

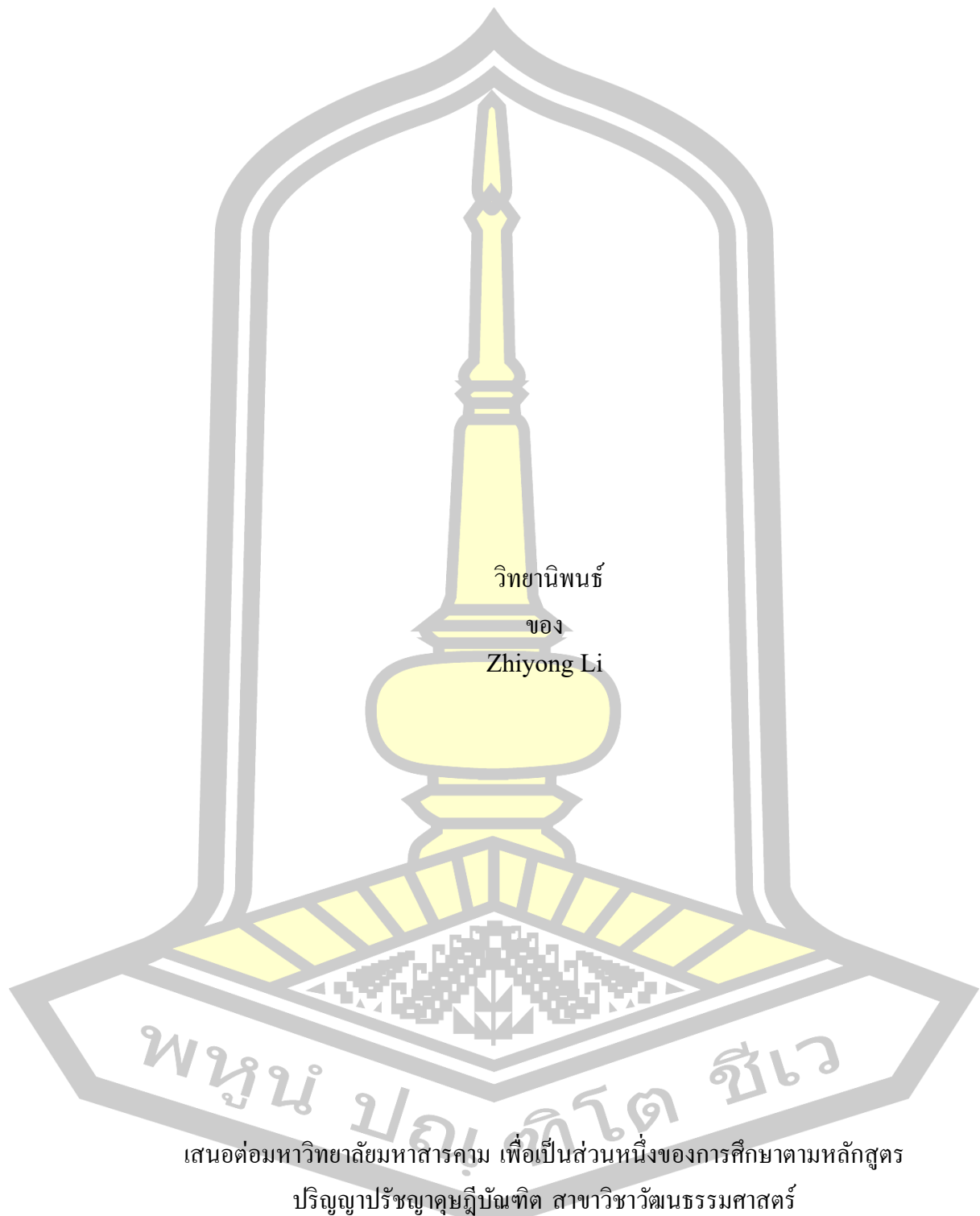
Paintings from Beiyue Temple: A model for preserving and Disseminating Cultural
Heritage Using a Digital System

Zhiyong Li

A Thesis Submitted in Partial Fulfillment of Requirements for
degree of Doctor of Philosophy in Cultural Science
March 2025

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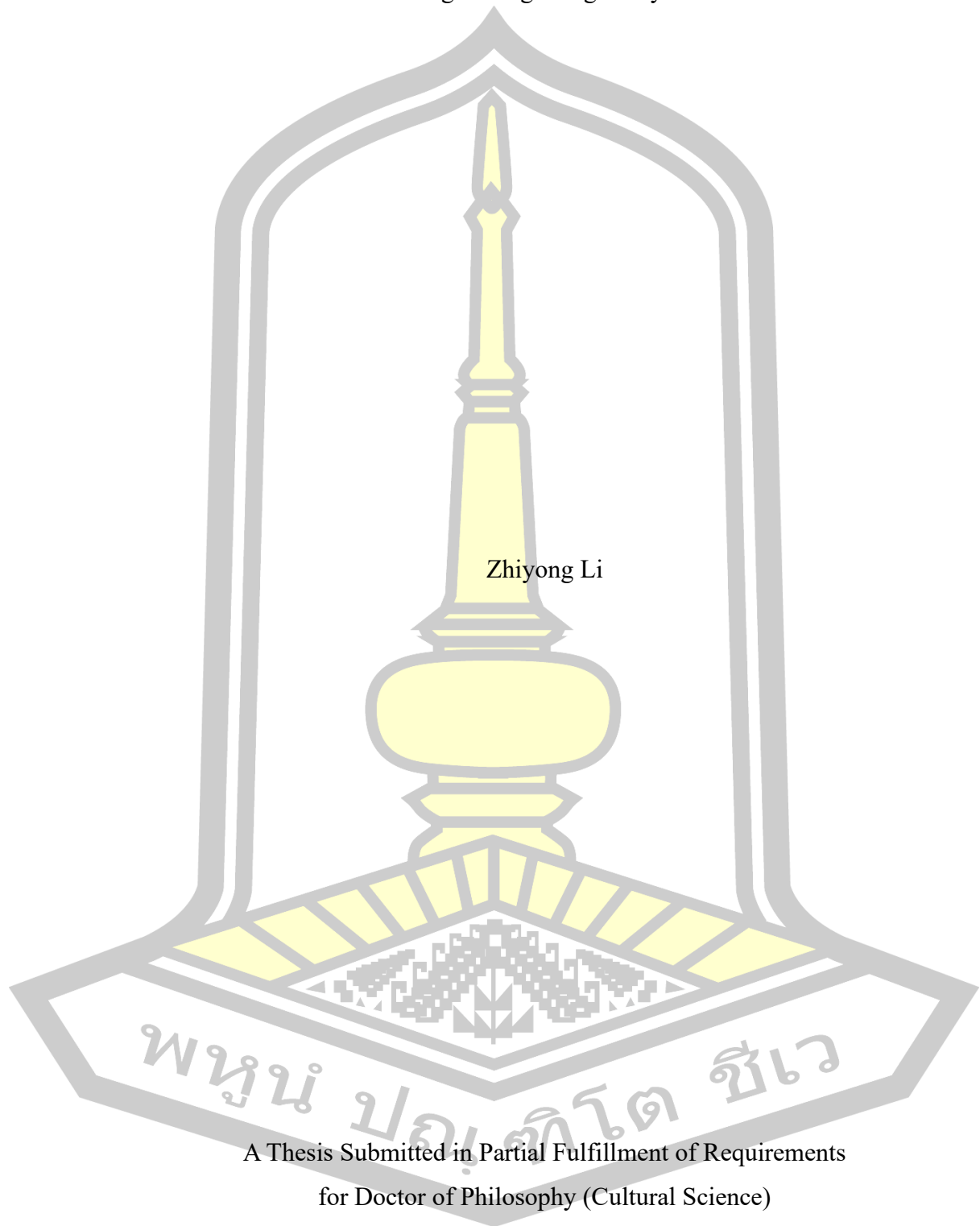


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submitted by Mr. Zhiyong Li , as a partial fulfillment of the requirements for the
Doctor of Philosophy Cultural Science at Mahasarakham University

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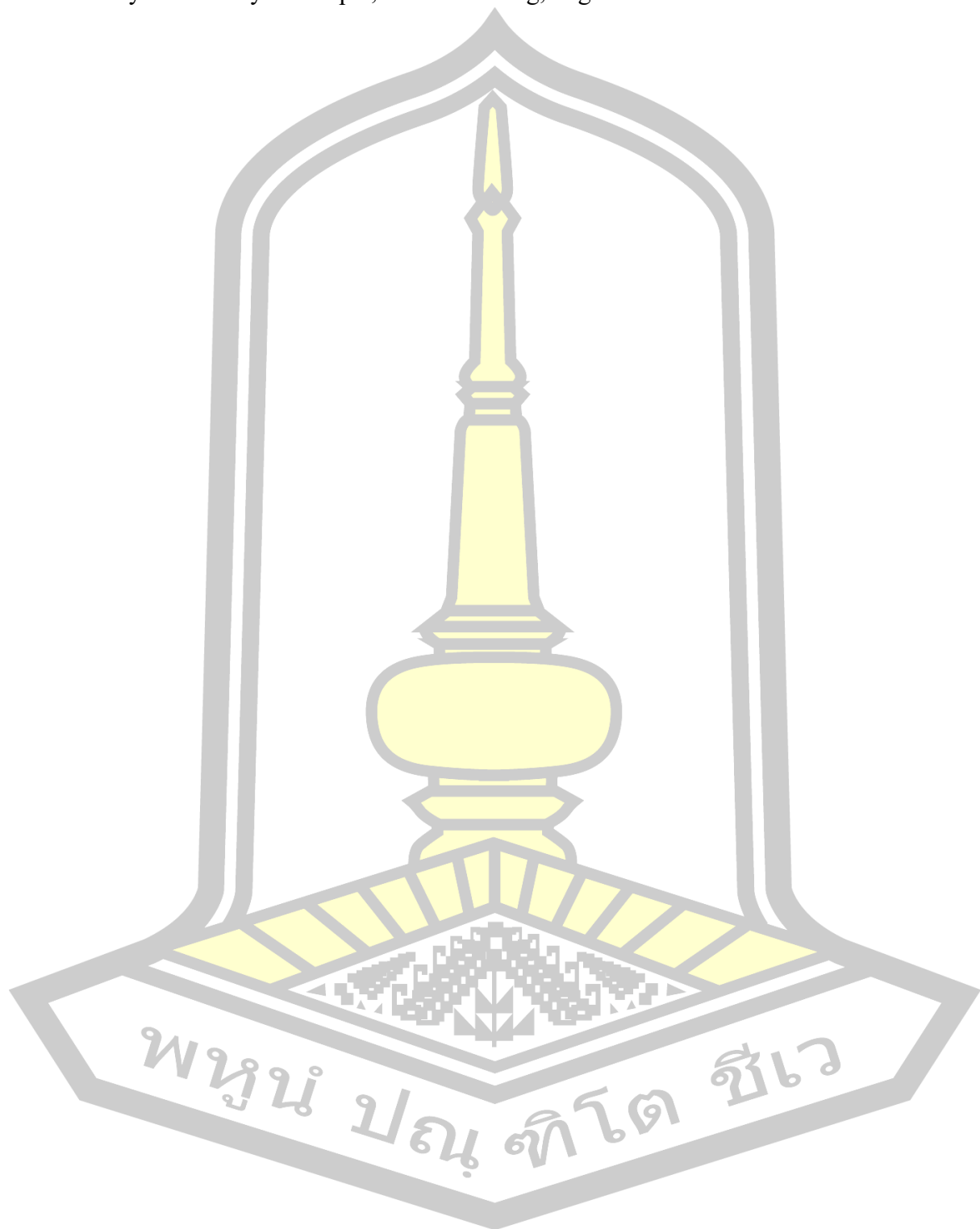
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ABSTRACT

The purpose of this study is: 1) to investigate the current status of the protection of Beiyue Temple murals, 2) to study the social and historical origins, cultural value and cultural characteristics of Beiyue Temple murals, and 3) to use digital technology to protect and spread cultural heritage (Beiyue Temple murals). This study is a qualitative study, which takes Beiyue Temple murals in Hebei Province as the research object. The research data was collected through relevant literature analysis, investigation, observation, interview, in-depth interview and group discussion. The research tools include survey method, observation method, interview method, structured and unstructured focus group discussion. The research tools include survey method, observation method, interview method, structured and unstructured focus group discussion. 30 relevant personnel were interviewed in this study, and the data were analyzed using relevant statistical theories. The research results are presented through text content analysis. The research results are as follows. First, the study of the historical and cultural origins, cultural value, artistic value, and religious communication of Beiyue Temple and murals will help enhance their cultural value and influence; secondly, the analysis of the current status of the protection of Beiyue Temple murals shows that modern traditional restoration and copying cannot meet the current status of inheritance and protection. Beiyue Temple murals are not well-known, difficult to spread, and have low recognition. The cultural and artistic value is not recognized by the public, which restricts the dissemination and protection of Beiyue Temple murals; then, digital murals are collected and digital media technology is combined with art to collect digital protection for preservation, and three-dimensional animation technology is used for the dissemination and protection of murals to solve the difficulties of dissemination.

Systematic research from sociology, semiotics, iconography, etc., and analysis of its internal connotation and current status are of practical significance to this study. The study of the digital preservation and dissemination model of murals can truly achieve the purpose of protecting and disseminating Beiyue Temple murals. In the digital age, Beiyue Temple murals use digital media for diversified dissemination, and will expand dissemination and protection, providing research models and references for the dissemination and protection of cultural and cultural heritage

Keyword : Beiyue Temple, Mural Painting, Digital Dissemination



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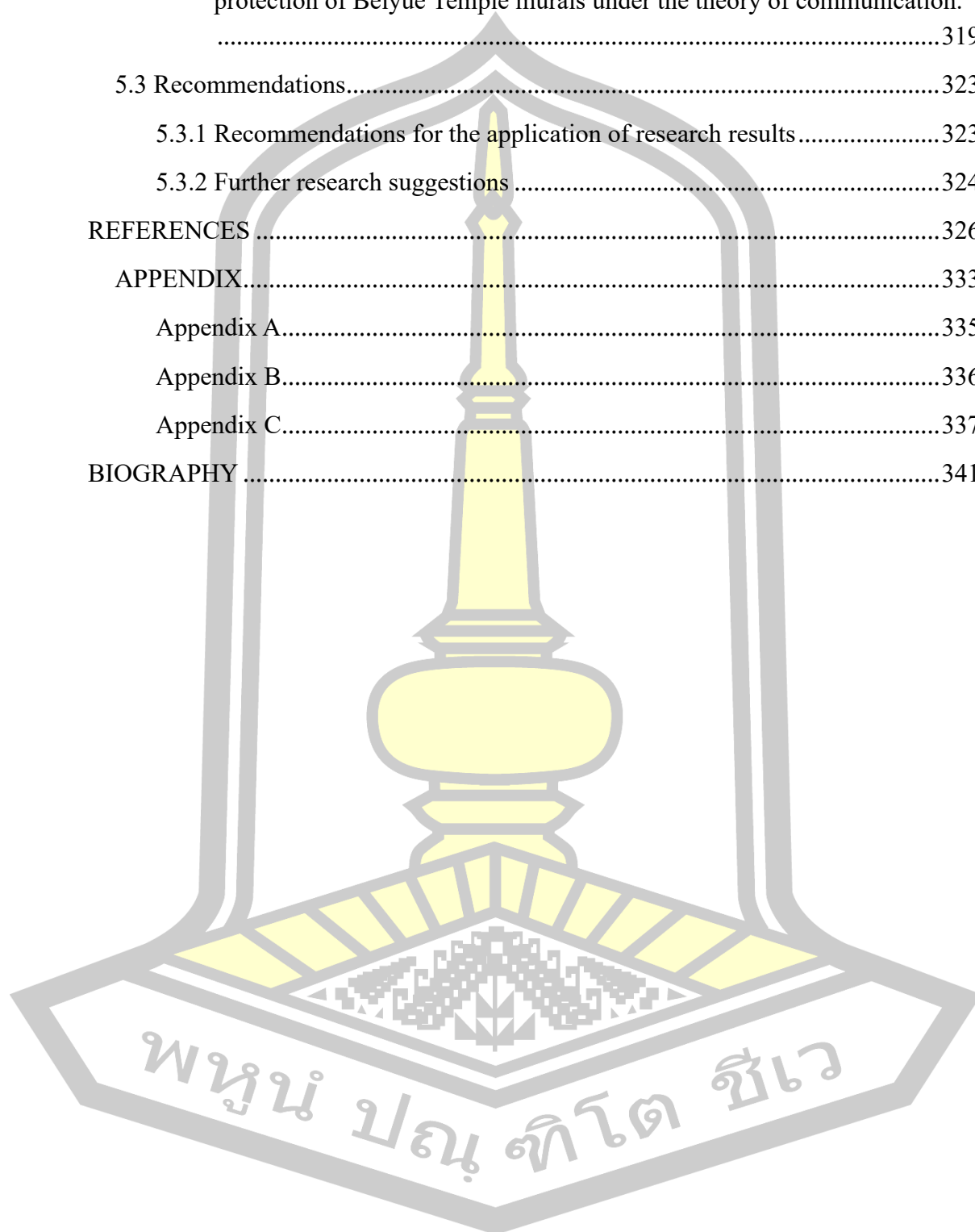
Zhiyong Li

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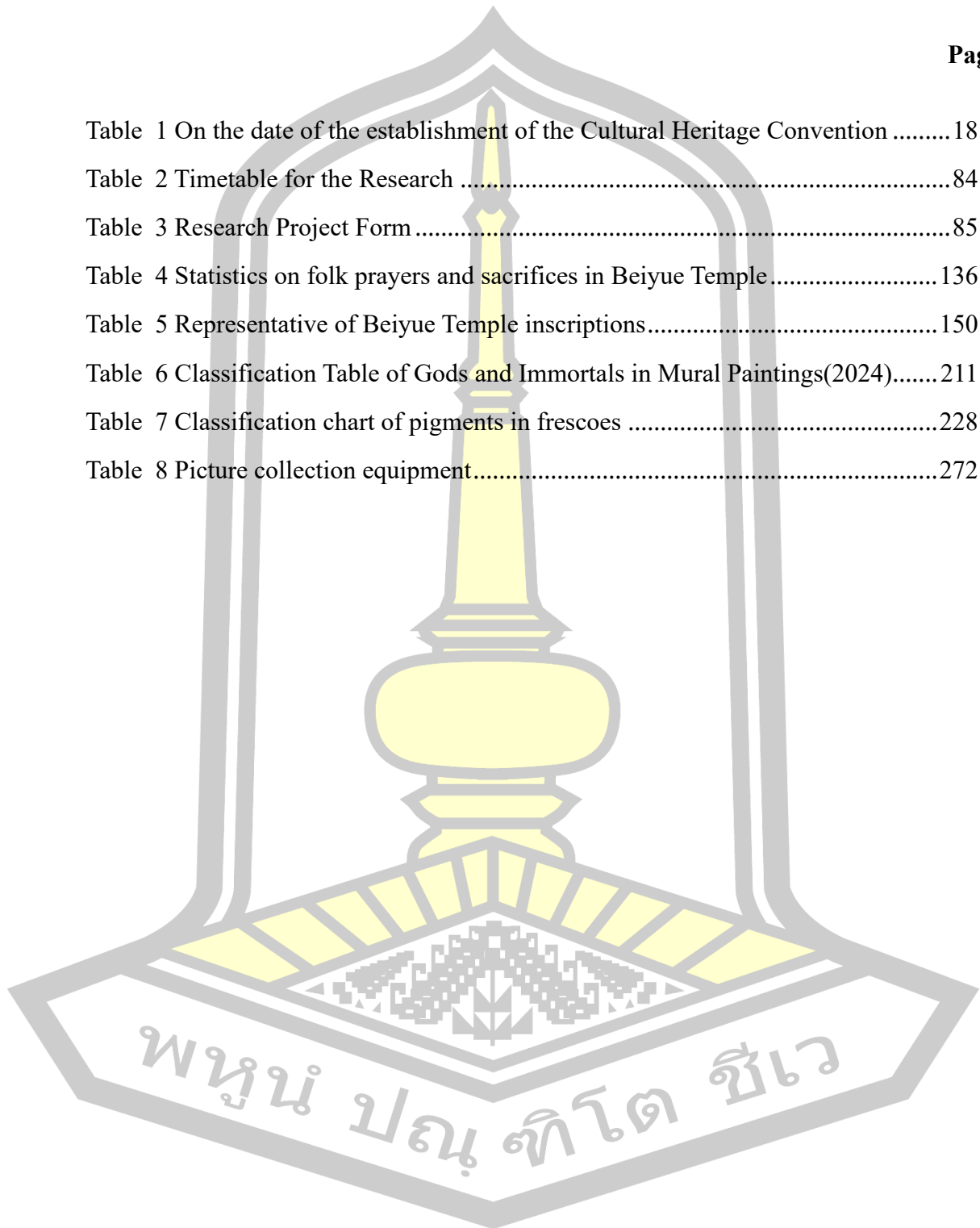
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CHAPTER I

INTRODUCTION

1. 1 Background of the Research

Mural painting is one of the oldest forms of painting, which is painted directly on the walls of caves and buildings, and has the function of decorating and beautifying the buildings. Mural painting (wall-painting or Mura) as the name suggests is a combination of "wall" and "painting", i.e., paintings made on the wall by means of painting or craftsmanship. Mural painting is defined in the Encyclopaedia of China as "a painting that decorates a wall. Includes the use of painting, sculpture and other modelling and craftsmanship means of natural and artificial walls, mainly on the internal and external surfaces of buildings to produce pictures. Frescoes as an accessory part of the building through the mutual adaptation of architecture and painting to achieve the harmony and unity of the practicality of the building and the infectious force of the painting not only has the function of ideological aspects, but also has the decorative and beautifying function of the building constitutes an important aspect of the environmental consciousness." (Encyclopaedia of China , 2004) Definition of mural painting in modern Chinese "Pictures drawn on rock walls, buildings and ceilings." This concept is both concise and comprehensive. If these two definitions are understood together we can better grasp the true connotation of contemporary mural painting (Xinhua, 2020)

Beiyue Temple is located in Qu yang County, Hebei Province. It was called Beiyue Ancestral Temple in Han Dynasty, Bei yue Temple and Beiyue An Tian wang Temple in Tang Dynasty, Beiyue An Tian wang Temple in Song Dynasty, and Beiyue Shengdi Temple in Yuan Dynasty. Cancelled in the Ming Dynasty. Successive titles, renamed Beiyue Temple. Beiyue Temple is a place of worship to Hengshan, one of the five mountains in China. It is an important sacrificial temple in China. It is an

ancestral temple dedicated to Mount Hengshan of the Northern Mountains. It is a national religious place of worship with important historical and cultural status. It is an important part of China's ancient cultural memory, representing mountain worship, religious beliefs and cultural traditions in traditional Chinese culture. The existing Beiyue Temple was built in the Northern Wei Dynasty and rebuilt in the Tang Dynasty. What is currently preserved is a Yuan Dynasty building. The existing De Ning Hall has exquisite murals. It is the oldest surviving mural of Yue Temple building in China, with high artistic value. The murals depict historical events, cultural scenes and daily life of the ancient society, reflecting the customs, social systems and religious rituals of the ancient society. In addition, the murals have high research value. (L. M. Wang, 2006)

Beiyue Temple is a representative building of the Five Sacred Mountains. The existing main hall of Beiyue Temple was identified by Mr. Liang Sicheng as a Yuan Dynasty building. Judging from the style of the murals, it is close to the Tang and Song Dynasties. The roof beams and eaves of the main hall have the words "Yuan Dynasty Year" written on them, and the gable bricks have the words "Yuan Dynasty Year" engraved on them. Beiyue Temple is large in scale and is a palace-style ancient building complex. With the archaeological surveys in recent years, the history of Beiyue Temple architecture has gradually become clear. In the 20th year of Kaiyuan in the Tang Dynasty, "The Monument of the Beiyue Temple of the Great Tang Dynasty" recorded the expansion and renovation of Beiyue Temple at that time. Beiyue Temple was destroyed by war in the last years of the Five Dynasties, and was burned again when the Khitan captured Quyang in the Kaiyun year of the Jin Dynasty. In the early Yuan Dynasty, Kublai Khan ordered its reconstruction, which later formed its current scale. (Quyang, 2022)

Beiyue Temple has a history of 1,500 years. It is a group of ancient buildings with a grand layout of Chinese classical architecture. It is 542 meters long from north to south and 321 meters wide from east to west, with a total area of 173,982 square

meters, including a construction area of 3,803 square meters. According to the "Qu yang County Chronicle" of the Qing Dynasty, the main building is the De ning Palace, built in 1270 AD. It is the largest existing wooden structure in the Yuan Dynasty in China and the highest-standard building among the Five Saints buildings. The east and west walls of the main hall are painted with murals. The mural area is about 300 square meters. There are huge colorful murals on the east and west walls. The east wall is the picture "Yun Xing Yu Shi", and the west wall is the picture "Xian ning of All Nations". The east and west walls are 8 meters high and 18 meters long.

(Meng.N.,2018)Mr. Hu Man(1904 - 1986), formerly known as Wang Junchu, was a native of Fugu, Henan Province. He was a Chinese art historian and art critic, director of the China Artists Association, and director of the China Folk Literature and Art Research Association. determined that the existing murals were built in the Tang Dynasty through the records in the "Qu yang County Chronicles" and the "Monument of the Lord of Beiyue in the Great Tang Dynasty" erected in 721 AD in the Beiyue Temple, which contains the text "Painted with red flowers, waiting for the clouds of Chicheng to rise, the pictures are exquisite, and it is suspected that the fairies of the river have gathered." Beiyue Temple is a national sacrificial site, and it is reasonable for the Tang emperor to send court painters to paint murals. The Tang stone tablet in Beiyue Temple were mostly written by dignitaries. For example, one of the Tang stone tablet was written by Zhang Jia zhen, the founding prince and ancestor of the Tang Dynasty painting master Zhang Yan yuan. The murals in Beiyue Temple are skillful and arbitrary in brushwork, with round and flowing folds, and long lines that are drawn to the end, with changes in thickness. All these characteristics are consistent with the records of Wu Dao zi's painting style in the painting history of the Tang and Song Dynasties, so the history and culture of Beiyue Temple are very rich.Wu Dao zi (680-759), named Dao xuan by Emperor Xuan zong, was a painter in the Tang Dynasty of China. He was honored as the "painting saint" by later generations and the ancestor of folk painters. He was honored as Wu Sheng in the

history of painting. He was the greatest painter in the Tang Dynasty. He was from Yang di, Henan Province. He was a master of ancient Chinese mural painting and had a great influence on Chinese painting art.

The mural on the east wall is "The Picture of Clouds Provoking Rains", which shows that the gods of the Heavenly Palace perform their duties, praying for rainfall and blessing the world with good weather. The murals on the east wall depict many characters, with a total of 73 characters painted. The story of the whole picture is complete, the layout is dense and dense, the lines drawn are smooth, and the characters are beautiful and lifelike.

The mural on the west wall "Xian ning of All Nations" shows the scene of the gods returning to the palace in victory after completing their work of blessing the people. The three gods of Xi yue, Zhong yue and Beiyue are dressed in white, yellow and black clothes respectively. They hold Gui ban in their hands, wear crowns on their heads and wear the clothes of the emperor. They are very vividly depicted. The flying god in the upper right corner of the picture has a The painting style of Tang Dynasty painter Wu Dao zi has extremely high artistic value.

These two murals are majestic in composition, vivid in charm, and ancient in style. They have the painting style of Wu Dao zi in the Tang Dynasty and are precious materials for studying Wu Daozi's paintings. At the same time, past generations of painters added the artistic styles and modeling features of later generations during the repainting process to protect the high cultural and artistic value of the works. The murals in Dening Hall are treasures for studying ancient Chinese culture and art. (Zhao, 2008)

Beiyue temple is China's five national mountain sacrificial places, has rich historical and cultural connotations of the local cultural and spiritual life has an important impact, the building of the mural is the ancient Chinese painting boutique, has a positive artistic infectious force on the people to play a dissemination of the Chinese people. Beiyue Temple as a national place of worship, is the existing five

mountains in the frescoes and temple rules preserved for the longest time, the other four mountains in the scale and frescoes of only Dong yue Dai Temple is preserved more intact, but the completion of the building and frescoes of its age than the Beiyue Temple late so the Beiyue Temple frescoes have a high cultural and artistic value. In addition to the basic research on the Yue Temple more, and the Beiyue Temple building age and frescoes have not yet been due attention from the academic community. Existing monuments, Beiyue Temple mural painting as China's only existing national sacrificial system can reflect the genealogy of the gods of the five mountains of the mural painting, has an important position. Beiyue Temple is the oldest preserved temple complex in China, preserving more architecture, paintings, inscriptions and rituals from the Tang and Song dynasties than the other four temples. The mural paintings are also the oldest preserved, with the highest artistic attainments, representing the Chinese mountain ritual culture. At present, the climate environment of the area to which the Beiyue Temple belongs is constantly changing, the wall has been aging for hundreds of years, and the mural paintings have been seriously damaged; at the same time, the geographic location of the Beiyue Temple is remote, and the government's investment is limited, so there are fewer researches on the preservation and dissemination of the mural paintings of the Beiyue Temple, and there is a lack of systematic theory on the conservation and dissemination of figures. (Quyang, 2022)

In this context, it is of great practical significance to clarify the historical development of Beiyue Temple murals, study the current situation of Beiyue Temple, and what effective ways to protect and spread the murals? Therefore, it is of practical significance to this study to systematically study it from sociology, semiotics, iconography, etc., and analyze its connotation and current situation. It is hoped that through this research, the purpose of protecting and disseminating Beiyue Temple murals can be truly achieved.

1.2 Research objectives

- 1.2.1. To study the history of the murals at Beiyue temple.
- 1.2.2. To study the symbolism and the value of mural paintings at Beiyue temple.
- 1.2.3. To study the digital conservation and dissemination model of Beiyue temple murals.

1.3 Research Questions

- 1.3.1 Beiyue Temple mural painting protection status quo situation.
- 1.3.2 What are the social and historical origin, cultural value and cultural characteristics of Beiyue Temple murals?
- 1.3.3 How to apply digital technology to the conservation and dissemination of cultural heritage (Beiyue Temple mural paintings) and establish an effective research model?

1.4 Importance of the Study

- 1.4.1 This study contributes to the development and conservation of Beiyue Temple murals by analysing and studying their conservation status and dissemination.
- 1.4.2 This study will contribute to the enhancement and development of the cultural value of Beiyue Temple through the study of its historical origin, cultural value and cultural characteristics.
- 1.4.3 This research will study how to apply digital technology to the preservation and dissemination of cultural heritage (Beiyue Temple mural paintings), establish an effective research model, and the inheritance and preservation of cultural heritage will provide reference value.

1.5 Definition of Terms

1.5.1 Murals

The Beiyue Temple murals involved in this article are defined as "paintings decorated on walls, including the use of modeling and crafts such as painting and sculpture on natural walls and artificial walls, mainly to make pictures on the internal and external surfaces of buildings. As architectural The auxiliary part achieves the unity of practicality and decoration of the building through the interaction of architecture and painting. Murals are an important part of the Beiyue Temple architecture.

1.5.2 Beiyue Temple

The Beiyue Temple mentioned in this article has a history of 1,500 years. It is a group of ancient Chinese buildings with a grand layout. It is a place of worship for Mount Heng shan, one of the five mountains in China. It is an important temple for worship in China and a national religious Sacrificial places have important historical and cultural status. It is an important part of ancient Chinese cultural memory. The existing main hall, Dening Hall, has murals painted in the Yuan Dynasty. The exquisite murals are the oldest preserved Yue Temple architectural murals in China and have very high research value.

1.5.3 Social memory

It refers to a society or a group of people's collective memories and views of past historical events, cultural experiences and social changes. It is people's common understanding and perception of past events, cultural inheritance and social evolution, and reflects a society's cultural identity, values and interpretation of history. Social memory not only involves personal memory, but also covers collective memory at the sociocultural level.

1.5.4 Cultural heritage protection

Heritage protection in this article refers to the attempt on Beiyue Temple murals. In 1972 UNESCO proposed the Convention for the Protection of the World

Cultural and Natural Heritage. Cultural heritage is the tangible and intangible manifestations of human cultural creation, including buildings, sites, handicrafts, traditional knowledge, languages and customs. It is the witness of history. , carrying the cultural memory and value inheritance of human society. In this study, Beiyue Temple murals encountered difficulties in the protection and needed to find new paths for protection and development.

1.5.5 Cultural identity

This article involves the cultural understanding of the historical research on Beiyue Temple, referring to the unique mountain sacrificial cultural symbols of Beiyue Temple murals in today's era of economic globalization, conveying the cultural and artistic value of Beiyue Temple murals, and allowing the national community to recognize and understand the connotation of this symbol. Form a cultural identity.

1.5.6 Semiotics

The study of Beiyue Temple involves the study of symbols. Semiotics refers to the Swiss linguist Saussure who proposed that symbols contain two parts: "sign" and "reference", that is, the object at the level of expression, the "shape" and the referent of the symbol. The connotative meaning of things.

1.5.7 Iconography

The research on mural images involved in this article cannot be separated from the theoretical support of image studies. It was proposed by German cultural historian Abi Warburg and German American art historian Panofsky to reveal the social, cultural, and historical background of themes and motifs in visual art, emphasizing the study of the themes, symbolic meanings, and cultural significance of art works. The modern sense of iconography was first proposed by German scholar Warburg in his 1912 article "Italian Art and International Astrology in the Ferrara Palace" at the International Conference on Art History in Rome. It was later elaborated in two works by Panofsky, "A Study of Imagery: The Humanistic Themes of Renaissance Art" and

"The Meaning of Visual Art". Panofsky proposed three complete stages of iconological methods. The descriptions of the three stages in the two works are slightly different. In the book "A Study of Imagery: The Humanistic Themes of Renaissance Art", they are described as "pre iconographic description", "iconographic analysis", and "iconographic interpretation"; In the book "The Meaning of Visual Art", it is described as "pre portrait studies", "portrait studies analysis", and "iconography interpretation". Although there are slight differences between the two narrative methods, the overall idea and approach are consistent. After continuous improvement, Panofsky ultimately determined the three analytical stages of image studies as "pre image description", "image analysis", and "image interpretation".

1.5.8 Digital image collection:

Regarding the protection of digital collections covered in this article, the rapid development of digital scanning technology has changed this situation. Digital scanning technology is being widely used in various fields with its unique advantages. Compared with traditional image acquisition technology, it can complete the measurement of complex surfaces quickly, accurately and without contact. In the application of mural material collection, digital scanning often requires precise non-contact digital collection of important ancient buildings to provide permanent preservation data for the protection of ancient murals.

1.5.9 Image saving:

By using digital acquisition and processing technology, Beiyue Temple murals scientifically and effectively edit and convert the mural information into digital format, and then save it to secure media such as large-capacity computer hard drives or optical disks to achieve long-term and safe preservation of ancient murals and cultural heritage. Effectively establish a database that records mural-related information for researchers to consult at any time, so that the cultural heritage of ancient murals can be preserved long-term and safely.

1.5.10 Dissemination

Utilising to Lasswell's '5W' communication theory to establish a media framework, the digital mural communication is to heritage communication. Lasswell proposed five basic components of the communication process, namely who, what to say, in which channel, to whom, and with what effect. In the process of creating digital media practices for this study, specific analyses based on the '5W' communication theory can make the study more systematic and logical. The use of social media platforms such as Instagram, Facebook, Twitter, etc., to publish pictures or short videos of digital murals is conducive to the expansion of the influence of murals.

1.5.11 Media Creation

Media creation refers to the process of creating and transmitting information on a specific media platform through the content form, presentation method, language method, and communication method of the Manchu paper-cutting of Medical Wushu Mountain. The use of three-dimensional animation technology to inherit the culture of paper-cutting of the Manchu people of Mount Medical Wuluk, and to promote the innovative inheritance and protection of the culture of paper-cutting of the Manchu people of Mount Medical Wuluk.

1.5.12 Cultural Relics Restoration

The research involves the aspect of mural restoration, using traditional crafts and modern technical means to carry out physical and chemical restoration measures directly on the cultural relics, in order to preserve and recognise the artistic and historical originality of the cultural relics, to slow down or terminate cultural relics diseases, to ensure the safety of the cultural relics and to enable them to be preserved for a long period of time, and it is an important part of the protection of cultural relics.

1.6 Conceptual framework

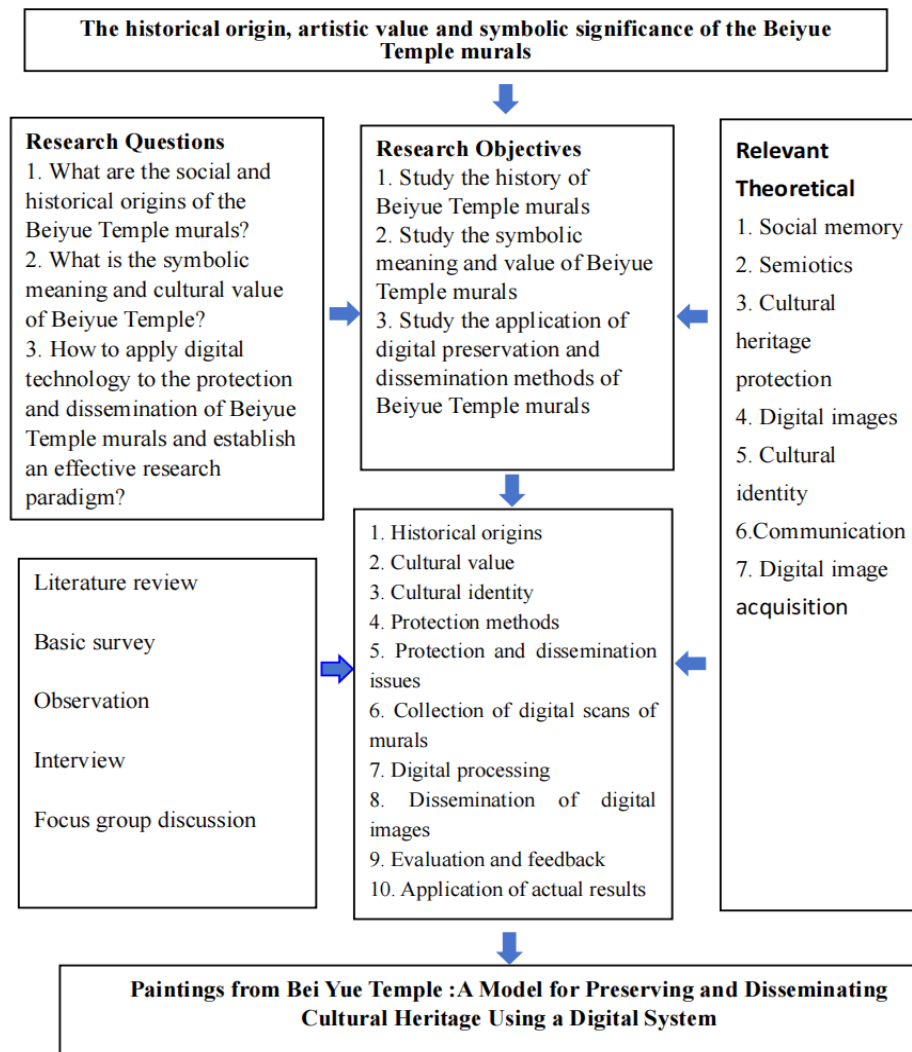


Figure 1 Importance of Research

Source: ZhiYong Li (2024)



CHAPTER II

LITERATURE REVIEWS

This chapter provides a comprehensive overview of the existing knowledge about the murals at Beiyue Temple, beginning with a discussion of the origins and historical development of the art of mural painting and a detailed examination of the temple itself. In addition to reviewing the literature on the conservation of mural paintings, the chapter also provides an in-depth look at existing research on related conservation techniques and their development over time. Key conceptual theories that inform this study include communication theory, social memory theory, re-creation theory and cultural identity theory. These theories provide a framework for understanding the process of cultural heritage preservation and re-creation.

2.1 Knowledge about cultural heritage

2.1.1 Meaning of cultural heritage

2.1.2 The importance of cultural heritage

2.2 Knowledge about mural painting

2.2.1 History of the murals History of Chinese murals

2.2.1 Chinese murals

2.2.2 The importance of murals

2.3 Knowledge about conservation and the dissemination of culture through digital systems

2.3.1 The meaning of conservation

2.3.2 Guidelines for conservation

2.4 Context of the research area

2.4.1 General conditions

2.4.2 Ethnic groups

2.4.3 Religion, beliefs, rituals

2.5 Related theoretical concepts Related theories

- 2.5.1 Cultural Diffusion Theory
- 2.5.2 Semiotics theory
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- 2.6.1 Domestic research
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2.1 Knowledge about cultural heritage

2.1.1 Meaning of cultural heritage

Cultural heritage is a relatively large concept, which is the material and intangible manifestations of human cultural creation, including buildings, sites, artworks, traditional knowledge, language, customs, etc. Witness history and carry the cultural memory and value inheritance of human society. Culture and cultural heritage are closely related. They are intertwined and influence each other, and together they constitute an important part of human history and society.

Cultural heritage is the wealth left by history to mankind. According to its existence form, it can be divided into tangible cultural heritage (tangible Cultural Heritage) and intangible cultural heritage (Intangible Cultural Heritage). Material cultural heritage is cultural relics with historical, artistic, and scientific value; intangible cultural heritage refers to various traditional cultures that exist in intangible forms, are closely related to people's lives, and are passed down from generation to generation. Cultural heritage includes immovable cultural relics such as monuments, tombs, buildings, cave temples, stone carvings, murals, important modern historical sites, representative buildings, as well as important physical objects, artworks, documents, manuscripts, books and materials, etc.

The basic concept of cultural heritage is to express and inherit things, including cultural traditions and ideologies, whose status is continuous. The 1972 Convention for the Protection of World Heritage classified cultural heritage into three categories: "monuments, architectural complexes, and places." The convention mainly stipulates the definitions of cultural heritage and natural heritage, as well as provisions on national and international protection measures for cultural and natural heritage. The convention stipulates that each contracting party may determine its own cultural and natural heritage within its territory and submit its heritage list to the World Heritage Committee for review and approval by the World Heritage Conference. Any place listed as a World Cultural and Natural Heritage Site shall be strictly protected by its host country in accordance with the law. The definitions are: "Buildings, carvings and paintings with outstanding universal value from a historical, artistic or scientific perspective, objects and structures with archaeological properties, inscriptions, cave dwellings, and composite objects with similar characteristics"; From a historical, artistic, or scientific perspective, a single or continuous group of buildings with significant universal value in terms of architectural style, homogeneity, or integration with the environment; From a historical, aesthetic, ethnographic, or anthropological perspective, human engineering or natural human joint engineering with significant universal value, as well as archaeological sites and other places.

The United Nations established the Cultural Heritage Association in 1978, and since then, the protection of cultural heritage has gradually become familiar and valued by people. The research and achievements related to the protection of cultural heritage are also increasing. The protection of cultural heritage in foreign countries can be mainly divided into four parts: in the early 14th century, the protection of cultural heritage belonged to the basic stage, and the objects of protection were mainly historical sites and relics. The way of protection was to restore the original appearance of the relics; From the 12th to the 17th century, people had a clearer awareness of the concept of protection; From the 18th to the 20th century, people no

longer used their fixed thinking to protect sites and relics, but began to protect their ideology; From the 20th century to the 21st century, the protection of cultural heritage gradually matured, and various countries have specific concepts and measures for the protection of cultural heritage. The protection objects have also expanded from architectural heritage sites, relics, etc. to the protection of the surrounding environment. The protection of cultural heritage in China began with the accession to the Convention for the Protection of the World and Natural Heritage in 1985.

Cultural heritage includes both material and intangible cultural heritage. It is a wealth of cultural value created by human beings in social and historical practice, carrying thousands of years of living civilization history. It is the crystallization of human wisdom and the common cultural memory and cultural gene of all humanity. Its content is rich and colorful, which not only reflects the characteristics and creativity of our own culture, but also enriches the diversity of world cultures, and has outstanding universal value. Through the study of cultural heritage, we can have a clearer and more vivid understanding of the living conditions at various stages of human civilization. The protection of intangible cultural heritage is essentially a cultural choice to protect diversity. The protection of cultural heritage also has important practical significance. In today's international community, cultural competition is becoming increasingly fierce, and many countries are striving to take measures in the process of modernization to protect and inherit their traditional culture. As an important component of traditional culture, intangible cultural heritage is also the key to protecting and continuing the excellent culture of our nation. Due to the fact that cultural heritage is a non renewable and scarce resource, the importance of its protection has become a consensus in most countries around the world. Doing a good job in the protection of intangible cultural heritage is of great significance for inheriting and promoting excellent traditional culture, cultivating patriotism, and enhancing national confidence.

