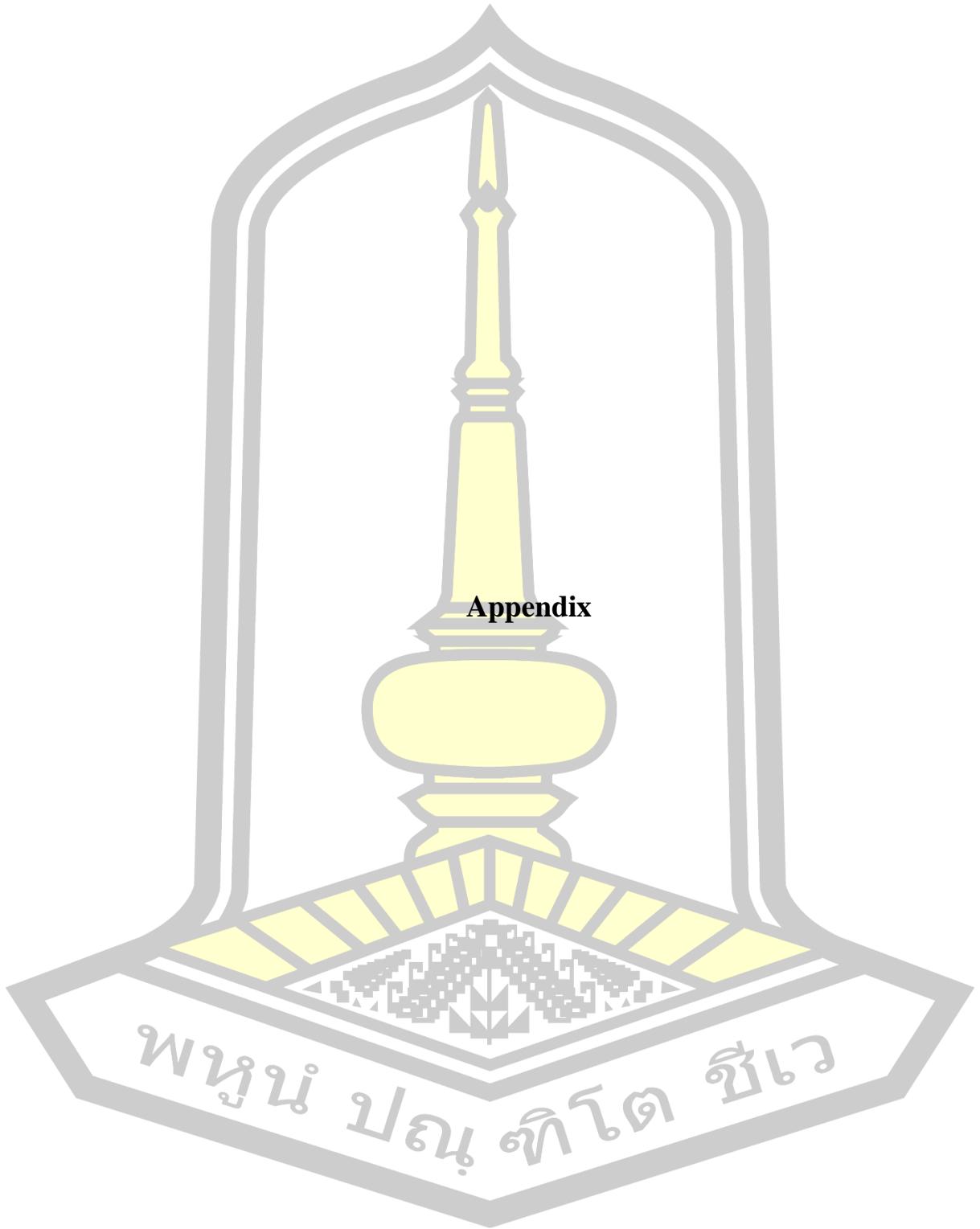
Appendix

Title: Yiwulv Mountain Manchu Paper-Cut: The Application of Digital Media in Inheriting and Protecting Intangible Cultural Heritage