Cultural heritage is the crystallization of human wisdom, records historical and cultural changes, and represents the identity of the country and nation. Protecting and inheriting cultural heritage helps maintain the diversity and balance of world civilizations, enhances national cultural soft power, and promotes sustainable development. The protection and inheritance of cultural heritage involves many fields such as history, culture, art, science and technology, and requires the joint participation and efforts of the whole society. Protecting and inheriting cultural heritage is not only the inheritance and protection of history, but also a commitment and responsibility for the future. Only by doing a good job in the protection and inheritance of cultural heritage can we protect our history, inherit local culture, and leave rich cultural heritage resources for future generations. The protection and inheritance of cultural heritage can also help promote sustainable development. Cultural heritage is an organic combination of ecological environment and cultural environment, and plays a positive role in ecological protection, tourism development, social harmony and other aspects. Protecting and inheriting cultural heritage can promote the coordinated development of economy, society and environment, drive cultural tourism and creative industries, and provide useful experience and resources for sustainable development. The protection and inheritance of cultural heritage is a long-term process that requires continuous investment and attention. Cultural heritage is the cultural value wealth created by human beings in social and historical practice, carrying thousands of years of human civilization history. It is the crystallization of human wisdom and the common cultural memory and genes of all mankind. (Zhong, 2022)

The Beiyue Temple architecture and murals proposed in this article are very important material cultural heritage, and their rich and colorful contents have high artistic value and cultural research value. It not only reflects the characteristics and creativity of its own culture, but also has extremely high research value. Since cultural heritage is a non-renewable and scarce resource, the importance of its protection has

become a consensus among most countries in the world. Doing a good job in protecting cultural heritage is of great significance for inheriting and carrying forward excellent traditional culture, cultivating national spirit, and passing on national culture.

There are still many fundamental issues in the current practice of cultural heritage protection. Among them, the protection measures and methods appear scattered, fragmented, and unsystematic, lacking the construction and top-level design of the overall protection framework, which is an important and urgent problem to be solved; If not resolved properly, it will not be possible to provide strong support for the planning and specific implementation of intangible cultural heritage protection work, nor can good and successful experiences be replicated, promoted, and disseminated. Regarding how to enhance our understanding of the importance of protecting material cultural heritage, while leveraging regional characteristics and advantages, scientifically protecting our own cultural heritage, and further improving the mechanism for protecting intangible cultural heritage, so that it can achieve creative transformation and innovative development in the new era, and be passed down from generation to generation in the long river of human culture. This is the responsibility entrusted to us by history, It is also an important issue that cultural researchers in the new era need to seriously consider. (Wu, F. S., & Wang, 2013)

The Convention for the Protection of the World Cultural and Natural Heritage requires cultural heritage to continue to be a part of daily social life; In the Recommendations on the Protection and Contemporary Role of Historical Areas, it is believed that member states must jointly protect cultural heritage; The Nara Authenticity Document defines and clearly emphasizes "authenticity" and emphasizes its importance in all aspects of social culture and social values, respecting other cultures and their tangible and intangible expressions. There is no fixed standard for judging the value and authenticity of cultural heritage. On the contrary, it must be evaluated within the cultural context to which it belongs. The Xi'an Declaration

adopted in 2005 supplemented the concept of intangible cultural heritage and China's valuable experience in the field of cultural relic protection.

Table 1 On the date of the establishment of the Cultural Heritage Convention

No.	File name	Time
1	Convention Concerning the Protection of the World Cultural and Natural Heritage	October 1972
2	Nara Authenticity Document	November 1994
3	UNESCO Universal Declaration on Cultural Diversity	November 2001
5	Xi'an Declaration	October 2005

The 2001 UNESCO Universal Declaration on Cultural Diversity proposed that culture has various forms of expression in different eras and places. The specific manifestation of this diversity is the uniqueness and diversity of the characteristics of the various groups and societies that make up humanity. Cultural diversity is a source of communication, innovation, and creativity, just as biodiversity is essential for maintaining biological balance for humanity. In this sense, cultural diversity is the common heritage of humanity and should be recognized and affirmed from the perspective of the interests of contemporary and future generations.

2.2 Knowledge about mural painting

2.2.1 History of the murals History of Chinese murals

2.2.1.1 History of the murals

Murals are one of the oldest forms of painting, painted directly on the walls of grottoes and buildings, and have the function of decorating and beautifying buildings. Mural, as the name suggests, is a combination of "wall" and "painting", that is, painting on the wall with painting or crafts. Mural is defined as a decorative painting on a wall. This includes the use of forms and techniques such as painting and

sculpture to create paintings on natural and artificial walls, primarily interior and exterior surfaces of buildings. As an auxiliary part of architecture, murals realize the harmonious unity of the practicality of architecture and the appeal of painting through the mutual adaptation of architecture and painting. Encyclopedia.O.C(2004) they not only have ideological functions, but also have decorative and beautifying functions, which are an important aspect of the environmental awareness of architecture. "

Mural is a combination of "wall" and "painting". It is a painting made on the wall by painting or hand. Murals are an artistic style closely integrated with architecture and have historical, scientific, artistic and national aesthetic values. The Convention for the Protection of the World Cultural and Natural Heritage stipulates that buildings, sculptures and paintings, archaeological elements or structures, inscriptions, caves and conglomerates of outstanding universal value from a historical, artistic or scientific point of view; A single or conjoined building group with outstanding universal value in terms of architectural style, uniform distribution or integration with the environmental landscape; From the perspective of history, aesthetics, ethnology or anthropology, murals belong to ergonomic or natural human body combinations Very typical cultural heritage in fields of outstanding universal value such as engineering and archaeological sites. Murals usually refer to frescoes on mud walls, and later expanded to paintings on internal and external walls of buildings, indoor ceilings, window edges, etc. China has five thousand years of civilization and decorative architectural features, and has left a wealth of murals in its long history. Murals are highly representative of traditional Chinese art and are important cultural relics and materials for us to study history and explore ancient culture. Mural is one of the earliest mature forms of human art because it can be easily processed and painted on walls without the need for other materials. Murals play a certain role in the inheritance and dissemination of culture, art, religion and other aspects. (Chen, 2018)

The way humans early understood and expressed the world is similar to the intellectual situation of human childhood. Observing and representing the sun is

accomplished through circles and radioactive light, without paying attention to details or colorful changes, but focusing on the essential characteristics of the structure. The so-called formalization also refers to grasping the basic characteristics of a certain type of object, combining with the painter's own aesthetic pursuit and using standardized expression techniques to summarize, exaggerate, and strengthen, creating a representative artistic image with a strong sense of form, and this image can form a trend of popularity. The figures and animals in the painting have been highly refined and processed using silhouette and flat techniques, with characteristics of symbolization, decoration, and semi abstraction. Rock painting, with its simple modeling vocabulary, simple image consciousness, and clear abstract beauty, laid the foundation for the embryonic form of Chinese painting, especially mural painting, and began the prelude to formalization. (Chu, 2003)

Mural painting is one of the oldest forms of painting, as in primitive societies, humans depicted various shapes on cave walls to record events and expressions, which is the earliest form of mural painting that has been passed down. Egypt, India, Babylon, China and other ancient civilizations have preserved many ancient murals. During the Italian Renaissance, mural art flourished and produced many famous works. Since the Zhou Dynasty in China, palaces and even tombs throughout history have been decorated with murals; With the prosperity of religious belief, murals are widely used in temples and grottoes (such as the Mogao Grottoes of Dun huang, Rui cheng Yong le Palace, etc.). China preserves a large number of famous Buddhist and Taoist mural relics. Some of these relics have been included in the list of world cultural heritage sites, serving as witnesses to our ancient civilization.

The mural is primarily addressed to a much wider social public and bears a strong imprint of religious and social perception. It is open to all who walk in front of the wall, so there is no possibility of mutual selection between it and the reader. The social and cultural propaganda that feature the subject with the architectural function. Whether it is the frescoes of Pompeii in Italy or the frescoes of temples and burial

chambers in ancient Egypt as well as the frescoes of ancient China, they all have the function of propagating the idea of the subject for social cognition and cultural propaganda. Since the frescoes are associated with the building, it is the selection of the intention to accept the constraints of such factors. Specific buildings, specific rooms, according to the use of buildings and rooms to appropriate clever, innovative choice of materials, ideas, ideas, maximum space to play the artist's ability to place. Fresco performance of fairy tales, myths and legends of such subjects in the mural fresco material range is very wide. Chinese and foreign ancient and modern fresco works depicting the gods and goddesses, ladies, heroes, nobles, people scenes, etc., depicting the world, mountains and rivers, pavilions and pavilions, depicting flowers, plants, trees, birds and beasts, or depicting the length of the straight and curved lines, red, green, black and white colour of all the indications of the mural history of the human civilization of the common types of paintings. Regardless of the East and West fresco representation of figurative image, abstract image, what material can appear in the fresco, there is a rule to follow. Frescoes sometimes express some kind of philosophical thought, political thought, religious thought, sometimes venting joy, anger, sadness and happiness and other tendencies of different degrees of emotion, and sometimes only show the picture itself a certain form of beauty, frescoes can be expressed in a variety of types of content of the theme. Fresco's choice of material intention has no fixed range. Other paintings depicted by a variety of images, frescoes can be depicted; non-frescoes show a variety of emotional ideas, frescoes can also be expressed. (Chen,Z.W.,& Fan, 2016)

2.2.1.2 Chinese murals

The ancient Chinese mural art has a long cultural history and is an important component of traditional Chinese painting art. From the records of ancient classics, it can be seen that ancient Chinese murals have a long history, and there are murals with their own regional characteristics in the north and south regions. From the perspective of the development law of historical sites, the value of murals has exceeded its value

as an art form itself, and has certain research significance. As China's history entered the stage of civilization, mural art further developed, and prehistoric rock paintings and primitive murals were replaced by more mature murals. At this time, there were new developments in painting methods, techniques, carriers of painting, mural themes and content, as well as in the scale of painting. With the continuous progress of society, murals, due to their own characteristics and high aesthetic taste and artistic expression, have become more valued as a medium of communication. The art of murals has been supported by rulers, and its artistic forms have also been constantly innovated. Various forms of communication have emerged, such as palace murals, curtain room murals, temple murals, and cave murals. Programmatic language has gradually formed, improved, and developed.

The origin of Chinese murals can be traced back to the era of the emperor. People used it to record daily life, express their inner desires, and for the needs of social witchcraft activities, painted images with exorcism functions on the doors of buildings. Due to the disappearance of ground buildings in the pre Qin period, only rock paintings depicting steep cliffs and narrow mountain paths around can be seen for a glimpse. Rock paintings are the oldest form of mural that can be seen so far, known as "historical books carved on stones". Their themes are rich and colorful, recording human survival activities and folk culture in primitive society, including ethnic migration, economic prosperity and decline, ancestor worship, and so on Sacrificial rituals, philosophical ideas, religious beliefs, etc. China is one of the earliest countries in the world to discover and enrich rock paintings. At present, dozens of locations of primitive rock murals have been discovered, mainly distributed in remote areas such as the northeast, northwest, and southwest, some of which can be regarded as monumental works. The rock paintings of Yin shan, located in the central and western parts of Inner Mongolia Autonomous Region, connect the entire mountain body of Yinshan into a 300 kilometer east-west gallery. The content includes scenes of hunting, grazing, dance, war, mating, and other aspects, which can

be regarded as the painting history of northern nomadic ethnic groups. (A. N. Liu, 2009)

Chinese murals can be divided into cave murals, tomb murals, temple murals and palace murals. These murals are historical windows that reflect the social, spiritual, cultural, and political civilization of China's historical period. Traditional Chinese temple mural art integrates different art forms such as landscapes, figures, flowers and birds, and integrates history, culture, and humanistic concepts, and has extremely high artistic value. (Ma, L., & Yan, 2017). Currently, there is a lack of in-depth research on how traditional painters complete the painting of indoor murals, how their teams are formed, and how the complete paintings of traditional religious murals are protected. (Guo, 1997)

China's mural art, with a long history, has a unique style, and the subject matter of murals is also very rich, of which murals reflecting religious content account for a large proportion. Taoism has begun to use mural images to depict the gods and goddesses worship in the early days of Taoism, and pay attention to the use of murals as a form of art to promote their own ideas. 'Five mountains as a unique historical and cultural phenomenon in ancient Chinese society has always played an important role. And as one of its important forms of expression of Taoism Wuyue murals, also become a carrier to reflect the social and cultural dynamics of each period' Beiyue Heng shan and Qu yang's Beiyue Temple, a long history and outstanding cultural characteristics. Beiyue temple de Ning of the temple is China's ancient architecture, culture, art in one of the treasury, but also at the time of social politics, economy, aesthetics, etc. Specific reflection of the mural in the hall has a very high historical and artistic value. Liang Sicheng in the 'history of Chinese architecture' book that the hall mural 'seems to be the handwriting of the yuan'. Most experts also believe that this mural is 'Wu School of painting style', but did not explicitly say that the Tang Wu Daozi painting. Hebei Province Institute of Ancient Architecture compiled by the 'Qu yang Beiyue Temple planning instructions' in the mural description is only to stress

that the mural is quite Wu Daozi style of painting: De Ning of the Hall of the four walls of the outer wall and the rear fan wall are painted on the Yuan dynasty large beautiful murals, a total area of about 480 square meters. Mural content for Taoist themes, the use of leaching powder paste gold technology, the picture layout is balanced, the composition is exquisite, majestic, exquisite painting skills, the character lines are smooth and natural, there is a feeling of floating, quite Wu Daozi painting style, is the ancient history of painting art treasures. (Meng, N., & Zhao, 2018)

Temple murals: The themes are divided into two categories: religious themes and non religious themes. Common religious themes include Buddhist story paintings, portraits of various Buddhas, Buddhist scriptures, biographies of eminent monks, religious architecture, and religious activities. Common nonreligious mural themes include historical stories, portraits of characters, and secular images Decorative patterns, etc The composition methods of temple murals include central composition, circular composition, and divided format composition. Central composition is the most common composition method, mainly used for the creation of character works. The characteristic is to place important figures in the center of the picture, and unfold the story plot along the top, bottom, left, and right sides of the characters. The main body and background are distinguished by their size and light color, making the picture clear in hierarchy and balanced in composition . Loop composition is the main way to depict historical story lines and scenes. It arranges the various story scenes in a comic style structure in a certain order, and finally adds text explanations to the pictures, making the historical stories displayed in the mural not only clear in plot but also coherent and orderly. The format based composition method is mainly used to draw Buddhist stories and Buddha murals, which involves arranging different Buddha statues and each plot of Buddhist stories in various shaped grids, and then filling in the text instructions of each grid in the corresponding grid under the mural, forming a scattered mural form. The colors of temple murals are mainly red, yellow, blue, green,

and white, and the color combination is based on religious emotions and artistic effects, thus expressing different mural themes. Famous murals include Fo guang Temple, Kai hua Temple, and Yong le Palace on Fo guang Mountain in Wu tai County, Shanxi Province. (T. Gao, 2011)

Hall mural: It is a type of traditional Chinese architectural mural. Painted on the walls of palaces and halls for decorative purposes. The themes of palace murals are mostly depicting historical events, classic stories in literature, or the deeds of national heroes. These paintings can promote orthodox culture and historical traditions, while conveying a sense of authority and indoctrination.

Chinese palace murals usually feature rich colors to enhance the diversity and artistry of the images. Gold foil is also commonly used for decoration, giving murals a luxurious glass feel. The use of color and gold foil helps to highlight the supreme nobility and sanctity of the image. Many hall themes adopt lofty and hierarchical structural diagrams to create a sense of solemn and harmonious beauty. This structure helps to create a sacred color, highlighting the solemnity and majesty of the building. The palace mural employs various artistic techniques, including painting, carving, and gilding. These techniques may vary in different periods and regions, but they all add unique artistic charm to murals.

Grotto murals: Ancient people created artworks on the surface of rocks, usually located inside grottoes, caves, or rock walls. This art form has been found in different cultures around the world, and its history can be traced back to prehistoric times. Grotto murals are usually presented through painting, carving, or other decorative techniques, covering various aspects such as religion, mythology, history, and daily life. Many cave murals are religious in nature, especially in Buddhism and Hinduism where murals are more common. These murals typically depict religious elements such as the lives of deities, Buddhas, and religious stories, aiming to convey faith and spiritual information. The cave murals from different regions and periods have adopted various painting techniques and styles. Some use a combination of

murals, carving, and relief techniques to showcase the creativity of artists in terms of materials and techniques. (Zhu, 2002)

Tomb chamber mural: It is an art piece painted in ancient tomb chambers with the aim of decorating and commemorating the deceased. This art form has some unique characteristics to reflect the religious beliefs, cultural concepts, and lifestyle of ancient society at that time. Murals often involve religious and mythological themes to express faith in the afterlife and blessings for the souls of the deceased. They may depict religious elements such as gods, heaven, and hell, or present mythological stories related to life after death. Reproducing the life scenes of the deceased, some tomb murals depict the daily life scenes of the deceased during their lifetime, including work, entertainment, family life, etc. This approach aims to create an atmosphere for the deceased, allowing them to continue experiencing familiar environments in the afterlife. Tomb murals are usually decorative, using rich colors and patterns to attract viewers. Some tomb murals not only appear inside the tomb chamber, but may also extend to the outer wall or entrance of the tomb chamber. This holistic design makes the entire cemetery an artistic space, showcasing the importance of burial rituals. Tomb murals convey the commemoration of the deceased and the belief in the afterlife through artistic forms, while also reflecting the religion, culture, and concept of life of the society at that time.

Chinese ancient murals have gone through thousands of years, and their preservation can be traced back to the Wei, Jin, Southern and Northern Dynasties period (220-589 AD). During this period, Buddhism was introduced to China, and Buddhist themes became the main form of mural expression. The Buddhist cave murals in Mo gao Grottoes (Dun huang) and Yun gang Grottoes (Datong) reached their peak during this period. Sui and Tang dynasties (581-907): During the Sui and Tang dynasties, Buddhist murals continued to flourish, not only continuing the creation of cave murals, but also showcasing more advanced techniques in some palace and temple murals. Famous works include the Mo gao Grottoes of Dun huang

and Yun gang Grottoes. During the Song, Yuan, and Ming dynasties (960-1644), murals gradually shifted towards the interior decoration of temples, palaces, and residential buildings. Traditional themes such as landscapes, flowers and birds have gradually become the mainstream of painting. In addition, blue blue and white porcelain murals also had high artistic value during the Ming and Qing dynasties.

The theme murals studied in this article are concentrated in the Yuan Dynasty period, and there are many high-quality preserved murals from the Yuan Dynasty. During the Yuan Dynasty, the royal palaces and aristocratic mansions were decorated with murals. According to literature records, the Jia xi Palace was built in the Yuan Dynasty palace, and some famous painters such as Shang Qi and Tang Di were summoned to paint the walls of the palace. Taoist painter Zhang Yanfu was ordered to paint the walls of the Qintian Hall. Some nobles and high-ranking officials, in order to be elegant, also invite famous painters to paint murals with themes such as mountains, rivers, bamboo, stones, flowers and birds in the halls of the mansion. But with the destruction of buildings, these types of murals no longer exist, but they are reflected in the poetry collections of Yuan Jue, Fan Yan, Zhao Meng fu, and others. The prevalence of murals in the Yuan Dynasty provided a vast space for a large number of folk painters to showcase their intelligence and talents, thus enabling the inheritance and development of the excellent mural traditions of Wu Daozi, Wu Zongyuan, and others since the Tang and Song dynasties, and occupying an undeniable position in Chinese painting.

In order to use religion to maintain its rule, the Yuan Dynasty adopted a policy of protecting religion, which made Buddhism and Taoism quite popular. In order to encourage the development of religion, the Yuan government also ordered the construction of Buddhist temples and Taoist temples throughout the country. The murals of Buddhist temples and Taoist temples also emerged, and many folk masters were invited to paint. The Buddhist Tantric murals in Cave 3 and Cave 465 of the Mo gao Grottoes of Dun huang in Gansu Province, the Buddhist murals in Xing hua

Temple and Qing long Temple in Ji shan County, Shanxi Province, and the Taoist murals in Yongle Palace in Rui cheng County, Shanxi Province and Shui shen Temple in Guang sheng Temple in Hong dong County are all representative murals of the Yuan Dynasty. Especially the Yong le Palace murals, with a grand scale, depicting numerous characters and rich content, are the best surviving works of ancient Taoist murals. The theatrical character images and scenes depicting the life of the Ming Ying King's court in the water god temple murals of Guang sheng Temple have vigorous lines, rich colors, realistic and vivid character images, and a strong sense of life. They can also be regarded as treasures in the Yuan Dynasty murals.

2.2.2 The importance of murals

Murals are of great significance in the field of art history and culture, and are a form of expression of cultural inheritance and historical records. The murals mentioned in this article carry rich historical and cultural information, play the role of historical records, are a vivid way to record history, and reflect the social, political, economic, religious and other aspects of the time. By studying the murals, valuable historical documents are provided for future generations. Mural has artistic expression and aesthetic experience. It is a unique form of artistic expression that conveys the artist's thoughts and emotions through elements such as color, line, and shape. Viewing murals can provide aesthetic enjoyment and stimulate people's interest in art. In many cultures, murals play a role in spreading religious stories and myths. This plays an important role in promoting religious beliefs, spreading myths and stories, and deepening people's understanding of faith. Murals often reflect the values, morals and political conditions of society at that time. By observing murals, people can understand the changes and development of society in different periods.

Murals play an important role in cultural inheritance. They are living witnesses of past civilizations and cultures. They are also a medium for inheriting culture and spreading values. The following is the key role of murals in historical records and cultural inheritance: murals carry rich cultural information, including religion,

traditional customs, artistic expressions, etc. By observing murals, future generations can understand and inherit the cultural heritage of their ancestors and preserve generations. cultural characteristics passed down from generation to generation. Many murals depict religious stories and myths and legends, which are important expressions of religious belief. This plays a vital role in the inheritance of religious culture and provides a way for future generations to understand religious history and belief systems. Murals can record the changes and evolution of society. By observing murals from different periods, people can understand changes in social structure, class differences, technological development, etc., providing important clues for studying social history. Images, symbols and patterns in murals are non-verbal means of conveying messages between different cultures through these symbols. The inheritance of this visual language helps maintain cultural continuity. Mural painting is an art form, and the inheritance of its artistic style and techniques helps the learning and development of future generations of artists. Some art schools and styles can be continued and evolved through murals.

The subject murals studied in this article focus on the Yuan Dynasty period, and the high-quality Yuan Dynasty murals have been preserved. The murals in Beiyue Temple depict scenes of gods from the Five Mountains traveling to pray for rain. The characters and scenes have strong lines and rich colors. The characters are realistic and vivid, and have a strong flavor of life. It is a treasure among the murals of the Yuan Dynasty. It occupies an important position in Chinese painting.

Murals play an important role in cultural inheritance and are living witnesses of past civilizations and cultures. Mural has artistic expression and aesthetic experience. It is a unique form of artistic expression that conveys the artist's thoughts and emotions through elements such as color, line, and shape. Viewing murals can provide aesthetic enjoyment and stimulate people's interest in art. This plays an important role in promoting religious beliefs, spreading myths and stories, and deepening people's understanding of faith. Murals often reflect the values, morals and political conditions

of society at that time, and are also a medium for inheriting culture and transmitting values. The images, symbols and patterns in murals are non-verbal means of transmitting information between different cultures through these symbols. The inheritance of their artistic styles and techniques will help the learning and development of future generations of artists.

The current form, China's ancient murals in the preservation, still facing huge problems, increase the protection of ancient murals, so that the Chinese culture and art to pass on more long-lasting, has become the primary task at the moment. Ancient frescoes are painted on the walls of buildings or buildings on the ceiling used for decorative drawings, it is the oldest form of painting in the history of our country, because of its specificity, so the ancient frescoes can not be moved, then, in the protection of its protection, we must adhere to the specific circumstances of each place, the development of appropriate methods of the principle of if there is a more special circumstances, you can also use the technology of uncovering. Ancient frescoes fully embodies the ancient designers of the artistic connotation and the culture at that time, in the approval of heritage conservation organize and the relevant demonstration, to determine the implementation of the frescoes will not be uncovered will be subjected to serious damage, the relevant departments are able to use the uncovering technology on the frescoes to uncover the separation. The traditional fresco uncovering method step is to clean up the fresco picture, picture reinforcement, fresco sealing and baking, from the front shovel fresco, and fresco packaging. Uncovering technology has achieved the measures of local protection, however, in the process of uncovering, there is also damage to the mural paintings. Contemporary ancient mural paintings in the geographical environment is relatively poor, remote location, so that the mural paintings suffered different degrees of damage, should also be timely use of uncovering technology to protect the mural paintings.

The paper pointed out that, in addition to local protection, the relevant departments must also prevent the occurrence of disease-causing factors, from the

source to avoid the destructive infringement of disease on ancient mural paintings. Elimination of disease is the most effective measure in the protection of ancient mural paintings. Ancient mural paintings are mainly divided into two kinds of disease, namely, active disease and inactive disease. Active disease is the continuous development of disease, the value of ancient murals caused serious damage; and inactive disease is some disease in the past, but, the current situation is into a dormant state, or because some of the cause of the disease has been removed, do not carry out activities. The mural painting protection process to eliminate the disease, professionals should identify the specific causes, to do the right medicine, the active disease into inactive disease, and then combined with the actual situation, the development of targeted treatment measures. If it is found that the mural lesions are inactive, real-time monitoring can be carried out, without doing any treatment measures first. But if it is active, it should be the first time to identify the cause of the problem, as soon as possible to take effective will not be able to avoid interfering with its authenticity. The use of restoration measures should also be minimal intervention, try not to use improper treatment measures, to shorten the scope of intervention to a minimum, to maximize the guarantee of the originality of ancient murals. Protection measures. In addition, it should also adhere to the principle of minimal intervention in the protection of murals, so as to achieve harmony and compatibility, and when carrying out the treatment (X. B. Su, 2021)

2.3 Knowledge about conservation and the dissemination of culture through digital systems

2.3.1 The meaning of conservation

Beiyue Temple mural after thousands of years of history has a very high artistic and cultural value, is China's study of the Yue Temple ritual culture of important objects, but the mural damage is serious, difficult to repair, by the natural environment and human factors have a greater impact. Improve the technical means of fresco

protection has also developed with the progress of the times. The traditional protection of murals is mainly 'physical protection', the protection method is more cumbersome and complex, heritage protection to the implementation of the actual restoration work takes a long time, mainly including line drawing, disease analysis, restoration programme depiction, disease marking, expert assessment programme feasibility, etc., increasing the workload of mural restoration, is not conducive to the improvement of the efficiency of the repair work of the murals. Restoration work efficiency. With the progress of science and technology, the use of digital conservation technology to restore ancient murals has made progress, which has laid a solid foundation for the development of digital conservation of murals.

The traditional protection method of murals is mainly "physical protection". This protection method is cumbersome and complicated. It takes a long time to implement the protection of cultural relics into the actual restoration work, which mainly includes line drawing, disease analysis, restoration plan description, disease labeling, and expert evaluation. The feasibility of the plan, etc., increases the workload of mural restoration and is not conducive to improving the efficiency of mural restoration work. With the advancement of science and technology, the use of digital protection technology to restore ancient murals has made progress, which has laid a solid foundation for the development of digital protection of murals. (Wu, F. S., & Wang, 2019)

Mr. Fan Jinshi first proposed the concept of "digital mural" mural preservation in the 1980s, aiming to use digital technology to digitize mural archives, "permanently preserve and sustainably utilize them, and enable humanity to share precious cultural heritage." (Wu, F. S., & Wang, 2013) the digitization of murals has important significance and value in the restoration of cultural relics. In the restoration work of cultural relics and murals, digital collection and digital technology are used for restoration. Digitization can achieve image acquisition and processing, accurately

collect and analyze colors and pigment components, and serve as a reference in the virtual restoration process. Based on data analysis, restoration is attempted.

Digital acquisition technology refers to the use of digital cameras, cameras, scanners and other acquisition devices to achieve digital recording and storage of the collected objects. Digital collection of murals refers to the digital processing of murals, the collection and analysis of information such as images, colors, and textures, and the restoration and restoration of murals through digital technology. Digital technology provides a new means for the protection and inheritance of Beiyue Temple murals. For example, through digital storage, the original appearance of the Beiyue Temple murals can be preserved in digital media for easy research and protection; The study of digitization of Beiyue Temple murals and the establishment of a digital database of murals can provide a reference model for the protection of ancient murals. Through digital restoration, the original appearance of murals can be restored; Through digital protection, murals can be digitally permanently saved and backed up to avoid loss and damage. These mural data not only provide digital information support for the dissemination of Beiyue Temple murals, but also perfectly demonstrate the artistic value of Beiyue Temple murals, providing a more convenient and intuitive way for people to appreciate and learn murals, and also providing more favorable conditions for the dissemination and promotion of murals.

2.3.2 Guidelines for conservation

For more than a thousand years, with the passage of time, the murals in Beiyue Temple have suffered from weathering and erosion in extreme environments. The murals have deteriorated day by day due to discoloration, mold, cracking, alkalization, holes, peeling, powdering and other diseases. Although various physical protection methods and advanced technologies have been used for reinforcement and repair since the 1980s, it is still unable to resist its gradual deterioration. Cultural heritage is non-renewable and cannot last forever. The protection and preservation of murals is very necessary. (Meng, N., & Zhao, 2018)

This article first studies the history, painting content, artistic style, painting techniques, and painting materials of the Beiyue Temple murals. Explore the historical and cultural development process of Beiyue Temple, and explore the deep intrinsic value of murals. Secondly, research on digital collection and storage methods for murals, providing technical support for the preservation of the original appearance of Beiyue Temple murals; Digitized permanent preservation and backup of murals, providing reference value for repairing damaged murals. Traditional mural restoration and protection work carries risks, but the introduction of digital technology has ushered in a new development direction for mural protection. (L. Wang, 2023) can ensure that the collected data reaches a relatively high level in both dynamic range and color tolerance through high-precision data collection technology. Using 3D scanning technology to collect geographic information data from temple murals in Yangqu County in all directions and large spaces, in order to restore the appearance of temple murals, accurately record the details and existing colors of murals, and ensure that the details of each temple and mural can be accurately collected and saved.

The specific method is to use digital cameras, cameras, scanners and other collection devices to achieve digital recording of the collected objects, including scanning text, digital surveying, image and text scanning, stereo scanning, etc. There are three ways to collect digital images of the murals in Beiyue Temple: first, use a digital camera to take photos of the murals and collect information about the murals and the scenic area; The second is to use a camera to take photos of the murals and collect video information within the scenic area; The third is to use 3D laser scanning technology to collect 3D point cloud data from murals. (Figure 3-4)The most advanced technology currently used in the digital collection process of cultural relics protection is 3D laser scanning. In response to the unevenness of the wall surface, a digital photography collection method using laser scanning equipment and wall curvature analysis has been used to achieve high fidelity collection of murals on uneven walls. This technology is based on the development of surveying and mapping

technology in the surveying and mapping industry. It is adjusted to scan the overall layout of a determined target or a partially complete 3D data based on the high-precision measurement of a single point target in traditional surveying and mapping technology. On the basis of collecting complete digital images, an intelligent image stitching system is used to achieve color consistency in various stages of image shooting, stitching processing, image display, and printing output, ensuring the accuracy of color restoration. (Figure 2)(Figure 3)



Figure 2 Handheld scanner

Source: ZhiYong Li(2023)

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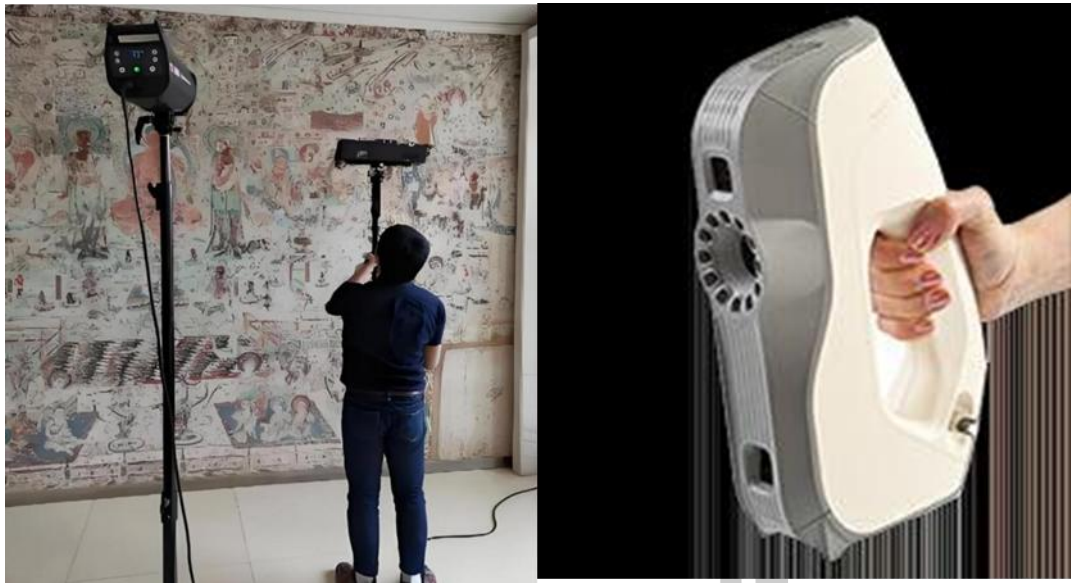


Figure 3 ground scanner

Source: ZhiYong Li (2023)

The digitization process of ancient frescoes includes four stages: image acquisition, restoration, conversion and database establishment. The use of high-precision professional digital camera on the various parts of the mural pattern of multi-angle shooting, the formation of multiple photos, and then spliced, corrected into a complete mural image, after restoration, conversion, into the database, available for experts and scholars to conduct research, but also for tourists to provide convenient viewing conditions. Mural heritage due to its own composition, natural factors and human damage and other factors, most of which contain a different number of different degrees of disease. At present, China's relevant cultural relics department is using traditional methods and modern technology to carry out effective protection and repair work, and has achieved considerable results. The author believes that the best and most important protection measures for frescoes is to increase the preventive protection efforts, its daily maintenance and testing. Fresco protection space for constant temperature and humidity treatment, to avoid the influence of the external environment, so that the frescoes in a relatively stable environment to be

properly protected. Repair and stop the damage in time when the murals appear abnormal phenomena, so that they can be preserved for a long time, and give full play to the social value of its cultural relics. (Hu, 2022)

In recent years, work practice has fully proven that digital protection and restoration work can permanently preserve information on ancient murals, and can replicate it infinitely. By using high-quality images and accurate proportional records, establishing original and complete mural data archives can achieve virtual display of ancient murals, which is a feasible way for future generations to appreciate ancient murals. Using computer and other technological means to study the digital restoration methods of ancient murals. (Wang.Z.M.&L.T.,2019) found that mural restoration requires high professional skills, making it difficult to protect murals. However, using digital technology to protect murals is more convenient and efficient, making it an advanced protection technology for mural collection and protection.

Further research on the dissemination methods and channels of murals. Including uploading the collected digital mural works to the digital platform of the online exhibition, so that more people can enjoy, comment on and share murals through the Internet. Utilize social media platforms to share photos and scenes of digital murals, expand the scope of dissemination, attract more audience participation, and enhance the influence of murals. The combination of traditional mural art and modern digital technology can better attract audiences and enhance the effectiveness of mural digital dissemination, while also providing more opportunities for cultural heritage promotion and display.

The thesis tells that mural paintings, as an important cultural heritage of China, carry the science and technology and brilliance of ancient civilisation, reflect the advanced productivity of the society at that time, and have high research value. The pigment layer is an important carrier and component of the art, value and style of mural paintings, and accurately analysing the pigment layer is an important basis for the conservation and restoration of mural paintings . In recent years, multispectral

imaging technology provides a reliable method for the identification and classification of mural paintings pigment, which adopts non-contact information acquisition, and can obtain rich spectral information at one time without destroying the cultural relics, and can effectively identify the material properties of pigment. Feature extraction is the key technology of image classification, and spectral and spatial feature extraction are two major branches of spectral image classification technology. In recent years, the analysis and research on spectral data of murals are gradually developing, Gong Mengting et al. used spectral angle filling method to identify and classify pigments in spectral images of Chinese murals. (Chen, Y. M., & Wang, 2024)

2.4 Context of the research area

2.4.1 General conditions

2.4.1.1 History of Hebei Murals

Mural painting is one of the oldest forms of painting, which is directly painted on the walls of grottoes and buildings, and has the function of decorating and beautifying buildings. Wall painting (Mura), as the name suggests, is a combination of "wall" and "painting", that is, painting on a wall using painting or craftsmanship. Murals are defined as Decorative painting on walls. This includes the use of painting, carving, and other forms and techniques to create paintings on natural and artificial walls, mainly on the inner and outer surfaces of buildings. As an auxiliary part of architecture, murals achieve a harmonious unity between the practicality of architecture and the infectious power of painting through the mutual adaptation of architecture and painting. They not only have ideological functions, but also have decorative and beautifying functions, and are the building's constituent environment. An important aspect of consciousness.

The number of existing temple murals in Hebei is obviously characterized by more in the north, less in the south, more in the western mountains and less in the eastern plains, which is completely consistent with the distribution of ancient

buildings. The primary factor for preserving murals is the existence of ancient buildings, which is closely related to the history, customs and beliefs, economic conditions and cultural details of various places. Historically, the mountainous and basin areas with closed traffic, less wars and relatively abundant food and clothing are the areas where ancient temples and murals are preserved. In these places, the frescoes in the west and north with dry and windy climate are easier to preserve than in other places.

Hebei Province is a province with more temple murals in the country, with preliminary statistics of a total of 150 mural buildings and 31 national and provincial cultural relics protection units. W.H.(2000) Ancient mural paintings include temple mural paintings and underground palace mural paintings and tomb chamber mural paintings.

The relationship between the location of the Yue Temple and the mountains is roughly as follows. The Xiyue Temple is located in the shade of Mount Hua, and the sleeve line is facing the main peak of Mount Hua. Nanyue Temple is located in the sun of the mountain. The Zhongyue and Dongyue temples are also located in the sun of the mountain, and the axis is also corresponding to the mountain peak. The Beiyue Temple in Quyang is different from other temples in that it is far away from Mount Hengshan and has no corresponding relationship. The reason is that "there was no chaos in the Han Dynasty, and the mountain path was blocked". It was worshipped in the lower temple, and later formed with the relocation of Quyang City to the current site. Its specific location is determined by a flying stone falling here. The main hall is located in the north and there is a flying stone hall. This is a special example of the Zhuyue Temple. The Beiyue Temple, which was consecrated after Mount Hengshan in Hunyuan, was built on the mountain.

The Wuyue is a unique testimony to the disappearance of the ancient Chinese state sacrificial system. The well-preserved temples of the Wuyue, a large number of imperial sacrificial inscriptions, a large number of imperial plaques and inscriptions,

as well as other material remains of national rituals and feudal rule, provide special witnesses to the study of China's national sacrificial cultural traditions and cultural exchanges with other countries around the world.

The well-preserved ground buildings of the existing five mountains are mostly buildings of the Ming and Qing dynasties, and the inscriptions are more seriously damaged, for example, Daiyue to the east of Mount Tai, whose buildings are mostly those of the Qing Dynasty, and the well-preserved ground buildings and inscriptions of the Beiyue Temple are mostly those of the Song and Yuan dynasties, especially the preservation of murals of the Temple, which is the longest preserved and the best preserved of all the five mountains, and it has a very high value for research.

2.4.1.2 Actual research on the ground

Beiyue Hengshan is one of the five Chinese mountains. Ancient Beiyue Hengshan is located in Damao Mountain at the border of Tangxian, Fuping and Laiyuan counties in Hebei. During the 1,500 years from the Han Dynasty to the beginning of the Qing Dynasty, the national rituals for Mount Hengshan were held at the Beiyue Temple in Quyang, Hebei Province, which, as a major place of worship, has preserved many cultural relics and historical materials of the past dynasties, and has had far-reaching influence on the development of local culture, customs and art. (Su, Z. Y, & Meng, 2011)

The main building of Beiyue Temple, the Dening Hall, is the largest existing wooden structure building of the Yuan Dynasty in China, and also the highest standard sacrificial building among the five mountains. According to the "Quyang County Annals" of the Qing Dynasty, the Dening Hall was first built during the Northern Wei period of the Southern and Northern Dynasties. It was burned down by the Khitans in the early Song Dynasty and rebuilt in 991 AD. The existing building was built in 1270 AD. Most of the architectural components of the Yuan Dynasty are well preserved and hold an important position in the history of Chinese architecture.

The most precious thing is that both the east and west walls and the back of the north wall inside the Dening Hall are covered with murals. At present, the academic research on the ritual system of North Vietnam includes the book "Exploring the Origins of Ancient North Vietnam", which studies the ritual system of North Vietnam throughout history.

Zhao, 2003 "A Preliminary Study on the Murals of Beiyue Temple in Quyang, Hebei" expounds the architectural style and characteristics of Beiyue Temple, and its status as a sacrificial ritual building. The existing murals inside it are taken as the research object, and the specific painting time is determined to be repainted in the early Jiajing period of the Ming Dynasty. The content, theme and main characters of the murals are also analyzed.

Li Changrui and Zhou Yuezhi's "Murals of Beiyue Temple in Quyang" reveals that Beiyue Temple is a place where emperors from the Han Dynasty to the early Qing Dynasty worshipped Beiyue Hengshan from afar, and also stated the author's views on the painting time of Beiyue Temple murals and the specific content and form of the paintings. Zhang Lifang's "Analysis of the Color Paintings of the Dening Hall of Beiyue Temple" and Nie Jinlu's "Self-discussion on the Structural Characteristics of the Dening Hall of Beiyue Temple in Quyang" believe that the Dening Hall of Beiyue Temple was first built during the reign of Emperor Xuanwu of the Northern Wei Dynasty (500-512 AD), and was rebuilt or repaired in the Tang Dynasty, Kaibao and Chunhua of the Song Dynasty. It was destroyed in the Khitan War during the Five Dynasties, rebuilt in the second year of Chunhua in the Northern Song Dynasty, and rebuilt in the seventh year of Zhiyuan in the Yuan Dynasty (1270 AD). These are typical examples of the study of Beiyue Palaces and Pavilions.

The author explored the Taoist murals of the Yuan Dynasty. The existing murals of the Yuan Dynasty are mainly concentrated in Shanxi and Hebei Provinces, mainly in temple murals, and some cave murals, mainly in Mogao Grottoes in Dunhuang. The murals of the Song and Yuan Dynasties were mainly green and blue,

unified in the green and blue tones. The clothes and hats, the gold and silver powder, are magnificent, the round halo on the head of the characters, and the long shaped awning board, forming a unified rhythm with the long draped clothes. Through the artist's use of color, the expressions of the emperors, gods, kings, strong men, golden boys and jade girls, civil officials and warriors are painted differently, vividly and vividly, forming a contrast and foil. The murals use few colors, only a dozen colors, but they are evenly distributed, still colorful and magnificent. And aesthetic value. In general, the use of colors in Taoist murals of the Song and Yuan dynasties is different and each has its own merits. Color is a very important component of painting. The extremely rich color language in traditional murals provides us with valuable artistic wealth. Only by conducting in-depth research on this and enriching our artistic language can we create works with more artistic characteristics. (T. Gao, 2011)

Beiyue temple main building de Ning of the hall, is China's existing Yuan dynasty wooden structure building in the volume of the largest building, but also the five mountains in the highest specifications of the sacrificial architecture of the building. According to the Qing "Quyang County Records" records, the Hall of De Ning was built in the Northern Wei period of the North and South Dynasties, the beginning of the Song Dynasty was burned by the Khitan, A.D. 991 was rebuilt, the existing building for the Yuan Dynasty A.D. 1270 was built. Most of the Yuan Dynasty architectural components are preserved, which has an important position in the history of China's architecture. The most precious thing is that the east and west walls and the back of the north wall in the Hall of Deining are covered with murals. At present, the scholarly research Beiyue ritual works, "ancient Beiyue explore the source of" a book on the successive generations of Beiyue ritual staged research (Figure 4).

From the ancient pre-Qin period of the worship of mountains and rivers, to the Qing dynasty Republic of China period Quyang Beiyue temple sacrifice declinerituals, and Beiyue Temple inscriptions. In addition, Gao Xiaojing "ancient Beiyue hengshan sacrificial culture analysis" on the Beiyue sacrificial research is divided into several parts: the ancient period of the origin of mountain and river sacrifices, the Han dynasty Beiyue rituals form custom and build ancestral worship, the Tang and Song dynasty sacrificial peak, the Ming dynasty sacrifices frequently, and the Qing dynasty period of the decline of the sacrifices. basically a dynasty a sacrifice, not according to the sacrificial system and changes in phased study. The book is based on the material in addition to the history books,



Figure 4 Beiyue Temple Mural Painting Site

Source: ZhiYong Li (2023)

Niu jingfei "the evolution of the five mountain sacrifices" from the overall start, based on the qin and han to the tang and song dynasty historical period, the study of the evolution of beiyue sacrifices, and the origin of the beiyue shifted

sacrifices, knowledge background and military background to do a comb for the beiyue sacrifices for the intergenerational study of the article, the main Luo ying "tang dynasty beiyue sacrifices analysis", Ma xiaolin "yuanyue zhenhaedu sacrifice kaoxue", Li Jian, "Ming and Qing Dynasty Beiyue Sacrifice and Beliefs", Sun Yu, "A Brief Discussion of the Political and Cultural Connotation of Qing Dynasty Beiyue Sacrifice as Seen in the Tablet Carvings," and so on (Figure 5). Land and water painting is the most lively painting that shows the scene of gods attending the meeting or worshipping Buddha. It is the product of the integration of Confucianism, Buddhism and Taoism. The water and land painting was originally a scroll painting hanging on the wall of the main hall of the temple, which was opened for the water and land dharma meeting of the temple and gradually developed into a mural.