Name:_____   Age:_____ Gender:_____
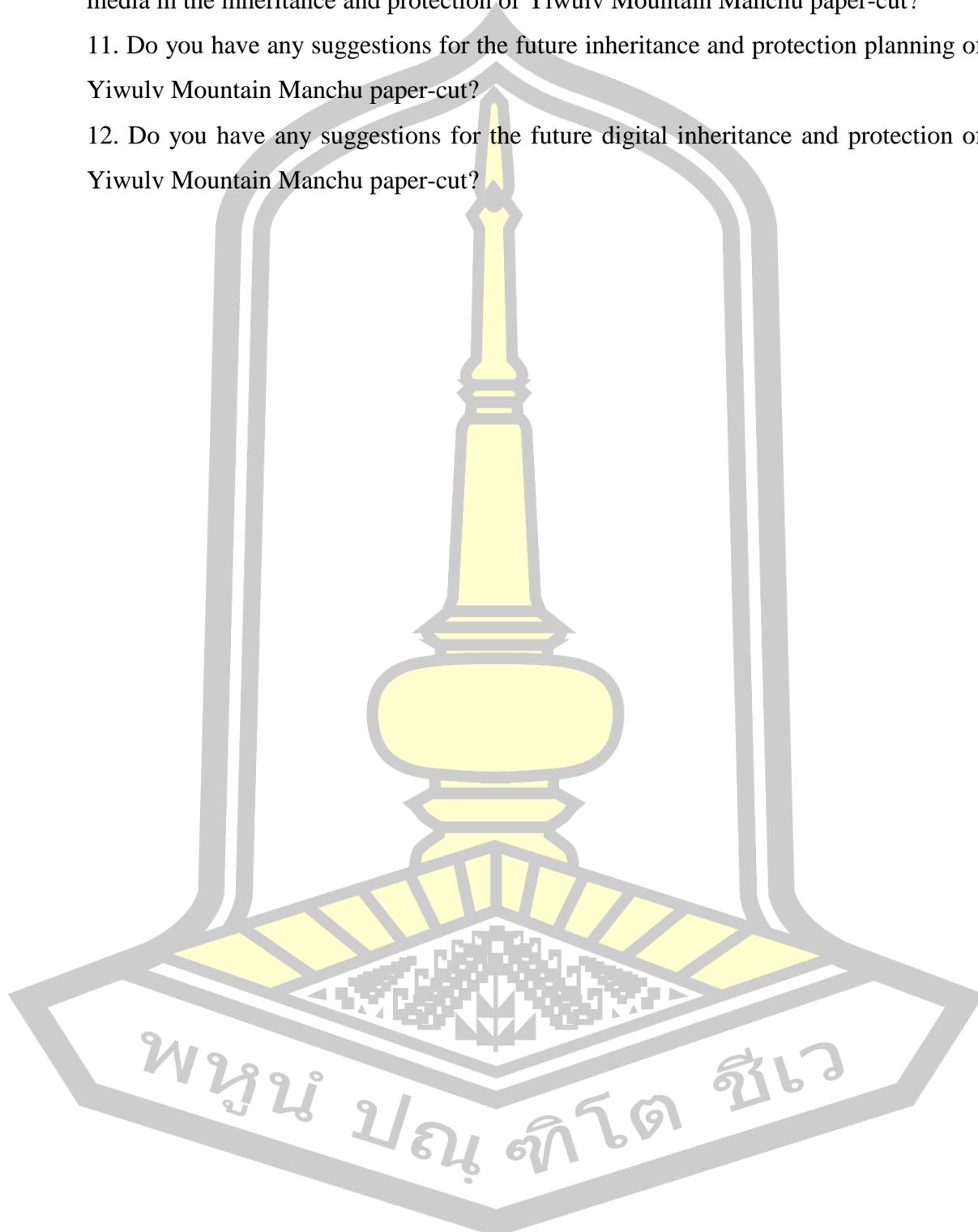
Occupation:_____   Time:_____ Place:_____

1. Based on your experience and understanding, can you talk about the historical origins of the Yiwulv Mountain Manchu paper-cut?