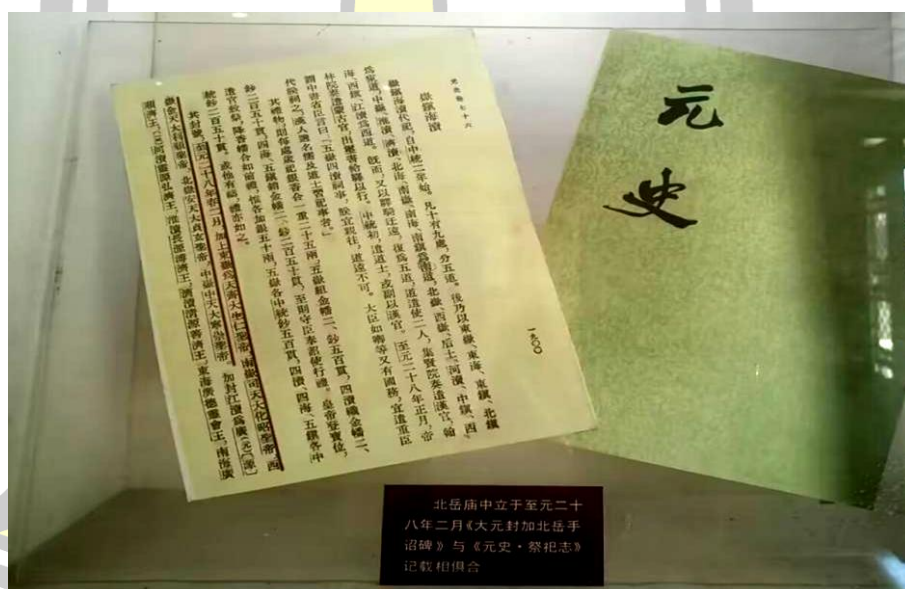


Figure 5 Historical Records of Beiyue Temple

Source: ZhiYong Li (2023)

The scene depicts the scene of gods from heaven, hell and the whole world attending the Dharma meeting to listen to the Buddha. The three existing water and land paintings are: Pilu Temple in Shijiazhuang, the Shakya Mani Hall of Zhao Hua Temple in Huai'an, and the underground storage hall of Chongtai Temple in Yuxian

County. The size and bearing of the figures painted in the last two places are far smaller than that of Pilu Temple.

Chenghuang Temple, Mount Taishan Temple, Holy Mother Temple and other Taoist temples prefer to use murals to show the city god, the Great Emperor of Dongyue or the Holy Mother when they go on patrol and return home. There are a lot of chariot guards, bodyguards and attendants. Such as Wu'an Chenghuang Temple, Quyang Sanxiao Holy Mother Temple, Beiyue Temple, Mount Taishan Temple in Yuxian Zhonglou Village, Jiming Posthouse Mount Taishan Palace, etc. The Dragon King Temple is painted with scenes of the Dragon King patrolling the rain and spreading dew on the earth, such as the Dragon King Temple in Kecun, Yuxian County, and the Dragon King Temple in Jiming Posthouse.

The mural of "Quyang Ghost" painted in the Dening Hall of Beiyue Temple in Quyang, Hebei, is the famous "Quyang Ghost". It is called a "national treasure" mural. It is said that the mural was painted by Wu Daozi. The painting style of "Quyang Ghost" is compared and contrasted with "Heavenly King Delivering a Child", Dunhuang murals, Dunhuang Sutra Cave Scrolls and other works that can reflect Wu Daozi's style of painting in terms of character modeling, brushwork and line, and spiritual temperament. The painting method of "Quyang Ghost" is derived from the heart, wonderful and transcendent, and unique in ancient Chinese paintings. Regardless of whether the mural was painted by Wu Daozi, the artistic characteristics of the image of "Quyang Ghost" are closest to the description of Wu Daozi's painting style in painting history and painting theory. Its image creation is indeed an exquisite artistic masterpiece that seizes the power of nature. Scholars from all sides have studied it. In terms of its painting style, "Quyang Ghost" is the artistic masterpiece closest to Wu Daozi's style. The modeling of "Quyang Ghost" is vivid and realistic, with perfect spirit and strong appeal. The bright eyes of the characters reflect the painter's strong imagination. The painter captured the key parts of the characters such as the face and limbs, and exaggerated them in a close-up way, making the work show

strong tension. Wu Daozi put romance in reality and nurtured imagination within the rules, showing his extraordinary skill in modeling. (Hao, 2024)

Rereading Wu's style-the ancient Beiyue Temple mural "Quyang Ghost" _Hao Weikun 2024 With the increasing maturity of digital technology, the use of digital technology for the protection and research of cultural heritage has become a discipline research direction. At present, the most mature digital protection and research of mural heritage is the Mogao Grottoes in Dunhuang. Others include the murals of Tianfu Hall in the Dai Temple in Shandong, the murals of Tianti Mountain Grottoes in Wuwei, Gansu, the murals of Xialu Temple in Tibet, the murals of Beiyue Temple in Quyang, Hebei, the murals of Kizil Grottoes in Xinjiang, and the murals of Pilu Temple in Hebei. These digital protection and research projects on murals should become the experience of Lijiang murals. Mogao Grottoes explored digital recording technology as early as the 1980s, and cooperated with domestic and foreign colleges and universities in the 1990s to study digital storage technology.

The murals in the Dening Hall give people a direct impression of grandeur and a full-walled atmosphere. The figures are 3 meters high, which is rare in the existing ancient murals. The overall composition is dense and well-organized, with clear priorities. It is different from the densely populated composition of the murals in the Yongle Palace in Shanxi, which is only half the height of the murals in the Dening Hall. The murals in the Dening Hall are more open than the murals in the Yongle Palace, with figures and scenery, plots and stories, a beginning, climax and an end. It is a complete story painting, and it has the complexity of the painter's creation. Therefore, it is not an ordinary temple mural. In history, the master of murals with such a high level is Wu Daozi of the Tang Dynasty. The artistic characteristics of the murals in the De ning Hall generally have the main characteristics of Wu Daozi's paintings: "strong" and "Wu Dai Dang Feng" "Wu style". Wu Daozi's paintings have both form and spirit, and combine lines and surfaces. In his early years, he used thin and powerful lines. In his middle age, he developed a smooth and mature line drawing

style of "water shield strips". Later, he further developed it into a flying and rhythmic "orchid leaf drawing". In terms of the shading method, he inherited Zhang Sengyou's "concave and convex painting method" and combined it with lines, using light-colored shading as a foil for lines, which was later called "Wu style". There is an image of a flying god painted above the Beiyue Star God on the west wall of the Dening Hall. It is the "Quyang Ghost" that is widely rumored to be the authentic work of Wu Daozi. People have always regarded it as the handwriting of Wu Daozi.

The author believes that the Beiyue Temple murals are majestic in composition, vivid in spirit, and ancient in shape. They have the spirit of Wu Daozi's paintings in the Tang Dynasty and are a valuable reference for studying Wu Daozi's painting art. (C. Zhang, 2012) At the same time, the painters of successive generations have incorporated the artistic style and modeling characteristics of later generations in the process of repainting, which makes it more difficult to interpret this mural. There is still a lot of image information that needs to be studied, which must reflect the historical changes in social, political, artistic and other humanities in North China. Therefore, the murals in the Dening Hall are a treasure for studying ancient Chinese culture and art.

2.4.1.3 Role and purpose of Beiyue Temple

In 1982, when the State Council announced the second batch of national key cultural relics protection units, it recognized the Beiyue Temple in Quyang as a cultural relic of the Yuan Dynasty (the Beiyue Temple in the Wuyue Temple was also the first to be listed as a national key cultural relics protection unit). As a place of worship to the Beiyue God in various dynasties, the building structure of the Temple of Dening must adopt the magnificent and magnificent veranda architecture. The roof of the hall is a double-eaved nine-ridge veranda structure, the yellow glazed tile is the ridge of the hall, and the center of the front slope of the upper eave is decorated with a green glazed diamond flower center pattern. The roof of the hall is folded and raised like a bird's wing, making the hall stretch like a wing, soft, strong and light, showing

the beauty of an eagle spreading its wings. There is a 3.6-meter-high chick at both ends of the east and the west. It is multicolored and glazed. It has a strong shape and feels like flying in the air. The whole hall is majestic and majestic. From a distance, it connects with the blue sky and white clouds to form a dynamic skyline, making it more mysterious and noble.

Sacrifices to the Five Mountains were incorporated into the traditional ritual system at a very early stage, with Emperor Shun's hunting tours to the Four Mountains recorded in the Shangshu-Yaodian, and the Son of Heaven's sacrifices to the famous mountains and rivers under the heavens recorded in the Rituals of the King. The sacrificial cult of the Five Mountains can be traced back to the Neolithic period, when it lasted for more than 5,000 years, and as a national sacrificial system it has also lasted for nearly 2,000 years. The term "Wuyue" was first used in the Zhou Rites - Spring Officials - Dabo: "The position of Dazongbo was to offer blood sacrifices to the gods of the earth and grain, the five sacrifices, the five mountains, and the mountains, forests, rivers, and swamps." Though this form of national sacrifice no longer exists, it is now a form of worship. Although, this form of national sacrifice no longer exists.

Mount Hengshan is one of the five mountains in China. When it comes to Mount Hengshan, people generally think that it is in Hunyuan, Shanxi Province, but they do not understand that the ancient Mount Hengshan refers to the Damao Mountain at the junction of Tang County, Fuping County and Laiyuan County in Hebei Province. In fact, during the 1500 years from the Han Dynasty to the beginning of the Qing Dynasty, the national sacrifice to Mount Hengshan, the northern mountain, was held at the Beiyue Temple in Quyang, Hebei Province. It was not until 1660 that Emperor Shunzhi of the Qing Dynasty changed to worship Hunyuan, Shanxi Province. Beiyue, now located in Shanxi, is a complete Beiyue only if it is connected with the ancient Beiyue in Hebei in history. It is understood that China is preparing to apply for the world cultural and natural heritage as an expansion project

of Mount Taishan Mountain, the eastern mountain, and the western, southern, northern and central mountains, so as to realize the joint application of the five mountains as a whole. The ancient Beiyue cannot be omitted from the application of the Five Mountains for World Heritage. We should seize this historical opportunity and strive to include the ancient Beiyue in the scope of applying for the World Heritage. To clarify the historical status of the ancient Beiyue and explore its cultural value is not only of great significance to promote the success of the application of the ancient Beiyue for the World Heritage, but also of great significance to build Hebei into a strong cultural province.

Beiyue temple main building de Ning of the hall, is China's existing Yuan dynasty wooden structure building in the volume of the largest building, but also the five mountains in the highest specifications of the sacrificial architecture of the building. According to the Qing Dynasty "Quyang County Records" records, the Hall of De Ning was built in the Northern Wei Dynasty of the North and South Dynasties, the beginning of the Song Dynasty was burned by the Khitan, A.D. 991 years of restoration, the existing building for the Yuan A.D. 1270 years built. Most of the Yuan Dynasty architectural.

Beiyue Temple has an important position in the architectural history of China. The most precious thing is, in the de Ning of the hall of the east and west wall and the north wall behind the wall, painted with frescoes. Wall height of 8 metres east, west wall length of 18 metres, the north wall length of 27 metres, frescoes area of about 500 square metres, is the main Taoist architectural layout into a "field", symmetrical left and right. The east and west walls have huge colourful murals wall for the "cloud Xing Yu Shi" figure, the west wall for "all countries Xianning" figure, each 8 meters high, (Figure 7) 18 meters long. The north wall is painted with "the north mountain hengshan god patrol map", mural 8 metres high, 27 metres long. (Figure 6)

In the history of Quyang, Hebei, the Beiyue Temple is the one that has made the greatest contribution to the ancient city. As far as its architecture is concerned, Beiyue Temple, as a place of worship, has a history of development. Today, its original function and mysterious color have disappeared, and it is only protected by the state as a carrier of historical relics with characteristics. However, the sacrifices of emperors of various dynasties and the repairs of different scales in various dynasties



reflected in it have more or less left the marks and information of each era for future generations to share, which far exceeds its contribution to Quyang City.

Figure 6 The God of Hengshan Mountain in the Northern Mountains

Source: ZhiYong Li (2023)

The Dening Hall is the main building of the Beiyue Temple. It is not only the largest building among the existing wooden structures of the Yuan Dynasty in my country, but also the building with the highest specifications among the Five Sacred

Mountains sacrificial buildings. It has an important position in the history of Chinese architecture, and it is extremely important that it reflects the evolution of architectural structure from the Song Dynasty to the Yuan Dynasty. The Dening Hall is seven bays wide and six bays deep, with a large corridor around it and a double-eaved hall with green glazed tiles and a sheared roof. The layout of the hall is very consistent with the form prescribed in the Song Dynasty's "Construction Methods". The hall has seven rooms, with a surrounding secondary step (i.e., a corridor around it), and a beam frame structure of ten-frame rafters, four pillars, and front and back yokes. The secondary steps and upper and lower eaves are all equipped with brackets. The brackets of the secondary steps are five-layer double-arched and double-arched, and the inner groove of the upper eaves is seven-layer double-arched and double-arched. The upper eaves are seven-layer double-arched and single-arched. The brackets, columns, and foreheads are all in accordance with the specifications, rules, and details of official buildings in the Song and Yuan Dynasties, and retain many early architectural detail processing techniques. (Meng, N., & Zhao, 2018)

2.4.2 Ethnic groups

In ancient China, the ancestors who established the Yue Temple for worship were mainly Han ethnic groups, and after thousands of years of development and integration, they became the current Han ethnic group. The Han Chinese regime incorporated the worship of the Five Sacred Mountains and ancestral temple activities into the traditional ritual system for a long time. Among them, the "Book of Documents Yao Dian" recorded Emperor Shun's hunting activities on the Four Sacred Mountains, while the "Book of Rites Wang Zhi" stated that "the emperor worships the famous mountains and rivers of the world." The concept of the Five Sacred Mountains had already become popular in the pre Qin period, and the degree of mountain and river worship in the Qin and Han dynasties would naturally be reflected. By the first year of the Western Han Dynasty's Shenjue era (61 BC), the Four Sacrifices of the

Five Sacred Mountains were finally determined as the highest mountain and river ritual in the unified empire.

Although the form of national sacrifice no longer exists. The Five Sacred Mountains, as representatives of the great rivers and mountains of the country, and their lofty position in the hearts of Chinese people, will never change. Moreover, the various cultural activities of the Five Sacred Mountains praying for national peace and the well-being of the people, as well as a large number of folk sacrifices, continue to be cultural activities.

The Beiyue Temple involves the Han ethnic group, and the Five Sacred Mountains are a unique witness to the disappearing national mountain worship system in ancient China. The Beiyue Temple in Hebei Province is the sacrificial site of Mount Hengshan in Beiyue. The temple has a large number of imperial sacrificial steles, as well as a large number of material relics of national sacrificial ceremonies such as imperial plaques and offerings, providing special witness for the study of Chinese national sacrificial cultural traditions and exchanges with world cultures.

During the Five Dynasties, the ruler Shi Jingtang ceded the Sixteen Prefectures of Youyun to the Khitan in order to gain the political support of the Khitan and thus obtain the throne. Since then, the Hengshan area of Beiyue has become the border between the Central Plains Dynasty and the Khitan. The Northern Song Dynasty's early northern expedition ended in failure. This resulted in the situation that the Northern Song Dynasty and the Liao Kingdom were separated by the ancient Hengshan Mountain and the Baigou River. After Zhao Heng, the Emperor Zhenzong of Song, ascended the throne, Hengshan Mountain was renamed Changshan again to avoid the emperor's name. There are historical records showing that "In the eighth year of Emperor Shen-zong's Xining reign, the northern boundary was ceded to the Liao Dynasty, and the Liao Dynasty used the Hengshan ridge as the boundary." This reaffirmed the status of Hengshan Mountain as the boundary mountain between the Song and Liao during the reign of Emperor Shen-zong of Song. The culture of Beiyue

is profound and has been passed down for thousands of years. It shows the regional cultural characteristics that are different from the other four mountains. The ancient Heng shan Mountain of Beiyue is an important part of my country's traditional culture, and the Qu yang Beiyue Temple is the main historical witness of its sacrificial culture. From the records of ancient books and inscriptions, it is not difficult to see that the historical and cultural connotations of ancient Beiyue are rich and long-standing, including sacrificial culture, religious connotations, philosophical concepts, political strategies, military thoughts, etc., which are extremely important chapters and indispensable components, further highlighting the prominent status of Beiyue as a famous historical and cultural mountain in China. (Yang, 2009)

2.4.3 Religion, beliefs, rituals

2.4.3.1 Religion

In 1982, when the State Council announced the second batch of national key cultural relics protection units, it recognized the Beiyue Temple in Quyang as a cultural relic of the Yuan Dynasty (the Beiyue Temple among the Five Yue Temples was also the earliest to be listed as a national key cultural relics protection unit). As a place of worship for the Beiyue God in various dynasties, the architectural structure of Dingning Temple must adopt a magnificent corridor style architecture. The roof of the main hall is a double eaved nine ridge corridor structure, with yellow glazed tiles as the ridge. The center of the front slope of the upper eaves is decorated with a green glazed diamond flower center pattern. The roof of the hall is folded and raised, like a bird spreading its wings, making the hall stretch out like wings, soft, strong, and light, presenting the beauty of an eagle spreading its wings. There is a 3.6-meter-high chick on both ends of the east and west. It is made of colorful glass. The design is robust and exudes a sense of soaring in the air. The entire hall is magnificent and majestic. From a distance, it connects with the blue sky and white clouds, forming a dynamic skyline that exudes mystery and nobility.

The worship of the Five Sacred Mountains has been incorporated into the traditional ritual system for a long time. The Book of Documents - Yao Dian recorded Emperor Shun's visits to the Four Sacred Mountains, and the Book of Rites - Wang Zhi recorded that the emperor worshipped the famous mountains and rivers of the world. The sacrificial culture of the Five Sacred Mountains can be traced back to the Neolithic Age, which lasted for more than 5000 years. As a national sacrificial system, it also lasted for nearly 2000 years. The term "Five Sacred Mountains" first appeared in "Zhou Li - Chun Guan - Da Bo": "Da Da Bo... his position was to sacrifice blood to the state, the Five Sacrifices, the Five Sacred Mountains, and the gods of mountains, forests, and rivers."

Hengshan is one of the Five Sacred Mountains in China. When it comes to Hengshan, most people think it's in Hunyuan, Shanxi, but they don't know that the ancient Hengshan refers to Damao Mountain at the junction of Tang County, Fuping County, and Laiyuan County in Hebei Province. In fact, from the Han Dynasty to the early Qing Dynasty, the state's worship of Mount Hengshan in Beiyue was held at the Beiyue Temple in Quyang, Hebei Province for 1500 years.

Mount Hengshan in Beiyue is one of the Five Sacred Mountains in China and also a place of Taoist worship in China. The ancient Beiyue Hengshan is located on the Damao Mountain at the junction of Tang County, Fuping County, and Laiyuan County in Hebei Province. During the 1500 years from the Han Dynasty to the early Qing Dynasty, the national worship of Mount Hengshan was held at the Beiyue Temple in Quyang, Hebei Province. As an important place of worship, the Beiyue Temple preserved many cultural relics and historical materials from various dynasties, and had a profound impact on the development of local culture, customs, and art. (Su, Z. Y, & Meng, 2011)The Beiyue Temple refers to the temple on Mount Hengshan, which is one of the Five Sacred Mountains in China and is revered as the Beiyue. Beiyue Temple is one of the important temples in Chinese Taoism, and because

Hengshan is considered one of the Five Sacred Mountains representing the north, it is also revered as an important sacrificial site for the Quanzhen Taoism.

It is an important holy land of Chinese Taoism. The temple includes buildings such as the Bell Tower, Drum Tower, East West Wing Hall, and Main Hall, where Taoist deities are enshrined. It has a profound historical connection with Taoism. Taoism is a religious and philosophical system in China that emphasizes concepts such as cultivation, immortality, and harmonious coexistence with nature. In the temples of Mount Hengshan, the classics of Taoism, Taoist deities, and religious rituals related to Taoism are all reflected. The Beiyue Temple Group is an important component of traditional Chinese culture, which not only has religious significance but also carries rich historical and cultural connotations. The murals, carvings, scriptures, and other cultural relics in these temples are all part of the inheritance of Chinese civilization. Every year, it attracts a large number of pilgrims to pay their respects. Chaoshan activities are an expression of faith and piety, as well as a process of practice. Believers express their admiration and piety towards Taoist faith through climbing Mount Hengshan and participating in temple fairs.

The author conducted a special study from the perspective of the relationship between mythology and Taoism. Ancient murals are often a combination of general mythological history and the special history of Taoism. The religious thoughts, activity patterns and creative purposes expressed in the murals often reflect the creator's intention and integrated vision of religion and mythology, with religious concepts, artistic composition, regional mythological characteristics and cultural concepts. At the same time, it also focuses on reflecting the Taoist sects, activities and conditions of gods. The differences between Taoist sects, the connection between different religions, and the role of Taoism in the society at that time can be seen from the murals in various places. The murals involve a wealth of events, mythological stories, and character descriptions. The activities, rituals, ceremonies, major scenes and other aspects depicted in the murals are even more related to the thinking and

images of mythological characters. From the inside, it shows multiple relationships with Taoist doctrines, Taoist scriptures, Taoist methods and techniques; from the outside, Taoist murals also have many expressions of ancient Chinese culture, art, society, and folk life, penetrating into many fields, and containing many elements and contents in mythology. In terms of expounding religious beliefs and doctrines, exerting the effectiveness of rituals, attracting believers and expanding the influence of Taoism, it embodies the traditional Chinese mythological thinking concept. The origin of the Taoist immortal genealogy is related to mythology. The establishment of Taoism was obviously influenced by mythology, and there is a primitive way of thinking derived from mythology. (N. Su, 2019)

The Pilu Temple in Shangxiang Village, Shijiazhuang City, Hebei Province, was first built during the Tianbao period of the Tang Dynasty (742-755) and has been rebuilt in successive dynasties. The front and back halls in the temple have a total of more than 200 square meters of Buddhist and Taoist murals. The front hall is about the work of the Ming Dynasty, and the murals in the back hall were painted during the reconstruction in the second year of Zhizheng (1342). There are 130 square meters of murals in the back hall, and there are more than 500 gods and Buddhas of all sizes on the four walls, which are divided into more than 120 small groups, and there are names next to each group. These figures are staggered up and down, divided into three layers. The lower layer of the statue is about one meter high and horizontally facing the line of sight. The statues in the middle and upper layers are gradually reduced in size. Most of the figures are half-body, with a clear distinction between the main and the secondary, and the order is well-organized. There are more than 130 Buddhist and Taoist figures painted on the north wall, mainly Buddhist themes, as well as Taoist Jade Emperor, Twelve Yuanchen, Six Stars of the Southern Dipper, and Twenty-Eight Mansions. There are more than 130 figures of Nanji Changsheng Emperor, Fusang Emperor, Xuantian Emperor, Tianfei Shengmu, Qingyuan Miaodao Zhenjun, etc. on the east wall. There are more than 140 figures of Beiji Ziwei

Emperor, Dragon God, etc. on the west wall. The whole painting is 2.8 meters high and 7.6 meters wide, mainly Taoist gods. The south wall is divided into east and west sides, with a total of more than 140 figures, mainly secular figures, but also some Taoist gods, such as City God and Earth. The murals of Pilu Temple adopt a complex composition form. There are many characters in the murals, with various poses and forms. However, they are grouped in groups of three or five and form independent pictures, forming a small picture with a main and subordinate, varied and self-contained pattern. The pictures are separated by spiral clouds painted with purple, malachite, light ochre and other colors. The patterned clouds not only adjust the picture, but also set off the theme, with clear layers and prominent images. The ink lines depicting the characters in the murals are varied. Some are vividly drawn with just a few strokes; some are detailed but not complicated. The composition form of "main and small" is adopted in the painting method of character combination. The characters have different images, some are majestic, some are calm and sophisticated, and some are rough and powerful, reflecting the different temperaments of different characters. The overall style of the era is wide robes and large sleeves, with plump faces. The colors are based on malachite and vermilion, which are contrasting but harmonious. The pigments are all mineral pigments, which are gorgeous but not vulgar.

The most famous Taoist murals in the Yuan Dynasty are the murals of Yongle Palace in Ruicheng, Shanxi. Yongle Palace was originally built in Yongle Town, Ruicheng, which is known as the hometown of Lü Dongbin. It was originally a temple built to worship Lü Dongbin. During the Song and Jin Dynasties, the temple was changed into a temple. It was burned down in the third year of the Yuan Dynasty (1262). Therefore, the palace was rebuilt on the original site and called the Great Chunyang Wanshou Palace. In 1959, due to the construction of the Sanmenxia Reservoir, it was moved to Longquan Village in the north of Ruicheng. On the central axis of Yongle Palace, in addition to the mountain gate, there are the Dragon and Tiger

Hall, the Three Pure Ones Hall, the Chunyang Hall, and the Chongyang Hall. The halls are full of exquisite Taoist murals, with a total area of 1,005.68 square meters. Among them, the Dragon and Tiger Hall and the Three Pure Ones Hall are large-scale figure paintings; the Chunyang Hall and the Chongyang Hall are serial story paintings. (Geng, J.P., & Zheng, 2014)

2.4.3.2 Belief and Rituals

The main building of Beiyue Temple, the Temple of Dening, is the largest existing wooden structure building in the Yuan Dynasty in China, and also the highest standard building among the Five Sacrifices. According to the "Quyang County Annals" of the Qing Dynasty, the Temple of Dening was first built during the Northern Wei period of the Southern and Northern Dynasties. It was burned by the Khitans in the early Song Dynasty and was rebuilt in 991 AD. The existing building was built in 1270 AD. Most of the architectural components of the Yuan Dynasty have been preserved and hold an important position in the history of Chinese architecture. The most precious thing is that behind the east and west walls, as well as the north mountain wall, inside the Hall of Dening, there are murals painted all over. The height of the wall is 8 meters, and the length of the east and west walls is 18 meters each. The length of the north mountain wall is 27 meters, and the mural area is about 500 square meters. The main architectural layout of Taoism is in the shape of a "field", symmetrical on both sides. There are huge colorful murals on the east and west walls, depicting the scene of "clouds rising and rain spreading", and on the west wall, depicting the scene of "Xianning of the world". Each wall is 8 meters high and 18 meters long. The North Mountain Wall is painted with the "Northern Yue Hengshan God's Tour Picture", with a height of 8 meters and a length of 27 meters. M.N. (2018)

The mural is based on Taoist themes and depicts the story of immortals from heaven and earth, the Five Sacred Mountains, and the Four Sacred Mountains gathering at Mount Hengshan in the north. There are many characters, but none of them are the same. The mural uses the method of iron wire drawing, and hundreds of characters in

the painting are neatly and exquisitely painted, with appropriate shades of color, combined with the technique of powder painting and gold, each with both form and spirit, making them lifelike. The color uses natural mineral pigments, and the mural, after years of vicissitudes, still shines brightly without losing its original appearance.

Zhao Wei's "Research on the Image Genealogy of the Five Sacred Gods in Taoist Mural Paintings" (2007) collected the existing images of the Five Sacred Gods in various temples across the country. Through the examination of the images of the Five Sacred Gods in Taoist murals, it is proposed to further explore the "complete ideological system" for constructing the Five Sacred Gods Genealogy based on the determination of the positions and occupations of the Five Sacred Gods in different periods. The mural materials he collected from the Five Sacred Mountains laid the foundation for further research on the lineage of Taoist deities in the future. In addition, Duan Xiaoming's "Preliminary Study on memorial archway Stone Carving Images of Huashan Xiyue Temple" (2007) is also an outstanding treatise on the image of the Five Mountains; Zhang Jiyu's "A Brief Discussion on the Thought of the Five Sacred Mountains in Taoism Matching with Heaven" (2009) discusses how the Five Sacred Mountains in the Taoist system are compatible with the Five Directions and thus with heaven.

The Five Sacred Mountains Temple in China has been an official place of worship for the state since ancient times, and has also been endowed with the status of a Taoist paradise. It has been highly favored and has suffered disasters, but it has been preserved to this day. The Five Sacrifices is one of the important ancient ritual systems, which is recorded in the official history and ritual records of various dynasties. The information is complete and easy to study. The research on the worship of Beiyue is scattered among the overall studies of the worship of Yuedu Mountains and rivers and the national worship. At the same time, some scholars have conducted specialized research on the worship of Beiyue and have conducted many dynastic inspections.

The study of ancient murals in Beiyue Temple plays a very important role, and it is the largest and longest painting history among the Five Sacrificial Buildings with the highest level of painting. At present, among the academic works on the worship of Beiyue, the book "Exploring the Origins of Ancient Beiyue" C conducts a phased study on the worship of Beiyue throughout history. From the worship of mountains and rivers in the ancient pre Qin period to the decline of the worship at the Beiyue Temple in Quyang during the Qing Dynasty and the Republic of China period, there was basically a one day festival, without a phased study based on the worship system and changes. The book is based on materials such as historical books and ritual books, as well as inscriptions from the Beiyue Temple. In addition, Gao Xiaojing's "A Brief Analysis of the Sacrificial Culture of the Ancient North Mountain Hengshan" divides the research on the worship of the North Mountain into several parts: the origin of mountain and river worship in ancient times, the formation of customized and temple built worship in the Han Dynasty, the peak of worship in the Tang and Song Dynasties, frequent worship in the Ming Dynasty, and the decline of worship in the Qing Dynasty. Niu Jingfei's "A Study on the Evolution of the Five Sacrifices" starts from a holistic perspective, based on the historical period from the Qin and Han dynasties to the Tang and Song dynasties, studies the evolution of the Northern Sacrifices, and provides an article on the origin, knowledge background, and military background of the migration of the Northern Sacrifices, focusing on the study of the historical periods of the Northern Sacrifices, There are mainly Luo Ying's "Analysis of Tang Dynasty Beiyue Sacrifice", Ma Xiaolin's "Research on Yuezhen Haidu Sacrifice in the Yuan Dynasty", Li Jian's "Research on Beiyue Sacrifice and Belief in the Ming and Qing Dynasties", Sun Yu's "Brief Discussion on the Political and Cultural Connotation of Qing Dynasty Beiyue Sacrifice as Seen in Steles", and so on.

2.5 Related theories

2.5.1 Cultural Diffusion Theory

In 1948, Lasswell proposed a famous "5W communication model". It includes: "who", "what was said", "through what channel", "to whom", and "what results were obtained". That is what we usually call communicators, communication content, communication channels, audiences, and communication effects. The result is the basic knowledge of the five fields of "control analysis", "content analysis", "media analysis", "audience analysis" and "influence effect". The emergence of the 5W model has aroused heated discussions in the academic community. Many researchers have discussed it and put forward their own views. Its revision and development is a hot topic. In subsequent studies, the overall characteristics and core content of the model have been basically maintained. With the continuous development of today's media technology, the environment is also constantly changing, and the five basic elements of the 5W theory are still its foundation and core. (Jin, Y. J. 2023)

Based on Lasswell's 5W model, this paper examines the application of intelligent technology in the dissemination of traditional Chinese culture, summarizes the problems involved, and then makes intelligent technology play a greater role in the inheritance and promotion of traditional Chinese culture. It is believed that intelligent technology is reconstructing all aspects of the dissemination of traditional Chinese culture, including the dissemination subject, the protection and regeneration of dissemination content, the dissemination channel, the dissemination object, and the feedback of the dissemination effect, which are gradually becoming intelligent and smart. The dissemination characteristics of the dissemination subject, dissemination content, dissemination channel, dissemination object, and dissemination effect in the dissemination process.

Through this 5W model, we can find that the communication process is a purpose-oriented behavioral activity, and it has the purpose of influencing the

behavior of the audience. The communication of intangible cultural heritage is committed to spreading excellent traditional culture and enhancing the influence of Chinese culture. The 5W communication model is used to study the communication of intangible cultural heritage, that is, starting from each link in the communication process, scientifically, systematically and targetedly propose strategies in order to ultimately achieve the purpose of communication. Therefore, the 5W communication model can be used as the theoretical basis for the analysis of intangible cultural heritage communication strategies. The first link of the 5W communication model is to control and analyze the communicators. The process of intangible cultural heritage communication involves multiple subjects. These communication subjects are not scattered, and they are closely related to each other. Only by achieving the multi-linkage of the communication subjects can the intangible cultural heritage culture be better spread. Next, the author will control and analyze some subjects in the process of intangible cultural heritage communication. For traditional media expressions and emerging media, Wangkui shadow play currently has documentaries, media reports, public account tweets, etc., but the communication matrix is still not large enough and the communication range is still not wide enough. The communication power can be expanded by increasing the audience's media selection rate. (Zhang, N., & Liu, 2023)

The paper will be based on the "5W" communication theory and use the current digital communication technology to conduct specific exploration, making the research more systematic and logical. The application of digital media in the dissemination and protection of Beiyue Temple murals is the current trend of technological development. The author will integrate Lasswell's 5W communication theory and the concept of digital reproduction, use three-dimensional animation and virtual roaming space design, carry out the digital inheritance practice of Yiwulüshan Manchu paper-cutting, and establish a inheritance path model based on the perspective of communication. Expand the scope of cultural heritage dissemination and allow more people to obtain and understand cultural heritage through the Internet.

Enhance the influence of local culture and expand the local cultural tourism market. Formulate policies to encourage cultural tourism and promote cultural heritage as a tourism resource. The government can support related tourism projects, provide infrastructure and services, and attract more tourists to participate in the

2.5.2 Semiotics theory

The proposal and development of semiotics The word "semiotics" originated from ancient Greek, and relevant discussions have appeared in the works of Plato and Aristotle as early as the beginning of this century. Swiss linguist Saussure and American philosopher Peirce led the development of semiotics and laid the foundation for the subsequent development of semiotic theory. Saussure regarded language as a symbol system, used structuralism to construct a theoretical system of language symbols, and applied it to the humanities and social sciences. He proposed that signifiers and signifieds are necessary elements of language symbols, which can be combined arbitrarily or with each other. Meaning is closely related. (Umboto, 2015)

Semiotics is an emerging interdisciplinary research field. It is an interdisciplinary subject of logic, linguistics, philosophy, literature, art, religion and many other categories. It focuses on the composition, expression and communication methods of signs. Semiotics mainly includes information symbols, syntax, semantics and pragmatics. Information symbols mainly include symbols, indexes, graphic symbols and signals. This article deals with aspects such as information symbols and images.

British scholars Ogden and Richards modified the relationship between signifier and signified proposed by Saussure in their co-authored book "The Meaning of Meaning", that is, they added a physical element, further pointed out the relationship between the symbolic form and the physical object and the symbolic meaning, and developed it into the symbolic triangle theory. Murals are materialized artistic symbols. Ancient Chinese murals are a representative and unique art form in my

country's cultural life. Murals are the product of people's religion and an important carrier of culture. (Cao, Y. Y. 2009)

In 1949, Gombrich wrote a book review for the famous book "Signs, Language and Behavior" by American semiotician Charles William Morris. Pointing out the symbolic characteristics of signs and images. Morris is one of the founders of the theory of symbolic systems. It advocates a behaviorist approach and combines biological and symbolist research. Morris's most influential semiotic theory is the trichotomy of semantics, syntax and pragmatics. Gombrich believed that Morris's theory was based on fictitious behaviorist experiments and was unscientific; and refuted his claim that images were regarded as statements. Gombrich learned about Peirce's related theories by reading Morris. (J. J. Liu, 2021)

This paper uses the research method of the signifier and signified framework of Saussure's semiotic theory. The signifier is the form of the symbol, such as sound or image, and the signified is the concept or meaning represented by the signifier. The readability of the symbol's image is used to express the painting language. Symbols are the medium for conveying experience. They are not based on imagination, but on emotions obtained through perception to express ideas. Murals are composed of symbols, and the purpose and meaning of murals are conveyed through symbols. As a transmitter of information, symbols can be perceived. A specific combination of symbols will touch the heart of the viewer. Everyone's experience is different, and the understanding of the image will also be different. However, the painting language constructed by the artist will lead to a certain degree of convergence in the viewer's experience. Symbols are readable. In visual images, the viewer, as the interpreter of visual images, needs to find logical clues in the decoding process, constantly interpret the meaning and value of the image, and feel the real emotions conveyed by the image. The perspective of semiotics can provide scholars with an extension of research possibilities and help interpreters analyze works.

In the process of symbolization, the relationship between the three elements of expression, object, meaning and background is a law. In this law, these three elements form a "trinity" logical law. The structure and internal law of the three elements can be explained by common mural symbols. The expression is the mural image, the object is the broad masses of believers, and the meaning is good weather, peace and prosperity.

In conclusion, this study will study the concept of "signifier and signified" in semiotics. According to Saussure's binary semiotic model, it is of great research significance to analyze the hidden meaning, cultural background and symbolic meaning of the symbolic form (signifier) in the murals and the concept (signified) they represent. Together, they constitute a complex symbol system, through which we can understand the beliefs, cultural values and social structure of the society at that time. This interpretation not only helps to understand the artistic value of the murals more deeply, but also helps to reveal the cultural and historical information hidden in them. As a traditional cultural symbol, the Beiyue Temple murals have extremely strong cultural, religious and aesthetic functions. From the perspective of semiotics, the study of Beiyue Temple murals will make the research path of Beiyue Temple murals more systematic, the context clearer and the research ideas more reasonable. Based on the theory of semiotics, this paper divides the murals into concrete value and abstract value. The concrete value includes symbolism, modeling characteristics, color composition, etc.; the abstract value includes artistic themes, cultural values, cultural connotations, etc.

2.5.3 Theories of digital protection

Concept of digital protection of murals: In the 1980s, Mr. Fan Jinshi first proposed the concept of "digital murals", aiming to use digital technology to digitize Dunhuang mural archives, "permanent preservation and sustainable use, so that humans can share this precious treasure in the future" cultural heritage and promote the digital development and utilization of murals." The digitization of murals is of

great significance and value in the restoration of cultural relics. Digital collection and digital technology are used in the restoration of cultural relics murals. Digitalization can realize image collection and processing, and accurately collect and analyze colors and pigment components. It can be used as a reference during the virtual restoration process to objectively conduct an objective analysis based on the colors of the first two murals. Really analyze and try to fix it. In the United States, a library database was established in 1978 to preserve antiquities from various countries, followed by France in 1986. (Chen,Z.W.,& Fan, 2016)

Using digital acquisition and processing technology, the mural information is edited and converted into digital format in a scientific and effective way, and then saved to large-capacity computer hard disk or disc and other safe media, so as to achieve the long-lasting and safe preservation of the ancient mural paintings and cultural heritage, and to effectively establish a database for recording the relevant information of the mural paintings and make it available to the researchers at any time for consultation. This will enable the long-lasting and safe preservation of ancient mural paintings and cultural heritage. Select appropriate file formats, such as TIFF (.tiff) or PNG (.png), to ensure the lossless quality of preserved images. Create multiple backups on different storage media, including external hard drives, cloud storage services and redundant storage devices. When preserving digital images of murals, save a copy of the original resolution for high-quality printing or display when needed, taking into account that they are likely to be large and high-resolution images, as well as those that need to be preserved for long periods of time. The rapid development of digital scanning technology has changed this situation. Digital scanning technology with its unique advantages is widely used in various fields. Compared to traditional image acquisition techniques, it can measure complex surfaces quickly, accurately and without contact. Mural material collection application of digital scanning is often required for the important ancient buildings to carry out accurate non-contact digital acquisition work, for the protection of ancient frescoes to

provide permanent preservation of information. The digitisation of cultural heritage is now increasingly recognised by experts from various parties. Its goal is based on information technology for digital storage of cultural relics, virtual protection and restoration, auxiliary archaeological discovery and the development of virtual tourism display. Digital storage of cultural relics to obtain the shape, pattern, colour and material information in the computer for preservation in order to leave an eternal historical record for human civilisation when the cultural relics disappeared due to various reasons. (Fan, B., & Lin, 2021)

Digital murals are a form of art generated through digital technology and computers, and they can be disseminated in many ways. The following are some of the ways in which digital murals can be disseminated: Social media platforms: Use social media platforms such as Instagram, Facebook, Twitter, etc., to post pictures or short videos of digital murals. This can help artists expand their audience and interact with other artists and enthusiasts. Online art platforms: Uploading digital murals to online art platforms, which often have specialised digital art communities that enable artists to showcase their work and get feedback. Virtual galleries and exhibitions: Use virtual reality to create digital galleries or online exhibitions that allow viewers to experience digital murals in a more realistic way.

Create relevant art websites that showcase portfolios of digital murals. Such a website can help build a personal brand and provide more information about the artist. Participate in digital art exhibition events, which will not only increase exposure, but may also lead to awards or recognition, which will enhance your standing in the art world. Use the experience of creating digital murals to participate in art education or give talks. Share the creative process, techniques and inspiration, and network with other artists and students. It is important to build an artist's brand online and connect with audiences and other artists. By actively participating in social media, online communities and art events, digital murals can get more attention in the digital art field.

Through field investigation, literature research, data analysis and other methods, the protection and inheritance of Beiyue Temple mural paintings are studied in depth, and reasonable protection strategies and measures are proposed. The writing of this paper not only helps to deepen the understanding of Beiyue Temple mural painting culture, but also provides theoretical guidance and practical reference for the protection of ancient mural paintings.

2.5.4 Cultural Identity

Regarding the meaning of cultural identity, we first need to understand the definition of "identity", which comes from Latin and means "same" or "sameness". In the field of sociology, identity is considered a collective phenomenon; in psychology, identity represents human subjective consciousness, which is something basic, profound and lasting; in political science, identity reflects that collective identity will have a profound impact on individual behavior. In general, "identity" is a kind of recognition, and people in the same group reach a consensus on certain things. "Identity" can be divided into: institutional identity, individual identity, national identity, cultural identity, etc. Among them, cultural identity is more important. This is because culture is unique to humans, and all identities are based on cultural identity, and identity only has meaning in a certain cultural background. (Wang, M., 2018)

Cultural identity refers to the recognition and sense of belonging of an individual or group to their own culture. It involves the understanding and recognition of the core values, traditions, customs, language, art, religion and other aspects of a culture. Cultural identity not only reflects the resonance of individuals and groups in the cultural background, but also reflects their deep connection in cultural symbols, historical memory and social habits. Cultural identity refers to the recognition and affirmation of the most meaningful cultural elements of the nation to which people belong in their long-term common life. Its core lies in the recognition of the basic values of culture. Cultural identity constitutes an important foundation for national identity and ethnic identity and is the deepest foundation. In today's era of economic

globalization, the Beiyue Temple murals, as a unique cultural symbol, convey the aesthetic value of Chinese Taoist sacrifices, prompting the public to understand and recognize the meaning of this symbol, thereby forming a profound cultural identity.

The characteristic of cultural identity is "the confirmation of the common culture between people or between individuals and groups. Identity is one of the basic functions inherent in culture." The root of Chinese cultural identity is the cohesive force contained in culture, that is, the core of Chinese culture, which is the cultural concept explored by Edgar Morin and the "Chinese cultural spirit" advocated by Qian Mu. "Chinese culture is the result of the long-term changes of the Chinese or the Chinese nation for four or five thousand years." It is proposed that there are three types of national cultural frameworks, namely religious identity, cultural identity and national identity. my country has a strong historical heritage and a long culture. It is different from the national identity form of some Western countries such as Britain, France, Germany, and Switzerland, and it is also different from the religious identity form of the country. As a cultural power, China exists in the form of cultural identity (Zhong, 2022)

The history of Beiyue Temple can be traced back to the Northern Wei Dynasty. After thousands of years of wind and rain, it has witnessed the changes of many dynasties in China and the evolution of culture. Recognition of Beiyue Temple means respect and cherishment for this period of history, as well as deep respect for the temple as a witness to the passage of time. As a Taoist holy place, Beiyue Temple carries important religious history and cultural heritage. Recognition of the historical heritage of Beiyue Temple also includes recognition of its religious significance and the influence of Taoist culture in Chinese history. As a local religious belief center, Beiyue Temple has long been closely linked to local culture. The existence of the temple and temple fair activities are part of the life and culture of local residents. Recognition of Beiyue Temple also includes recognition of local culture and affirmation of community cohesion.

In general, recognition of the historical heritage of Beiyue Temple also means appreciation and protection of these works of art, and recognition of its important position in the history of Chinese art. Traditional religious activities such as sacrificial activities and rain-praying ceremonies held in temples are both expressions of religious beliefs and forms of cultural inheritance. The recognition of Beiyue Temple's historical heritage also means using it as a cultural and educational resource to allow more people to understand and inherit the rich connotations of Chinese culture. The recognition of Beiyue Temple's historical heritage is not only reflected in the daily lives of local residents, but also in the support of the government and all sectors of society for its protection and promotion.

2.5.5 Re-creation theory

Re-creation theory focuses on the process by which cultural products and works of art are reinterpreted, adapted or re-created in a new context. Re-creation can be a tribute to or adaptation of the original work, or a combination of traditional elements and modern techniques to create a new work. Artistic Re-creation: In the field of art, re-creation involves the reinterpretation of classic works, such as the adaptation or reconstruction of classic paintings, music, and literary works in a new historical or cultural context. This kind of re-creation is not only an imitation of the original work, but also an innovative transformation of it. In cultural studies, re-creation also refers to the mixing and reproduction of different cultural elements. For example, the revival of traditional folk customs in modern society, or the mutual influence and integration between cultures, are all manifestations of re-creation. (Z. Q. Liu, 2024)

Also known as secondary creation, derivative creation or secondary creation, the resulting work is called secondary creation (or re-creation, derivative creation). Secondary creation often refers to parody and re-creation in fan culture, and also includes translation, adaptation and other changes to existing texts, images, films and music, which are similar to derivative works in copyright law. The theory of re-creation emphasizes how creators can respond to current social and cultural needs and

create works with new value by reinterpreting and transforming existing cultural and artistic resources. This theory not only helps us understand the dynamic inheritance process of culture and art, but also inspires contemporary creators to find a new balance between tradition and innovation and explore new ways of expression.

This article uses digital media to recreate the protection of murals, and uses digital means to provide new perspectives and methods for the protection and dissemination of traditional art heritage. Digitally scan the murals and use high-resolution scanning technology to digitize and preserve the details of the murals. This not only helps protect the murals from physical damage, but also allows researchers and the public to view the details of the murals in high definition. Using digital technologies such as virtual reality (VR) and augmented reality (AR), the digital data of the murals is used on a virtual reality platform to create an immersive virtual exhibition, allowing the audience to "walk into" the murals and experience their original environment and details. Through augmented reality technology, use a smartphone or tablet to scan the location of the mural, superimpose digital information such as the historical background of the mural, the restoration process, and artistic analysis, to provide an interactive experience for the audience.

In general, through digital media technology, the protection and re-creation of murals can not only improve efficiency, but also expand its influence and promote the inheritance and innovation of cultural heritage. These technical means provide new possibilities for the preservation, display and re-creation of murals, enabling them to continue to play an important cultural role in modern society.

2.6 Related research

2.6.1 Domestic research

Wang Hui (2000) Study on the Distribution and Subject Matter of Existing Temple Mural Paintings in Hebei Province

Hebei Province is a province with more temple murals, with preliminary statistics of 150 mural buildings and 31 national and provincial cultural relics protection units. Ancient frescoes include temple frescoes, underground palace frescoes and tomb frescoes. Mural paintings are mainly concentrated in Zhangjiakou, Baoding, Shijiazhuang and other central and northern regions of Hebei. Mural paintings and ancient buildings to preserve more reasons is the local mountainous areas more traffic congestion, less war, and close to Shanxi Wutai Mountain religious shrine, receiving Shanxi mural images more. Mural paintings in central Hebei to Beiyue Temple, Longxing Temple mainly [Longxing Temple, located in Shijiazhuang City, Hebei Province, Zhengding County, Dongguan Street, the temple was built in the Sui Kaihuang six years (586 years), the Tang renamed Longxing Temple, Kangxi forty-nine years (1710 years) to give the name of the "Longxing Temple" and has been in use to the present day; Vishnu Temple [Vishnu Temple is a temple dedicated to the temple's Vishnu Shrine of the Buddha's great hall and name, located in the Shijiazhuang City, Hebei Province, Xinhua District, Du east of Shangcun on Beidajie Street, was first built in the Dazhongxiangfu years of the Tang Dynasty (1710 AD), and is one of the first batch of national key cultural relics protection units in Hebei Province, preserving a large number of Buddhist murals from the Ming Dynasty period.

Su Zongyin , Meng Na, (2011) A study on the historical development of Beiyue Temple.

Beiyue Hengshan is one of the five mountains in China. Ancient Beiyue Hengshan is located in Damao Mountain, which is on the border of Tangxian, Fuping and Laiyuan counties in Hebei. During the fifteen hundred years from the Han Dynasty to the beginning of the Qing Dynasty, national sacrifices to Hengshan were held at the Beiyue Temple in Quyang, Hebei, which, as an important place of worship, preserved many cultural relics and historical materials from all the dynasties and had a profound impact on the development of the local culture, customs and arts.

Su Zongyin, Meng Na, (2011) The theme and content of temple murals in Hebei Province by architectural function.

Mural paintings are notes and introductions to the main god to deepen people's understanding and respect for the main god. There are no episodes of worshipping Buddha and participating in rituals in these murals. The "Heavenly Palace Dynasty and Picture" shows the meeting of the Taoist gods with the Three Pristine Ones or Jade Emperor and Zhenwu Emperor, which is a common content in Taoist temples. Existing murals include the east wall of the Daning Hall of the Beiyue Temple in Quyang, the Jade Emperor Hall of the Dingzhou Avenue, the Chongguang Pagoda in Chicheng, and the Zhenwu Temple in Yu County.

Xue Zengfu, Wang Limin (2000) edited the book "Beiyue Temple cultural management".

which part of the Quyang Beiyue Temple murals. A more detailed introduction was made, and the style, content, and identity of the painter of the mural paintings were briefly commented on. At the same time, they also pointed out that the murals "occupy an important position in Taoist mythology". Modern inscriptions and some local histories attribute these murals to Wu Daozi.

Zhao Wei, (2003) Hebei Quyang Beiyue Temple mural painting content collation.

the Beiyue Temple mural painting is studied in more detail. Through fieldwork and research, analysing the artistic characteristics of the Mighty Wudang Wind - Beiyue Temple mural paintings in Dingzhou, Hebei, the stylistic features of the mural paintings, and the influence of Wu Daozi on the Beiyue Temple mural paintings.

Ma Yumin, (2017) Chinese murals are divided into cave murals, tomb murals, temple murals, court murals, these murals are as a historical window that can reflect the social spiritual culture and political civilisation of China's historical period, the traditional Chinese temple murals art in the integration of landscapes, figures, flowers and birds, and other different modelling art, both historical culture,

humanistic ideas, has a very high artistic value. How traditional painters complete the painting of interior murals, how their team is composed, how the complete painting of traditional religious murals how to protect, these basic issues are still lack of certain in-depth study.

Zhang Tianyu, (2017), "Yungang Grottoes Wuhua Cave mural restoration and protection technology" article for the historical records of the Yungang Grottoes repair and protection of the vein comb, and mainly for the Yungang Grottoes in the protection of cultural relics in the outstanding issues for analysis, which focuses on the Yungang Grottoes located in the middle of the Wuhua Cave in the Qing Dynasty Shi mud coloring of the protection and restoration of the research, aimed at inheriting the culture of the grottoes, and further promote the Yungang Grottoes repair and protection work. Due to the composition of the mural paintings of the ground battle layer composition of straw, wheat, hemp and other cereal skin drum components, these cereal components itself soft texture, and easy to corrosion and mildew.

Liu Wei, (2020), Traditional ancient mural restoration and conservation work mostly adopts the copying and reproduction method to preserve these temple murals and accumulate information.

However, the reproduction of this kind of image data will lead to the problem of information loss, and it is difficult to be preserved for a long time. Traditional fresco restoration and conservation work is irreversible and risky. The introduction of digital technology has ushered in a new spring for mural painting conservation. At present, the high-precision acquisition technology of flat data can ensure that the collected data reaches a fairly high level in terms of dynamic range and colour tolerance. Using 3D scanning technology to collect geographic information data of temple murals in Yangqu County in all directions and large space, in order to restore the face of temple murals in Yangqu County and truly record the details and existing colours of the murals, the collected data are processed in the computer terminal to simulate the mural restoration, and finally the restored murals are projected on the existing temple

walls for airbrush restoration. The digital restoration and conservation technology can use computers to assist the conservation and copying of frescoes, virtual restoration, process evolution of the current diseases of frescoes, virtual display of frescoes, provide a testing environment and scientific basis for the physical restoration process of frescoes, and reduce the risk of conservation work to a minimum.

Wang Yuan Yuan, (2019) . Research on digital restoration method of ancient wall paintings. After thousands of years of history, ancient frescoes have been damaged to different degrees, mainly in the form of fading, peeling, cracking, chalking, mould, etc. The existing physical conservation measures and manual restoration of ancient frescoes are inefficient and may even increase the damage. The existing physical protection measures and manual restoration of ancient frescoes are relatively inefficient, and even increase the damage of ancient frescoes. Digital restoration of ancient frescoes is a popular direction of fresco protection in recent years and has gradually become an important means of fresco protection. This paper puts forward the restoration method of literature research, the method of completion restoration, the method of reference restoration and other restoration methods for the typical damage phenomena of ancient frescoes, and realises virtual restoration of frescoes by using computer, so as to permanently preserve ancient frescoes and apply them to the practice of cultural heritage protection and dissemination of cultural heritage.

Liu Wei (2022) Research on digital restoration and protection of ancient murals in Shanxi—taking the temple murals in Yangqu County as an example.

At present, high-precision flat data acquisition technology can ensure that the collected data reaches a very high level in terms of dynamic range and color tolerance. Three-dimensional scanning technology is used to collect geographical information data of temple murals in an all-round and large space. In order to restore the appearance of temple murals, the details and existing colors of the murals are truly recorded, so that the details of every temple and every mural can be Accurate

collection and preservation. Through literature research and field investigation, combined with the collected data, simulated mural restoration processing was carried out on the computer terminal, and finally the restored murals were projected on the existing temple walls for inkjet repair. Digital restoration and protection technology can use computer-assisted mural protection and copying, virtual restoration, process evolution of the current diseases of the murals, virtual display of the murals, provide a testing environment and scientific basis for the physical restoration process of the murals, and reduce the risk of the protection work to the lowest level. lowest.

2.6.2 Foreign research

(US) Putra (2012) Digital Image Processing.

Along with space applications, digital image processing technology began to be used in fields such as medical images, earth remote sensing monitoring, and astronomy in the late 1960s and early 1970s. Subsequently, the development of military, meteorological, medical and other disciplines also promoted the rapid development of image processing technology. In addition, the continuous price reduction of computer hardware equipment, including high-speed processors, mass storage, image digitization, image display, printing and other equipment, has become another driving force for the development of digital image processing technology. Digital image processing technology has been integrated into various fields of scientific research. Digital image processing technology has become the object of study and research in various disciplines such as engineering, computer science, information science, biology, and medicine.

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-critical 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.

Neville Agnew (2016) Cave Temples of Dunhuang: Buddhist Art on China's Silk Road

The Mogao grottoes in northwestern China, located near the town of Dunhuang on the fabled Silk Road, constitute one of the world's most significant sites of Buddhist art. Preserved in some five hundred caves carved into rock cliffs at the edge of the Gobi Desert are one thousand years of exquisite wall paintings and sculpture. Founded by Buddhist monks in the late fourth century, Mogao grew into an artistic and spiritual center whose renown extended from the Chinese capital to the far western kingdoms of the Silk Road. Among its treasures are 45,000 square meters of

murals, more than 2,000 statues, and some 50,000 medieval silk paintings and illustrated manuscripts.

This sumptuous catalogue accompanies an exhibition of the same name, which will run from May 7 through September 4, 2016, at the Getty Center. Organized by the Getty Conservation Institute, Getty Research Institute, Dunhuang Academy, and Dunhuang Foundation, the exhibition celebrates a decadeslong collaboration between the GCI and the Dunhuang Academy to conserve this UNESCO World Heritage Site. It presents, for the first time in North America, a collection of objects from the so-called Library Cave, including illustrated sutras, prayer books, and other exquisite treasures, as well as three full-scale, handpainted replica caves. This volume includes essays by leading scholars, an illustrated portfolio on the replica caves, and comprehensive entries on all objects in the exhibition.

Michael Jones (2015) *Art of Empire: The Roman Frescoes and Imperial Cult Chamber in Luxor Temple*.

The culmination of a groundbreaking conservation project, this volume brings together scholars across disciplines for a comprehensive look at the frescoes and their architectural, archaeological, and historical contexts. More than 150 stunning illustrations present the paintings for the first time in their newly conserved state, along with a selection of 19th-century documentary watercolors. This remarkable publication illustrates how physical context, iconography, and style were used to convey ideology throughout Rome's provinces.

Shih-shan Susan Huang (2020) *Study on Yuan Dynasty Frescoes in the Temples of Southern Shanxi Province*

In this richly illustrated book, Shih-shan Susan Huang provides a comprehensive mapping of Daoist images in various media, including Dunhuang manuscripts, funerary artifacts, and paintings, as well as other charts, illustrations, and talismans preserved in the fifteenth-century Daoist Canon. True form (zhenxing), the key concept behind Daoist visuality, is not static, but entails an active journey of

seeing underlying and secret phenomena. This book's structure mirrors the two-part Daoist journey from inner to outer. Part I focuses on inner images associated with meditation and visualization practices for self-cultivation and longevity. Part II investigates the visual and material dimensions of Daoist ritual. Interwoven through these discussions is the idea that the inner and outer mirror each other and the boundary demarcating the two is fluid. Huang also reveals three central modes of Daoist symbolism—aniconic, immaterial, and ephemeral—and shows how Daoist image-making goes beyond the traditional dichotomy of text and image to incorporate writings in image design. It is these particular features that distinguish Daoist visual culture from its Buddhist counterpart."

Dallen J. Timothy (2011) *Cultural Heritage and Tourism: An Introduction*

One of the most salient forms of modern-day tourism is based on the heritage of humankind. The majority of all global travel entails some element of the cultural past, as hundreds of millions of people visit cultural attractions, heritage festivals, and historic places each year. The book delves into this vast form of tourism by providing a comprehensive examination of its issues, current debates, concepts and practices. It looks at the social, physical and economic impacts, which cause destinations, site managers and interpreters to consider not only how to plan and manage resources but also how to portray the past in ways that are acceptable, accurate, accessible and politically relevant. In the process, however, the depth of heritage politics, the authenticity and inauthenticity of place and experience, and the urgent need to protect living and built cultures are exposed. The book explores these and many other current issues surrounding the management of cultural resources for tourism. In order to help students relate concepts to real-world situations it combines theory and practice, is student learning oriented, is written accessibly for all readers and is empirically rich.

Gupta (2023) *The Rich Culture and History of Mongolia: Dr. Gaurav Gupta's Exploration of Mongolia's Cultural Heritage and History*

One of the most salient forms of modern-day tourism is based on the heritage of humankind. The majority of all global travel entails some element of the cultural past, as hundreds of millions of people visit cultural attractions, heritage festivals, and historic places each year. The book delves into this vast form of tourism by providing a comprehensive examination of its issues, current debates, concepts and practices. It looks at the social, physical and economic impacts, which cause destinations, site managers and interpreters to consider not only how to plan and manage resources but also how to portray the past in ways that are acceptable, accurate, accessible and politically relevant. In the process, however, the depth of heritage politics, the authenticity and inauthenticity of place and experience, and the urgent need to protect living and built cultures are exposed. The book explores these and many other current issues surrounding the management of cultural resources for tourism. In order to help students relate concepts to real-world situations it combines theory and practice, is student learning oriented, is written accessibly for all readers and is empirically rich.

Nicholas Price (1996) *Historical and Philosophical Issues in the Conservation of Cultural Heritage (Readings in Conservation)*

The first comprehensive collection of texts on the conservation of art and architecture to be published in the English language. The book consists of forty-six texts, some never before in English and many originally published only in obscure or foreign journals. The thirty major art historians and scholars represented raise questions such as when to restore, what to preserve, and how to maintain aesthetic character. Excerpts have been selected from the following books and essays: John Ruskin, *The Seven Lamps of Architecture*; Bernard Berenson, *Aesthetics and History in the Visual Arts*; Clive Bell, *The Aesthetic Hypothesis*; Cesare Brandi, *Theory of Restoration*; Kenneth Clark, *Looking at Pictures*; Erwin Panofsky, *The History of Art as a Humanistic Discipline*; E. H. Gombrich, *Art and Illusion*; Marie Cl. Berducou, *The Conservation of Archaeology*; and Paul Philippot, *Restoration from the*

Perspective of the Social Sciences. The fully illustrated book also contains an annotated bibliography and an index.

Rohit Jigyasu (2023) *Routledge Handbook on Cultural Heritage and Disaster Risk Management*

This Handbook provides a comprehensive and interdisciplinary overview of the intersections between cultural heritage and disaster risks. It serves as a defining reference, presenting the key concepts and policy arena that disaster risk management and cultural heritage currently operate.

This Handbook provides insights a wide range of topics and themes, such as climate change, conflict, urbanisation, the role of community, and examines the relationships with a range of sectors such as governance and policy, finance, infrastructure, shelter, and urban planning. It also presents critiques on issues that are often taken for granted, including technocratic approaches, nature/culture binary, the romanticisation of traditional knowledges and the role of recovery and reconstruction. Insights into the future are also presented, and the Handbook concludes with a detailed agenda of proposed action to be taken in the field.

Michael Falser (2015) *Cultural Heritage as Civilizing Mission: From Decay to Recovery (Transcultural Research – Heidelberg Studies on Asia and Europe in a Global Context)*

This book investigates the role of cultural heritage as a constitutive dimension of different civilizing missions from the colonial era to the present. It includes case studies of the Habsburg Empire and German colonialism in Africa, Asian case studies of (post)colonial India and the Dutch East Indies/Indonesia, China and French Indochina, and a special discussion on 20th-century Cambodia and the temples of Angkor.

The themes examined range from architectural and intellectual history to historic preservation and restoration. Taken together, they offer an overview of historical processes spanning two centuries of institutional practices, wherein the

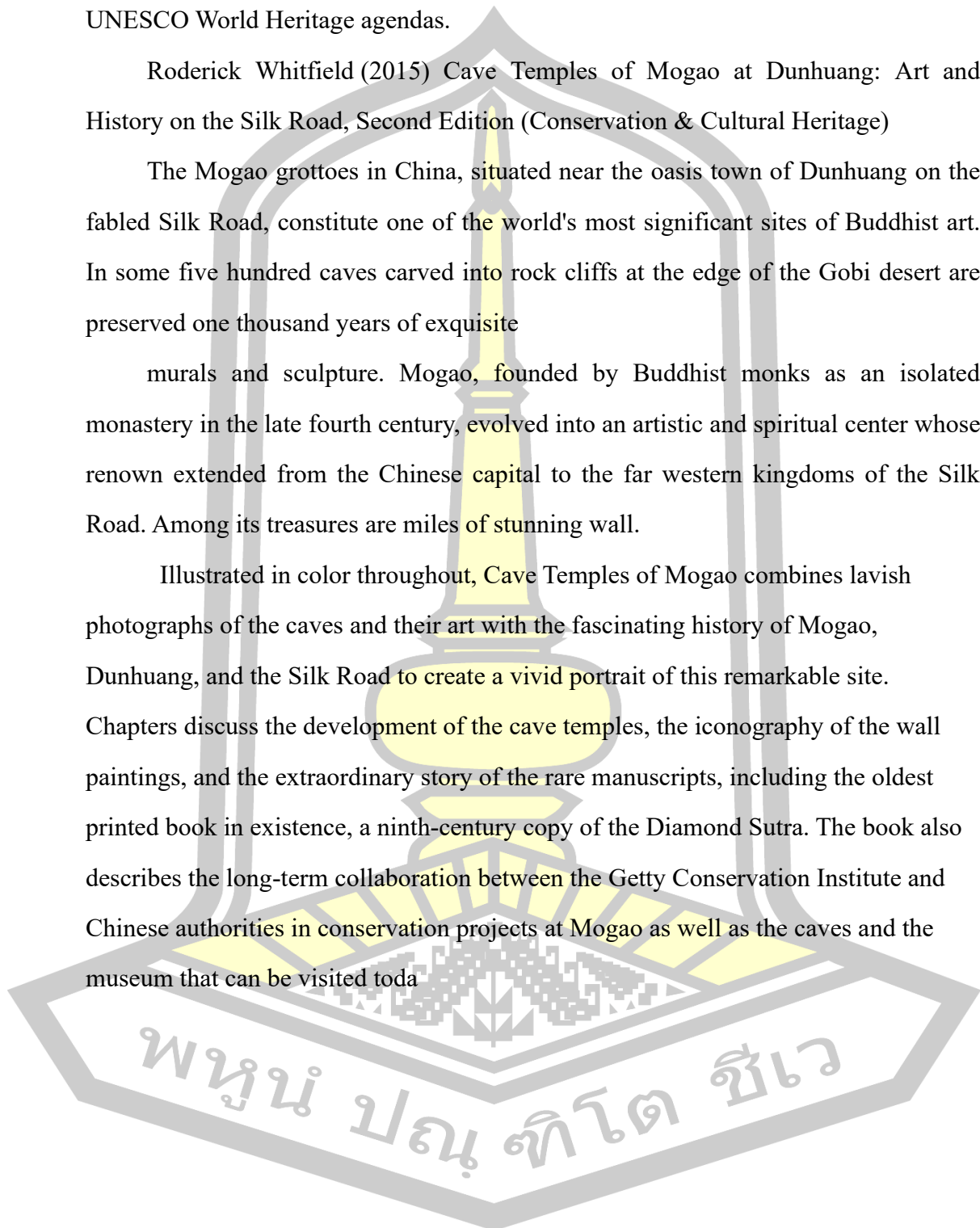
concept of cultural heritage was appropriated both by political regimes and for UNESCO World Heritage agendas.

Roderick Whitfield (2015) *Cave Temples of Mogao at Dunhuang: Art and History on the Silk Road, Second Edition (Conservation & Cultural Heritage)*

The Mogao grottoes in China, situated near the oasis town of Dunhuang on the fabled Silk Road, constitute one of the world's most significant sites of Buddhist art. In some five hundred caves carved into rock cliffs at the edge of the Gobi desert are preserved one thousand years of exquisite

murals and sculpture. Mogao, founded by Buddhist monks as an isolated monastery in the late fourth century, evolved into an artistic and spiritual center whose renown extended from the Chinese capital to the far western kingdoms of the Silk Road. Among its treasures are miles of stunning wall.

Illustrated in color throughout, *Cave Temples of Mogao* combines lavish photographs of the caves and their art with the fascinating history of Mogao, Dunhuang, and the Silk Road to create a vivid portrait of this remarkable site. Chapters discuss the development of the cave temples, the iconography of the wall paintings, and the extraordinary story of the rare manuscripts, including the oldest printed book in existence, a ninth-century copy of the Diamond Sutra. The book also describes the long-term collaboration between the Getty Conservation Institute and Chinese authorities in conservation projects at Mogao as well as the caves and the museum that can be visited today.



CHAPTER III

RESEARCH METHODOLOGY

This chapter adopts qualitative research method, and the researcher chooses Beiyue Temple in the middle of Jinhe River as the research area. Since this area is very representative of cultural heritage such as murals in North China, understand the sacrificial activities assisted by local temples, and conduct on-site investigations to determine the ways and means of inheritance and preservation. Study the murals and ancient buildings in Beiyue Temple and surrounding areas, including painting content, artistic style, painting techniques, and the collection and arrangement of painting materials. It is also a representative material cultural heritage of mountain worship in North China, and has promoted research on the restoration of Beiyue Temple murals. Key informants from the region were selected as study leaders. Therefore, the specific ideas of this study are 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. to study the history of Beiyue Temple murals.
2. study the symbolism and value of Beiyue Temple mural paintings.
3. to study the mode of digital conservation and dissemination, and the application of digital technology in the conservation of frescoes.

3.1.2 Research Methods

This study used mixed research method research to collect and study the history of the mural paintings of Beiyue Temple, study the symbolism and value of the mural paintings of Beiyue Temple, and the application of digital technology in the mural paintings of the mural paintings of Beiyue Temple. The researcher collected data from relevant literature and research papers. Fieldwork method was used to collect data and information through surveys, observations, interviews and focus group discussions. The data were analyse using research concepts, theories, literature and relevant studies, and descriptive analysis was used to analyse the data according to the research objectives.

3.1.3 Research Period

Research time: September 2023to August r2024

Table 2 Timetable for the Research

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

Table 3 Research Project Form

No.	Stage	Details	Results
1	Clearly Identify the problem	Digital dissemination and protection of murals	Finish
2	Collect basic information	On-site digital acquisition and digital image processing	Finish
3	Action plan	Complete digital collection and production in three months	Finish
4	Plan	Digital arrangement of murals	Finish
5	Observation work	In-depth digital animation production	Finish
6	Observation	One month of local investigation and interviews	Finish
7	Monitoring	Current status of murals and data collection of digital images	Finish
8	Performance Evaluation	Mural image and animation data	Finish
9	Reflect on evidence information	Details of animation production and problems encountered in digital murals	Finish
10	Review and improve	Protection and dissemination measures for local cultural tourism development murals	Finish
	Report	Interviews with local people and audiences of murals	Finish

3.1.4 Research Area

Beiyue Temple is an ancient Hengshan sacrificial temple in the Taihang Mountains region of central Hebei Province, China, located in the old town of Quyang County in the eastern foothills of the Taihang Mountains, with a history of 1,500 years.



Figure 7 China Liaoning Province Map
Source: [https://www.google.com/maps\(2023\)](https://www.google.com/maps(2023))



Figure 8 Map of Quyang County, Hebei
Source: [https://www.google.com/maps\(2023\)](https://www.google.com/maps(2023))

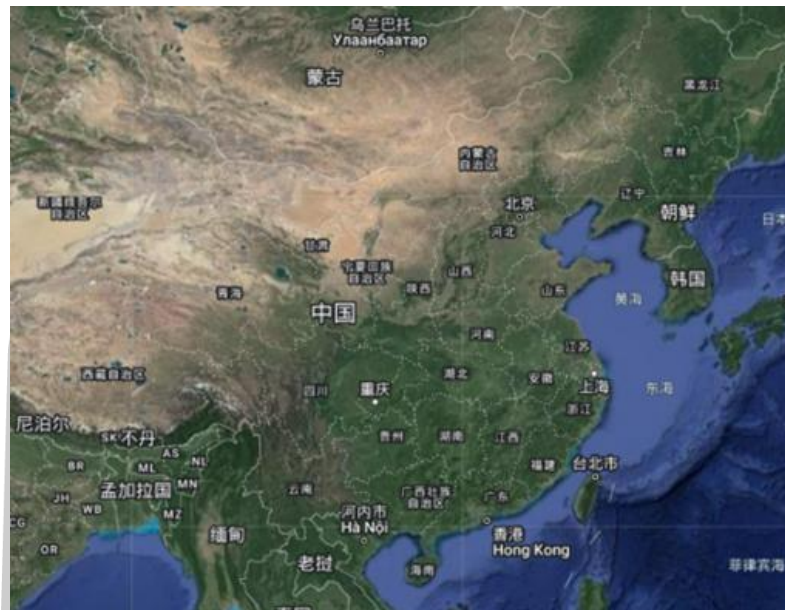


Figure 9 Location of Beiyue Temple

Source :<https://www.google.com/maps>(2023)

3.1.5 Population and Sample

Based on the objectives of the study, the researcher used purposive sampling method to select three categories of people as respondents for the field study. They were key informants, ad hoc informants and general informants. The selection criteria and selected persons are described below.

1. Key informants:

Criteria for selecting key informants

1.1 People who have in-depth knowledge of the historical and cultural heritage culture of the mural paintings of Beiyue Temple in Hebei Province, and who have long been committed to the study of the cultural history of Beiyue Temple. 1 person.

1.2 Experts with in-depth knowledge of ancient mural paintings who can provide relevant information on the theoretical knowledge, historical background, and artistic value of mural paintings. 2 people.

1.3 Long-term representative inheritors from the mural painting restoration, can provide digital mural painting collection and restoration of theoretical knowledge and practical experience. 2 people.

1.4 Hebei Beiyue Temple local engaged in cultural heritage inheritance and protection of relevant policies and regulations, work planning dynamics and other relevant information. 2 person.

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

Lv Ai, Dunhuang Research Institute mural painting researcher Lv Ai teacher, the British Museum guest expert, Dunhuang Mogao Caves mural painting senior researcher, long-term from the Chinese mural painting copying, mural painting restoration, mural painting protection research. 2015-2017 served as the British Museum in the United Kingdom, China Dunhuang Mural Painting guest researcher.



Figure 10 Lv Ai

Source: ZhiYong Li (2023)

Wang Limin, Quyang County, Hebei Province, Quyang cultural relics director, has long been engaged in the Beiyue Temple related cultural relics protection research work, published related Beiyue Temple research works.



Figure 11 Wang Long

Source: ZhiYong Li (2023)

Liu Zi Qun, a native of Jinzhong, Shanxi Province, is a representative inheritor of the fresco restoration and copying of the intangible cultural heritage project of fresco painting.



Figure 12 Liu Zi Qun,

Source: ZhiYong Li (2023)

Du Chen, M.A. in Mural Painting, China Academy of Fine Arts, Associate Professor of Mural Painting, Hebei Academy of Fine Arts. Mural painting intangible cultural heritage project inheritor.



Figure 13 Wang Wang Long

Source: ZhiYong Li (2023)

Liu Zhi tai, Quyang, Hebei Province, engaged in Du Nian mural painting and restoration work, mural non-genetic inheritance.



Figure 14 Du Chen,

Source: ZhiYong Li (2023)

Zhang Qian, a native of Shijiazhuang, Hebei Province, is an expert in mural painting digital conservation research at the Hebei Provincial Museum, and has long been engaged in mural painting conservation and dissemination.

Wang Jianqi, a native of Xi'an, is a mural painting restoration expert of the Shaanxi History Museum, mainly researching on the restoration of Tang Dynasty murals, and has been engaged in mural painting restoration for more than 40 years.

2. Provisional interviewees:

10 general industry insiders and qualified representatives were selected based on the following criteria:

2.1 Interviews and focus group discussions with designers, technical teams and related professionals working in digital media related disciplines.

2.2 Informal interviews with practitioners and enthusiasts with knowledge of the restoration of the Beiyue Temple, around the Beiyue Temple.

2.3 Informal interviews with practitioners related to the local culture of Beiyue Temple.

3. General information providers:

Audience representatives: The audience consists of two parts: consists of two parts: local villagers of Beiyue Temple; young people who are interested in Beiyue Temple murals. From different perspectives, they will be able to understand the history, culture, and artistic value of Beiyue Temple as well as the current conservation dilemma it is facing. This will ensure the representativeness and diversity of the data information of the members of this group. They are of different specialisations, background, cultural background, gender, age, etc. This will provide a more comprehensive and rich feedback of data information and make the study more in-depth.

At the same time, potential informants were assessed for their professional judgement and credibility to ensure that the information provided was reliable and informative. 15 in total.

3.2 Research management

3.2.1 Research tools

The research tools used in this thesis are mainly interviews and observations based on data collection and factual observations, with a methodology that focuses on process and structural analyses, and seeks to obtain targeted fieldwork data for qualitative research and interpretation of the research subjects. In order to obtain the research data, the researcher designed a questionnaire and the corresponding interview form and observation form according to different research subjects. This thesis mainly adopts the following research methods:

1. Basic survey method

This method is one of the most commonly used and important methods in the field of social and cultural research. Relevant research results are collected and analysed through questionnaires and on-site surveys. Taking this as an entry point, through literature analysis, the researcher can understand the historical origin, cultural value and other related data information of Iwu Mountain Manchu paper cutting, including related theoretical research, digital media research results and so on. Through face-to-face survey, the researchers communicate with the interviewees face-to-face, and through questioning and listening, they can understand in-depth the information related to the inheritance and protection status of the research object. The survey has the advantages of large amount of information and in-depth communication. The advantage of this method is high authenticity. Through face-to-face survey, researchers communicate with interviewees face-to-face, and through questioning and listening, they gain an in-depth understanding of the inheritance and conservation status of the research object and other relevant information. The survey has the advantages of informativeness and in-depth communication. This method has the advantages of high authenticity and diverse observation objects.

The literature of this paper mainly comes from the following sources.

1.1 CNKI

CNKI, founded in 1999, is the largest literature database in China, and the CNKI project is an information construction project aiming at the dissemination, sharing and value-added use of knowledge resources in the whole society. It was initiated by Tsinghua University and Tsinghua Tongfang. Behind China Knowledge Network is a huge national project, which simply means to build a big platform and warehouse (China Knowledge Resources Database) that can encompass the vast majority of knowledge resources in a country, which we can intuitively understand as a bank or supermarket of knowledge, where people store their research results and then find what they want from others.

1.2 Mahasarakham University Library Website

The Academic Resource Centre (AREC) is a government agency established under the Mahasarakham University Act. It was established on 27 March 1968 with the Mahasarakham College of Education (MCE) and began operations on 16 July 1969 as the MCE Library. The primary mission of the Office of Academic Resources is to support teaching and research, development and promotion of Maha Sarakham University graduates, research, and scholarly services.

1.3 China Intangible Cultural Heritage Official Website

China Intangible Cultural Heritage Website - China Intangible Cultural Heritage Digital Museum is a professional website of public interest for the protection of intangible cultural heritage under the leadership of the Inter-Ministerial Joint Conference on the Protection of Intangible Cultural Heritage, under the leadership of the Ministry of Culture of the People's Republic of China, and hosted by the China National Academy of Arts, to promote the protection of China's intangible cultural heritage, according to the spirit of "The State Council Circular on Strengthening the Protection of Cultural Heritage".

1.4 Quyang People's Government Official Website

Quyang People's Government Website is the portal website of Quyang County Government. It is an important form for the municipal government to apply information technology to fulfil its functions. The website is hosted by the People's Government of Jinzhou City and managed by the municipal government office. It releases government information to the society and the public, displays Jinzhou style economic development and people's life, provides online services and public welfare services, and carries out interactive communication.

2. Observation method

It refers to the research method of observing the natural state of the research object in order to obtain the corresponding data. In this study, the researcher went deep into the specific social environment of Yiwu Mountain in Jinzhou City, including personally participating in the inheritance activities related to Yiwu Mountain Manchu paper-cutting, to understand the current status of the inheritance and protection of Yiwu Mountain Manchu paper-cutting.

According to the degree of the observer's integration into the fieldwork, observation methods can be categorised into participatory and non-participatory observation. Participatory observation refers to the in-depth study of the living condition of the research subject, weakening personal identification and willingness to participate, and conducting implicit observation during the actual participation process. In this study, the researcher participates in observing the current situation of the inheritance and protection of Manchu paper-cutting in Yiwu Mountain, and conducts implicit observation of its current situation and problems. Non-participant observation means that the observer needs to keep a certain distance from the research object. In this study, the researcher observes the research object from a third-party perspective, collects relevant information, and forms rich data to provide reference for subsequent research

3. Interview method

Interview method is to obtain research materials through formal or informal conversations with research subjects. The interviewees of this study include the cultural experts of Beiyue Temple, relevant personnel of Quyang County government departments, mural inheritors, digital collection team, mural art enthusiasts, local residents and so on. And in-depth interviews were conducted with the interviewees. In addition, there are interview record sheets.

According to the specific arrangement and setting of different situations, the interviews can be divided into structured and unstructured interviews. Questionnaire making process (according to the research objectives)

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

3.2 Revisions are made based on feedback and suggestions from the instructor.

3.3 Invite research experts in the relevant field to check before use.

3.4 Modifications are made based on suggestions from relevant research experts and then used for interviews.

3.5 Use modified questions for interviews.

Interview transcription: Make a table listing the date, place and key information about the respondent, such as name, age, gender, occupation, etc. Ask questions based on the designed questionnaire and centred on the key topics in the thematic design of this interview.

4. Focus group discussion

Focus group discussion is a discussion group composed of digital media designers or design team, relevant historical experts, mural painting well-wishers and local residents' representatives to collect the current situation of Beiyue Temple and the role of digital media in the transmission and protection of intangible cultural heritage. The relevant data of the application, as well as the opinions on the

construction of the application practice mode in the protection of digital mural paintings, the results of the discussion will be summarize and analyze, and the optimization will be adjusted in a timely manner.

3.2.2 Data collection

1. Basic survey

The basic investigation of this study mainly adopts the literature research method and field investigation method. Through online and offline searches, we find domestic and international literature related to the study of Chinese mural painting images, mural painting conservation and digital media, and retrieve and analyse relevant research results. Thus, it provides valuable reference data and basic theoretical information for the subsequent research.

Collection of literature and fieldwork content: Historical documents, historical biographies, artistic values and relevant inheritance and protection methods related to Chinese mural paintings and Beiyue Temple. Digital media used in cultural heritage, digital protection forms, expression methods, interaction methods and technical means. The relevant legal policies on cultural heritage and digital collection issued by the state, digital inheritance of tangible cultural heritage, the relevant legal policies of Hebei Province, the relevant legal policies issued by the mural paintings, and so on.

2. Observation

On the basis of participatory and non-participatory observation, the observation materials mainly include the cultural value, ritual activities, artistic value, and protection methods of the Beiyue Temple; from the perspective of digital technology, the technical language, expression, and interaction methods of digital media are observed. The methods of observation and recording are camera and notes. Observe and extract the pattern symbols of the required samples in the field by recording the mural paintings of Beiyue Temple. Recording the inheritance and conservation methods and activities of the national government can help us to understand the main ways of mural painting conservation at present, what are the shortcomings of the

methods, and summarize and refine the shortcomings. Through this method, more and richer data information can be recorded to provide reference for subsequent data collection and practice creation.

3. Interviews

Interview data will be collected in the form of audio recordings and transcripts. The interview method is one of the most direct methods of data collection. Before the interview, questions, time and interview sessions should be defined. After the interviews, the transcripts of the interviews with different people should be summarised and recorded. In this study, valuable data information and research materials were obtained through dialogue with relevant informants. The main interviewees of this study mainly include mural painting culture experts, representative inheritors of non-heritage, digital collectors, scholars or researchers related to the protection of cultural relics in Quyang, and mural painting enthusiasts.

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

3.1 After the interview, the content of the relevant interview information is sorted and classified, and the information information of each interview is sorted and classified according to the date, so that the subsequent information can be synthesised.

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

4. Focus group discussions

Identify research objectives and research questions:

Define the research objectives and research questions. Based on the three research objectives of this study, the steps of the focus group discussion are as follows. Selection of focus group discuss team members:

Identify participants for the focus group discussion who should represent people related to the research questions and the target audience. Participants include experts on the Temple of the North, digital media artists, preservation enthusiasts, and local people.

- Develop a focus group discussion guide:

Include open-ended questions that can guide the discussion. Questions should be relevant to the research objectives, but also provocative and open-ended to allow participants to freely express their opinions and experiences.

- Arrange focus group discussions:

Choose an appropriate location and time. Ensure that the meeting can accommodate participants and provide a comfortable environment.

- Conducting the Focus Group Discussion:

During the focus group session, the researcher develops and asks relevant questions to guide participants in discussing the research questions. The discussion process is open and participants are free to express their views and ideas. During the process, the researcher listens and takes notes, as well as participates in the discussion.

In the field of qualitative research, focus group discussion is the most effective data collection method to gain insight into participants' perspectives and ex.

3.2.3 Organizing and analyzing data

The collected research data were Summarized, categorized according to the intended research objectives, integrated into summary tables and checked for completeness of the research data. By integrating the summary data, it will be analyzed using triangulation techniques to answer the research objectives. The researcher will validate the findings using relevant theories. Ensure the completeness and adequacy of the analyses and conclusions.

In response to the first research objective, the researcher analyses and organizes in detail the historical origin, cultural value and cultural identity of Beiyue Temple

murals. Explaining the long cultural and historical origin, cultural value and cultural identity of Beiyue Temple and murals.

For the second research goal, the researchers collected relevant information on the current status of the protection of Beiyue Temple murals in recent years, sorted out and analyzed the current status and problems, and concluded the current problems faced by the protection of Beiyue Temple murals. Through social memory and non-hereditary inheritance, by exploring the history and cultural development process of Beiyue Temple and the historical value of murals, the current mural content and character expression methods were studied, and the protection and cultural dissemination of Beiyue Temple murals were studied. There is still a lack of in-depth research on basic issues such as how traditional painters complete the painting of indoor murals, how the team is formed, and how to protect the complete paintings of traditional religious murals. Promote the Beiyue Temple murals, promote the protection of mural cultural heritage research, and focus on the establishment of digital media.

For the third research objective, the researcher utilised relevant literature, the current situation and problems of Beiyue Temple mural paintings, and the suggestions made by interviewees. Using relevant concepts and theories, he constructed a digital combining the protection and inheritance of mural paintings, excavating the production process and restoration methods of mural paintings, combining the protection and publicity of Beiyue Temple mural paintings, better publicize and protecting the local cultural relics, excavating the deep intrinsic value of the mural paintings, following the development of the Beiyue Temple mural paintings to keep pace with the times, following the road of digital promotion to promote the advancement of the local culture, and combining the actual situation, analysing the cultural Tourism development difficulties encountered, looking for solutions. This will enhance the brand effect and economic benefits of regional culture.