2. Based on your experience and understanding, can you introduce the lifestyle of people in the Yiwulv Mountain area?

3. What do you think is the most representative feature of Yiwulv Mountain Manchu paper-cut??

4. Does the government have any relevant policies for the inheritance and protection of Yiwulv Mountain Manchu paper-cut? If so, please describe them.

5. Based on your experience, please talk about whether there are any problems in the inheritance and protection of Yiwulv Mountain Manchu paper-cut? If so, what are the problems?

6. Based on your experience, please talk about the current status of inheritance and protection of Yiwulv Mountain Manchu paper-cut? For example, the country, what policy support does the government have?

7. According to your understanding, currently, does the government have any relevant digital inheritance and protection policies for Yiwulv Mountain Manchu paper-cut? If so, please introduce them.

8. Based on your experience and understanding, what impact has the development of digital technology had on the inheritance and protection of Yiwulv Mountain Manchu paper-cut?

9. According to your understanding, is digital media used in the inheritance and protection of Yiwulv Mountain Manchu paper-cut?

10. What do you think is the key point of expression in the application of digital media in the inheritance and protection of Yiwulv Mountain Manchu paper-cut?

11. Do you have any suggestions for the future inheritance and protection planning of Yiwulv Mountain Manchu paper-cut?

12. Do you have any suggestions for the future digital inheritance and protection of Yiwulv Mountain Manchu paper-cut?

Casual Informants

Title: Yiwulv Mountain Manchu Paper-Cut: The Application of Digital Media in Inheriting and Protecting Intangible Cultural Heritage
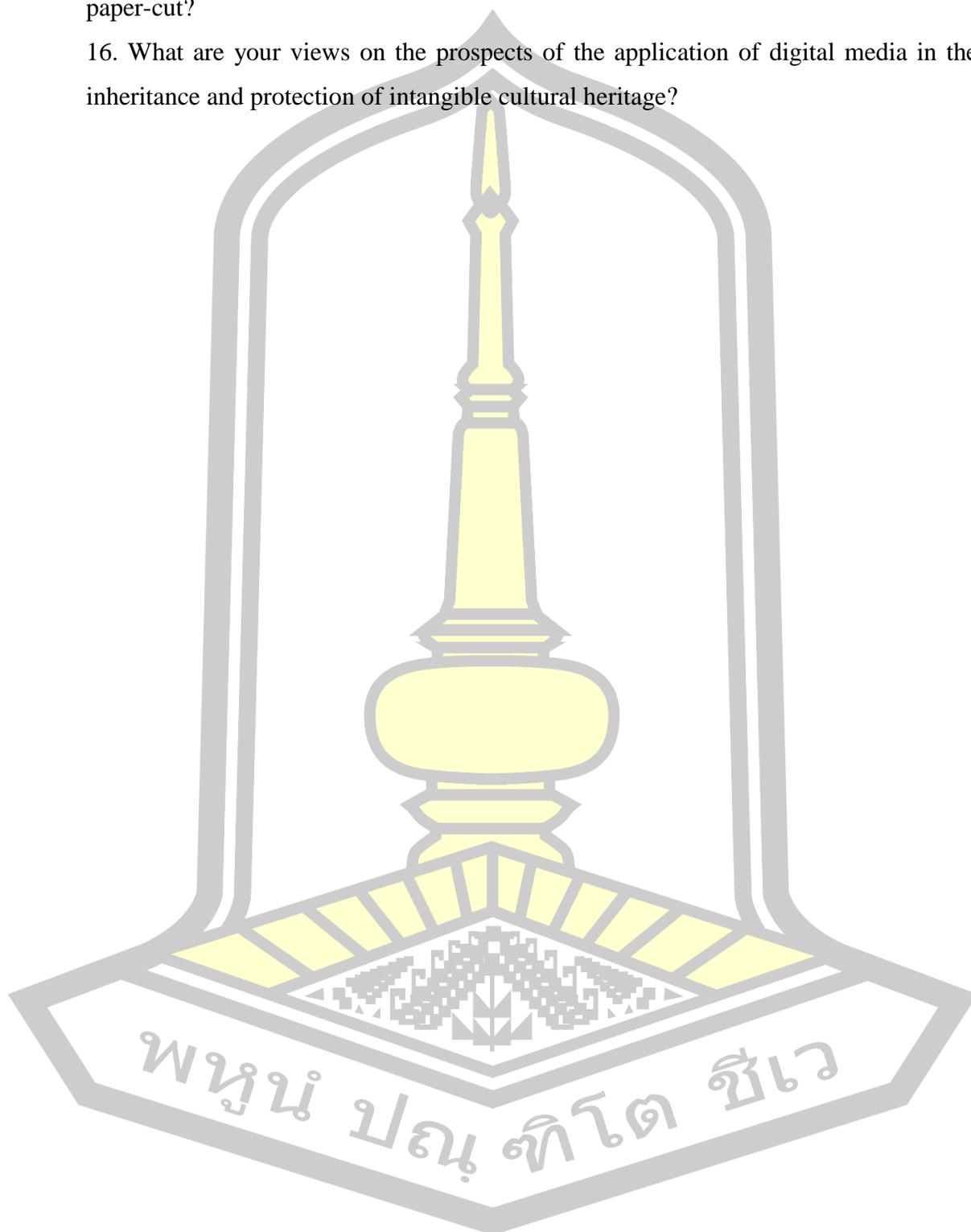
Name:_____ Age:_____ Gender:_____