The specific creative process is as follows:

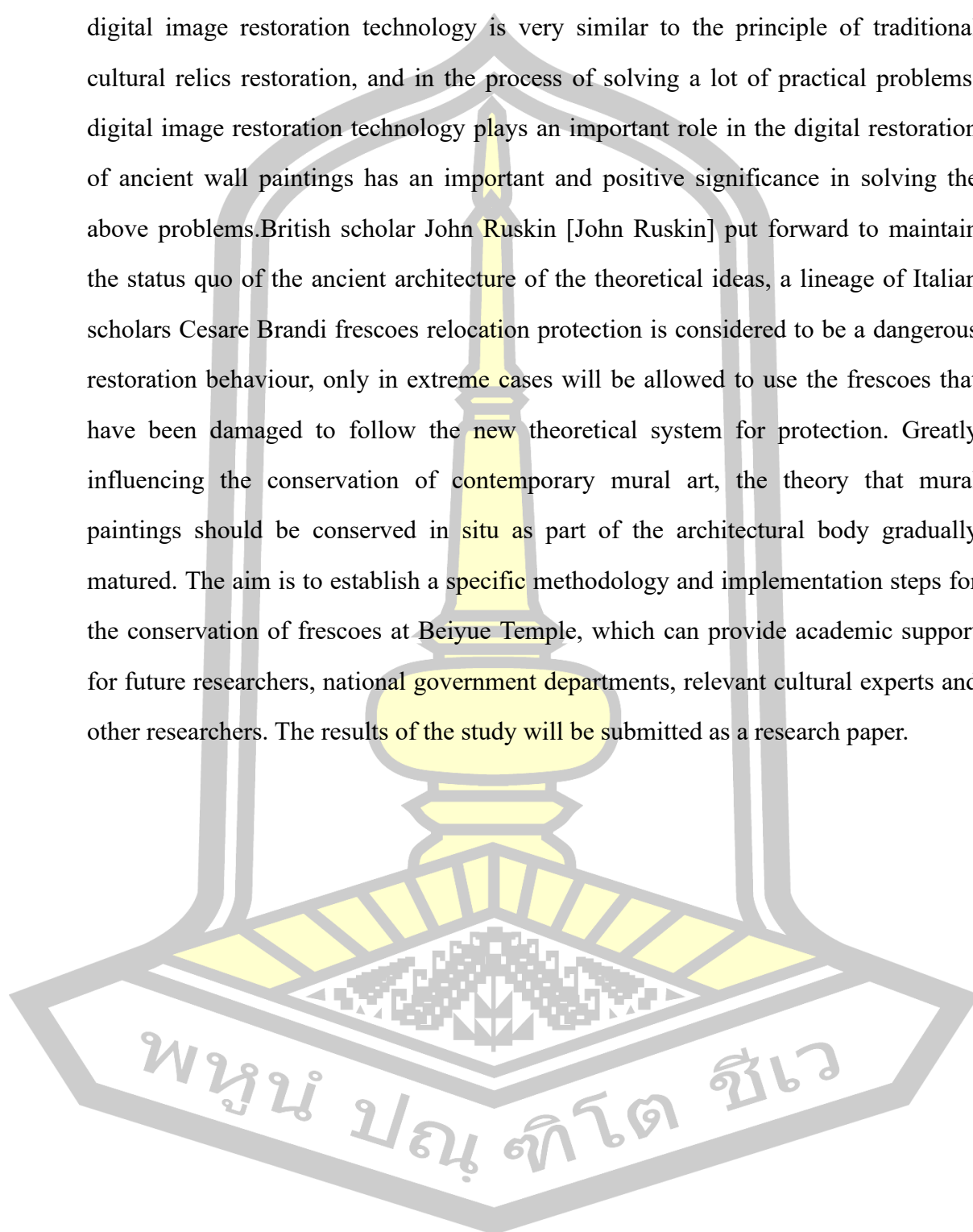
1. Historical origin
2. cultural values
3. cultural characteristics
4. Current status of inheritance and conservation
5. Inheritance and conservation problems
6. pre-design of digital conservation (conceptual design, extraction of mural samples)
7. mid-term production of digital protection (adjustment of the picture, repair and generation of the picture)
8. Completion of digital images (synthesis of multiple images, application of storage technology)
9. Evaluation and feedback
10. Application of practical results

3.2.4 Presentation of Research Results

Qualitative research method was used in this study. Also, descriptive analysis was used to collect data through surveys, observations, formal and informal interviews and focus group discussions. Data synthesis was carried out based on the research framework. The research findings were analysed descriptively using three main concepts:

"The digital image colouring technique was first proposed by M. Bertalmio et al. They used the known image information retained around the damaged area of the digital image., and then estimate the unknown information of the damaged area according to certain rules based on the characteristics of the digital image itself to fill in the lost pixel area of the image to achieve the purpose of restoring the original image. They use the known information of the image around the damaged area and estimate the unknown information of the damaged area by certain rules according to the characteristics of the digital image itself to fill in the lost pixel area of the image,

so as to achieve the purpose of restoring the original image. This repair principle of digital image restoration technology is very similar to the principle of traditional cultural relics restoration, and in the process of solving a lot of practical problems, digital image restoration technology plays an important role in the digital restoration of ancient wall paintings has an important and positive significance in solving the above problems. British scholar John Ruskin [John Ruskin] put forward to maintain the status quo of the ancient architecture of the theoretical ideas, a lineage of Italian scholars Cesare Brandi frescoes relocation protection is considered to be a dangerous restoration behaviour, only in extreme cases will be allowed to use the frescoes that have been damaged to follow the new theoretical system for protection. Greatly influencing the conservation of contemporary mural art, the theory that mural paintings should be conserved in situ as part of the architectural body gradually matured. The aim is to establish a specific methodology and implementation steps for the conservation of frescoes at Beiyue Temple, which can provide academic support for 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

4.1 The history of Beiyue Temple murals

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4.1 The history of Beiyue Temple murals

4.1.1 Development and evolution through the ages

Beiyue Temple is located in Quyang County, Hebei Province. Quyang County is located in the west of the North China Plain and east of the Taihang Mountains. It is named because it is located in the sun of the ancient Beiyue Hengshan Mountain (today's Da mao Mountain). After Qin unified the six kingdoms in 210 BC, it divided the country into 36 counties and established Quyang County, which belonged to Julu County. After Liu Bang unified the world, he established Hengshan County in the area

that is now Yuanshi County, Hebei Province. It has been 2,000 years ago. Years of history. Quyang has a long history and rich cultural heritage. It has three major cultural treasures: sculpture, Ding porcelain and Beiyue Temple. Beiyue Temple has always been a place for emperors of all dynasties to worship the God of Beiyue Hengshan. Beiyue Temple was called Beiyue Ancestral Temple in the Han Dynasty, Beiyue Temple and Beiyue Antianwang Temple in the Tang Dynasty, Beiyue Antianwang Shengdi Temple in the Song Dynasty, and Beiyue Antian Great Sage in the Yuan Dynasty. During the Ming and Qing Dynasties, its previous titles were canceled and renamed Beiyue Temple. Over thousands of years of Chinese history, the Five Mountains and Four Mountains have been admired by people for their unique geographical location and natural and cultural landscapes. Feudal emperors also regarded enshrining Zen, worshiping mountains, and worshiping heaven and earth as important events to protect the country, the country, and the country. Among the five mountains, Dongyue Taishan, Xiyue Huashan, Nanyue Hengshan, and Zhongyue Songshan are all unambiguous, but Beiyue Hengshan is not.

Worshiping the Five Mountains has a long history, and Beiyue Hengshan is one of the Five Mountains in China. Mountain worship originated from the worship of mountains and rivers by ancient Chinese ancestors. Relevant literature records that as early as the ancient Yao and Shun periods, Emperor Shun had stipulated the rituals for mountain sacrifices: in February of the year, he would patrol eastward and hunt as far as Mount Tai, Daiyue; in May, he would patrol south and hunt as far as Nanyue; in August, he would patrol westward and hunt as far as Mount Xianyue on the 10th day of the year. The moon tours and hunts as far as the North Mountain, like the Western Li. According to the "Book of Rites: Kingship" recorded 2000 years ago: The emperor worshiped the world's famous mountains and rivers, traveled to the five mountains and awarded them very high official positions. His princes followed suit, and the princes also carried out sacrificial activities to the mountains and rivers. Sacrifice to the Five Mountains has always been an important part of official sacrifices in ancient

my country; the occurrence and development of ancient sacrificial culture also left us with rich cultural heritage. (Wu, J. Z., & Cai, 2007)

"Shui Jing Zhu" records: Beiyue Temple is located in the northwest of Quyang, at the foot of Hengshan Mountain. At the end of the Han Dynasty, the world was in chaos, and the road to the mountain was blocked. The ancient temple was left here; in the Wei and Jin Dynasties, there were steles and altars in front of the East and West Tang Temples. The fields are arranged in a row. Beiyue Temple was established in Quyang County in the third year of Tianhan (98 BC) in the Western Han Dynasty. In "Shangshu Di Dian", there is a record that Shun "visited Beiyue in the eleventh month of the twelfth month". Beiyue Temple was moved to its current location during the Northern and Southern Dynasties and the Northern Wei Dynasty. In the nearly 1,500 years since its completion during the Jingming and Zhengshi years of Emperor Xuanwu (500-512 AD), it has been rebuilt and relatively large-scale repaired and expanded 16 times in the past dynasties. From this point of view, the current Beiyue Temple in Quyang should have been built here. Beiyue was granted the title of King An Tian. The level of worship was very high. The temple was rebuilt many times and the overall building scale was grand.

4.1.1.1 Han Dynasty period

After Liu Bang, the emperor of the Han Dynasty, unified the world, he established Hengshan County in the area that is now Yuan Shi County, Hebei Province. Later, in order to avoid duplication with the name of Emperor Liu Heng of Han Dynasty, it was changed to Changshan County. Literally speaking, "Chang" means the same as Heng. The place name Changshan has also appeared in other places in the Taihang Mountains. For example, Feiguri, about seventy miles south of Yuxian County, was also called "Changshan Pass". In 577 AD, Emperor Wu of the Northern Zhou Dynasty destroyed the Northern Qi Dynasty. (H. Zhang, 2013)

(Wang Limin, 2023, Interview) The full name of Beiyue Temple is Beiyue'an Dayuan Changdi Di, commonly known as Shixiadian. It is located in the southwest of

Quyang County."Quyang County Chronicles" states in the first part of major events: "Historical records record that there is Beiyue Temple in Quyang, and there are many stories of sacrifices in history...". It is clearly pointed out that Beiyue Temple was a place of worship in the past dynasties. According to historical records, the Beiyue Temple in Quyang has a long history. According to "Beiyue Bian" written by Gu Yanwu, a scholar from the Ming and Qing Dynasties, Beiyue Temple performed sacrifices according to the ancestral rituals and local customs. "Yu Shu" contains the words "When Emperor Shun was in power, he went on a hunting tour to Quyang in November of a year and performed sacrifices"; "Historical Records·Fengchanshu" also has a writing that "in November, he went hunting to Beiyue"; while Zhou, Both the Qin Dynasty and the Qin Dynasty had the tradition of offering blood sacrifices to Beiyue. But the earliest records involving the Yue Temple date back to the Han Dynasty. According to "Fu Tong Zhi", there is Beiyue Temple in Qu yang, which existed in the Han Dynasty, but it is not certain when the temple was built. "The Book of Han: The Chronicles of Emperor Wu" records that in March 98 BC, Emperor Wu of the Han Dynasty visited Mount Tai to worship, enfeoff the mountain, and build temples. He changed his plan and continued to visit Beiyue and built a temple in Changshan, Hebei. From this point of view, there was indeed a Beiyue Temple during the reign of Emperor Wu. In addition, Volume 28 of "Hanshu·Geography" also clearly mentioned that "in Qu yang County, Hengshan and Beiyue Temple are in the northwest of Qu yang." "Hanshu·Jiaosi Zhi" says that Beiyue Hengshan is in Shangquyang, and the envoys went to Beiyue Temple... record of. During the reign of Emperor Xuan of the Han Dynasty, the worship of the Five Mountains was already a national consensus. This has been recorded in the history of the Five Mountains. Although there was no fixed time for worshipping the Five Mountains at this time, the sacrifice of the Five Mountains had begun to be incorporated into the national etiquette system and became a central part of the royal rule. Indispensable part. It was also from this time that the state's activities of worshipping Beiyue began to be closely

related to Yue Ancestral Hall (temple). Paintings from the Qin and Han dynasties are rarely preserved in kind. The only relics that can be used to understand the appearance of Qin Dynasty paintings are the decorative patterns of stenciled portrait bricks unearthed in Lin tong, Feng xiang and other places in Shaanxi. The Han Dynasty lasted for more than four centuries and was an important period when the specific national spirit and formal style of traditional art were basically established and further developed and consolidated. The rulers of the Han Dynasty attached great importance to the art of painting, but it was a long time ago and not many physical objects were preserved. It can be inferred from the murals of the Han Tomb in Anping, Hebei and the murals of Tomb No. 1 in Wangdu, Hebei. However, the painting style and artistic characteristics of the Beiyue Temple murals and The situation represented by the content of the mural. The characteristics of the paintings at that time were even, thin and powerful lines, thick and steady colors, bright and harmonious; the composition was dense and sparse, using a method that combined regular and balanced pattern structure with realistic images. (Hu, 2022)The main body was prominent, coherent from top to bottom, and rich. And strangely moving. Paintings mostly reflect the travels of emperors, themes of gods and monsters, and themes of promoting ethics and morals. (Figure 15)



Figure 15 Murals from the Han Tomb in Anping,

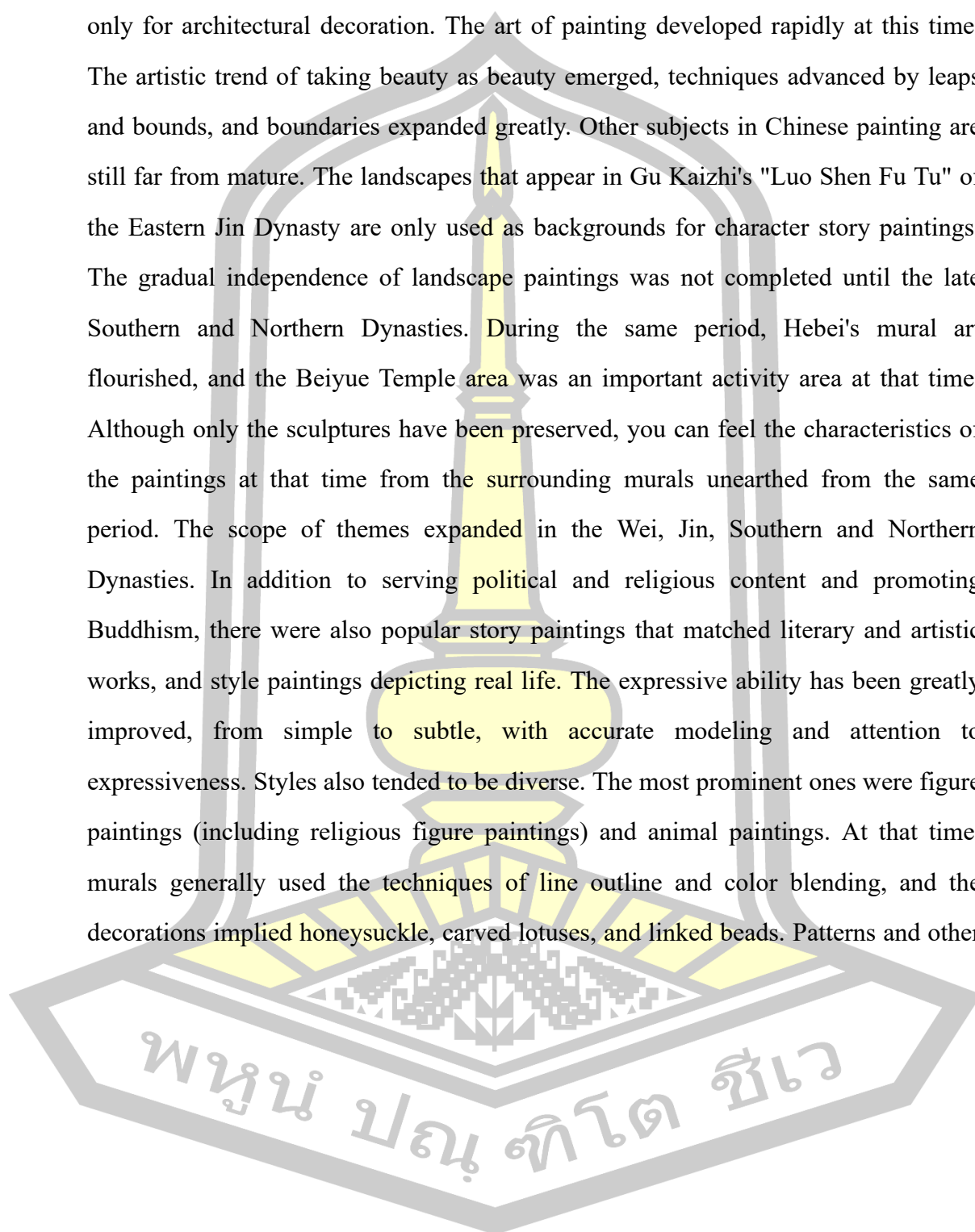
Source: ZhiYong Li (2023)

4.1.1.2 Southern and Northern Dynasties period

In 435, the temple of Heng Yue was rebuilt and ninety people were organised to offer sacrifices. At the end of the year, they prayed for favourable winds and rain, and sent local governors to sacrifice animals to... 'Wei Shu - Shi Zu Wu Di Ji' also records that in December 435 A.D., an envoy was sent to sacrifice the Beiyue Temple in Taimyr. 'But the Beiyue Temple at this time was no longer a Han Dynasty site. According to Li Dao yuan's 'Notes on the Water Classic', 'the Changxing River basin was flooded, and the Beiyue Temple was at the eastern foot of Mount Heng in the Taihang Mountains'. Beiyue Temple in Quyang County, seventeen miles northwest of the county, so the still existing Beiyue Temple in the county is not the old Han temple site. The Northern Wei Dynasty changed the county to move here. In 500 A.D., Emperor Yiwu of the Northern Wei Dynasty moved the county town to the present site because it was in a state of disrepair, and the Beiyue Temple was moved to the present site at the same time.... The rituals of Beiyue Temple continue the rituals of the national mountains and rivers. Although there was still no fixed time for the rituals, from this time onwards, the Beiyue Temple began to have a special person set up by the state to wait for the rituals, thus making the rituals of the state more stable. Due to its long history, the Beiyue Temple building from the Han Dynasty has disappeared in the river of history.

However, after liberation, a large number of stone carvings and stone carvings and other cultural relics from the Northern Wei Dynasty were unearthed around the Beiyue Temple in Quyang, which have a certain connection with the architecture and murals of the Beiyue Temple. Yang Zhishui's "Ceremonial Research on Several Tooth Books of Northern Dynasty Mural Tombs in Wanzha, Ci County"; Hebei Provincial Museum and Hebei Provincial Cultural Relics Management Office's "Investigation Report on the Tomb of Cui Ang in the Northern Qi Dynasty in Pingshan, Hebei"; Ci County Cultural Center's "Bei Qiyao in Dongchen Village, Ci County, Hebei Province" "Jun's Tomb" Before the Wei, Jin, Southern and Northern

Dynasties, painting was just a tool to assist morality, facilitate politics and religion, or only for architectural decoration. The art of painting developed rapidly at this time. The artistic trend of taking beauty as beauty emerged, techniques advanced by leaps and bounds, and boundaries expanded greatly. Other subjects in Chinese painting are still far from mature. The landscapes that appear in Gu Kaizhi's "Luo Shen Fu Tu" of the Eastern Jin Dynasty are only used as backgrounds for character story paintings. The gradual independence of landscape paintings was not completed until the late Southern and Northern Dynasties. During the same period, Hebei's mural art flourished, and the Beiyue Temple area was an important activity area at that time. Although only the sculptures have been preserved, you can feel the characteristics of the paintings at that time from the surrounding murals unearthed from the same period. The scope of themes expanded in the Wei, Jin, Southern and Northern Dynasties. In addition to serving political and religious content and promoting Buddhism, there were also popular story paintings that matched literary and artistic works, and style paintings depicting real life. The expressive ability has been greatly improved, from simple to subtle, with accurate modeling and attention to expressiveness. Styles also tended to be diverse. The most prominent ones were figure paintings (including religious figure paintings) and animal paintings. At that time, murals generally used the techniques of line outline and color blending, and the decorations implied honeysuckle, carved lotuses, and linked beads. Patterns and other



styles from the Western Regions led the trend of northern art, catching up with the legacy of the Han Dynasty and pioneering the myriad styles of the prosperous Tang Dynasty. The outer contours of the characters are outlined with thin lines, while the clothing lines are outlined with broad strokes. Each character is an independent image, with detailed description and various brushstrokes. There are more long scrolls, layered column banners, and panoramic pictures than single pictures. The picture more prominently shows the weak connection between group characters in a narrative plot, and does not put too much emphasis on the depiction of individual



characters.

Figure 16 Gu Kaizhi's painting,

Source: ZhiYong Li (2023)

Gu Kaizhi is the only painter from the Six Dynasties period whose paintings have been handed down to the world. His existing works include "Pictures of Admonitions of Women", "Pictures of Luo Shen Fu" and "Pictures of Women's Benevolence and Wisdom" in Sui, Tang or Song Dynasties (Figure 16). The Wei, Jin, Southern and Northern Dynasties were a development period in Chinese history that carried forward the past and ushered in the future, as well as division and integration. The Northern Qi Dynasty inherited the mantle of the Eastern Wei Dynasty. Although the dynasty was short-lived, it gave birth to a brilliant culture. Among the ancient

murals that have been excavated in Han dan during the same period, the murals in the tomb of Princess Ruru and the murals in the tomb of Emperor Wen xuan Gao yang can be inferred as the characteristics of the mural style of Beiyue Temple. Just like the Dunhuang Mogao Grottoes of the same period, the existing murals from the Northern Wei Dynasty can reproduce the characteristics of the painting style.(Figure 17)



Figure 17 Northern Wei Dynasty Murals

Source: ZhiYong Li (2023)

Due to the long-lasting division of the country during the Wei and Jin Dynasties, constant wars led to the migration of literati and officials with the royal family. Buddhism, Taoism, and metaphysics emerged at this time, and foreign cultures such as Greece and Persia were also introduced. The mutual integration of cultures in different regional backgrounds promoted There was a great prosperity in artistic activities during the Wei, Jin, Southern and Northern Dynasties. The figure paintings of this period gradually incorporated more social realistic character creations from the solemn political etiquette and sacrificial propaganda of the Pre-Qin and Han Dynasties.

4.1.1.3 Sui and Tang Dynasties

By the Sui and Tang Dynasties, Beiyue Temple was still the place where the feudal dynasty worshiped Beiyue. "Heng Yue Zhi" (Qing Dynasty) records: In August 608 AD, Emperor Yang once offered sacrifices to Bei Yue, and officials from the Hebei region participated together to offer amnesty to the world. In 645 AD, Emperor Taizong Li Shimin of the Tang Dynasty personally wrote an article to worship Beiyue. The article included the words "led the army to the outskirts of Zhaozhou, Hebei Province to grant flags." There are still four Tang steles in Beiyue Temple, all of which were made by celebrities in the Tang Dynasty. It is a pity that the stone tablet on which Emperor Taizong of the Tang Dynasty wrote his article no longer exists. In the early Tang Dynasty, the state restored the Five Mountains sacrificial system, stipulating that: the Five Mountains and Four Towns were worshiped, and the Four Seas and Four Lands were worshiped. From this, it can be seen that the Five Mountains inspection and sacrifice was still one of the family sacrificial items in the Tang Dynasty. Moreover, the time for worshipping Beiyue was also fixed at this time. According to the "Tang Book of Rites and Music", it is stipulated that Beiyue Hengshan should be held in Dingzhou every year. "Liu Dian of the Tang Dynasty" also clearly mentions that Beiyue should be held in Dingzhou at the beginning of winter. Since then, various dynasties and generations have had corresponding regulations on the time for offering sacrifices to the Five Mountains. (Zhang, S. J., & Wang, 2009)

(Hao Weikun, 2024, Interview) These murals adopt traditional artistic styles, depict history and culture, and demonstrate the unique charm of ancient Chinese art. In terms of aesthetics, the Mogao Grottoes murals have very exquisite pattern designs, the characters outlined with lines are lifelike, the colors are bright and bright, and they have a strong visual impact. The decorative patterns and patterns in the murals are also very delicate and full of artistic and aesthetic value. In addition, the Mogao

Grottoes murals also contain profound cultural connotations and historical significance, reflecting the political, economic, cultural and other aspects of society at that time, and have important historical and cultural value. Therefore, the Mogao Grottoes murals are not only masterpieces of ancient Chinese art, but also treasures in the world cultural heritage. They are of great significance to the study and appreciation of ancient Chinese art. The painting techniques of Tang Dynasty murals are very superb. Through fine gilding, engraving, color painting and other techniques, the patterns are dazzling, layered and three-dimensional. There are a large number of caisson patterns in the Tang Dynasty and different styles. The Mogao Grottoes murals not only have extremely high artistic value, but are also important historical materials for the study of ancient society and culture.

Beiyue Temple was moved to its current location during the Northern Wei Dynasty and has a history of 1,500 years. In the thousands of years of history, Beiyue Temple has gone through countless reconstructions and expansions. According to the "Quyang County Chronicles", this temple was rebuilt after the Later Wei Dynasty moved to this city (see "Yi Tong Zhi")... It was built around 627 AD during the Zhenguan period of the Tang Dynasty. The stele of Zheng Zichun also records the expansion activities of Duan Chongjian, the governor of Dingzhou during the Kaiyuan period of the Tang Dynasty. The above two renovations and addition of inscriptions should be the earliest of the several constructions of Beiyue Temple that can be found in history. The stone tablet written by Zheng Zichun is relatively well preserved and can be used as a reference. The inscription records the reason why Duan Chongjian, the governor of Dingzhou, expanded the Beiyue Temple in the 23rd year of Kaiyuan (735 AD) and the appearance of the temple after the expansion. This expansion was due to the small scale of the temple. The width of the eaves of the temple and the span of the rooms were increased, and long pines and cypresses were planted to give the building a tall and solemn effect. Surrounded by tall trees and a large number of stone monuments, officials and people come to visit in an endless

stream. The murals may have been repainted during this renovation, but the details cannot be found. (Niu, 2012)

According to the "Monument of Beiyue Prefecture of the Tang Dynasty" erected on March 26, 721 AD, it contains the text "The algae painted pictures, as soon as the clouds rise in Chicheng, the pictures and writings are exquisite, it is suspected that the collection of immortals in Jianghe" has been judged to be extant. The wall wine was painted by Wu Daoyu when he was rescuing the Beiyue Temple in Chengshu Chengxin, a royal censor of the Tang Dynasty. He said, "It was very grand at the time to rebuild the Beiyue Temple. The murals in the temple were, of course, It was ordered by the Tang Ming Dynasty to send Wu Daozi to paint. "Beiyue Temple is a national sacrificial place. It seems reasonable for Emperor Shan to send court painters to paint the walls. Most of the Tang steles in Beiyue Temple were written by dignitaries. For example, one of the Tang steles is that of Zhang Yanyuan. It was written by Zhang Jiazhen, the great ancestor of the founding of the People's Republic of China. In terms of the grouped layout and characters, there are indeed similarities between the Beiyue Temple murals and Wu Daozi's "The Picture of Send-offs from the World" by Wu Daozi. In terms of technique, the Beiyue Temple murals are written in a familiar and carefree manner, with round and elegant clothing patterns, long lines that are hooked to the bottom, and changes in thickness. All these characteristics are consistent with the description of Wu Daozi's painting style in the painting history of the Tang and Song Dynasties. The murals have the characteristics of Wu Daozi's paintings: that is, the Wu family style is "strong" and "close to the wind". The mural is magnificent and full of wind, and the figures are about two meters high, which is rare in existing ancient murals. The mural has a beginning, climax and end, and the characters are accurate and vivid. In history, Wu Daozi of the Tang Dynasty is the first to be recognized for his high level of mural masters. The style of the murals in Dening Hall directly refers to Wu Daozi in the Tang Dynasty. (Figure 18)



Figure 18 Flying God of the Tang Dynasty

Source: ZhiYong Li (2024)

Wu Daozi's painting style is typically reflected in the use of lines. In his early years, Wu Daozi used thin and powerful lines. In his middle age, he developed into the smooth and mature line drawing style of "water shield style", and later developed into the flying and rhythmic "orchid leaf drawing". In terms of the blending method, he inherited Zhang Sengyao's "concave-convex painting method" and combined it with lines to highlight the lines with light-colored blooming, which was later called "Wu Family Style". Wu Daozi was also the founder of landscape painting. He painted landscapes in a simple and unpainted way. Zhang Yanyuan said: "The change of landscape began in Wu." This mural has landscapes and figures, and the line drawing technique of the figures is in line with the literature's description of Wu Daozi's painting method in his middle age. It is recorded that the treatment of landscapes has the simple style of Wu Daozi's landscape paintings in the middle and late Tang Dynasty. Especially the painting treatment of "Flying God" in the murals adopts "concave-convex painting method", which has a distinct three-dimensional effect. In the expression of beard and sideburns, they are close to the skin. The brush strokes are very strong, thin and sharp, the strokes gradually become thicker and lighter from the inside out, the hair seems to grow out of the flesh, the tendons are strong and

powerful, as if they are about to fly high into the sky, clothing The writing on the belts and clothing is lively and lively, and the writing is free and unrestrained. You can strongly and directly feel the rhythm of his entire brushwork. This rhythm is quite skillful and powerful. It is not only powerful, but also There is a sense of three-dimensionality, and this spiritual power is contained in every stroke. This painting method is exactly the powerful and vivid artistic expression of Wu Daozi's style that Wu Daozi pursues, and has the typical artistic characteristics of Wu Daozi's paintings. (Hao, 2024)

The Anshi Rebellion broke out, and then the separatist situation of vassal towns was formed. This canonization became the last recorded care for Beiyue Temple in the Tang Empire. After that, the state's worship of Beiyue became simplified or even barren due to the current situation. It was precisely because of the decline of Beiyue Temple since the end of the Tang Dynasty that in the 13th year of Tianyou (916 AD) after the Five Dynasties, Yu Wangchuzhen, who was then the governor of Dingzhou, promoted the reconstruction of Beiyue Temple again. Regarding Wang Chuzhen's life, there are detailed records in "History of the Old Five Dynasties" and Wang Chuzhimu's excavation report, so there will be no special discussion here. Regarding the reconstruction of the Beiyue Temple, there are relevant records in the "Quyang County Chronicle" saying that Wang Chuzhi built it on the original site only when he saw that the walls of the Beiyue Temple were tilted and the red couplets were decaying. As for whether this construction involved As for the painting of the murals, there is no clear record in the inscription. Moreover, the stele has been lost long ago and cannot be verified now. The murals on the tomb of Wang Chuzhi in Quyang during the same period should be greatly influenced by Beiyue Temple. The tomb of Wang Chuzhi is located in Xiyanchuan Village, Lingshan Town, Quyang County. It was built in 924 AD and was excavated in 1994. The tomb is covered with murals covering an area of 100 square meters, painted on a white gray surface about one centimeter thick. The themes of murals include figures, flowers and

birds, landscapes, buildings, utensils, astrology, decorative patterns, etc. The colors are gorgeous and the figures are vivid. They are mainly drawn with outlines, ink lines, and painted in colors such as vermilion, brown, and green. The characters in the murals, from their shapes to their expression techniques, are all relics of the Tang Dynasty; the flowers are painted using the hook-and-loop dot technique, and the leaves are made using the boneless method with direct dots of color; the landscapes are purely outlined with ink pens, using skillful brushwork. , the depth is appropriate, it should be the mural landscape painting method of Wu Daozi in the Tang Dynasty passed down from generation to generation. The overall painting style of the murals in Wang Chuzhi's tomb has strong characteristics of Tang Dynasty paintings, and is closer to the images of characters such as the Feitian God in Beiyue Temple.

4.1.1.4 Song Dynasty period

More than 70 years after Wang Chuzhi rebuilt the Beiyue Temple, the Beiyue Temple was completely rebuilt again. In the second year of Chunhua in the Northern Song Dynasty (AD 991), the Song Dynasty rebuilt Beile Temple. Regarding this reconstruction, according to "The Monument of the Reconstruction of Beiyue Antianwang Temple in the Song Dynasty" written by Wang Yu of the Song Dynasty that is currently in the Beiyue Temple, the reason was that when the Xiongnu (Khitan) invaded the fortress, they went to the Yue Temple to divine good or bad luck. But the result of the divination "did not follow the cunning Xia's heart", so it "set a prairie fire on fire."

From the Five Dynasties to the beginning of the Northern Song Dynasty, the Khitan people's harassment of the Quyang area never stopped. Regarding this, relevant historical materials.

Miscellaneous biographies in Volume 46 of "History of the New Song Dynasty" also record that this war resulted in "from Quyang to Dingzhou, corpses were left



Figure 19 Murals from Wang Chuzhi's tomb,
Source: ZhiYong Li (2024)

abandoned for more than 60 miles." In 946 AD, the Khitan fell into Quyang City, and the buildings were severely damaged. By July 979 AD, Song Taizong led his army to fight the Khitan around Quyang. Countless wars not only seriously affected the life and production of the people in Quyang area, but also caused great damage to the Beiyue Temple. Especially the fire caused by the "Huns invaded the fortress" caused the most serious damage to the Beiyue Temple. By the order of Emperor Taizong of the Song Dynasty, Sihui Beiyue Temple could no longer be simply repaired, but could only be completely restored. Not only that, the officials in charge

of the project began to "build Beiyue Temple more impressive than before to cater to the emperor's idea of re-establishing its glory". Increase the number of buildings and expand the building area. Decorate the gate of the Yue Temple, set up exquisite stone steps, install glazed tiles and draw colorful architectural paintings. Paint the exquisite Xuan-titled caisson on the roof of the main hall, and conduct a complete reconstruction. The Song Dynasty inscriptions on the Bei Yue Temple The description of the "Xuanti caisson" in the book shows that there were paintings in the newly built Beiyue Temple at that time. Some traces of the Song Dynasty shown in the murals of Beiyue Temple today may be related to this.

Moreover, this reconstruction also established the scale of Dening Hall today. According to Mr. Zhang Lifang, director of the Hebei Institute of Ancient Architecture (the renovation project of Dening Palace was completed in the 1980s), their stratigraphic survey results under the terrace of Dening Palace were: the uppermost foundation is the Song Dynasty model. , this result is consistent with the reconstruction in 991 AD, proving that subsequent constructions were based on the reconstruction of the Song Dynasty. In addition to this reconstruction, Beiyue Temple was repaired several times during the Song Dynasty:

In 1097 AD, a new main hall was built in the Beiyue Temple, but the inscription did not mention the murals. Instead, there was a more detailed record of the dragon on the newly built right couplet: "The dragon carved on the right has golden scales and jade claws, winding dragonfly catkins, and a mane that is about to stir. "This description is similar to the dragon on the eaves of the main hall of Beiyue Temple. At this point, the murals in Beiyue Temple have been restored based on the Tang Dynasty. It can be said that the murals adhere to the Wu School style of painting in the Tang Dynasty. It is precisely because the entire mural feels too similar to Wu Daozi's style to today's people. The value of the murals in Beiyue Temple That's why it came to the fore. Mr. Huang Miaozi mentioned in "Collection of Wu Daozi's Stories": "This mural in Beiyue Temple in Quyang is an outstanding work among the

ancient Chinese murals left today. Many artists who have seen it have a high opinion of it. Evaluation." Of course, the value contained in the Beiyue Temple murals is far from that. Su Dongpo, a great writer in the Song Dynasty, once served as a local official in Dingzhou, in charge of Quyang County. In March 1094, he wrote to the court, asking for a downgrade to raise funds for the renovation of Beiyue Temple. The memorial contains writings about Beiyue Temple and repairs to the murals in the temple. (Tian, 2022)

In the Song Dynasty, Beiyue Temple held very busy festivals and was very popular, but the war in the late Northern Song Dynasty put an end to the prosperity. After the invasion of the Jin people, the Mongolian cavalry marched south and started a battle with the Jin people and the Mongols in the Quyang area. First, in 1220 AD, Zhang Rou captured Jia Quyang County. Then, in 1221 AD, Hao Daozhang plundered Quyang Prefecture County. Years of war have not only caused suffering to the people, but even the buildings have not been spared. Li Xinchuan's "Miscellaneous Notes on the Government and the Wilderness Since Jianyan" records Genghis Khan's invasion of the Jin Kingdom and the destruction of Hebei: From the winter of 1213 to November of the following year, more than 90 cities were conquered in North China, and all the places that were conquered were destroyed. serious. Thousands of miles across Hebei, Hedong, and Shandong, the people were killed and slaughtered. Wealth, population, and livestock were all plundered, houses burned, and cities destroyed.

Shao Bo's "Records of Hearing and Seeing" of the Song Dynasty also recorded that "Kai'er Temple in Fengxiang Prefecture, nine rooms of the human hall, and paintings by Wu Daozi on the back wall", 261 indicating that Su Shi's praise may be true. Su Dongpo himself once served as a local official in Dingzhou. In March 1094 AD, he wrote to the court asking for funds to renovate the Beiyue Temple.

The costumes of the characters in the wall niches of Beiyue Temple are a reflection of the ceremonial clothing. From the wide sleeves to the noble beam crowns, they all show that the characters in the painting are unique. This is the system

of crowns and costumes of netizen in the past dynasties since the Qin and Han Dynasties. It is a part of the evolution process and has the characteristics of the times. If the existing murals were painted by Wu Daoliao, there is no doubt that the clothing on the murals should have the characteristics of clothing from the Tang Dynasty or before the Tang Dynasty, rather than the clothing styles after the Tang Dynasty. However, by comparing the clothing styles shown in the Beiyue Temple murals with the existing Tang Dynasty works, we can find that they are different. Taking the skirt as an example, since the Han Dynasty, the robe-style clothing of the Central Plains people has been distinguished by the right skirt and the left skirt of the minority Bi ethnic group (mainly referring to the Beili minority). In the early Song Dynasty, the strict etiquette system made the clothing more However, by the end of the Song Dynasty, as the Southern Song Dynasty continued to decline, the cultural power of Liao, Jin and Mongolia increased greatly. Han civilians in the areas occupied by these ethnic minorities had subconsciously learned to wear their clothes, especially the Khitan people. Zuo Ren clothing. At that time, not only the common people were like this, but also the statues in the temples were also affected. Fan Chengren also said in his "Raider Record": The people have been accustomed to the Hu customs for a long time, and the folk customs have also changed accordingly, and the clothes are all those of the ethnic minorities. style. The Quyang area to which Beiyue Temple belongs is located in the north of the Tuohe River. It was already under the control of the Jin people long before the Jing kang Incident. In this way, until the establishment of the Mongolian regime, the Qu xiang area was managed by the ethnic minority regime. All aspects were affected by it. Very deep. Although the civil service system promulgated after the establishment of the Yuan Dynasty stipulated that clothes should be on the right side, in the minds of ordinary people there is no longer the clear boundary between the left and right sides. Take the works of Zhang Wo, a painter of the Yuan Dynasty, as an example. Many of the characters he drew wore clothes with left lapels.



Figure 20 The costumes of the characters in the Beiyue Temple murals,

Source: ZhiYong Li (2024)

4.1.1.5 Yuan Dynasty period

After the brutal massacres in the Song and Jin Dynasties, by the time Kublai Khan, the founder of the Yuan Dynasty, established his rule, the Wuyue Temple was in ruins, and Emperor Shizu had to order the Beiyue Temple to be rebuilt. Today's Beiyue Temple was rebuilt at this time. Now on the plaque of Dening Hall

There is also a document with "Special Reply to Li Shaoting, a government official of Zhending Road, Hebei Province, who was entrusted by Chengming Zhenren. At the end, it is also recorded that the time was: January 1, 1270 AD. In addition, China's famous architects Liang Sicheng, Qi Yingtao and other famous architects have According to the architectural and mural style of Dening Hall, it is classified as a work of the Yuan Dynasty. None of the articles or monographs published today about the architecture of the Champa Dynasty in China touch on the architectural style of Dening Hall. This term is used with exceptions, such as : "Ancient Chinese Architecture" written by Luo Zhewen, "History of Architecture in

Six Dynasties of China Net" written by Liu Dunsuo, "Illustrated Reference Materials for Chinese Architectural Design" written by Feng Jiankui and Yang Lingyi, etc. In the 1980s, when the Dening Hall was completed and renovated, On the gable bricks, the inscription "Zhi Yuan", the name of the Yuan Dynasty, was found, which just confirmed the correctness of Mr. Liang's judgment. The giant dragon on the east wall has the style of dragon painting by people in the Tang and Song Dynasties, and the other two dragons have The style of dragon painting by people in the Yuan and Ming Dynasties also shows that in the process of re-painting, the original mural images that were clear were basically painted as they were, and the murals that were blurry were re-painted according to the customary method of painting dragons at that time. From this we can roughly infer , this mural may have been based on the expansion during the Song Dynasty.

It was drawn by Wu Daozi's pink version. When the Dening Hall was rebuilt in the Yuan Dynasty, a large area of the mural was repainted and recolored on the basis of the original murals. During the repairs in the Ming Dynasty, the murals were partially recolored.

The Yuan Dynasty was a dynasty that advocated Taoism, especially Quan zhen Religion, which played a very important role in the politics of the family. When Genghis Khan was in power, he appointed Qiu Chuji, the leader of the Quan zhen Sect, as a national advisor. After Kublai Khan established his rule, he relied on the Quan zhen religion to maintain national rule and stabilize social order. Therefore, Quan zhen Religion received special courtesy from the imperial court, and many famous Taoist priests began to be appointed officials by the imperial court, taking on the task of managing Taoist religious sites and even worshipping the Five Mountains on behalf of the government. "The Monument of Pan Gong dao xing of Chonghe Master" mentions that in April 1252 AD, Zhen chang passed the Yongle Palace in Shanxi Province on the order of the imperial court to worship Beiyue. The Epitaph also records that they followed two other real people to worship the Five Mountains.

At this point, a new element was added to the original system of the state sending officials to worship the Five Mountains. The aforementioned Cheng ming Zhenren was a leader of the Quan zhen Sect in the Yuan Dynasty. His original name was Zhang Zhijing, and his teacher Li Zhichang was one of the eighteen disciples who followed Qiu Chuji to the Western Regions to meet Gengus Khan. When Li Zhichang was studying Quanzhen religion, he cherished him very much and gave him the exclusive right to read extensively. Later, he even gave him the responsibility of teaching. Zhang Zhijing lived up to the high expectations. He worked diligently during his coaching period and did many important things that will be remembered forever. In the end, he exhausted all his energy and died unfortunately on January 17, 1259 at the age of 51. Zhang Zhijing's contribution is mainly reflected in the construction and maintenance of Miao Ning. (Wu, 2020) The well-known national treasure house of murals, Yongle Palace, was built during the period of his master and apprentice. The Taoist responsible for supervising the construction of Yongle Palace was named Pan Dechong. According to his seniority, he should be the younger brother of Chengming Zhenren's master. There is a record in the "Chengming Zhenren Taoxing Monument" that he sent people to repair the Five Sacred Mountains, and said: Most of the Five Sacred Mountains were demolished in the war of the Jin Dynasty, and the inner government provided a large amount of funds for him to be responsible for the construction. The title of the main hall of Beiyue Temple is proof that he sent people to build Beiyue Temple. Many articles have been written about the construction of Yongle Palace by Taoists in the Yuan Dynasty. But for the construction of Beiyue Temple, apart from the above information, it is difficult to find more powerful evidence. Therefore, to judge whether the two walls of Beiyue Temple were painted in the Yuan Dynasty, I mainly relied on the methods of picture comparison and historical data analysis.

4.1.1.6 Ming Dynasty Period

Time into the Ming Dynasty period Beiyue Temple's restoration entered a slow phase. The existing frescoes in Beiyue Temple should also be restored by craftsmen of all generations. Mr HU Man, who used to pay attention to the murals of Beilei Temple, mentioned in his article that some of the murals were 'polished' by the descendants; Mr LI Changrui's article also mentioned that the dragons on the east wall and the large area of landscapes were repainted in the Ming and Qing dynasties. Mr Li Changrui's article also mentioned that the dragons on the east wall and the large area of landscapes were repainted in the Ming and Qing Dynasties, but the implication of both is that, apart from that, the murals still retain their original appearance when they were first painted, that is, the murals are still works of the Tang to Yuan Dynasties. Through the picture analysis and the investigation of the Ming and Qing dynasty Beiyue Temple reconstruction records, the author believes that the existing mural should be the Ming dynasty painter will be some of the previous mural paintings retained in the relatively clear picture of the extension, and did not redraw the results. The main reasons for this view are: firstly, from the point of view of the integrity of the Dening Hall, the construction date of the wall of the Hall of Man and the wall of the Fan'er Qiang should be the same. It is the dress style of the Ming and Qing Dynasties, with more distinctive period characteristics. Of course, from the point of view of the authenticity of the facsimile, it is not convincing to think that the murals on the east and west walls were also painted in the Ming Dynasty. However, this image can at least be used as a reference for repainting the murals in the main hall during the Ming Dynasty. Considering the characteristics of the Beiyue Temple as a state temple and a place of worship, repainting only a part of the mural paintings is certainly impossible. The mural paintings of the entire Great Hall should be unified. Therefore, it is reasonable that the east and west mural paintings and the fan wall were repainted at the same time in the Ming Dynasty. Of (Q. Zhang, 2024)

This type of re-restoration of paintings also exists in other Yuemiao temples. Scholars responsible for the study of Feng Temple once said in the book "Temple": "During the many repaints and repaints, the Dai Temple murals were constantly mixed with the system and utensils of the imperial guards of the dynasty where the repainters were located." Moreover, "Even if the original painting cannot be preserved when the Tiankuang Hall is rebuilt, the foundation will be laid down first, and then the hall walls will be repaired before they are repainted." The situation in Beiyue Temple is roughly the same.

Traces of restoration from the Ming period are found in some of the frescoes on the sides of the hall. Some of the images reflect the characteristics of different eras, take the yellow dragons on the east and west walls as an example: there are two yellow dragons in the mural, one in the east and one in the west. Just from the point of view of appearance, they have a lot of differences. Take the dragon's eyes as an example: the dragon's eyes in the east wall painting are very round and large, which is a characteristic of the Ming Dynasty murals: the dragon's eyes in the west wall painting are snake's eyes, with a ferocious gaze, which is a characteristic of the dragons since the Tang and Song dynasties up to the beginning of the Yuan Dynasty. It is more similar to the painting of the dragon's eyes in Wu Daozi's 'Sending the Son to the Heavenly King'. In addition, the bodies and claws of the two dragons are very different. Why are the two dragons in the same hall so different? One cannot help but wonder whether they are from the hands of painters of the same period. However, from the Beiyue Temple east and west walls of other paintings relatively coordinated situation, can rule out the possibility that the temple murals from different dynasties. Then, the only good way to explain this difference, is like those Dai Temple researchers said above, we now see the picture should be the Ming Dynasty painters according to the original draft of the results of many times. In addition, as far as the murals of Beiyue Temple are concerned, although there are similarities with the Yuan Dynasty murals, they also have elements from other eras and their own

characteristics. The mural painting of Beiyue Temple not only has the characteristics of Yuan Dynasty mural paintings, but also has the shadow of Ming Dynasty mural paintings. It also has the shadow of Song, Tang and Ming Dynasty paintings. The shape of the warrior bending his bow, which is common in Yuan Dynasty paintings, is not obvious in the Beiyue Temple mural paintings. The style it inherited seems to be earlier than the Yuan Dynasty, but it is also related to the Yuan Dynasty. This is in fact an inheritance of the mural paintings of all the dynasties in China. An expression of this approach is the highly condensed art of mural paintings in China since the Tang and Song dynasties. My country's ancient religious murals, since the Song Dynasty, mostly followed the path of Wu Daozi. In the early Song Dynasty, Wang Guan studied Wu Daozi's mural painting at Beimang Mountain in Luoyang. After studying hard and practicing hard, his skills greatly improved and he was considered unrivaled in the era of Qiande Kaibao. Wang Zhuo, Sun Mengqing and others also learned from Wu Daozi. The "Chaoyuan Immortal Battle Picture" was once considered to be Wu Daozi's authentic work. Its author Wu Zongyuan also imitated the Wu School. The murals of the Yuan Dynasty inherited those from the predecessors, and Shanxi Shuiyue Palace is the most outstanding representative of the murals of the Yuan Dynasty. By the Ming and Qing dynasties, the trend of mural stars turning from prosperous to declining, in addition to adding some elements of secular life, most of them followed the circulated pink version. The spread of pink copies allowed the styles of the Tang and Song Dynasties to be partially inherited in the Ming and Qing Dynasties. The murals of Beiyue Temple are a good example of this. The spread of pink books has made mural painting more procedural, and it has also made the painters of different eras who share the same pink book have a certain degree of convergence. Although this makes it easier for people to grasp the style and genre of murals, it also makes it easier for people to understand some murals that have no written records. The dating of the paintings has caused difficulties in the identification of the paintings. The entire Beiyue Temple is one of them.