Occupation:_____ Time:_____ Place:_____

1. Have you studied Manchu culture?

2. Do you know Manchu paper-cutting?

3. Do you know about the Manchu people in Yiwulv Mountain?

4. Do you understand the culture expressed by the Yiwulv Mountain Manchu paper-cut?

5. What do you think are the ways to inherit and protect the Manchu paper-cuttings in Yiwulv Mountain?

6. According to your understanding, what is the unique feature of Yiwulv Mountain Manchu paper-cut that distinguishes it from other paper-cuttings?

7. Do you think the inheritance and protection of Yiwulv Mountain Manchu paper-cut is important?

8. Do you think the government's policy on the inheritance and protection of Yiwulv Mountain Manchu paper-cut is complete? Specifically reflected in what aspects?

9. Have you ever participated in the creation of Yiwulv Mountain Manchu paper-cut?

10. Do you know the government's policy on the digital inheritance and protection of Yiwulv Mountain Manchu paper-cut?

11. Do you understand digital media?

12. Have you learned about the application of digital media in the inheritance and protection of Yiwulv Mountain Manchu paper-cut?

13. Can you talk about the significance of digital media to the inheritance and protection of Yiwulv Mountain Manchu paper-cut?

14. What benefits will the inheritance of Yiwulv Mountain Manchu paper-cut bring to you?

15. Can you accept digital media to inherit and protect the Yiwulv Mountain Manchu paper-cut?

16. What are your views on the prospects of the application of digital media in the inheritance and protection of intangible cultural heritage?

Customers Interview

Title: Yiwulv Mountain Manchu Paper-Cut: The Application of Digital Media in Inheriting and Protecting Intangible Cultural Heritage

Name:_____ Age:_____ Gender:_____

Occupation:_____ Time:_____ Place:_____

1. Your position?

2. Do you like the Yiwulv Mountain Manchu paper-cut?

2. Do you think there is anything unique about the Yiwulv Mountain Manchu paper-cut?

3. Which piece of Manchu paper-cutting work by Yiwulv mountain is your favorite?

4. Have you heard about other Chinese paper-cuts? Compared with Yiwulv Mountain Manchu paper-cut, which one appeals to you more? talk about reasons.