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4.1.1.7 Qing Dynasty Period

In the records of several reconstructions in the Qing Dynasty and the Republic of China, there is no record of repairing the murals. Moreover, these several reconstructions clearly reflect the increasing decline of Beiyue Temple. Take the "Inscription on the Reconstruction of Beiyue Temple" written in the 25th year of Daoguang's reign (AD 1845) as an example. The inscription clearly records that since the Ming Dynasty's initiative to change the worship of Hunyuan, Shanxi, the

sacrificial activities of Beiyue Temple in Quyang have declined significantly. The article says: "In the Bingwu period of Jiajing in the Ming Dynasty (1546 AD), the worship of Beiyue was moved to Hunyuan, and the Beiyue Temple in Quyang was replaced." From this point of view, after the reconstruction in the 16th year of Jiajing in the middle and late Ming Dynasty, the Beiyue Temple in Quyang has obviously declined. . By the Qing Dynasty, the imperial court's care for it became even more limited. Especially after it was officially changed to worship Hunyuan, Shanxi in the 17th year of Shunzhi, the decline of Beiyue Temple in Quyang became a matter of course. Therefore, when Wang Languang, the magistrate of Quyang County during the Daoguang period, renovated the temple again after the reconstruction of the Beiyue Temple in the 30th year of Qianlong (1765 AD), the Beiyue Temple was already very dilapidated. When the imperial court no longer allocated funds for the restoration of Beiyue Temple, Tian Languang and others sold 30 ancient cypresses in the temple and obtained 6,400 yuan, which they used to repair Beiyue Temple. This renovation should be a relatively large-scale renovation of Beiyue Temple in Xiaodai, but it mainly focused on the maintenance of the building and did not involve the murals in the temple. (Su, Z. Y, & Meng, 2011)

The reconstruction in 1897 AD was also initiated and supervised by local officials. The process of this reconstruction is recorded in "The Stele of Rebuilding the Ancient Beiyue Temple". In order to protect the temple from collapse in decades, the county magistrate Wang Huaqing and others once again cut down more than 40 ancient trees in the temple and rebuilt the Beiyue Temple building. This repair lasted nearly six months, and the Beiyue Temple was able to be intact. Preservation has played a positive role to this day. However, this reconstruction did not involve the repainting of murals. The main goal was still to renovate the temple appearance.

4.1.1.8 Current situation from the 1980s to the present

After 1949, Beiyue Temple was destroyed by the Cultural Revolution, and the statues in the main hall were destroyed. However, the murals were preserved and

were rated as the second batch of national cultural relics protection units. Murals accounted for a very high proportion. In the 1980s, the murals in the Dening Hall of Beiyue Temple in Quyang suffered serious man-made damage due to historical reasons. In addition, they were in disrepair, natural damage, and the gradual aging of the materials used to make the murals themselves, resulting in parts that were incomplete, cracked, and hollow. As well as small areas of peeling, peeling, holes, etc., the murals are on the verge of damage, and repairs to the murals are urgent. In order to truly and comprehensively preserve and continue the historical information of the murals as well as the historical, scientific, technical and artistic values contained in them, and to protect this treasure house of culture and art, at the turn of the summer and autumn of 1983, the Hebei Provincial Cultural Relics Bureau invited teachers and students from the Central Academy of Fine Arts. A total of more than 40 people, including teachers from Baoding Art School, spent more than two months copying and copying the original size of the murals. The mural on the north wall of the back door of the main hall was discovered during this copying. In July 1984, the State Administration of Cultural Heritage officially approved the restoration of the Dening Palace in Quyang. At the beginning of the restoration, in order to properly protect the precious murals, under the personal supervision of Qi Yingtao, a senior engineer of the State Administration of Cultural Heritage, a detailed inspection of the existing condition of the murals and the structure of the mud layer was conducted. Finally, based on the summary and analysis of the reinforcement, removal and protection of the murals in Yongle Palace in Shanxi and Mani Palace in Zhengding, an implementation plan for the restoration and protection of the murals in Dening Palace was formulated. This plan is mainly divided into two parts: First, for the murals on the back of the inner trough and inside the east and west eaves walls, the method is to increase the strength of the wall (excavate the wall to fill the foundation), strengthen the picture, and fill the bonding force between the picture and the wall without removing it. Process it by removing it (because removing it will damage the picture to

a greater or lesser extent). Secondly, for the murals on the arch wall and the east and west walls that cannot be constructed without removing them, technical measures should be taken to strengthen them first, then remove them, repair them, and then install them in their original positions. (J. K. Wang, 2001)

4.1.2 The impact of Beiyue Temple on the local area

This section discusses the impact of Beiyue Temple on the local area. Beiyue Temple worship is not only a national orthodox sacrificial ceremony, but also a Beiyue sacrificial activity led by local officials and carried out spontaneously by the people.

(Liu Zi Qun, 2023, Interview) Beiyue belief was not initially recognized by the national orthodox clergy, and was once suspended in Qingyuan, Hebei. However, the promotion of local forces eventually led the government to acquiesce to this folk sacrifice, which eventually affected the national sacrifice and became an important factor in the migration of Beiyue sacrifice during the Ming and Qing Dynasties. Although Beiyue belief and Five Mountains worship are very different in content and nature, in a sense, they are interdependent and constitute a complete educational system in ancient society. Of course, the rise and fall of beliefs depends on people's consideration of real life. Offering sacrifices to Yue and offering sacrifices to the Five Mountains are important national sacrificial rituals. Judging from the sacrifices to Yue Zhen in successive dynasties, offering sacrifices to the mountain reflects the will of the state and is an important manifestation of the importance of etiquette in an orthodox dynasty. So how did Beiyue worship transform into Beiyue local belief? We should have some understanding of this transformation process. (Figure 21)

4.1.2.1 Beiyue Temple National Sacrifice

During the Tang and Song Dynasties, the Beiyue Temple (ancestral temple) where the imperial court worshiped Beiyue was moved down from Damao Mountain to the limits of Quyang City. But this transfer is probably not a new start, because "Yuanhe County Chronicles" records that "Hengyue Temple is more than a hundred

steps south of the county (Quyang County); Zhenjun Temple is at the foot of Jiahe Mountain ten miles northeast of the county; Hengyue Temple is forty miles west of the county "Step", Hengyue Temple and Zhenjun Temple are Taoist temples, so the lower temple of Hengshan Mountain should be the first choice for moving worship. Today, the Beiyue Temple in Quyang is also in the west of the county. This is the lower temple of the Tang Dynasty. (J. X. Gao, 2006)

Since the area where Hengyue is located is valued by the rulers, the sacrifices and prayers for Beiyue are more demanding than those for the other four mountains to defend the border and consolidate the political power. Most of these sacrifices with military appeals are hosted by the official. In 645 AD, Emperor Taizong of the Tang Dynasty conquered the Liao Dynasty and passed through Beiyue. He personally wrote a memorial to it. His "Essay on Sacrifice to Beiyue Hengshan" states that "Hengdai is the site of Qi's southeast, Songhua represents the solidity of the west, but the beauty of Lingshan and Dou Shuo are wild and strange. This shows that Taizong worshiped Beiyue in order to pray for the blessing of the mountain god to help his military operations. . The "Beiyue Temple Stele" records that Zhang Shougui also received help from the Beiyue God when he quelled the border troubles in 734 AD. "The Record of Fan Xichao's Visit to Beiyue Temple in the Tang Dynasty" is also known as the "Inscription of Fan Xichao, the Hedong Jiedu Envoy, who visited Zhenzhou and passed Beiyue Temple in 810 AD." The "Beiyue Temple Inscription Stele" written by Li Keyong at the end of the Tang Dynasty records that in 885 AD, Youzhou invaded Zhongshan, and Li Keyong led troops to rescue him. On February 21st, he and Yi Ding Sikong prayed to the Beiyue God together until March 17th. Inviting you to make peace with Youzhou: the class teacher returned to the temple to express his thanks and carved it on the stone tablet of Beiyue Temple.

4.1.2.2 Folk worship at Beiyue Temple



Figure 21 Beiyue Temple National Sacrifice

Source: ZhiYong Li (2024)

Beiyue Temple is also a place for folk ancestral worship. As British scholar Glen Dubridge once pointed out when discussing Huayue beliefs, the Yue temple constitutes a shared ritual space in which different religious activities are performed in parallel and independently. Similarly, religious activities from different classes and with different demands are also performed repeatedly in Beiyue Temple.(Figure 22)





Figure 22 Modern Beiyue Temple prays for blessings and sacrifices on April 4,

Source: ZhiYong Li (2024)

Explore the relationship between national sacrifices and local beliefs from the perspective of sacrifice: In the 1920s, Max Weber's research in "Confucianism and Taoism" believed that national sacrifices integrated with Confucianism and folk beliefs are mutually exclusive. Lei Wen's article "Rituals, Religion, and Civil Society" quoted Mr. Gao Bingzhong as saying, "In the Middle Ages, the 'presence of the people' in many national sacrificial ceremonies" emphasized the interaction between national sacrificial rituals and folk beliefs. (Wang, Q. M., & Zhang, 2009)

Specifically, in addition to official annual rituals and imperial sacrifices, Beiyue Temple sacrifices are also held by private citizens. The Yue Temple is not only a place where officials hold regular sacrifices to the Five Mountains, but also a place where people pray to the God of the Mountains. The "Beiyue Hengshan Temple Stele" written by Zhang Jiazhen says: "It is a very devout worship performed by the locals, praying for a good harvest of silkworms and farmers' grains, and for rain in spring." It can be seen that the Beiyue Folk Temple Festival lasts longer It grows for a long time and is most active in spring, autumn and winter. Historical materials in "Old Book of Tang" and "The Biography of Zhang Jiazhen" mention that people in the Hengshan area held a ceremony to thank the gods for their help in the Beiyue Temple. Zhang

Jiazhen received tens of thousands of dollars for his contribution to the poem, and the money from the ceremony reached millions. This shows that its scale is not ordinary. Zheng Zichun's "Beiyue Temple Stele" also has similar records. This shows that in addition to official sacrifices, people in the Hengshan area also spontaneously held ceremonies to thank gods for their help. For example, the "Beiyue Temple Stele" records: "Tian Deng, a native of Gaoyang, prayed for blessings at the Beiyue Temple, and the god appeared." The inscription praises the help of the Beiyue God by recording the appearance of the Beiyue God, and compares the Beiyue God's help to Zhang Shougui with the Huoshan God's help to Gaozu. On the one hand, it gave sanctity and legitimacy to the military operations of the central dynasty in this area; on the other hand, private blessings brought about the theophany, indicating that the common people who suffered from war hoped that the Yue God could ensure peace in the country. , to help the officers and soldiers stop violence and chaos. Private prayers to Beiyue are mostly based on direct interests, such as praying for children, praying for blessings, praying for rain, praying for sunshine, etc. In the final analysis, they are nothing more than praying for peace. The several manifestations of the mountain god recorded in the Beiyue inscriptions also reflect this appeal.

The official Beiyue sacrifice is also closely related to the rituals of praying for rain and praying for sunshine. Compared with the late Southern Dynasties, the related prayer rituals have some noteworthy changes. At the same time, this process also shows the interaction between the central government, local society and the people. In addition, among the official sacrifices at Beiyue in the Tang Dynasty, what is particularly noteworthy are the sacrifices related to military operations. This is inseparable from the geographical location of Hengshan and is also one of the characteristics that distinguishes the sacrifices at Hengshan from the sacrifices at other four mountains. The motivations of folk Beiyue Temple sacrifices are diverse, but the essence is "pursuing one's own happiness." Compared with the official, folk Beiyue worship lasts longer and is quite large in scale. It is also overlapped with other

folk beliefs, reflecting this The activity level of quasi-priests and the complexity of this belief.

Qu yang Temple Fair is very lively, and there is also Quyangcheng Temple on October 19th. They are quite big and usually last about 3 days. Quyangcheng Temple Fair will take place on February 2nd, February 19th, March 18th, April 4th, April 15th, June 13th, June 23rd, and July 15th. , October 19th and above are all lunar calendar days.(Song Jian Guo2023, interview)

Folk Beiyue Temple activities include offering incense, praying for blessings, playing songs, raising pavilions, big banners, donkeys, rowing land boats, Qingge performances, "two ghosts" wrestling, etc. In modern times, in order to carry forward the traditional Chinese history and culture, create the Beiyue cultural brand and enrich the people's spirit cultural life.

Table 4 Statistics on folk prayers and sacrifices in Beiyue Temple

Place,	Participants	Time and place	Sources of historical data
Qingyuan County	The prefect Shi Jingzhao and the people	On Chengbei Street, Qing Dynasty	Hongzhi's "Baoding County Chronicles" Volume 20 "Ancestral Temple", Selected Issues of Tianyige Ming Dynasty Local Chronicles
Yizhou	Squire Liu Boyuan and the people	Eight miles northwest of Yizhou, Yuan Dynasty	Hongzhi's "Baoding County Chronicles" Volume 20 "Ancestral Temple", Selected Issues of Tianyige Ming Dynasty Local Chronicles
Lingshou County	County magistrates and squires and common people	Ciyu Town	Kangxi's "Lingshou County Chronicles" Volume 3 "Sacrifice"
Shenze County	County magistrates and	Shenze County, Yuan Dynasty,	Hongzhi's "Baoding County Chronicles" Volume 20

	squires and common people		"Ancestral Temple", Selected Issues of Tianyige Ming Dynasty Local Chronicles
Gaoyang County	Common man Wang Zhizhong	In the county seat, Ming Dynasty	Same as above
Xinle County	common people	Beihan Village, the county seat, Qing Dynasty	Guangxu's "Xinle County Chronicles" Volume 1 "Ciyu", Local Chronicles Series
Ding County	County Magistrate Wang Zhuo	In the south of the county, in the Qing Dynasty	"Dingxian Chronicle" Volume 3 "Political Code" of the Republic of China
Xingtang County	squires and common people	Behind Wuying Mountain in the south of the city	Chronicles", Local Chronicles Series
Zhengding County	common people	Northern Song Village	Qianlong's "New Records of Xingtang County" Volume 7 "Tan
Wangdu County	common people	Qingyi Town	"Zhengding County Chronicles" Volume 1 "Famous Places" of the Republic of China, Tsinghua University Library
Yuanshi County	Squires and officials	Huangshan Town	"Wangdu County Chronicles" Volume 2 "Yu Di Zhi" in the Republic of China, Tsinghua University Library

4.1.2.3 Influence of folk lifestyle

said that according to local custom, the temple fair on the tenth day of the eighth month of August is listed as one of the three traditional temple fairs in

Hengshan along with the temple fair on the eighth day of April and the Lidong. Every year on the eighth day of the fourth month of the lunar calendar, a grand Beiyue Temple Fair is held here, attracting a large number of tourists and believers. The influence on the locals has been felt for many generations. During the temple fair, people hold various activities such as praying for blessings, rituals, performances, commerce and trade, full of rich local flavour and folklore.(Wang Tian Bo, 2024, interview)

According to local folklore, August 10th is the birthday of Emperor Hengshan. Devotees believe that praying to "Lord Hengshan" on this day is particularly effective. On this day, people across the county also climb Mount Hengshan to attend traditional temple fairs and worship "Lord Hengshan". customs. Starting from the afternoon of August 9th every year, many people spontaneously go to Hengshan Mountain to worship. On this night, there is often a grand scene of devotees walking shoulder to shoulder on the mountain roads. On the tenth day of the lunar month, most families around Hengshan will eat homemade fried cakes, which not only expresses the unique local custom of celebrating the birthday of "Lord Hengshan", but also expresses simple and beautiful wishes for prosperity and prosperity.



Figure 23 Modern Beiyue Temple prays for blessings and sacrifices on April 4

Source: ZhiYong Li (2024)

The annual traditional temple fair celebrating the birthday of Emperor Hengshan will celebrate the birthday of "Emperor Hengshan" in various ways such as Taoist music performances, opera singing, traditional sacrifices, and activities for good men and women. In recent years, the Hengshan Scenic Area Management Committee has worked hard to excavate and promote the traditional cultural customs of Hengshan, focusing on showing a new image of famous historical and cultural mountains. It has actively taken effective measures during major traditional temple fairs and made detailed preparations for local people to participate in traditional temple fairs. Create conditions to promote the inheritance and continuation of the unique Hengshan sacrificial culture and folk culture. (Zhou, 2015)

1) Playing songs

(Zheng Li Jing, 2024, interview) The origins of Quyang's blowing songs stem from the need for rituals at the Beiyue Temple in the Eastern Han Dynasty, when many temples and Taoist temples were built in Quyang County, where teachings were disseminated, accompanied by simple percussion music. Gradually, while people continued to accept religious teachings, they also began to come into contact with the music used in them, which was the earliest form of music known as 'Xilakai'.

Translated with DeepL.com (free version) While spreading the teachings, they were accompanied by simple percussion accompaniment. Gradually, while people continued to accept religious teachings, they also began to come into contact with the music used in it. This was the earliest form of music, called "Western Music Club". Quyang Blowing Song: The Western Music Club was originally played during temple sacrifices. The most famous instrument "Tatar" was an instrumental music of the Yuan Dynasty, and "Tatar" was a derogatory name for the Mongolians at that time, so it was called the Tatar. , is the existing strong physical evidence to witness the history of Quyang Chuangge. Quyang County has a long history. Since the establishment of the county in the Qin Dynasty, it has given birth to national, provincial and municipal intangible cultural heritages including Quyang stone

carvings, Ding porcelain firing techniques, blowing songs, Qingge, large banners, Yebei Flower Fair, etc. During the Ming Dynasty, people replaced this simple percussion rhythm with specific tunes, forming the prototype of blowing songs. During the Qing Dynasty, the art of singing flourished and became an indispensable program in traditional folk sacrificial activities. During the Anti-Japanese War, folk blowing song artists also exchanged and studied with the "Dongfeng Drama Society" and jointly conducted further research and organization of blowing songs, which made the art of blowing songs achieve greater development. After 1949, my country's economy and living standards have improved to a certain extent, and people began to pay attention to amateur cultural life. This provided a good platform for the development of blowing songs, and Quyang blowing songs also showed a prosperous scene.(Wang Miaoqing, 2009)

The musical instruments used and inherited in Quyang Chui Ge. The musical instruments used by Quyang Chui Ge band include pipes, suona, sheng, gongs, dragon head qin, etc. Our country's traditional singing is passed down orally and by heart, and there is also a rule that it is passed on to men but not to women. Therefore, joining the club and becoming a disciple is the first step in learning how to play music. The music the students have to play is imitated by the teacher.(Figure 23)

Blowing songs have important social value. Quyang blowing song artists not only perform for villagers to celebrate birthdays, children's school entrance examinations, opening ceremonies and other occasions all year round, but also participate in annual large-scale Beiyue Temple and other temple fair performances, literary performances, art exhibitions and other activities. Quyang Blowing Song adds infinite fun to the colorful entertainment life of the people of Quyang County, and further promotes the process of spiritual civilization construction in Quyang County.

(Wang Tian Bo2024 interview) said Quyang song blowing status Quyang song blowing is widely popular in the county, according to statistics, Quyang County, the beginning of the scale of song blowing team has more than 30, to participate in

song blowing performance of more than 200 people. Blow song team is mainly distributed in the north and west of the county townships such as Lingshan Township, Dangcheng Township, Qicun Township, Langjiazhuang and other townships. Among them, the blowing song teams of Zhu Jiayu Village, Wild North Village and Puddle Village are the most representative ones.

(Yang Xianchang, 2024 interview) born in 1958, is a representative figure in the inheritance of Quyang blowing songs. The fifth generation inheritor of Quyang blowing song started learning the traditional playing skills of suona and guanzi at the age of 18. In 1992, Yang Xianchang opened the first singing training class, and then successively opened several training classes for singing singing. He has trained nearly a thousand students and participated in various performances nearly 40 times. , won many honors.

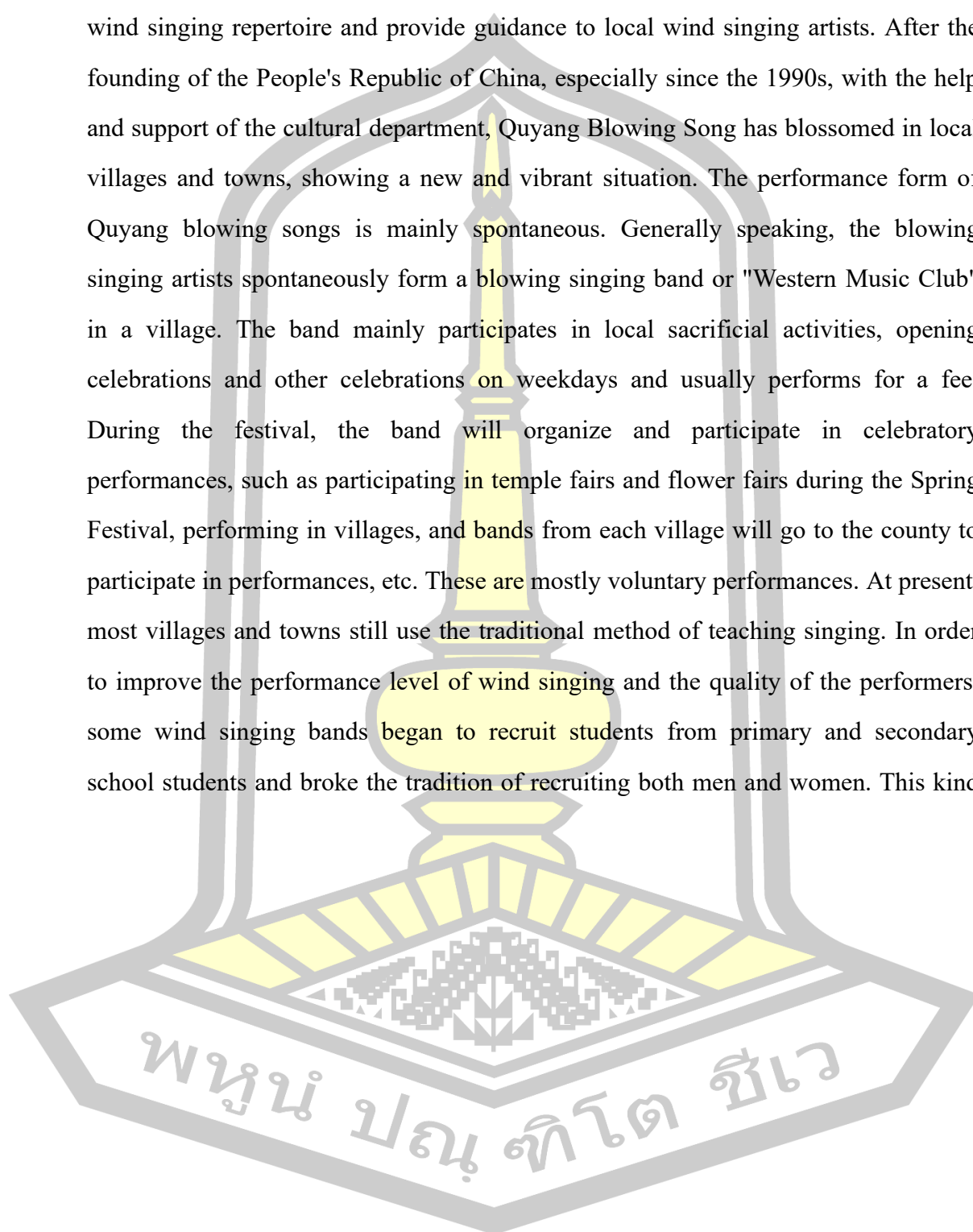


Figure 24 Folk singing performance

Source: ZhiYong Li (2024)

In modern times, this art form has been widely spread in various villages and towns in the northwest of Quyang County and has been passed down from generation to generation in the form of oral and heart-to-heart teaching, becoming a folk music form that local people love to hear and see. During the Anti-Japanese War, the

nationally famous "Dongfeng Drama Club" came to Quyang to sort out the circulating wind singing repertoire and provide guidance to local wind singing artists. After the founding of the People's Republic of China, especially since the 1990s, with the help and support of the cultural department, Quyang Blowing Song has blossomed in local villages and towns, showing a new and vibrant situation. The performance form of Quyang blowing songs is mainly spontaneous. Generally speaking, the blowing singing artists spontaneously form a blowing singing band or "Western Music Club" in a village. The band mainly participates in local sacrificial activities, opening celebrations and other celebrations on weekdays and usually performs for a fee. During the festival, the band will organize and participate in celebratory performances, such as participating in temple fairs and flower fairs during the Spring Festival, performing in villages, and bands from each village will go to the county to participate in performances, etc. These are mostly voluntary performances. At present, most villages and towns still use the traditional method of teaching singing. In order to improve the performance level of wind singing and the quality of the performers, some wind singing bands began to recruit students from primary and secondary school students and broke the tradition of recruiting both men and women. This kind



of organized teaching usually has a fixed time and venue, and most of them are free of charge. Some bands also invite local music teachers to teach music theory to the students. These measures taken by some of the blowing songs bands have further expanded the social influence of Quyang blowing songs and effectively promoted the spread and development of the art of blowing songs.



Figure 25 Beiyue Temple folk singing performance,
Source: ZhiYong Li (2024)

Commonly used pieces of religious music include "Thousand Voices Buddha", "Chao Tianzi", "Eight Immortals Birthday Blessings", "Praise to Amitabha", "Shangqiao Sacrifice", "Praise to Three Treasures", "Ode to Blue Flowers", "Three Palaces of Wine", "I Lament Now", "Mountain Moved", etc. (Figure 24.25)

2) Big banner

It is understood that the big flag was originally a colorful flag held high during activities such as offering sacrifices, making pilgrimages to mountains, praying for rain, etc. Later, it was decorated with patterns and embroidered with blessings, and was mainly used to worship Gubei Mountain Hengshan. The sacrificial words and

sacrificial words on the rear flags have become congratulatory words and couplets, which are mainly used for cultural exchanges between villages and towns. In April 2012, Quyang Banner was included in the third batch of intangible cultural heritage projects in Baoding City.(Figure 26)



Figure 26 Folk flag-laying performance,

Source: ZhiYong Li (2024)





Figure 27 Folk flag-laying performance,

Source: ZhiYong Li (2024)

The Quyang banner originated in the Tang Dynasty and evolved mainly from the scene of praying for rain in the murals of Beiyue Temple, where the emperors and immortals offered sacrifices and prayed for rain. Mainly distributed in the countryside of Lingshan Town, Quyang County. The big banner was originally a guard of colorful flags held high during activities such as offering sacrifices to Jishan God, praying for rain, and worshiping gods. Congratulations and words of congratulations were written on the banners, gradually forming the style of large banners. By the Qing Dynasty, colorful flags gradually evolved into large flags, with patterns and embroidered blessings and sacrificial words. Together with Quyang blowing songs, we worship Beiyue Temple, and we cooperate with emperors and courtiers of all dynasties to worship Gubei Mountain from afar. During the Republic of China, the sacrificial words and sacrificial words on the flags turned into congratulatory words and couplets. Dabanqingge is mainly used for cultural exchanges between villages and towns. After the founding of the People's Republic of China, the Quyang banner was given new life and became an indispensable celebration tool in celebrations. Quyang

Daban was invited to perform in the CCTV studio hall and was highly praised by the Ministry of Culture and CCTV. It was broadcast nationwide in the TV station's "Rural World" and "Hometown" columns. In 2011, Quyang Big Banner was announced as "the third batch of municipal intangible cultural heritage" by Baoding City. It is a traditional folk activity held in Beiyue Temple. It has a strong local mass base and is performed regularly every year. In the beginning of spring, Lingshan Town, Quyang County There are often activities such as offering sacrifices to mountain gods and praying for rain. At this time, the whole village will go out together to perform "playing with big flags".(Figure 27) (Song, 2009)

(Yin Xiaoyuan2024, interview) describes the performance, local villagers in the village as a unit, each village each out of a large flag, forming a flag team, each flag by eight strong young men escort. The flag is generally 13 metres high, 1 metre wide and weighs more than 75 kilograms. Flag language is mostly used to pray for good luck, the flag, up and down dance, sometimes on the shoulders, sometimes on top of the head, some of the skilled in the mouth, the scene is very spectacular.

3) local carvings

(Li-Min Wang, 2023, Interview) stated that the long-term national rituals of Beiyue Temple have formed a series of social memories, which are very prominent in the local cultural life. The formation of social memory cannot be separated from the inheritance and development of culture. Beiyue Temple has a history of widely circulated mythological stories, with a deep historical heritage, preserved a large number of monuments and cultural activities, Beiyue Temple has always been revered by the local people. The murals, stone carvings and other precious relics in Beiyue Temple have subtly influenced the life and production of the local people, forming a very distinctive social memory in the area. Some of these stone carvings are historical materials that have not been recorded in the historical materials handed down to us, and it is worthwhile for us to pay attention to and interpret them from different perspectives, and to explore their potential value as much as possible. Quyang stone

carvings are rich in content, record and collation is the most feasible and convenient way to preserve and let more people understand these stone carvings, it is very necessary.

(1) Memory of inscriptions

Beiyue Temple in Quyang is a place where emperors of all dynasties worshiped Beiyue Hengshan. There are many monuments in the temple, and there are nearly 200 inscriptions from the Eastern Han Dynasty to the Republic of China. Most of the contents are about the reconstruction of Beiyue Temple and the worship of Beiyue Hengshan God, as well as the exchanges between officials and literati. Praise and inscription of Beiyue Hengshan and Beiyue Temple. It includes stone carvings from the Wei, Jin, Southern and Northern Dynasties, Sui, Tang, Song, Jin, Yuan, Ming and Qing dynasties, spanning more than 1,500 years. These stone carvings are also a treasure house of calligraphy art. Some of these stone carvings are historical materials that have not been recorded in historical records handed down from ancient times. They deserve our attention and interpretation from different angles to explore their potential value as much as possible. The Quyang stone carvings are rich in content. Documenting and organizing them is the most feasible and convenient way to preserve and let more people understand these stone carvings. It is very necessary. (Figure 28)



Figure 28 Folk flag-laying performance,

Source: ZhiYong Li (2024)

The stone carvings of Beiyue Temple are of great calligraphy artistic value, and there are many studies on Wei stele. There are also inscriptions of great calligraphy value among the stele inscriptions of Tang, Song and Yuan Dynasties. Including sacrificial activities, historical figures, official positions, poetry, important historical events, etc., it is of great significance to exploring Gubei Mountain. Most of these stone carvings are made of white marble, marble, white stone and other stones that are abundant in Quyang. Stele inscriptions generally consist of three parts: the head, the body, and the base; the inscriptions are rich in content; the shapes of the head are diverse, and the patterns on the head include reliefs of chi heads, auspicious cloud carvings, and flowers and birds; the inscriptions also have a variety of engraving forms, and the fonts for the inscriptions There are regular scripts, but most of them are in seal script. (L. M. Wang, 2007)



Figure 29 Monument to the Reconstruction of Beiyue Temple in the Song

Source: ZhiYong Li (2024)



Figure 30 Tablet of the Spiritual Temple of Mount Hengshan, Beiyue, Dingzhou, Great Tang Dynasty

Source: ZhiYong Li (2024)

The stone carving sacrificial culture and the study of local history provide precious cultural relics and historical materials, which have important historical value and research value. At the same time, these stone carvings are also a treasure house of calligraphy art, involving different writing fonts such as seal, running, and cursive. The stone carvings of Beiyue Temple show people the history and art of stone carving in Quyang. Collating and researching the Beiyue Temple stone carving documents is a kind of protection and inheritance of these historical and cultural heritages, which is of great significance and value. The Beiyue Temple inscriptions are typical masterpieces of calligraphy art, but not much attention has been paid to them. It is necessary to have an overall understanding of the calligraphy art of these stone inscriptions. These stone carvings outline the rise and fall of Beiyue Temple. Some of these stone carvings are historical materials that have not been recorded in historical records handed down from ancient times. They deserve our attention and interpretation from different angles to explore their potential value as much as possible. The Quyang stone carvings are rich in content. Documenting and organizing them is the most feasible and convenient way to preserve and let more people understand these stone carvings. It is very necessary. The stone carvings in Beiyue

Temple are of great calligraphy artistic value, and there are many studies on Wei steles. There are also very valuable calligraphy masterpieces in Tang, Song and Yuan steles. Including calligraphy works such as "The Monument of Jide in the Shadow Hall of the Former Zen Master Hengyue of the Tang Dynasty", "The Monument of Beiyue Temple in the Tang Dynasty", "The Tomb of Cui Kai in the Northern Wei Dynasty" in Quyang.(Figure 29-30)

These inscriptions provide us with detailed historical information and reliable physical basis for studying the history, sacrificial culture and calligraphy art of past dynasties in Hengshan.

Table 5 Representative of Beiyue Temple inscriptions

Inscription name	author	time
"The Monument of Mr. Difu"	Anonymous	The third year of peace in the Northern Wei Dynasty (462 AD)
"The Monument of Beiyue Temple in the Tang Dynasty"	Zhang Jiazhen	The fifteenth year of Kaiyuan in the Tang Dynasty (727 AD)
"The Monument of the Beiyue Temple in the Tang Dynasty"	Cui Ruo	The twenty-third year of Kaiyuan in the Tang Dynasty (735 AD)
"The Inscription of the Feng'an Heavenly King on Hengshan Mountain in Beiyue of the Tang Dynasty"	Li Quan	The seventh year of Tianbao in the Tang Dynasty (748 AD)
"The Monument of Li Keyong's Inscription"	Li Keyong	The fifth year of Zhonghe in the Tang Dynasty (885 AD)
"The Great Song Dynasty Rebuilt the Monument of Beiyue Antianwang Temple"	Wang Yucheng	The second year of Chunhua in the Song Dynasty (991 AD)
"The Great Song Dynasty Rebuilt Beiyue"	Han Qi	The second year of

Temple Records"		Huangyou in the Song Dynasty (1050 AD)
"The Record of Sacrifice to Beiyue"	Jiexisi	From the Yuan Dynasty to the fifth year of the Yuan Dynasty (1339AD)
"Imperial Sacrifice"	Ming Xiaozong	In the fourth year of Hongzhi in the Ming Dynasty (AD1491)
"Quyang County Reconstruction NorthYue Temple Inscription"	Xu Zan	The 16th year of Jiajing in the Ming Dynasty (1537 AD)

(2) Quyang stone carvings

Due to the influence of the stone carvings and murals of Beiyue Temple, the local culture and art are very rich. The local people have gathered the influence of the sculpture art. It has a long history of development and has thousands of years of traditional carving skills. It is rated as a national intangible cultural heritage in Beiyue and has formed a very important local Huge engraving industry market.(Ministry of Culture ,2005)In the long history of development, Quyang stone carving culture has gradually formed a cultural carrier with the production of religious statues as the main theme. This cultural carrier reflects the characteristics of the times and gives Quyang stone carvings distinctive characteristics. Quyang stone carving has a variety of traditional products, of course the most important of which is the production of Buddha statues. The richness of Quyang's stone carvings is closely related to the local natural conditions. Quyang County is located at the eastern foot of the Taihang Mountains and belongs to the semi-mountainous area. There is a saying that "six mountains, one water and three fields". The villages are surrounded by low mountains and hills, and some are even located halfway up the mountains.(Figure 28) (J. K. Wang, 2001)

the local stone carving industry ground table, he told in the Beiyue Temple local stone carving culture has been more than 1,000 years of history, the Beiyue Temple has a large number of stone carving works, the local stone carving industry has played a role in the historical heritage. It has also become a national intangible cultural heritage, an excellent local cultural symbol, and a pillar industry of the local economy. Due to his excellent carving skills, he was in charge of various places in Yunnan. Road mason. Yang Qiong's outstanding carving skills are physical evidence of Quyang's carving history and superb carving techniques. Quyang's sculpture industry continues to be very developed today, and it is known as the "Hometown of Sculpture". The carving factories are located next to each other. In each factory, there are various stone carving works, which are exquisite in skill and lifelike. Some works are even famous in the world. The rich resources of Quyang stone mine and the long history of carving have become the foundation of stone carving literature. Enrichment provides the basic conditions and factors.(Li Longlong, 2023, interview)(Figure 31)

The stone materials of the Beiyue Temple stone carvings are all different. According to the "Quyang County Chronicle": "Huangshan produces white stones. The coarse ones can be used for various stone tools, etc.; the fine ones can be used for stele and sculptures." Huangshan is located in the south of Quyang County. White marble and marble are tough, wear-resistant, and white in color, making them high-quality materials for stone tablet carvings. In addition, the territory is also rich in granite, sandy conglomerate and other ores. Beiyue Temple inscriptions are also mostly made of this material. Here are just a few examples: "The Stele of Difujun of the Northern Wei Dynasty" is made of rough gray-white gravel; "The Preface to the Beiyue Temple Stele of the Tang Dynasty" is made of white stone; Therefore, the Monument in the Zen Master's Shadow Hall is made of granite.

Quyang sculpture also developed in the early days of the Beiyue Temple. Most of the sculptures at that time were in a simple, grand and simple style. After more than 2,000 years of development in the Wei, Jin, Southern and Northern

Dynasties, Tang Dynasty, Song Dynasty, Yuan Dynasty, Ming and Qing Dynasties, it has been passed down to this day. Because the worship and construction of Beiyue Temple in the past dynasties required a large number of stone carvings and skilled craftsmen, Beiyue Temple has become the best witness to the development of Quyang stone carving. Local stone carvings have gone through a long period of development and have been influenced by Taoist culture and Yue Temple sacrificial culture. They are representatives of the Chinese civilization and have unrivaled craftsmanship. In 2006, "Quyang Stone Sculpture" was included in the "First Batch of National Intangible Cultural Heritage" list. There are currently more than 2,000 engraving companies in Quyang County, employing nearly 100,000 people. Their products are exported to more than 80 countries and regions, with an annual output value of more than 5 billion yuan. (H. Zhang, 2013)



Figure 31 Ancient sculptures in Beiyue Temple

Source: ZhiYong Li (2024)



Figure 32 Quyang local sculpture factory

Source: ZhiYong Li (2024)

In addition to statues, there are also animals, stone tables, stone benches, etc. When it comes to animals, we must talk about the stone lions made in Quyang County, which are very famous in the north and even across the country. The traditional production method of Quyang stone carving has its own particularity. First, draw a rough outline on the stone, and then carve it from head to toe. The characteristics of traditional Quyang stone carvings are: on the one hand, the locally

abundant white marble is a fine product in stone carving production; on the other hand, stone carving production reflects folk characteristics. (Yang wen hui ,2009)The most famous stone carving works in history are all made by folk stone carving artists. Furthermore, the artistic expression of stone carving works is very flexible. First, it uses exaggerated techniques to express aesthetic taste. Second, it not only depicts details, but also pays more attention to the pursuit of the overall aesthetic effect of the work. Traditional Quyang stone carvings not only have a certain height in the direction of religious statues, but also create brilliance in architectural sculptures. In order to adapt to the development of the times, Quyang stone carving artists also combined architectural carving and architectural decoration. This also strongly proves that stone carving technology has begun to move towards life and serve the existing production environment.(Figure 32) (Zhang, H. J., & Fan, 2018)

4.1.3 Cultural Identity of Beiyue Temple

Some scholars believe that the expression of national culture is the construction of national cultural identity, this way is also a way to construct the identity of the nation state, the problem of national identity and cultural identity is gradually being more scholars to pay attention to and explore. The concept of cultural identity is Samuel Huntington's answer to the question "Who are we?", "People of different nationalities often answer this question by the things that mean the most to them, and use some kind of symbol as a sign to express their cultural identity." (Samuel Huntington, 2009) Cultural identity is characterised as "the recognition of a common culture among people or between individuals and groups. Identity is one of the basic functions inherent in culture." The root of Chinese cultural identity is the cohesive force embedded in culture, that is, the core of Chinese culture, that is, the concept of culture explored by Edgar Morin, and the "spirit of Chinese culture" that Qian Mu has been advocating, "Chinese culture is a long period of change of the Chinese people or the Chinese nation over a period of four to five thousand years. "Chinese culture is the product of the Chinese people or the Chinese nation after 4,000 to 5,000 years of long

period of change and accumulation to the present day." There are three types of national cultural structures proposed, namely religious identity, cultural identity and national identity. China, with its rich history and long culture, is different from some Western countries such as Britain, France, Germany, and Switzerland, which have a national identity-type form, or a religious identity-type form of the state, and China, as a large cultural country, exists in a cultural identity-type form. (Zhong, 2022)

(SongYing Jie Interview 2024) stated that the history of Beiyue Temple can be traced back to the Northern Wei Dynasty and has lasted for thousands of years, witnessing the change of dynasties and the evolution of culture in China. Identifying with Beiyue Temple means respecting and cherishing this history, as well as deep respect for this temple that has witnessed the passage of time. As a sacred site of Taoism, Beiyue Temple carries important religious history and cultural heritage. Identifying with the historical heritage of Beiyue Temple also means identifying with its religious significance and the influence of Taoist culture in Chinese history. Beiyue Temple, as a local centre of religious belief, has long had a close connection with local culture, and the existence of the temple and its activities are part of the life and culture of the local residents; identification with Beiyue Temple also implies identification with local culture and affirmation of community cohesion.

4.1.3.1 Religious Beliefs and Local Cultural Identity of Beiyue Temple

The question of cultural identity is, in the final analysis, a question of cultural identity, i.e., thinking about and answering the questions of who am I, where do I come from, where do I go, and to which group do I belong. Human beings have been exploring and thinking about the answers to these questions since the beginning of history, and have developed rich and profound thoughts, doctrines and beliefs in their relentless pursuit. With the development of modernity and globalisation, the world in which human beings live is becoming a "global village", people's living conditions are undergoing great changes, the fluidity and rupture of society are rapidly increasing, the diversity and difference of cultures are becoming more and more

apparent, and the natural relationship between culture and social territory is gradually weakening and disappearing. (Zhang ,J. Y., 2019)

Beiyue Temple is an important carrier of Taoist culture, and Beiyue Hengshan is regarded as one of the holy places of Taoism. The existence and maintenance of the temple not only reflects the local respect for Taoist beliefs, but also the deep integration of the region's culture with Taoism. The local people express their worship of the god of Mount Heng through temple festivals and ritual activities, which are also important manifestations of the cultural identity of the Beiyue Temple. The maintenance and development of the Beiyue Temple also demonstrates the local support and respect for the Taoist faith. Whether it is the architectural style of the temple, the idols enshrined, or the folk activities during the temple festival, they all reflect the deep integration of local culture and Taoist beliefs, forming a unique regional cultural identity. Beiyue Temple, as an important carrier of Taoist culture, is an important symbol of Beiyue Hengshan, a Taoist holy place, behind which lies a deep sense of cultural identity. Cultural identity is the result of the interaction between local culture and religious beliefs, which is especially obvious in the faith practice of Beiyue Temple. Beiyue Hengshan has been regarded as a holy place of Taoism since ancient times, attracting countless believers and tourists to pay homage. The temple is not only a place for religious ceremonies, but also a concentration of local culture. By participating in temple festivals and rituals, local residents not only express their admiration for the god of Mount Hengshan, but also strengthen community cohesion and cultural identity through these collective activities. These activities often integrate the religious elements of Taoism with local folk traditions, making the Beiyue Temple an important part of local culture.

This cultural identity is reflected at several levels. At the faith level, the existence of the Beiyue Temple reinforces the beliefs of local residents in the teachings of Taoism and the gods of Mount Hengshan; at the social level, the temple festivals and rituals provide a platform for interaction and contact between

community members; and at the cultural level, these activities not only pass on local traditions, but also continue to enrich and develop the local culture. As a religious building with a long history dating back to the Northern Wei Dynasty, Beiyue Temple has become an important part of the Chinese cultural heritage through generations of restoration and expansion. Beiyue Temple is not only a religious shrine of Taoism, but also a witness and inheritor of history and culture.

Historical heritage and cultural inheritance identity is also the protection and respect of historical heritage, as well as the identification and maintenance of cultural inheritance. It covers the cherishing of historical buildings, cultural relics, arts, traditional customs and religious ceremonies, etc., and at the same time reflects the awareness of the significance and value of these historical and cultural elements in modern society. Historic heritage is often closely associated with specific cultural, national and regional identities. Identification with historical heritage enhances the sense of belonging and pride of individuals and groups in their own cultural identity. At the local level, historic heritage is an important part of a community's culture. Community members strengthen their ties and identities with each other through joint participation in heritage conservation and cultural activities. Identification with historic heritage also supports history education. Through education, the value of historical heritage is conveyed to the younger generation so that they recognize the importance of preserving and passing on this heritage. Historical heritage not only needs to be preserved, but also passed on through various forms of transmission, such as oral history, artistic creation and cultural activities, so that it can continue to play a role in modern society.