5. Do you think the Manchu paper-cuttings in Yiwulv Mountain reflect Manchu culture?

6. Do you think digital media inheritance and protection of Yiwulv Mountain Manchu paper-cut is acceptable to you? If you can accept it, why?

7. Will you release the 3D animation work of the Manchu paper-cutting of the Yiwulv Mountain on a digital media platform?

8. Will you participate in the inheritance and protection of Yiwulv Mountain Manchu paper-cut?

8. How did you learn about Yiwulv Mountain Manchu paper-cut?

9. Do you have any design requirements for the application of digital animation in the inheritance and protection of Yiwulv Mountain Manchu paper-cut? What aspects do you hope to embody?

10. Can you make some suggestions for the application of digital media in the inheritance and protection of Yiwulv Mountain Manchu paper-cut?
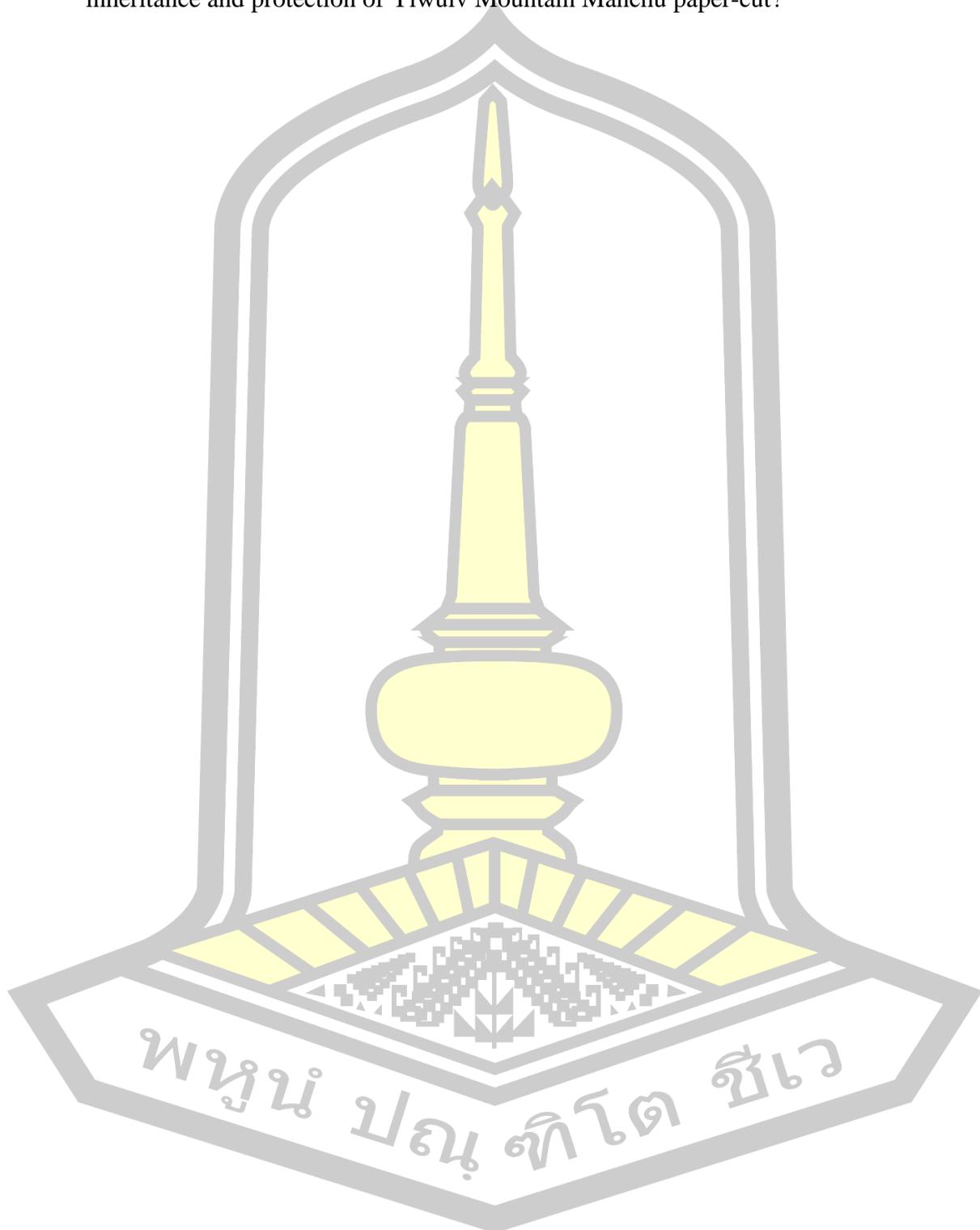
Appendix B
List of interviewees

Key Informants

Interviewees with Ms. Wang Guang (Jinzhou City. Home of Ms. Wang Guang) and interviewer Huang Lin on July 16, 2023. (Cultural expert)

Interviewees with Mr. Jing Mou (Jinzhou City. Jinzhou Mass Art Museum) and interviewer Huang Lin on April 21, 2023. (Government officials)

Interviewees with Ms. Wang Xiuxia (Jinzhou City. Xinli Village, Beizhen) and interviewer Huang Lin on July 12, 2023. (National level inheritor)

Interviewees with Mr. Zhao Zhiguo (Shenyang City. Heritage event site) and interviewer Huang Lin on June 28, 2023. (National level inheritor)

Casual Informants

Interviewees with Ms. Zhao Lu (Luxun Academy of Fine Arts in Dalian) and interviewer Huang Lin on April 8, 2022. (Teacher & Digital media expert)

Interviewees with Ms. Ma Qianqian (Luxun Academy of Fine Arts in Shenyang) and interviewer Huang Lin on April 26, 2023. (Digital media designer)

Interviewees with Mr. Zhang Jian (Personal design studio in Shenyang) and interviewer Huang Lin on March 8, 2023. (Designer)

Interviewees with Ms. Huang Jing (Government offices in Jinzhou) and interviewer Huang Lin on June 23, 2023. (Government worker)

Interviewees with Ms. Yin Miaolu (Luxun Academy of Fine Arts in Dalian) and interviewer Huang Lin on October 4, 2022. (Teacher & Digital media expert)

Interviewees with Ms. Mei Wanchen (Luxun Academy of Fine Arts in Dalian) and interviewer Huang Lin on April 20, 2023. (Student)

Interviewees with Mr. Sha Liangsheng (Digital Media Studio in Dalian) and interviewer Huang Lin on March 8, 2023. (Digital media artist)

Interviewees with Ms. Tai Guizhen Liangsheng (Shengtai Village, Hongqi Town, Yingkou City) and interviewer Huang Lin on June 19, 2023. (Paper-cutting enthusiasts)

Interviewees with Mr. Tang Feng (Online interview) and interviewer Huang Lin on June 25, 2023. (Paper-cut inheritor)

Interviewees with Mr. Liu Guanyu (Online interview) and interviewer Huang Lin on June 15, 2023. (Paper-cut inheritor)

General Informants

Interviewees with Mr. Liu Chunde (Beizhen in Jinzhou) and interviewer Huang Lin on April 8, 2022. (Local villagers)

Interviewees with Mr. Zhu Heng (Jinzhou City.) and interviewer Huang Lin on May 16, 2023. (Paper-cutting enthusiasts)

Interviewees with Ms. Yin Ze (Luxun Academy of Fine Arts in Dalian) and interviewer Huang Lin on April 20, 2023. (Student)

Interviewees with Ms. Yin Xiaoyuan (Luxun Academy of Fine Arts in Dalian) and interviewer Huang Lin on April 20, 2023. (Student)