The history of Beiyue Temple can be traced back to the Northern Wei Dynasty, and has survived for thousands of years, witnessing the change of dynasties and the evolution of culture in China. Identifying with Beiyue Temple implies respecting and cherishing this history, as well as deep respect for the temple as a witness to the passage of time. As a sacred site of Taoism, Beiyue Temple carries an

important religious history and cultural heritage. Identifying with the historical legacy of Beiyue Temple also involves identifying with its religious significance and with the influence of Taoist culture in Chinese history. As a centre of local religious belief, Beiyue Temple has long been closely linked to local culture. The existence of the temple and its activities are part of the life and culture of local residents. Identification with the Beiyue Temple also involves identification with the local culture and affirmation of community cohesion.

The murals in the temple are not only a form of religious expression, but also a culmination of artistic creation. Identifying with the historical heritage of the Beiyue Temple also means appreciating and preserving these works of art and recognising their importance in the history of Chinese art. Traditional religious activities such as rituals and rain prayers held in the temple are both expressions of religious beliefs and forms of cultural heritage. Identification with these traditional rituals is a support for cultural continuity and local traditions. As an important place for cultural education, Beiyue Temple murals convey rich historical and cultural knowledge through historical displays and cultural activities. Identifying with the historical heritage of Beiyue Temple also means using it as a resource for cultural education so that more people can understand and inherit the richness of Chinese culture. The identification with the historical heritage of Beiyue Temple is not only reflected in the daily lives of local residents, but also in the support of the government and the community for its preservation and promotion. The restoration and maintenance of the Beiyue Temple by governments at all levels, as well as their support for cultural activities, is a sign of recognition and respect for its historical value.

4.1.3.2 Mural Painting and Community Identity

The gods of the Five Mountains represented in the mural paintings, especially the god of Mount Hengshan in the Northern Mountains, are not only Taoist deities, but also local protection deities are prayers for the protection of the wind and rain of agricultural production and life. Through the worship of these deities, the local

community expresses its expectation and belief in local protection through annual festival sacrifices. This religious identity is closely integrated with the community's daily life and has become an important part of the community's identity. During local temple fairs or religious festivals at Beiyue Temple, the religious ritual scenes in the mural paintings became visual references to real-life rituals. These festivals and rituals are transmitted and reinforced through the murals, enhancing the unity and sense of community among community members. Mural painting is not only religious art, but also has an educational function. It conveys Taoist teachings and local cultural knowledge through visualization and becomes an important medium for community cultural transmission. The younger generation learns about local traditions through the murals, thus strengthening their identity with the community. Beiyue Temple murals, as a unique local art form, showcase the history and cultural achievements of the community. Community members' preservation and pride in these murals reflect the recognition and cherishing of their own cultural identity. The mural painting of Beiyue Temple is not only a manifestation of religious art, but also an important expression of local identity and community identity. It enhances community members' sense of identity with their own culture by expressing local history, culture and religious beliefs. As visual cultural symbols, murals connect the past with the present, the individual with the collective, and become an important carrier of local cultural heritage and community cohesion.

Reproduction of Local Characteristics: The murals of Beiyue Temple display the local natural landscape, majestic architectural style and long-lived culture through their unique painting style and content. These elements not only record local history, but also shape the collective memory of the place and strengthen community members' sense of identity with their own history. Together, these elements constitute the visual expression of local identity, enabling community members to see the shadow of their own living environment in the murals, thus creating a strong sense of local belonging. The myths and mythological stories in the murals, such as the legend

of the gods of Hengshan Mountain in Beiyue, express the unique cultural landscape of the place. These stories are reproduced in the murals through visualisation, becoming an important part of the local culture and enhancing the local identity. The many local gods, deities or legendary figures and various dragons depicted in the murals are symbolic. Through the worship and commemoration of these figures, community members reinforce their local identity and can enhance community cohesion. The images and symbols in the murals become a common cultural language among community members, and these symbols transcend the individual and become signs of the community's overall identity. Mural paintings thus become a cultural bond connecting community members and enhance the sense of collective belonging.

4.1.3.3 Symbolic identity of Beiyue Temple murals

The most symbolic aspect of the Beiyue Temple murals is the images of the gods of the Five Mountains, especially the god of Hengshan in Beiyue. These deities represent the Taoist concept of nature worship and are also local protection gods, symbolizing the majesty of heaven and earth and local security. This symbolism expresses the local residents' reverence and respect for the power of nature, and also embodies the concept of harmony between man and nature in the teachings of Taoism.

The blessing function of deities, the images of deities in the mural paintings are not only symbols of religion, but also symbols of the security and prosperity of the local community. Through the worship of these deities, local residents have placed their hopes for local peace and prosperity. The very beautiful landscape paintings shown in the mural paintings, which contain mountains, rivers, trees and other natural landscapes, are a direct reflection of the local natural environment. These landscapes not only display the natural beauty of the place, but also symbolize the cultural roots of the place, allowing community members to visually empathize with the environment in which they live.

The flora and fauna depicted in the murals, such as the creatures unique to the Hengshan area, are also symbolic, representing the natural resources and

ecological features of the place, further strengthening the community's sense of local identity. Scenes of praying for rain appear frequently in the mural paintings, symbolising the ability of the gods to control natural phenomena. Local people pray to the gods for rain through religious rituals to solve the problem of drought and ensure a good agricultural harvest. This function of blessing reflects the dependence of agricultural societies on water resources and expresses trust in the mediating role of the gods in the natural cycle. Deities were not only prayed for rain, but were also seen as guarantors of a good agricultural harvest. Scenes in the mural paintings about a good harvest symbolise the blessing of the gods, which allowed crops to grow abundantly and the local economy to flourish. This symbolism expresses the gratitude and respect of the local people for the blessings of the gods. The rituals attended by dozens of gods in the mural paintings have a strong symbolic meaning, demonstrating the religious order and cultural traditions of the local society. Sacrifices are not only religious ceremonies, but also an important way of expressing respect for the gods and seeking blessings, symbolising the maintenance of social order and community cohesion.

4.2 Research on the symbolism and value of Beiyue Temple murals

It is carried out through social memory and non-genetic inheritance, through excavating the history of Beiyue Temple, the process of cultural development and the historical value of the murals. Research on the content of contemporary mural paintings and character expression methods, and research on the protection and cultural dissemination of Beiyue Temple mural paintings. There is still a lack of in-depth research on these basic issues such as how traditional painters complete the painting of indoor frescoes, how the team is composed, and how the complete painting of traditional religious frescoes is protected. Promote Beiyue Temple mural painting, promote the study of mural painting intangible cultural heritage inheritors, and take mural painting restoration as a key issue to be solved.

4.2.1 Symbolism

Symbolism is a common form of artistic expression in painting, and artists often use elements such as symbols, images and colours to convey deeper meanings and emotions. The existing building was constructed in 1270 AD. Most of the Yuan Dynasty architectural elements have been preserved and it occupies an important place in the history of Chinese architecture. It is an important Taoist building, and the most remarkable thing is that there are frescoes on the east and west walls and the back of the north gable wall of the De Ning Hall. The area of frescoes is about 500 square metres. East and west walls have huge colourful murals, the east wall for the "clouds Xing Yu Shi" figure, the west wall for the "all countries Xianning" figure, the east and west walls are 8 meters high, 18 meters long. The frescoes are taken from Taoist themes, depicting the story of Heaven, Earth, Five Sacred Mountains, Four Capital Mountains and other gods and goddesses gathering at Mount Hengshan in Beiyue. There are many characters, but none of them are the same. The frescoes are painted with iron lines. The technique of applying powder and gold is lifelike, and the shape and spirit are both vivid. Colour using natural ore pigments, the mural through the vicissitudes of life, still shine, not lose the original colour. (Jiang, 2022)

Research on the intrinsic expressive meaning of murals. The symbolic meaning of the murals in Beiyue Temple is expressed through the magnificent scenes of immortals traveling in "Clouds and Rain" on the east wall and "Xianning of All Nations" on the west wall. The paintings show the gods in the Heavenly Palace performing their duties. The scene of dutifully bringing clouds and rain to the world and bringing down rain to pray for the people reflects the most important function of the Yue Temple at that time - praying for good weather in the world, peace and prosperity for the country and the people, and it has a significant symbolic meaning of praying for God's blessing. The murals also visualize immortal figures, which have obvious characteristics of the elegant figure painting style of the Song and Tang Dynasties. The story scenes displayed through these pictures reflect the inner

emotions and emotional pursuits of the ancients, praying for national unity, national unity, and teaching people to be good. The mural depicts the scene of the gods completing their task of bringing rain to the world and returning to the palace after get off work. The story of the whole picture is complete, the layout is dense and dense, just like the flags, flags and belts, floating in the wind, the lines are smooth and free, and the image is beautiful. The "Flying God" in the west wall mural is the essence of the whole mural, with a ferocious appearance, strong body, and muscles. The figure is thick and strong, with powerful hands and feet. He is holding a spear, and his clothes, beard and hair are flying in the wind. He has extraordinary momentum, as if he is about to rush out of the mural in the clouds and mist. His exquisite painting techniques are called "Wu Dai Dangfeng".

4.2.1.1 Symbol and image

Symbols, also known as ideograms, are usually manifested as images or pictures that can trigger people's conceptual associations with specific objects and things; referents, also known as ideograms, are the concepts of the objects and things that the ideograms refer to or express. In painting, symbols refer to symbolic or representative figures, shapes, colours or patterns, which are used to convey specific meanings, emotions or concepts. Symbols in painting can be concrete objects, figures, animals, or abstract forms of symbols whose purpose is to express the author's thoughts, feelings, or themes through visual forms. Symbols are often symbolic in painting, meaning that an image represents a deeper meaning or concept. Symbols can also represent specific objects, concepts or emotions. In painting, certain objects, motifs or colours can represent specific meanings, for example, in religious paintings, light may represent holiness or revelation. In addition to concrete objects or images, abstract symbols may be used in paintings to convey a message. These symbols may be geometric shapes, lines or combinations of colours. For example, gold represents nobility and flamboyance, ribbons may represent lightness and movement, and circles may represent completeness or harmony. Cultural and social context: The meaning of

symbols is often influenced by the cultural and social context. The same symbol may have different meanings in different cultures. Therefore, when using symbols in a painting, the artist needs to consider the cultural background and cognitive differences of the viewer. Symbols in paintings can help convey emotions and themes. Artists can emphasis or imply the emotional colour or theme of a work by choosing specific symbols, thus deepening the audience's understanding and empathy of the work. Symbols in paintings are one of the most important means for artists to express ideas, emotions and themes, and they convey information through visual language to stimulate the viewer's thinking and emotional resonance. (Wang, T. X., & Cao, 2022)

Artists often use specific symbols and images to convey symbolic meaning. These symbols may be universally recognised symbols with a cultural or historical context, or they may be personal symbols created by the artists themselves. For example, a cross often represents Christian faith and salvation, while a butterfly may represents change and transformation. The symbols of the Beiyue Temple murals are summarized to include the pictorial symbolic characteristics of the idiosyncratic identity of the cloak and hat, as well as the symbolic characteristics of the dragon, which represents authority and totem in the murals, and the symbolic characteristics of the time period of the murals' figures.

Tongtian Crown: East and West wall most of the main characters wear Tongtian Crown, especially in the East wall of the centre of the character's crown is the most clear, we will use this as an example. Tongtian crown in our country all kinds of crown is used earlier, as early as in the Han dynasty, Tongtian crown system has been implemented, is a variety of crowns in the highest specifications. After the han shu - ming emperor records: the son of heaven with tontine crown out of the city to sacrifice.

Tongtian crown is the former part of the high gold Boshan is also known as the gold face for its characteristics, this feature has been continued to the Yuan Ming just various dynasties of the gold face style is slightly different. This crown seven

beams, the top decorated with beads and emeralds, the top of the hat to the back of the spiral, but the two sides of the edge of the hollow. Cap before the Yan title, but did not see the attached decorations, the side of the tassel, is used to tie the upper and lower collar fixed cap with. This style name in Taoism Shun material murals, such as Shanxi Yongle Palace, Hebei Vilu Temple, Beijing Fahai Temple and other murals are painted with Tongtian crown, just slightly different styles.

From the available information on the reform of the dynasty's Tongtian crown varies, before the Tang Dynasty Tongtian crown, including the Tang Dynasty works did not find the Tongtian crown painted on the upturned tassel band. Most of the tassel band for two, hat left and right each one, from the crown hanging down, when using the tie in the jaw. It and the difference is that it is one, two ends on the ends of the knot in the exposed outside of the crown on the ends of the maturity. To the Northern Song Dynasty, painted Tongtian crown began to appear tassel, such as Wu Zongyuan's "Chao Yuan Xian Battle Figure" in the Middle East Huatian Emperor's Tongtian crown is painted, the Yuan Dynasty Yongle Palace of the Three Qing Dynasty frescoes are also. To the Ming dynasty, people's concepts gradually change, secular tendency to deepen, although at this time the frescoes still have the emergence of the unity but is no longer the time of its dominance, especially to the middle and late, secular tendency has been more deeply infiltrated into the religious system, so that the crown system is more closely linked with social life. Ming Dynasty "three talents will be - clothing will be" in the Tongtian crown is tasseled, Beijing Fahai Temple Hall in the back wall of the Emperor's Tongtian crown is also tasseled. Beiyue Temple murals Tongtian crown of tassel with the same as the two, when the Ming Dynasty painted reflection.

Because from the yuan dynasty, the two sides of the crown has been impermeable, to be impermeable to the original look of the crown beam upright, and that kind of crown beam has long been bent backward to replace the crown beam. How both ancient and to have the characteristics of the times, the Ming painters chose

such a way, that is, since the Yuan Dynasty to retain the top of the crown rolled backward style, on both sides to add a similar hollow-like decorations, so that after the drawing of the Tongtian crown distinctive, so that the ancient meaning of the integration of innovation. Comparison of Beiyue Temple and Fahai Temple painting of the crown, will find that, in addition to the number of beads on the crown is different, other places are extremely similar, which can also be concluded that the Beiyue Temple murals must be the Ming Dynasty painters.

4.2.1.2 Colour symbols

Colour is also often used as an expression of symbolism in painting. Different colour can convey different emotions and meanings. For example, red may symbolize love, passion or violence, while blue may symbolise calm, coolness or sadness. The costumes of the figures in the murals have varied through the generations, with the Zhou Dynasty preferring red, the Qin Dynasty black, the Han preferring red, the Tang yellow, and the Song Dynasty cyan. From the overall performance of the mural, the mural is more colourful, both green and green-based character costumes and black and white-based landscape and the image of the dragon on a yellow background. It can be more obvious to assume that the Beiyue Temple mural painting both Tang Dynasty Wu belt when the wind of painting, but also through the Song Dynasty, Yuan Dynasty, and Ming and Qing Dynasties, many times to repair and from the new colouring to make the picture shows a variety of painting art style characteristics. (Cui, 2023)

4.2.1.3 Symbolic images of dragons

The dragon is a sacred object known to everyone in China, and it took thousands of years from the earliest birth of this image to the time when it became a symbol of kingship. According to ancient legends, the dragon may be the result of the tribal totem of the Hop Fei. The Shuowen called it "a dragon with scales growing on a snake-like body, scales shining, the body can change in size". In the Song Dynasty, the symbol of the dragon and the power of the emperor began to be widely promoted

to become a symbol of state power, becoming a totem. Through the image of the dragon to identify the emperor as the true dragon son of heaven, for the imperial power to add the colour of myth. That is, from this time onwards, the dragon decorative symbols in terms of regulations and restrictions become more and more strict, only the national level of architectural murals can be decorated with gold foil dragon image. By the Yuan Dynasty, Chaoyan stipulated that the five-clawed and one-horned dragon could only be used by the emperor. The Ming Dynasty, more so than Yuan in the control of the dragon, the beginning of the founding of the country made clear and strict regulations on the decoration on the objects. In the higher specification of the views and temples in the dragon's image preserved is also not much.

The dragons in the Beiyue Temple mural paintings have a high impact on the minds of the local people, and there are symbolic images associated with them in many consciousnesses. Beiyue Temple mural paintings in the more obvious there are two dragons, one is located in the middle of the east wall, head down tail up, for a downward dragon, body length of 6.4 metres, flexible and changeable, very rugged and sinuous momentum, the sense of flesh is very strong; the other is located in the western wall of the upper part of the. (Yin XiaoYuan, 2024, interview)

Mural in the dragon are leaching powder paste gold, clearly shows the mural specifications very on the national level, two dragon painting style and appearance is very different, from the dragon's face and body view of the east wall of the golden dragon is huge and more than 6 metres long, the dragon body is more stout, covered with scale pattern. The neck is relatively thin, similar to the snake. There are mountain claws, pointed young powerful, half-moon type. The dragon's mouth is slightly open, revealing sharp teeth, which have been closed at the top and bottom, and the lower jaw is densely spiked. The dragon's eyes are rounded, with eyebrows on the upper part of the eyes, with dorsal fins on the body, and the dragon's hair is divided into small locks flying upwards. West wall of the golden dragon, dragon hair gathered together in front of the inverted floating, showing only a dragon's horns, the shape of the collar

is different from the east wall of the golden dragon. The dragon's mouth is closed, revealing its fangs. Nose whiskers born between the mouth and nose, eyes like snake eyes, through the beast's vicious look. (Qin, J. S, & Zhang, 2019)

Through the "dragon decoration", "Chinese traditional green detailed pattern", "dragon art", "Chinese dragon pattern atlas", "say dragon" and other information, to find the dragon painting characteristics of successive generations, frescoes in the shape of the dragon is relatively close to the characteristics of the Yuan belt, but after the Ming and Qing periods of the frescoes of the mending also carries a little of the characteristics of the time. The dragon posture of the Yuan Dynasty is flexible, the body proportion is longer, the dragon's neck is thinner, the body is more dynamic and the dynamic of the body is more vividly portrayed. The dragon in the Yuan Dynasty has a smaller head, but it has a fierce and wild feeling. And, the dragon's mouth in the Yuan Dynasty and early Ming Dynasty, the upper lip is obvious to the wild feeling. The mouth of the dragon in the Yuan Dynasty, the upper lip is obviously elongated and upward, and in the middle of the Ming Dynasty, the upper lip of the dragon and the lower lip are aligned. In the early period, the dragon's hair bun neatly backward or forward flying, often only see a dragon horn intact. Later, the dragon hair more layered into a group of a group, more sparse from the double horns after the forward or backward fluttering, often visible double horns. In the late period, especially before and after the Ming Wanli dragon hair, early whole locks or two bundles from the back of the double horns to ask the front backward drift, the appearance of full. At this time, the nose whiskers, the position is obviously moved forward, born after the nose, the shape is thicker and shorter. Ming dynasty Wanli years of the dragon's mouth open, often as a play of pearls. The Qing dynasty dragon look clumsy heavy old, dragon head forehead full, wide, and many bulging, seem very strong. Dragon horn spacing widening, change the two horns basically parallel to the later the greater the opening. So the east wall of the painting of the dragon has the characteristics of the dragon in the period of the Tang, Song to Yuan dynasty, the west

wall painting of the dragon should be the middle of the Ming dynasty repair, and the painting of the handbook at that time is more consistent.

4.2.1.4 landscape painting symbols

Mural landscape part has been fuzzy, so this paper can not do a comprehensive examination, only try to - some relatively clear pictures for analysis. Now, from the preservation of the better part of the point of view, the mural does quite reflect the characteristics of the Ming dynasty painting, is a reflection of the Ming dynasty landscape machine fine both. Trees in the mural painting both bone and public after the tour of dyeing force method, to the west wall tree for example: the tree branches and leaves, the human part of the method of painting with the outline after dyeing and become, but the tree plant next to the children painted by the pen withered branches, it is full of bone, write feeling is very strong, is the art of the House of the body and the children of the generation, "the intention of the landscape is compatible with the reflections. Hillside 1 occasionally see "some traces of grass, is also common in the Ming dynasty volume auxiliary sun, in the paintings before this, only the water's edge can be seen to eliminate the traces of grass, and the hilltop grass and shrubs more than a touch of painting techniques instead of grass painted on the hillside is the Ming dynasty used to method. In addition, the water's edge of the stone, can be slightly see the traces of axe chapping. Waterfalls and human river painting, but also very much Dai Jin, Wu made two works of the flavour. This ... part of the pen power but not rashly decadent put, neat in a sparse wild, state of mind in the implied surge of rigour, foot painters superb skills and a reflection of the free state of mind. On the two landscape sections, from whole to part, there are loose and tight, carved and solid, reflecting the roughness of the family's release.

4.2.1.5 Figures in Painting Images

Mural figures have distinctive characteristics of the era, with images of the symbolic nature, representing an era of painting style of art, but also on behalf of the official aesthetics and values of the time is an important carrier for the study of ancient history and culture and art. Beiyue Temple mural painting as China's only existing mural paintings that can reflect the genealogy of the gods of the five mountains in the national sacrificial system, has an important historical research and protection value.

Referring to the historical restoration of Beiyue Temple inscriptions, the existing murals should be repainted on the basis of the Song and Yuan murals, so the figures in the murals should follow the Taoist tradition of the Song and Yuan periods.

According to the Taoist canon since Song and Yuan, the gods and goddesses of the three realms of heaven, earth, and man have been positioned and described. Given that there is no clear mapping of the gods and goddesses of the Wuyue Mountains in Taoist texts, and that no more detailed records have been left in other national sacrificial systems, it is of interest to examine the identities of the major deities and goddesses in the murals of the Beiyue Temple in this section. The most important deities depicted in the murals of the Beiyue Temple are the gods of the Five Mountains, which can be reflected in their costumes. In the traditional Chinese beliefs, the five mountains, five emperors, five stars, five parties and five elements are closely related to the five elements, the five mountain costumes of the colour is according to the five elements: east green, west white, south red, north black, in the yellow. According to the "Taishang Wuji Da Dao natural true one five said runes on the scripture". Taoist Collection" records: the mother of the five elements, so ask the five said Fu, on the five should be shown, under the table of the five Yue. And, in the temple of Yue has "five Yue with the existence of the five elements," the saying. Songsshan in the Yue into the Qianlong dynasty reconstruction of the four Yue temple platform left and right relative, within the wind, clouds, thunder, rain and the

southeast, west and north and west of the four Yue honoured God, is to illustrate this point. Beiyue Temple murals painted with the image of the gods and the five Yue painted in the east and west walls, now try to analyse.

Character modeling: Beiyue Temple murals in the character modeling is also unique, unlike other religious murals. Beiyue Temple mural characters in the face of the painting has a strong realistic, and Shanxi Hongdong Shui Shen shop wall song (Yuan Dynasty) and Yuncheng Yongle Gong mural Yuan Dynasty) in the character of the martyrs closer, it should be repaired according to the image of the Yuan Dynasty before copying and then restoration of the painting. Mural in the maid's face modelling also child has the characteristics of the times, both different from the yuan dynasty maid's plump, not like the qing dynasty maid's thin, but the boundary between the two.

Character costumes: part of the traces of the era, such as the western wall is responsible for pulling the old man riding the dragon at the top of the ladies, one of the neckline wearing a chemically shaped decorations for the Ming and Qing dynasty ladies paintings in common, which has not yet appeared in the Ming dynasty before the painting of the ladies. In addition, the warrior's armour is also in line with the characteristics of the Ming dynasty, especially the appearance of the cover brain, more revealing that the mural is indeed the Ming dynasty painted no doubt. Because the "Ming system of generals, marshals often in the martial arts helmet, hat, or hard shell scarf after draping to cover the brain, which is the Ming system characteristics, ... and the mural force on the modeling, especially the eyebrow of the "mountain" shaped painting, and Shijiazhuang Vishnu Temple (Ming Dynasty) Mural) Yanluo modelling very similar.



Figure 33 Mural on the west wall of Beiyue Temple

Source: ZhiYong Li (2024)

Identity chart of figures on the west wall:(Figure 33)

Beiyue Temple west wall painted a total of 42 gods and goddesses, also arranged in the form of groups. West wall lower figure identity: West wall lower painted 16 gods and goddesses image (including there is a clear tendency to decline 45), which the main figure image of two, are tall and prominent position. (1) No. Beiyue Mountain God, more than 3 metres high. His face dark double sun straight, head wearing scrolling clouds crown, crown decorated with the head of the underworld, wearing black robes, holding a tablet, extremely majestic standing in front of the crowd, seems to be waiting for the beginning of the ceremony. According to the "Cloud Book Seven Signs": the North Yue Hengshan Jun led the immortals and jade maidens seven thousand people. Beiyue Jun clothing Yuanliu's robe, wearing the crown of too real meditative spirit, wear Changjin Wujin's seal, ride the black dragon. Mural paintings, except for the "seal" and "black dragon" is not painted, the other parts are consistent with the cut. (2) The number of gods and goddesses according to their costumes should be Xiyue Mountain God. In the history, it is said that "Huashan Jun of Xiyue Mountain, leading 4,100 immortal officials and jade women. HuaShanJun dress white vegetarian robe, wear too early nine streams of the crown, wear open heaven through the real seal, ride the white dragon."and it is customary to

call the god of Xiyue as the White Emperor, is based on the five elements is based on the five elements of the East Qinglong, West White Tiger, South Vermilion Bird, North Xuanwu. Beiyue temple mural in (2) the number of gods and goddesses dressed in clothes and crowns, more with the above characteristics, its identity should be undoubtedly the god of xiyue.

The number of gods and goddesses is Nanyue Wei. According to the Taoist Collection of the Seven Signs of the Cloud Book (Song Dynasty), the Nanyue Hengshan Jun leads 70,700 immortals. Nanyue Jun dress Zhu light of the robe, nine Dan mouth essence of the crown, wearing a luminous seal of the sky god, ride the red dragon. Heng Yue Zhi" (Qing Dynasty) records that Ming Taizu once dreamed of a man at night, great appearance and beard, claiming to be the god of Heng Yue. Beiyue Temple mural in the Hengyue God is also a great figure, cheeks with a thick beard, extraordinary temperament. He wore a cloud crown, the crown decorated with a green dragon, wearing a red robe, face like heavy jujube, holding a tablet in his hand, stop twisting his head to look back, seems to stop waiting for someone. Nanyue God's face is more special, and some animalistic deities close, especially the mouth and nose part of the shape, compared with other Yue God has certain

differences, which may be in charge of the world he divided into wild places, and supervise the scales and armour of the aquatic changes in the function of the relevant(Figure 34).

According to his attire, the deity No. 2 in the picture should be the God of Mount Xiyue. According to historical records, "The Lord of Mount Hua of Mount Xiyue led 4,100 fairy officials and jade maidens. The Lord of Mount Huashan wore a white robe, a crown of the Great Beginning Nine Streams, a seal of the Open Heaven and True Truth, and rode a white dragon." People usually call the God of Mount Xiyue the White Emperor, which is based on the five elements of the Eastern Azure Dragon, the Western Tiger, the Southern Vermillion Bird, and the Northern Black Tortoise. The attire of the deity No. (2) in the mural of Beiyue Temple has the above

characteristics, and his identity is undoubtedly the God of Mount Xiyue. He wears a white crown of the Heaven, his face is dark, his facial features are prominent, his eyes are wide open, and he is holding a green shield in his hand, as if he is preparing to report his mission. (Figure 33) The figure has typical painting symbolic features, such as the white crown of the Heaven, which represents religious status, and the shield in his hand, which symbolizes a higher royal official status. The figure has smooth lines, light clothes, and a more prominent sense of movement, which has obvious characteristics of Wu Daozi's mural painting. (Figure 35).



Figure 34 Beiyue Temple west wall mural No. 3 Xiyue Mountain God

Source: ZhiYong Li (2024)

พหุมนุ ปณ จิต ชีเว



Figure 35 The mural on the west wall is titled ‘The God of Mount Seorak

Source: ZhiYong Li(2024)



Figure 36 Mural of the God of Nanyue Mountain on the west wall of Beiyue Temple

Source: ZhiYong Li (2024)

The deity No. 1 in the picture is the God of Nanyue. According to the "Yunji Qiqian" (Song Dynasty) in the "Daoist Canon", the "Nanyue Hengshan Lord" leads 77,000 immortals. The Lord of Nanyue wears a red robe, a crown of nine dankoujing, a luminous seal of the gods, and rides a red dragon.(Figure 36) The "Hengyue Zhi" (Qing Dynasty) records that the Ming Taizu once dreamed of a man with a majestic appearance and a long beard, who called himself the God of Hengyue. The Hengyue God in the murals of Beiyue Temple is also tall and majestic, with thick beard on his cheeks and extraordinary demeanor. He wears a cloud crown with a green dragon decoration on it, which represents a very high status. He wears a red robe, the color of the face cloth is dark red, and he holds a hu in his hand. He is looking back, as if waiting for someone or listening to the words of the gods beside him. The figure painting is vivid and natural, with the casualness and naturalness unique to Taoist painting, and has integrated the painting method of Wu Dai Dang Feng. The face of the God of Nanyue is quite special, similar to some animal gods, especially the shape of the mouth and nose, which is somewhat different from other mountain gods. There is a flowing green belt behind him, which may be related to his function of being in charge of the division of the world and supervising the changes of scaled and armored aquatic creatures.

The group of human deities in No. 13 on the west wall, which are listed with the three Yue gods, are Hedu and Jiangdu. Hedu holds a scroll in his arms. Jiangdu has no obvious features, but according to his hat and clothes, he is consistent with the He god and should be one of the Four Jias. He is initially identified as Jiangdu. The Four Duks in ancient China were symbolized. The name of the Four Duks was first seen in Er Ya: Explanation of Water. It refers to the four rivers flowing into the sea in ancient China: He (Yellow River), Huai (Huai River), Ji (Ji River), and Jiang (Yangtze River). The "Four Duks" represent the river gods in Chinese folk beliefs. In the Tang Dynasty, the Huai River was called Dongdu, the Yangtze River was called Nandu, the Yellow River was called Xidu, and the Ji River was called Beidu. The figure has no

guard in his hand. The Jiang Du on the lower right is wearing a crown. Compared with the Five Sacred Gods in the first layer, the figures are smaller in size and their clothes are lighter. Some have dark red faces, some have white faces, and some hold peach branches in their hands, which means that the status of the Four Dus is lower than that of the Five Sacred Gods. Their facial expressions are not as rich as those of the main gods, but simpler. (Figure 37).

The No. 14 attendant in the picture has a natural expression, his face is wide open, his beard is richly and carefully drawn, and he wears a green cloth hat, which should be a popular hat in the Tang Dynasty. (Figure 36) The lines of the scarf on his neck are vivid, which has the characteristics of Wu Daozi's painting, using the brushstrokes of water shield strips, and the characteristics of the Yuan Dynasty's more rigid style, which is regular but not flexible and vivid. The knotting method of the scarf is similar to the warrior scarf in the Tianwangzi picture. From the perspective of the image style, it has both the painting characteristics of the Tang and Song.

Dynasties and the marks of maintenance after the Yuan Dynasty. Number 6 is a group of warrior images. The characters are tall and mighty, with very strong realistic painting characteristics. (Figure 37) Two warriors hold axes and pagodas respectively, and the other two warriors hold long-handled axes. The axe shape symbol has obvious characteristics of the times. It should have the characteristics of warrior clothing and artistic expression mode in the Song Dynasty. Compared with the warrior images in Pilu Temple, the clothes and armor are more elegant, and the faces are more varied. Compared with the thinner faces of Pilu Temple, the warriors in Beiyue Temple are more majestic, with the characteristics of Yuan Dynasty painting. The warriors hold axes and weapons with characteristics. The murals in Beiyue Temple and Dongyue Dai Temple in Shandong Province follow the same path, but the murals in Dai Temple were repainted later.



Figure 37 The mural on the west wall of Beiyue Temple is titled River God.

Source: ZhiYong Li (2024)



Figure 38 14 groups of figures on the west wall of Beiyue Temple

Source: ZhiYong Li (2024)



Figure 39 Six groups of figures on the west wall of Beiyue Temple

Source: Photographed by Beiyue Temple

No. 4 is a group of fairies. These two women are the most meticulously painted in the Beiyue Temple murals. From the folds of their clothes and crowns to their facial expressions, they all reflect the superb skills of the painters. They are similar to the murals in Yongle Palace in Shanxi, and have the artistic characteristics of Ming Dynasty ladies' paintings. The clothing style is the Song Dynasty style, with very distinctive overcoats, skirts, and clothes. They hold special instruments in their hands, and a jade ruyi in their hands, representing their status and position.(Figure 40)

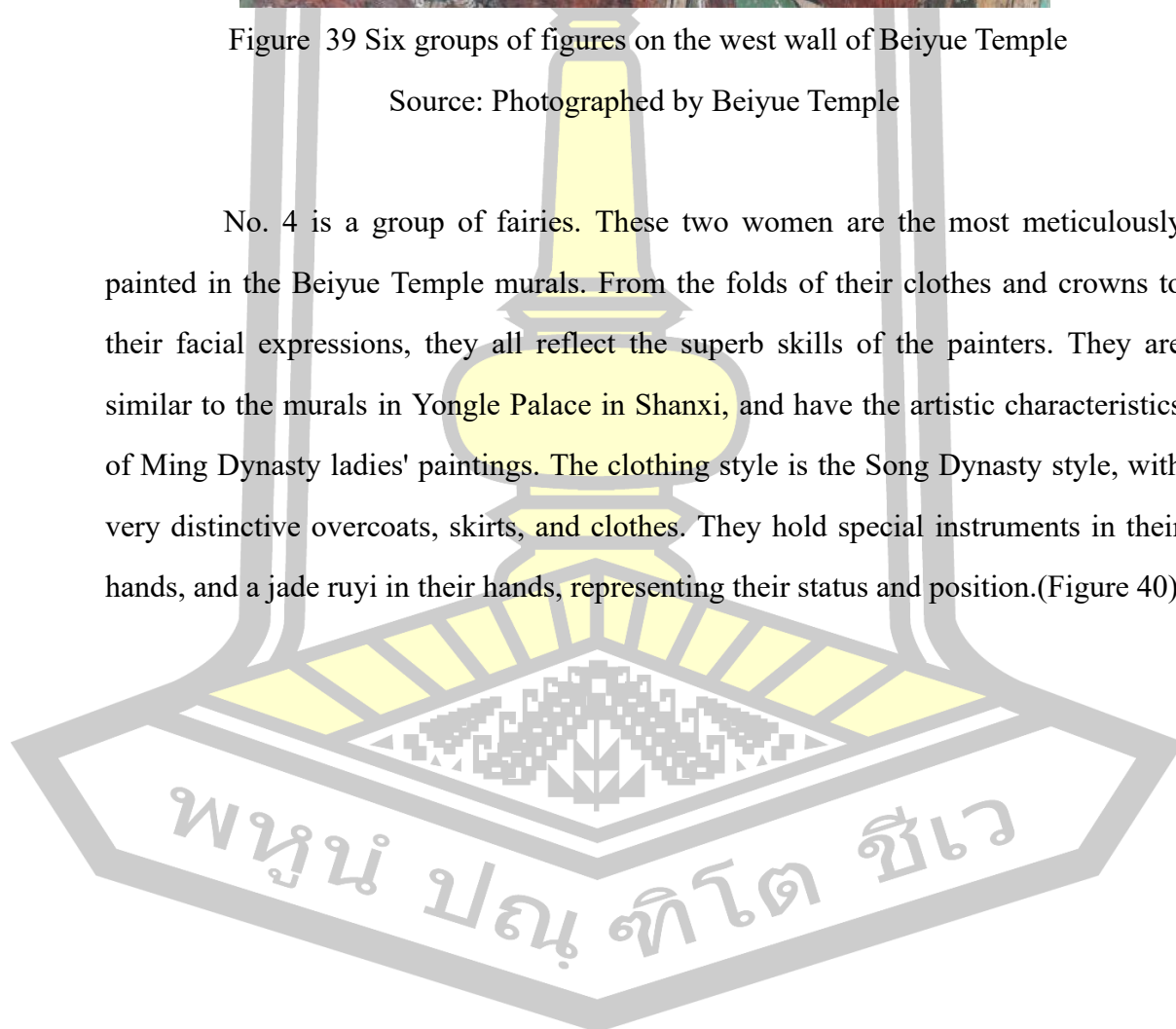




Figure 40 No. 4 A group of fairies on the west wall of Beiyue Temple,
-Source: ZhiYong Li (2024)



Figure 41 Yaksha on the west wall of Beiyue Temple
Source: Source: ZhiYong Li (2024)

The two Yakshas between No. 2 and No. 3, who are responsible for presenting gifts, have ugly faces and flying hair. The two Yakshas next to them, No. 5-6, are dressed as warriors, but they do not hold weapons but a gift plate in their hands.(Figure 40-41)

In addition, the last figure in the group of No. 11 on the lower level of the west wall is a young fairy child holding the immortal tree beside the river. The immortal tree is the immortal tree favored by Taoists. The second group of figures on the west wall (upper level): This group of figures is represented by gods such as Fengbo, Yushi, and Dianmu. It is Yushi, who is holding the rain container and the willow branch. The iconic utensils become the basis for judging his identity. Fengbo, this judgment can be made from the pocket of the person he carries. Behind Fengbo, No. 9 are four gods responsible for the ceremony, followed by Dianmu holding the light mirror. There are two figures in front of the attendants, dressed as warriors, and their identities cannot be seen from their body shape and clothing.(Figure 39)

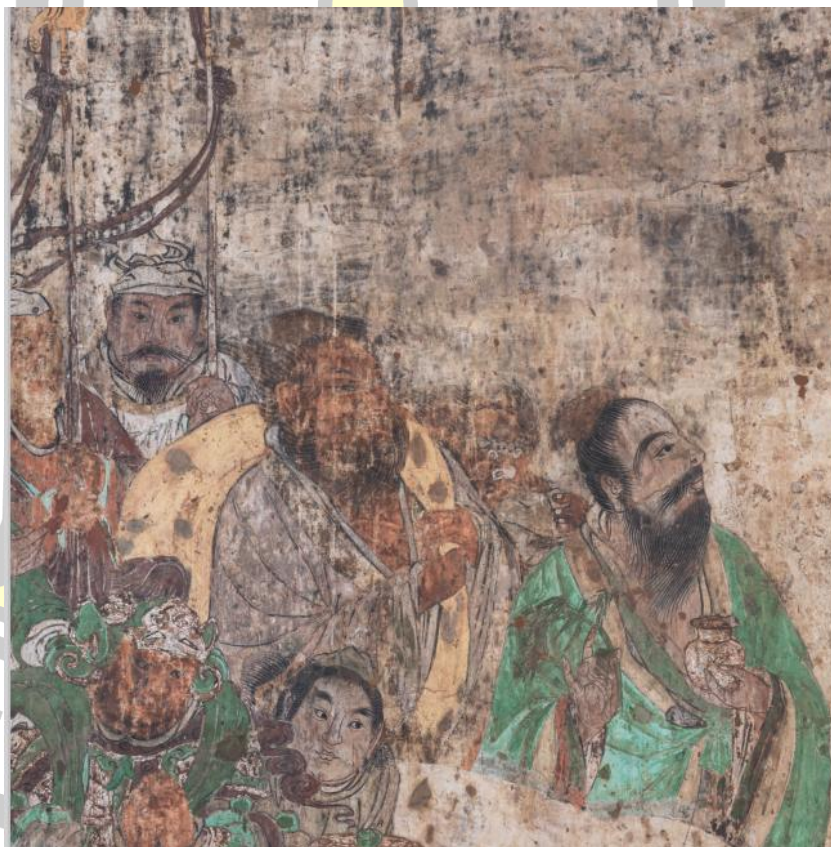


Figure 42 Figure 11 on the west wall of Beiyue Temple

Source: ZhiYong Li (2024)

The third group of figures on the west wall (upper level), figure No. 8 is an old man wearing a Tongtian crown, riding a yellow dragon. There are six guards around him, and the front figure No. 10 is the famous "Quyang Ghost". Behind the "Quyang Ghost" are two maids holding banners responsible for pulling. Behind the maids, there are a fairy boy and a yaksha responsible for offering gifts on the left and right of the yellow dragon. The last one is a servant holding a fan.

The third group of figures on the west wall (upper level) is an old man wearing a crown that reaches the sky, riding a yellow dragon. There are six guards around him, and the front number 10 is the famous "Quyang Ghost". Behind the "Quyang Ghost" are two maids holding banners responsible for pulling. Behind the maids, there are a fairy boy and a yaksha responsible for offering gifts on the left and right of the yellow dragon. The last one is a servant holding a fan. (Figure 42).

Judging from the yellow dragon that the old man rides, this fairy cannot be the Dragon King. In traditional Chinese beliefs, Dragon Kings have no habit of riding dragons. They mostly govern shrimp soldiers and crab generals, and dragons can fly in the clouds and travel around the world without any tools, let alone the dragons themselves. Therefore, the old man on the dragon's back cannot be the Dragon King. The identity of the North Pole Old Man should be very consistent with the characters in the mural. In traditional Chinese beliefs, the image of the South Pole Old Man has been deeply rooted in people's hearts, and the image of the birthday star worshipped is all spontaneous old man. The North Pole Old Man is a deity who is known as the South Pole, East Pole, and West Pole Old Man. The characters in the murals are inherited from the paintings of the Tang and Song dynasties, so the North Figure 43:



Figure 43 8-9 on the west wall of Beiyue Temple

Source: ZhiYong Li (2024)

Pole Old Man is painted in the place that reflects the northern gods. In the early Taoist beliefs, the Four Pole Old Men all rode dragons. (Figure 43)

No. 10 is the "Flying God" painted by Wu Daozi, with a dignified face, bright eyes, strong limbs, and flying in the clouds like a spear. Although too many years have passed, we can still feel the spiritual temperament of Quyang Ghost in the haze, which is shocking. The painter grasped the key parts of the structure of the character's face, limbs, etc., and exaggerated them extremely through close-up techniques, which has a strong tension and can grasp this measure. The integration of reality and romance shows Wu Daozi's extraordinary ability in modeling. The painter showed people Gui Bo's justice and might by shaping Gui Bo, and eliminated harm for the people, which deeply shocked the audience. (Figure 44).



Figure 44 Figure No. 10 on the west wall of Beiyue Temple.

Source: ZhiYong Li (2024)

The above is an analysis of the identities of the main characters in the Beiyue Temple murals. Combined with other Yue Temple beliefs, it can be seen that the Five Mountains God System is based on the belief of the coexistence of the Five Mountains, and is a personification of the early "Five Mountains True Shape Map". Although in reality, the gods in the Five Mountains God System will change slightly due to their respective jurisdictions and specific functions, but in general, their initial functions of "raising wind and rain, and controlling water early" have not changed. The Five Mountains genealogy illustrated in this article is based on this concept. The status of each god in the genealogy is not entirely based on their respective status in the Taoist system, but refers to their respective roles in the Five Mountains worship. There are the Five Mountain Gods (Eastern Mountain, Northern Mountain, Western Mountain, Southern Mountain and Central Mountain), the Four River Gods (Hedu, Jiangdu, Jidu and Huaidu), the gods who raise clouds and bring rain (Thunder

God, Lightning Mother, Wind Master and Rain Master), the gods who remove disasters and bring blessings (Star Officials and Zhang the Immortal who delivers children), and the local gods (Four Great Old Men, Black Tortoise and the Eight-Direction Flying Apsaras).

Among the above gods, the Five Mountains, Four Rivers, and the God of Wind and Rain are the gods worshipped uniformly in the Five Mountains. As for the worship of other gods, it will vary slightly according to the specific circumstances of each mountain. For example, the god worshipped in the North Mountain is the Goddess of Childbirth, and the God of Fortune worshipped in the East Mountain is the Goddess of Mount Tai. It can be seen that the Five Mountains God System Chart shows a genealogy of gods that are mainly the Five Mountains, Four Rivers, and the God of Wind and Rain, which can make clouds and rain. The establishment of this genealogy depends on the functions of the Five Mountains Gods and human expectations of gods, and human life.

Through the analysis of the identities of the characters in the murals in the previous section, it can be seen that the North Mountain murals are a group of narrative pictures, which reflect a kind of gathering. In this regard, the actions of the gods on both sides are very well reflected: the gods who participated in the rain prayer, those who came early have already taken their positions, and those who came late are speeding up. The question between the east and west murals reflects what happened in such a time period. The Ming Dynasty sacrificial texts in Beisonao also have corresponding explanations for this expression of the murals. Among the many Ming Dynasty sacrificial texts, the most prominent theme was praying to the Beiyue Mountain God to bless mankind, and the main activity of blessing was praying for rain. The murals in Beiyue Temple recorded such a scene: the gods of the Five Mountains descended to Hengshan, bless mankind and accept offerings at the same time.