Interviewees with Mr. Liu Shuyuan (Personal studio in Shenyang) and interviewer Huang Lin on January 20, 2023. (Paper-cutting enthusiasts)

Interviewees with Mr. He Xinzuo (Linghai City in Jinzhou) and interviewer Huang Lin on January 20, 2022. (Paper-cutting enthusiasts & Student)

Interviewees with Ms. Xu Cheng (Beizhen City in Jinzhou) and interviewer Huang Lin on February 5, 2023. (Paper-cutting enthusiasts & Student)

Interviewees with Ms. Shao Xin (Jinzhou City) and interviewer Huang Lin on April 8, 2022. (Local villagers)

Interviewees with Ms. Yu Fengyan (Linghai City in Jinzhou) and interviewer Huang Lin on April 20, 2023. (Art teacher)

Interviewees with Ms. Xie Hong (Xinlitun Town in Jinzhou) and interviewer Huang Lin on February 15, 2023. (Local villagers)1969

Interviewees with Mr. He Xinzuo (Linghai City in Jinzhou) and interviewer Huang Lin on January 20, 2022. (Paper-cutting enthusiasts & Student)

Interviewees with Mr. Gao Minghong (Jinzhou City) and interviewer Huang Lin on April 25, 2023. (Paper-cutting enthusiasts & Student)1992

Key Informants

No.	Name	Gender	Role	Age
1	Wang Guang	Female	Cultural expert	77
2	Jing Mou	Male	Government officials	52
3	Wang Xiuxia	Female	National level inheritor	76
4	Zhao Zhiguo	Male	National level inheritor	67

Casual Informants

No.	Name	Gender	Role	Age
1	Zhao Lu	Female	Teacher & Digital media expert	47
2	Ma Qianqian	Female	Digital media designer	24
3	Zhang Jian	Male	Designer	43
4	Huang Jing	Female	Government works	67
5	Yin Miaolu	Female	Teacher & Digital media designer	34
6	Mei Wanchen	Female	Student	21
7	Sha Liangsheng	Male	Digital media artist	24

8	Tai Guizhen	Female	Paper-cutting enthusiasts	78
9	Tang Feng	Male	Paper-cut inheritor	30
10	Liu Guanyu	Male	Paper-cut inheritor	31

General Informants

No.	Name	Gender	Role	Age
1	Liu Chunde	Male	Local villagers	62
2	Zhu Heng	Male	Paper-cutting enthusiasts	23
3	Yin Ze	Female	Student	24
4	Yin Xiaoyuan	Female	Student	22
5	Liu Shuyuan	Male	Paper-cutting enthusiasts	30
6	He Xinzuo	Male	Paper-cutting enthusiasts & Student	25
7	Xu Cheng	Male	Paper-cutting enthusiasts & Student	23
8	Shao Xin	Female	Local villagers	41
9	Yu Fengyan	Female	Art teacher	47

10	Xie Hong	Female	Local villagers	54
11	He Xinzuo	Male	Paper-cutting enthusiasts & Student	22
12	Gao Minghong	Male	Paper-cutting enthusiasts & Student	31
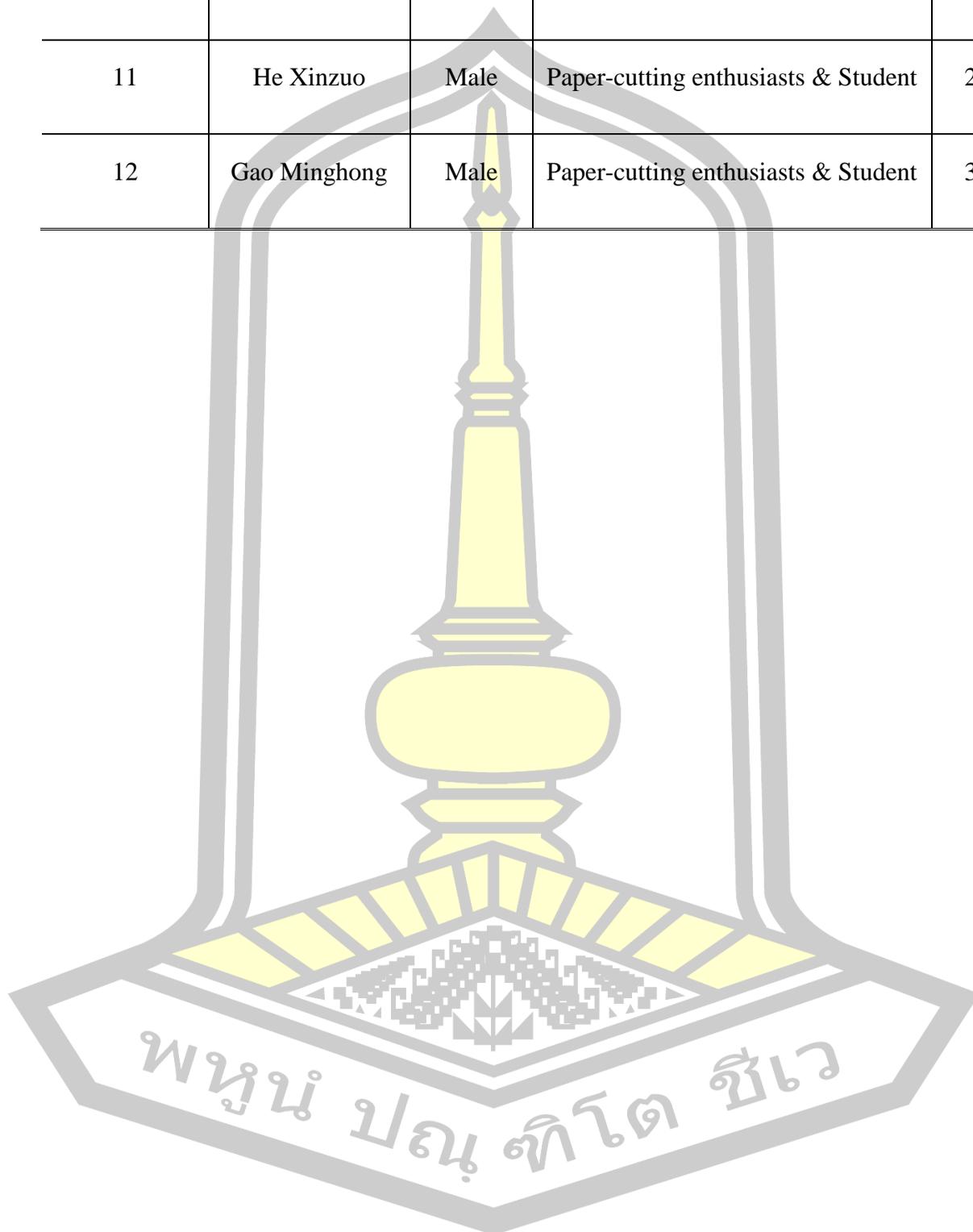
BIOGRAPHY

NAME   Lin Huang

DATE OF BIRTH   1987/09/12

PLACE OF BIRTH   Shenyang City, Liaoning Province

ADDRESS   Block C, Baolida Elephant Apartment, Hunnan 2nd Road, Hunnan District, Shenyang City

POSITION   lecturer

PLACE OF WORK   Luxun Academy of Fine Arts: Luxun Academy of Fine Arts, Jinshitan Street, Jinzhou District, Dalian City, Liaoning Province

EDUCATION   2003-2005 Yingkou Development Zone No. 2 High School
2005-2009 (Bachelor) Luxun Academy of Fine Arts
2010-2013 (Master degree) Luxun Academy of Fine Arts
2021-2023 (Ph.D.) Doctor of Philosophy Program in Cultural Science, Mahasarakham University

Research grants & awards Received several scholarship programs at the undergraduate and postgraduate stages