From the picture, we can see that the gods who came here not only had a purpose, but also a time. Therefore, to understand the real theme of the picture, we cannot do without analyzing the time when the gods gathered. I have already explained the differences in the national ritual system and sacrificial time enjoyed by the Beiyue Mountain God in various dynasties. That is, since the Tang Dynasty, most dynasties set the time for sacrificing to Beiyue on the beginning of winter, and only the Ming Dynasty set it to the early middle month of spring and autumn. Moreover, from the existing inscriptions in Beiyue Temple, the time of all sacrificial texts in the Ming Dynasty was mostly in spring and autumn. Below, I will arrange all the identifiable Ming Dynasty sacrificial texts in Beiyue Temple, from which we can see their time.

The theme of the mural is very clear, that is: the murals in Beiyue Temple show the scene during the Ming Dynasty, on the sacrificial day stipulated by the state (the picture reflects autumn), when the Five Sacred Mountains gods headed by Beiyue Mountain God descended on Hengshan to bless mankind and accept the sacrifices. In addition, it should be pointed out that the time for worshiping Beiyue set in the Ming Dynasty may have been based on a basis.



Figure 45 Mural on the east wall of Beiyue Temple

Source: ZhiYong Li (2024)

There are 17 figures painted on the lower layer of the east wall, among which 1 and 2 are the main figures, with larger sizes and occupying the main position in the composition. According to their crowns and clothes, they should be the gods of Dongyue and Zhongyue among the Five Mountains. (Figure 45)

No. 1: Dongyue Taishan God. "Gujin Tushu Jicheng·Shenyi Dian" states that "the gods of the Five Mountains are in charge of the world's figures and are the patron gods of Mount Tai. Mount Tai is the grandson of the Emperor of Heaven and the home of all spirits. It dominates the lives, careers, life and death, and nobleness of the people in the world."

The Taishan God in the Beiyue Temple wears a seven-beam emerald green crown, a green robe, and a slanting tablet in his hand. He stands among the gods, and there is a blue dragon with its head exposed beside him. The description in "Yunji Qiqian" written in the Song Dynasty: "Taishan ascends to the back, wears a green seven-beam crown. Wears the seal of the sun and rides a blue dragon" is consistent with the content of the painting. The facial expression of the Dongyue God is solemn and realistic, and his expression is focused on praying for rain. From his full white beard, we can see that he is the oldest of the Five Sacred Mountains. According to the "Comprehensive Meaning of Customs" (Eastern Han Dynasty), the reason why the Fengshan sacrifice must be held at Mount Tai, the Eastern Peak, is because he is the oldest and most respected god among the Five Sacred Mountains. He is depicted as an adult for this reason. However, this arrangement is limited to the murals of the Beiyue Temple in Quyang. The same image is also found in the murals of other Yue Temples. The God of Mount Tai has been in a relatively respected position since ancient times. In the Song Dynasty, he was already in the temple of the Eastern Emperor, and his position was more sought after than other gods. It is also for this reason that the murals of the Beiyue Temple place him in an extremely important position. (Figure 46)



Figure 46 The main deity of Mount Dongyue on the east wall of Beiyue Temple

Source: ZhiYong Li (2024)

Figure No. 2 in the painting is the main god of Zhongyue. He wears a yellow robe and holds a hu rice bowl. His body is slightly tilted towards Dongyue, as if waiting for something. The "Yunji Qiqian" (Song Dynasty) records: "Zhongyue is tall and strong, and leads 30,000 immortal officials and daughters. Zhongyue Jun wears a yellow robe, a yellow jade Taiyi crown, and a seal of Shenzong Yanghe. He rides a yellow dragon and follows the officials. The lord of Zhongyue for fifty years, the Supreme Lord often uses the three heavenly immortals with virtue and prestige to reside in the position." The "Wushang Miyao" (quoted from Zhitong's "Daozang") states: "Zhongyue Songshan Jun, surnamed Jiao, taboo name Pusheng. He wears a Zhongyuan Huangnong jade crown, a yellow flying skirt, a yellow ornament, and a seal of Yingshen Zhonghuang. He often rides a yellow cloud flying wheel on the four seasons, plays the list of immortals, and reports to the emperor." From the above records, Zhongyue wears a yellow robe, which is the same as the clothing of figure No. (2) in the mural, so it can be considered that he is Zhongyue. (Figure 47)



Figure 47 The main deity of Mount Yue in the mural on the east wall of Beiyue Temple

Source: ZhiYong Li (2024)

Numbers 3 and 4 in the mural should be two of the Four Rivers. River worship, like mountain worship, has a long history in my country. During the reign of Emperor Xuan of the Han Dynasty, an imperial edict was issued to Taichang: "The rivers and seas are the largest of all rivers, but now there are no shrines for them. Order the shrine officials to perform annual rituals and pray for a good harvest for the world with the rivers, seas and Luoshui in all four seasons. The Five Mountains and the Four Rivers all have regular rituals and have become the representatives of the gods of mountains and rivers in national sacrificial ceremonies. In temples of all dynasties, the images of the four major rivers, the Yangtze River, the Yellow River, the Huai River and the Ji River, were often painted together with the Five Mountains, and the status of the Four Rivers was lower than that of the Five Mountains before the Ming Dynasty. It was not until the Ming Taizu Zhu Yuanzhang ordered the removal of

the previous titles of the gods of mountains and rivers and replaced them with certain gods that the crowns and clothes of the Four Rivers were matched with those of the Five Mountains. The four rivers are similar, but because they have long been in the supporting position of the Five Mountains, they are still at a disadvantage in terms of shape and other aspects. The shapes of the Four Rivers in the wall paintings of Beiyue Temple are smaller than the Five Mountains, and their crowns are the same for the four gods on the east and west walls. Because there is no fixed pattern in the image of the four, people have been unable to distinguish their respective identities for a long time. Mr. Wang Xun pointed out the identities of the Four Rivers in his article "An Exploration of the Themes of the Murals in the Sanqing Hall of Yongle Palace": "The Yangtze River, the Yellow River, the Huai River, and the Ji River have no obvious characteristics in their images. But next to the Five Mountains, they can be considered the four. "Mr. Wang Xun's judgment is reasonable, because the Five Mountains and the Four Rivers are the main gods on earth, and the state's sacrificial activities generally put them together. Moreover, the Four Rivers have a special origin with the North Mountain. According to the "Hengyue Records" (Qing Dynasty), the North Mountain Hengshan is the world's rivers, Huaihe River, Ji River, and four-legged animals. The "Comprehensive Mirror of Gods and Immortals in History" (quoted from the "Daoist Canon" of the Neizhengtong) also said that the North Mountain is the world's rivers, lakes, seas, Huaihe River, Ji River, Jingwei River, and tigers, leopards, beasts, snakes, insects, four-legged animals, and many-legged animals. From this point of view, the practice of painting it next to the Five Mountains is justified. Not only that, the image of the four rivers in the murals of the North Mountain Temple seems to be more than that of the Yongle Temple. The one on the west wall of the Beiyue Temple is more recognizable, because a god of dharma on the west wall holds something like a book in his arms. Combined with the ancient legend of "maps come out of the river and books come out of the Luo River", it can be preliminarily determined that this god is the river god, and the other god on the west

wall can be regarded as the river god, because the Yangtze River and the Yellow River are two major rivers in my country, and their positions are relatively prominent among the four rivers. It is possible to paint them on the same wall. In this way, the identities of the two rivers on the east wall can be inferred, they are Du and Ji Du. Moreover, in terms of geographical location, the Huai and Ji Du are adjacent to Dongyue and Zhongyue, and have convenient conditions for proximity.



Figure 48 Two of the Four Gods in the mural on the east wall of Beiyue Temple

Source: ZhiYong Li (2024)

In addition to the above four main characters, there is also a group of their followers at the bottom of the east wall, including 8 warrior guards who preside over the ceremony (No. 5-12), two women (No. 13-14) and two immortals (No. 15-16) who carry gifts, and one Yaksha (No. 17). The appearance of Wuxia (5)(6)(7)(8) is more consistent with the image of the Four Saints, but due to the lack of more self-interested evidence, you cannot be sure of their identities at present. Here, I will just select the relevant records in the historical materials for further research. (Figure 48)

According to the "Taishang Shuo Ziwei Shenbing Huguo Xiaomo Jing" (edited in the Yuan Dynasty) and "Yisha Baode Chuan" (quoted from the "Daozang"), the Four Saints are the four generals of Ziwei Beiji Great Emperor, namely Tianpeng, Tianyou Marshal, Yisheng Heisha General and Yousheng Zhenwu. In this picture, (5)(6) may be Tianpeng and Tianyou Marshal, both of whom are in military uniforms and holding sharp axes. The belief in the two gods was known as early as the Tang Dynasty. Du Guangting (Tang Dynasty)'s "Records of Taoist Miraculous Effects" contains relevant records of Tianpeng: "The Taidi is in the middle of the Big Dipper. Ziwei Biguan Xuanqing is the Taidi Zhuang. He controls the Ten Uses of the Big Dipper and governs Fengdu. Yinjing Di Zhuang is under the command of the Taidi. Tianpeng is the general of the Taidi." The two generals are ranked first, and Tianpeng is the son general. Therefore, the number (5) slightly ahead is named Tianpeng, and the number (6) is named Tianyou.(Wang, W., 2003)



Figure 49 Figures 5-8 on the east wall of Beiyue Temple

Source: ZhiYong Li (2024)

According to the "Taishang Shuo Ziwei Shenbing Huguo Xiaomo Jing" (edited in the Yuan Dynasty) and "Yisha Baode Chuan" (quoted from the "Daoist Canon"), the Four Saints are the four generals of Ziwei Beiji Great Emperor, namely Tianpeng, Tianyou Marshal, Yisheng Heisha General and Yousheng Zhenwu. In this picture, No. (5) and No. (6) may be Tianpeng and Tianyou Marshal, both of whom are in military uniforms and holding axes. The belief in the two gods was known as early as the Tang Dynasty. Du Guangting (Tang Dynasty)'s "Daoist Miraculous Records" has a related record of Tianpeng: "The Great Emperor is in the middle of the Big Dipper. Ziwei Biguan Xuanqing is the Great Emperor Zhuang. He uses the Big Dipper and governs Fengdu. Yinjing Emperor Zhuang is under the command of the Great Emperor. Tianpeng Shangjiang is the Great Emperor's Marshal." The two marshals are Tianpeng, so No. (5) who is slightly ahead is designated as Tianpeng, and No. (6) is designated as Tianyou.(Figure 49)(Figure 50).

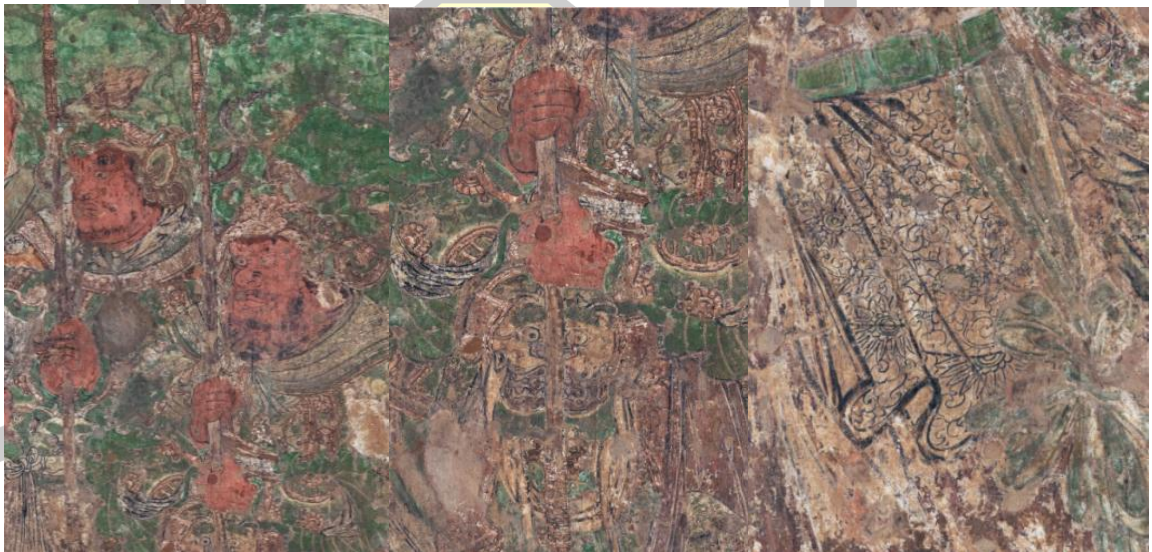


Figure 50 Figures 5-6 on the east wall of Beiyue Temple

Source: ZhiYong Li (2024)

According to their images, the characters (12) and (13) in the murals should be General Heisha of Yisheng and General Yousheng Zhenwu. Both of them have their hair and feet untied, and wear a scarf on their upper body and a skirt on their

lower body. Zhenwu also has a ring on his arm. Except for not being equipped with a long sword, the other features are similar to those in the relevant records. Yisheng was brought out by Taoist Zhang Shouzheng during the reign of Emperor Taizong of Song, Zhao Guangyi, in order to cater to Zhao Guangyi's ambition to inherit the throne. Wang Qinruo, a Song Dynasty scholar, recorded this in detail in the Biography of Yisheng Baode Zhenjun. It was not until the Northern Song Dynasty that Yisheng was called the Four Saints together with Tianpeng, Tianyou and Zhenwu. Zhenwu was also one of the gods favored by the Song Dynasty. Before the Song Dynasty, it was called Xuanwu. The Tianwen Xun written by Liu An, King of Huainan, recorded: "The north is water, its emperor is Zhuanxiang... its beast is Xuanwu." In order to avoid taboos, the Song Dynasty changed Xuan to Zhen. Zhenwu is the incarnation of Xu and Wei in the twenty-eight constellations. He was sent by the Supreme Lord Lao to the mortal world to eliminate evil. Zhenwu's status reached its peak during the Yongle period of the Ming Dynasty, and his divine power far exceeded that of the other three. As for the fairy boy and the jade girl, there is no fixed rule in their image. They only appear as attendants of the venerable, mostly holding utensils and offerings. There is also an image of a yaksha in the murals, with curly hair combed back, like a picture of angry hair, which is very close to Duan Yuming's description in "Chinese Temple Culture". He said: "Yaksha is also like: curly hair, like a picture of resentful hair. There is a collar under the neck, the upper body is exposed, the sky belt is floating, and the lower body is covered with ox nose light." This image appears in many places in the murals of Beiyue Temple, but most of them only depict the head and face and the part below the neck, and the whole picture cannot be seen. Its shape complements the shape of the ghost. (Figure 51)



Figure 51 Figures 12-13 on the east wall of Beiyue Temple

Source: ZhiYong Li (2024)

The left side of the upper layer of the east wall has 13 figures, with the two holding huban (17) and (18) as the main figures. The figure wearing the Tongtian crown is the most important among them, because the one on his right (17) is an old man with black hair and a white beard. He holds the huban in his hand and bows, as if he is respectfully asking the main god No. 18 for instructions on his mission. Behind them is a row of gods, with the six-drum drum as the background. The god in the middle (15) is huge and looks like a pig. He is about to beat the drum to make thunder. According to Lun Heng (Eastern Han Dynasty), "The painter drew the shape of thunder, which was piled up like drums. He also drew a man who looked like a strong man, called Lei Gong. He was asked to hold the drums with his left hand and hit them with his right hand." Gujin Tushu Jicheng (Qing Dynasty) and Youyang Zazu (Tang Dynasty) also recorded some stories about the pig-headed Lei Shen. In front of

this god, there is a person wearing red clothes, who is as fast as lightning and has a monkey-like face, namely (14). His appearance is similar to the Lei Gong described in Soushen Ji (Jin Dynasty): "his complexion is like cinnabar, his eyes are like mirrors, his hair and horns are more than three feet long, he looks like six domestic animals, and his head is like a macaque." On the right side of the Azure Dragon, in the upper left corner of the mural, there are 13 gods, which is the first group. They are standing on colorful clouds and should be the gods of the Thunder Department of the Heavenly Palace and the 24 Heavenly Lords (part). This group of images is centered on Wufu Taiyi. Taiyi has been a respected god in almost every dynasty. Emperor Wu of Han worshipped Taiyi. In the third year of Emperor Xuanzong of Tang's Tianbao reign, worshipping Taiyi became a custom. The Song Dynasty also worshipped Taiyi, believing that Wufu Taiyi "would be free from war and epidemics and the people would be prosperous and happy". In the fifth year of Xining, it was stipulated that Taiyi "would wear the king's clothes and hats". During the Zhenghe period, it was clearly stated that all ten Taiyi wore Tongtian crowns, and the two ministers wore Wuliang crowns.

In the wall, Wufu Taiyi wears Tongtian crowns on his head and court clothes on his body. He holds a Huban, has a kind face, phoenix eyes, drooping eyebrows, and five strands of beard fluttering slightly to his right shoulder. On the left, a golden boy is playing a dragon fan, and on the right, a maid is holding a lotus. In front of Wufu Taiyi on the left, there is an old man wearing a black scarf and a small hat, holding a Huban in a bowing posture, respectfully listening to the instructions of the main god. There are two maids on the lower right of the main statue.

In the upper left of this group of figures are the gods of the Thunder Department. In the middle of the six-link drum is Lei Gong, who has a human body, a dog head and a chicken mouth; he holds a drumstick and is beating the drum to thunder. On the right is Lightning Goddess Dianmu is a female figure, holding lightning mirrors in both hands and directing light, commonly known as the Golden

Light Holy Mother. Fengbo is bending over and holding a windbag. Yushi is dressed as a scholar, holding a rain container in one hand and sowing rain with the other. According to the "Chunming Tuichaolu" and "Daofa Huiyuan", the gods of the Thunder Department are also called Yuanshi or Tianjun, and are controlled by the Five Blessings Taiyi God. The murals show that they are blessing the people under the command of the Five Blessings Taiyi God.

From the above analysis of the characters and utensils, it is obvious that this group of characters are the gods of the Thunder Department of the Heavenly Palace. However, as for the identity of a specific person, the author's view is different from that of Li Changrui and Zhou Yuezi (Li Changrui and Zhou Yuezi 1985). Li and Zhou believe that the main god No. (18) is the Five Blessings Taiyi, because the "Chunming Tuichaolu" and "Daofa Huiyuan" record that the gods of the Thunder Department are controlled by the Five Blessings Taiyi God. They were unable to confirm the identity of the white-haired old man. As for the figures in front of the six drums, they believed that they were the God of Thunder, the Mother of Lightning, the God of Wind, and the God of Rain, and described them as follows: "The God of Wind was bending over and holding a wind bag. The God of Rain was dressed like a scholar, holding a rain container in one hand and spreading rain with the other hand." Although their descriptions were very similar to those in historical records, such a scene was not shown in the painting. First, the four figures in front of the six drums mostly only showed part of their bodies, and there was no painting of figures showing both hands at the same time. Second, the rain container and wind bag mentioned in the text were not clearly shown, and it was even more unclear who the person dressed like a scholar was referring to. Considering the possible misreading in the analysis of the murals, I have consulted the Daoist Canon (orthodox version) and related classics, and thus confirmed that the main god (18) in the murals should be the Nine Heavens Yingyuan Leisheng Puhua Tianzun, who is in charge of the gods of the Thunder Department. (Figure 52)



Figure 52 Beiyue Temple east wall murals No. 14-16 Leigong mica

Source: ZhiYong Li (2024)

The Thunder Master rises and makes thunder. The Thunder Master enters the Lake of Thunder and makes the sound of Chong. Li Mu saves him and makes him the Thunder Master Hao Weng. "At this point, not only the identity of No. 14 has been clarified, but also the identity of No. 16 has been clearly seen. In terms of image and status, this old man must be Li Mu. The No. 15 gods around the six-link drum were initially identified as the gods of the Thunder Department. The development from a single Thunder God or Thunder Master to the Thunder Department composed of many gods is also a process of continuous evolution over time. In the Song Dynasty, several Thunder Gods often appeared at the same time, and the title of Thunder Department had already been established. In the Ming Dynasty, the system of the Thunder Department gods of the Song Dynasty was mainly followed, and the Thunder Department gods in the murals of Beiyue Temple were a reflection of this. No. 16 is a female image. Because of its position next to Li Gong and a lightning mirror vaguely held in the middle, it was identified as the Mother of Lightning. "Yu Fu Zhi" in the History of Yuan Dynasty said: The flag of the Mother of Lightning, the

deity is painted in the shape of a woman, wearing red skirt and pants, and using both hands to move light. "Ji Shuo Quan Zhen" (Qing Dynasty) also said: Nowadays, the custom also sculpts the Mother of Lightning, whose appearance is like a woman, elegant, holding a mirror in each hand, 15hao Dianmu shows off to Tianjun. In this painting, Dianmu holds only one mirror in both hands, which is different from the Dianmu statue of the Xiao Dynasty. She is a jade maiden accompanying Leisheng Puhua Tianzun, and each of them holds different objects in their hands. 3. There are 7 figures painted on the upper right side of the east wall, with No. 15 in the middle wearing purple clothes and holding a hu board as the main one. The gods beside him all have red hair and strange faces, holding hu boards. Among them, No. 15 wears a green robe, and the gods beside him wear a red robe. The three are followed by three attendants and a ghost soldier with a spear across his body looking back. (Figure 53)(Figure 54).



Figure 53 Figures 17-19 on the east wall of Beiyue Temple

Source: ZhiYong Li (2024)



Figure 54 Murals No. 17-19 on the east wall of Beiyue Temple, Earth God and Water God

Source: ZhiYong Li (2024)

On the right side of the Azure Dragon, there are 13 gods painted in the upper left corner of the mural, which is the first group. They are stepping on colorful clouds, which should be the gods of the Thunder Department of the Heavenly Palace and the 24 Heavenly Lords (part). This group of images is centered on Wufu Taiyi. Taiyi has been a respected god in almost every dynasty. Emperor Wu of the Han Dynasty worshipped Taiyi. In the third year of Tianbao of Emperor Xuanzong of the Tang Dynasty, it became a custom to worship Taiyi. The Song Dynasty also worshipped Taiyi, believing that Wufu Taiyi "would be free from war and epidemics wherever he was, and the people would be prosperous and happy". In the fifth year of Xining, it was stipulated that Taiyi "would wear the clothes and hats of the king". During the Zhenghe period, it was clearly stated that all ten Taiyi wore Tongtian crowns, and the two ministers wore Wuliang crowns.

In the mural, Wufu Taiyi wears Tongtian crowns on his head and court clothes on his body. He holds a Huban, has a kind face, phoenix eyes, crescent silkworm eyebrows, and five strands of beard fluttering slightly to his right shoulder.

On the left, a golden boy is fanning a dragon fan, and on the right, a maid holds a lotus. In front of the left side of Wufu Taiyi, there is an old man wearing a black scarf and a small hat, holding a tablet and bowing, respectfully listening to the instructions of the main god. There are two maids at the lower right of the main image.

The upper left of this group of figures are the gods of the Thunder Department. In the middle of the six-piece drum is Lei Gong, who has a human body, a dog head and a chicken mouth. He is holding a drumstick and is beating the drum to make thunder. On the right is the lightning god Dian Mu, a female figure, holding a lightning mirror in both hands to wield light, commonly known as the Golden Light Holy Mother. Feng Bo is bending over and holding a wind bag. Yu Shi is dressed as a Confucian scholar, holding a rain container in one hand and sowing rain with the other hand. According to the "Chunming Tuichaolu" and "Daofa Huiyuan", the gods of the Thunder Department are also called Yuanshi or Tianjun, and are controlled by Wufu Taiyi God. The mural shows the scene of them blessing the people under the command of Wufu Taiyi God.

From the above analysis of the figures and utensils, it can be clearly seen that the identity of this group of figures is the gods of the Thunder Department of the Heavenly Palace. However, regarding the identities of certain people, the author's views differ from those of Li Changrui and Zhou Yuezi (Li Changrui and Zhou Yuezi 1985). Li and Zhou believed that the main god No. (18) was Wufu Taiyi, because the records of Chunming Tuichaolu and Daofa Huiyuan stated that the gods of the Thunder Department were controlled by Wufu Taiyi. As for the white-haired old man, they could not confirm his identity. As for the figures in front of the six-drum drum, they believed that they were Lei Gong, Dian Mu Feng Bo, and Yu Shi, and described them as follows: "Feng Bo was bending over and holding a wind bag. Yu Shi was dressed like a scholar, holding a rain container in one hand and sowing rain with the other hand." Although their descriptions were very similar to the historical records, such a scene was not shown in the picture. First, the four people in front of the six-

drum drum mostly only showed part of their bodies, and there was no picture of the characters showing both hands at the same time. Second, the rain container and wind bag mentioned in the text were not clearly shown, and it was even more unclear who the person dressed as a scholar was referring to. Considering the possible misinterpretation in the analysis of the murals, I have consulted the Daoist Canon (orthodox version) and related classics, and thus confirmed that the main god No. (18) in the murals should be the Nine Heavens Yingyuan Leisheng Puhua Tianzun who is in charge of the gods of the Thunder Department. (Figure 51)(Figure 52).

The upper layer of the southeast corner wall is the second group. It should be the Three Officials of Heaven, Earth and Water, with a total of seven gods painted, walking in the white clouds. The Three Officials became the main objects of worship during the Three Kingdoms period, and later became a popular theme in murals of all generations. The images of the Three Officials usually have two forms: one is to paint the Heaven Official riding a phoenix chariot, the Earth Official riding a sedan chair, and the Water Official riding a dragon chariot, with many attendants beside them; the other is to paint no chariot or attendants. The difference between the Three Officials lies mainly in their appearance. The Heaven Official is happy and dignified; the Earth Official is solemn and resolute; the Water Official is angry and has a strange and powerful appearance. The murals in the Dening Hall of Beiyue Temple belong to the second type.

The Heavenly Official has a kind face, wearing a black court robe, holding a tablet, with fluttering sashes and long sleeves; on the left is a young man in a white robe dressed as a scholar, fanning himself with both hands; on the upper left is a little devil, bare-chested, wearing a long green belt, holding a flag. On the right of the Heavenly Official is a maid, wearing a female fairy official hat, a red shirt, holding a treasure in her hand. The Earthly Official is to the lower right of the Heavenly Official, wearing a red robe, holding a tablet, with a green face and fangs. To the lower right of the Earthly Official is the Water Official, wearing a green robe, a ribbon

tied around his waist, with a ferocious face and a pig's mouth and a human body. Above the Water Official is a god carrying a treasure bottle with corals in it. There are three gods painted between the two groups of figures in the upper and lower parts, surrounded by auspicious clouds, connecting the entire painting into a whole. That is: the Azure Dragon Lord is in front; the Five Fortunes Taiyi is in the middle; the Heavenly, Earthly and Water Officials are in the back, which is the Heavenly Palace. Through three transitional figures, it is closely connected to the third group of "mountains, rivers and land" pictures below, thus giving the mural an internal connection.

It is drawn as a ghost soldier, which is similar to the "Quyang Ghost" on the west wall. It should be the followers of Erguan. In addition to the above gods, there are three gods, namely, the names, below Erguan and the gods of the Thunder Department and above the No. 6 warrior in the auspicious clouds. Because the three gods are too small, no signs indicating their identities can be found in the picture, and their exact identities are yet to be determined. However, considering the duties and powers of the gods of Beile Hengshan, it is preliminarily estimated that they may be the three officials of the Water Palace. (Figure 55) (Quyang, 2022)



Figure 55 Ghost Soldiers on the east wall of Beiyue Temple

Source: ZhiYong Li (2024)

4.2.2 Take the murals with symbols and values to organize

Beiyue Hengshan and Beiyue Temple in Quyang have a long history and outstanding cultural characteristics. The Dening Hall of Beiyue Temple is a treasure house of ancient Chinese architecture, culture and art. It is also a concrete reflection of the social politics, economy and aesthetics of the time. The murals in the hall have extremely high historical and artistic value. The east wall mural "Clouds and Rain" is located on the east eaves gable of the Dening Hall, close to the inner wall from the wall shoulder to the upper eaves. The mural lines are free and easy, and the layout is well-spaced. It adopts the unique scattered perspective in traditional Chinese painting. The characters are not divided into distance and size, the lines are drawn, and the heavy colors are flatly painted and filled, which is full of distinctive artistic characteristics and style of the Chinese nation. The layout is extremely skillful, with careful drawing and heavy color filling, but not complicated and cumbersome. At the same time, the use of gilding makes it vivid and lifelike. The picture is 6.44m high and 17.6m long. There are many characters on the east wall mural, with a total of 73 characters. The statues are tall, the pictures are complete, the spirit is lively, the faces are vivid, the beards and clothes are several feet long, the expressions are different, and the images are not the same. The picture shows the scene of the gods mobilizing troops and raining down. Above is a giant dragon with a winding body, bright eyes, soft beard and hair, sharp and powerful claws, with a dynamic beauty that seems to float and move. The gods and earth gods have their own postures, which are quite eye-catching. The west wall mural "Wan Guo Xian Ning" is located in the inner wall of the west eaves gable in the Dening Hall, from the wall shoulder to the upper eaves. The picture shows the scene of the gods returning to the palace after the work of

blessing the people is completed. The so-called "Quyang Ghost" is painted above the "Flying God", which is the essence of the whole mural. The "Quyang Ghost" has a ferocious appearance, long beard, thorny hair, thick muscles, strong hands and feet, and a spear in hand, flying in the wind, with extraordinary momentum, as if it has emerged from the wall on the clouds and mist, and the painting skills are superb. It is said that it and the water on the murals of Berlin Temple in Zhao County were both painted by Wu Daozi in the Tang Dynasty, so there has been a saying of "Quyang Ghost, Zhaozhou Water" for a long time.

In religious philosophy, faith is a firm belief in the existence of gods, gods or some supernatural entity. Faith can be expressed through prayers, rituals and moral practices, and is the core of the religious system. From the perspective of religious philosophy, faith is a very important and complex concept. It involves an individual's firm belief in the existence of gods, gods or supernatural entities, which usually goes beyond the scope of reason and experience. The following are some of the main discussion points on faith in religious philosophy:

Faith is often described as a firm belief in the existence of some supernatural entity or god. This belief is not only a confirmation of knowledge, but also an expression of emotion and will. Faith often transcends the limits of reason. It does not rely on empirical verifiability or rational deduction, but is a profound personal or collective experience.

Faith is often expressed and practiced through prayers, rituals and religious rites. These rituals and practices help individuals establish connections with gods or supernatural entities and are passed down and promoted in the faith community.

4.2.2.1 Explain faith with philosophy

Moral practice, faith also includes a moral dimension, that is, believers act according to the moral norms in their belief system, which are usually considered to be sacred or transcendental norms. Faith often relies on religious experience, that is, direct or indirect experience gained by individuals or faith communities in their

interactions with gods or supernatural entities. In some discussions of religious philosophy, whether faith can have a rational basis or reason, or the relationship between faith and reason, is also explored.

Faith and rational knowledge are often regarded as different but sometimes complementary fields in religious philosophy. Rational knowledge emphasizes the verification of experience and reasoning, while faith is a realm that transcends reason and is based on specific experiences and traditions. Faith in religious philosophy is a multi-layered, complex and profound topic that involves the deep belief and closeness to the existence of gods or supernatural entities, as well as the way to express and practice this belief through prayer, rituals and moral practices.

(1) Gods:

Gods refer to supernatural entities or beings, usually with characteristics beyond human understanding and control. In philosophy, the discussion of gods involves how to understand and define the nature and attributes of these supernatural beings. In religious philosophy, the interpretation of gods involves multiple levels, including the nature, role, symbolic meaning of gods. And the relationship with human life.

In religious philosophy, gods are regarded as supernatural beings that transcend the limitations of humans and nature and possess extraordinary wisdom and power. Gods have the characteristics of supernatural beings and are believed to transcend the laws of nature and be able to manipulate various forces in nature. This supernatural nature makes gods a way for humans to explain incomprehensible phenomena. Gods are usually described as immortal beings, symbolizing the pursuit of eternal life and transcendence of death. Gods play a variety of roles in religious philosophy, including explaining natural phenomena, providing moral guidance, and giving meaning to life.

Gods have the function of explaining natural phenomena. Gods provide explanations for various natural phenomena. For example, the thunder god controls

thunder and lightning, and the rain god controls rainfall. These gods enable people to understand and accept the unpredictability of nature. The stories and teachings of gods and immortals often contain rich moral and ethical content, guiding people's behavior. Through the examples and teachings of gods and immortals, people can find moral and behavioral norms, which have a moral and ethical guiding role: the existence of gods and immortals and their legends give people the meaning and purpose of life. Through the belief in gods and immortals, people can find spiritual comfort and hope.

Gods and immortals symbolize different meanings in different cultures and religions, reflecting human understanding and pursuit of nature, society and themselves. The symbol of natural power of gods and immortals is reflected in various forces in nature, such as wind, rain, thunder and lightning. These symbols reflect human awe and worship of natural forces. Symbol of moral virtues: Many gods and immortals symbolize certain moral virtues, such as wisdom, courage, compassion and justice. Through the worship of these gods and immortals, people express their pursuit and recognition of these virtues.

The symbolic meaning of culture and history, the image and story of gods and immortals often reflect specific cultural and historical backgrounds. For example, the Eight Immortals in China reflect the integration of Taoist culture and folk beliefs, while the gods in Greek mythology embody the religious concepts and social values of ancient Greece.

As a symbol of moral virtue, gods and goddesses have rich connotations in different cultures and religions. Here are some specific examples showing how gods and goddesses symbolize various moral virtues: Wisdom, bravery, compassion, justice, loyalty, honesty, humility, tolerance, diligence.

For example, Athena: In Greek mythology, Athena is the goddess of wisdom, war and craftsmanship. She not only symbolizes wisdom, but also represents justice and strategy, and is a symbol of rationality and wisdom in the minds of the Greeks. Wenchang Emperor is the god of learning in Chinese Taoism and is regarded as a

symbol of wisdom and academic achievement. He is the patron saint of students praying for academic progress and wisdom.

In Chinese culture, Guan Yu was a famous general in the Three Kingdoms period and was deified as a martial saint by later generations. He symbolizes loyalty, bravery and justice, especially in Taoism, where he is revered as a protector and god of war. In Buddhism, Guanyin Bodhisattva is a symbol of compassion and salvation. She is believed to be able to listen to the sufferings of the world, grant compassion and help, and is the object of believers' prayers for protection. In Christianity, Jesus Christ symbolizes endless love, forgiveness, and redemption. His teachings and deeds demonstrate his deep care and sacrifice for humanity, and are a symbol of compassion in the hearts of believers. In Greek mythology, Themis is a symbol of law, order, and justice. She is often depicted as a goddess holding scales and swords, representing fairness and justice. In Hinduism, Hanuman is a monkey god, symbolizing loyalty and devotion. His deeds in the Ramayana demonstrate endless loyalty and devotion to his master, and are a model of courage and loyalty.

Zhaozhou Huan Gong: Zhaozhou Huan Gong is a deity in Chinese Taoism, symbolizing loyalty and integrity. He is known for his kindness and honesty, and is the object of worship by businessmen and believers. In Chinese Taoism, Lao Tzu symbolizes humility and wisdom. His philosophical thoughts emphasize inaction and humility, and are the embodiment of humility and wisdom. In Buddhism, Amitabha symbolizes endless tolerance and compassion. He vowed to lead all living beings to the Pure Land, demonstrating the spirit of tolerance and compassion. Hermes: In Greek mythology, Hermes is the god of commerce, travel and communication, and symbolizes diligence and wisdom. His image shows the idea of success through diligence and wisdom. Through these examples, we can see that the gods, as symbols of moral virtues, are not only of great significance in religion and mythology, but also play an important role in culture and history. Their images and stories convey important ethical and moral codes, inspire people to pursue virtues such as wisdom,

courage, compassion, and justice, and provide moral role models and behavioral guidelines for society.

The gods have multiple values in the murals of Beiyue Temple, which can be explained from multiple perspectives such as art, philosophy, society and culture. The inner meaning of the murals is expressed through the magnificent scenes of the gods and immortals traveling in the murals of Beiyue Temple, such as "Clouds and Rain" on the east wall and "All Nations Peaceful" on the west wall. The paintings show that the gods in the heavenly palace are diligently making clouds and rain for the world and praying for the people. It reflects the most important function of the Yue Temple at that time - praying for the public's will of praying for good weather and peace in the world, and has a significant symbolic meaning of praying for the blessing of the gods. The murals also visualize the gods and immortals, with obvious characteristics of the elegant figure painting style of the Song and Tang Dynasties. The story scenes shown through these pictures reflect the inner emotions and emotional pursuits of the ancients, and pray for national unity, ethnic unity, and teaching people to be kind. The murals depict the scene of the gods returning to the palace after completing their task of bringing rain to the world. The whole picture has a complete story, with a proper layout, flags and ribbons, Buddha fluttering in the wind, smooth lines and beautiful images. The "Flying God" on the west wall is the essence of the whole mural. He has a ferocious appearance, a strong body, thick muscles, and powerful hands and feet. He holds a long spear, and his clothes and beard are flying in the wind. He is extraordinary, as if he is about to rush out of the mural. The painting technique is exquisite and is called "Wu Dai Dang Feng".

The two murals on the east and west sides depict a total of five main gods, and the characters are tall and solemn. From the picture, we can see that the gods who rushed here not only have a purpose and mission, but also have time. Therefore, I have explained the differences in the national ritual system and sacrificial time enjoyed by the Beiyue Mountain God in various dynasties. That is, since the Tang

Dynasty, most dynasties have set the time for offering sacrifices to Beiyue on the beginning of winter, and only the Ming Dynasty set it as the early middle month of spring and autumn. Moreover, judging from the existing inscriptions in the Beiyue Temple, the time of all sacrificial texts in the Ming Dynasty is mostly in spring and autumn.

Analysis of the identities of the main gods in the murals of Beiyue Temple, combined with other Yue Temple beliefs, shows that the Five Mountains God System is based on the belief of the coexistence of the Five Mountains, and is the personification of the early "Five Mountains True Shape Map". Although in reality, the gods in the Five Mountains God System will change slightly due to their respective jurisdictions and specific functions, but in general, their initial functions of "raising wind and rain, and controlling water early" have not changed. The Five Mountains genealogy illustrated in this article is based on this concept. The status of each god in the genealogy is not entirely based on their respective status in the Taoist system, but refers to their respective roles in the Five Mountains worship:

Table 6 Classification Table of Gods and Immortals in Mural Paintings(2024)

Classification	Name					Status
Five Mountains Gods	Dongyue	Beiyue	Beiyue	Nanyue	Zhongyue	Main God
Four River Gods	Hedu	Jiangdu	Jiangdu	Huaidu		Secondary Main God
Gods of Raising Clouds and Bringing Rain	Leigong	Dianmu	Dianmu	Rain Master		Third Class God
Gods of	Tiangua	Diguan	Diguan	Xingxiu	Zhang	Fourth

Removing Disasters and Bringing Good Fortunes	n				Xian, the God of Childbir th	Class God
Local Gods	Nanji Laoren	Dongji Laoren	Dongji Laoren	Old Man of the West	Xuanwu	Fifth Class God

Among the above gods, the Five Mountains, Four Rivers, and the God of Wind and Rain are the gods worshipped uniformly in the Five Mountains. As for the worship of other gods, it will vary slightly according to the specific circumstances of each mountain. For example, the god worshipped in Beiyue is Zhang Xian, the God of Childbirth, and the God of Fortune worshipped in Dongyue is Taishan Niangniang.

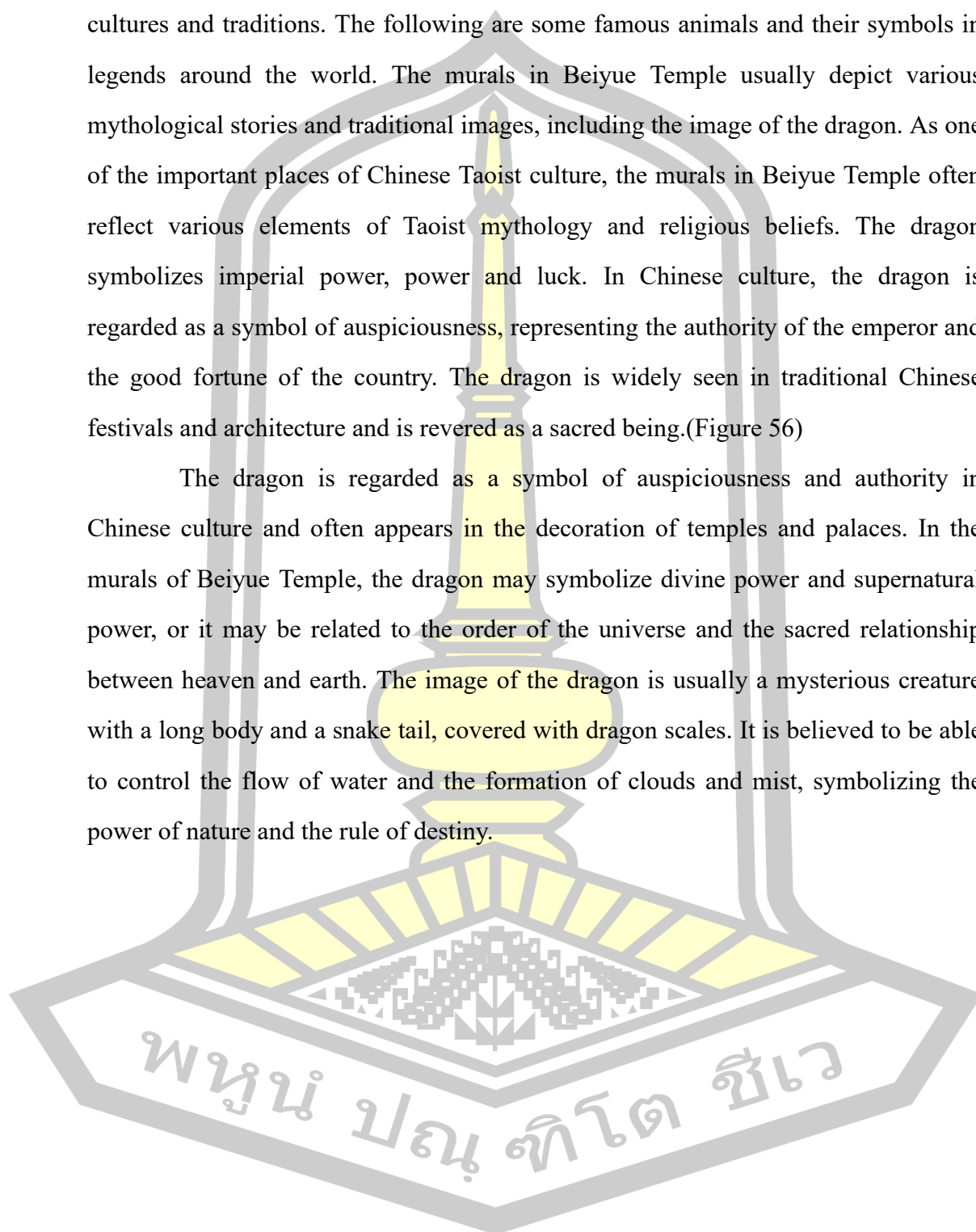
It can be seen that the Five Mountains God System Chart shows a genealogy of gods that are mainly composed of the Five Mountains, Four Rivers, and the God of Wind and Rain, who can create clouds and rain. The establishment of this genealogy depends on the functions of the Five Mountains Gods and human expectations of gods, and human life

Theme of the mural: Previous researchers did not explore the theme of the murals in Beiyue Temple in depth. From the existing data, only the "Quyang County Chronicles" and Mr. Hu Man's article have a preliminary identification of the name of the mural, both of which call it "Heavenly Palace Map". The book "Quyang Beiyue Temple" compiled by the Beiyue Temple Cultural Management Office and Mr. Li Changrui's article both call it "Clouds and Rain" and "All Nations Xianning". However, whether it is "Heavenly Palace Map", "Clouds and Rain", or "All Nations in Peace", they only stay on the surface of the picture and fail to really explore the essence and connotation of the murals.

(2) Legendary Animals

Legendary animals have a unique status and symbolic meaning in various cultures and traditions. The following are some famous animals and their symbols in legends around the world. The murals in Beiyue Temple usually depict various mythological stories and traditional images, including the image of the dragon. As one of the important places of Chinese Taoist culture, the murals in Beiyue Temple often reflect various elements of Taoist mythology and religious beliefs. The dragon symbolizes imperial power, power and luck. In Chinese culture, the dragon is regarded as a symbol of auspiciousness, representing the authority of the emperor and the good fortune of the country. The dragon is widely seen in traditional Chinese festivals and architecture and is revered as a sacred being.(Figure 56)

The dragon is regarded as a symbol of auspiciousness and authority in Chinese culture and often appears in the decoration of temples and palaces. In the murals of Beiyue Temple, the dragon may symbolize divine power and supernatural power, or it may be related to the order of the universe and the sacred relationship between heaven and earth. The image of the dragon is usually a mysterious creature with a long body and a snake tail, covered with dragon scales. It is believed to be able to control the flow of water and the formation of clouds and mist, symbolizing the power of nature and the rule of destiny.



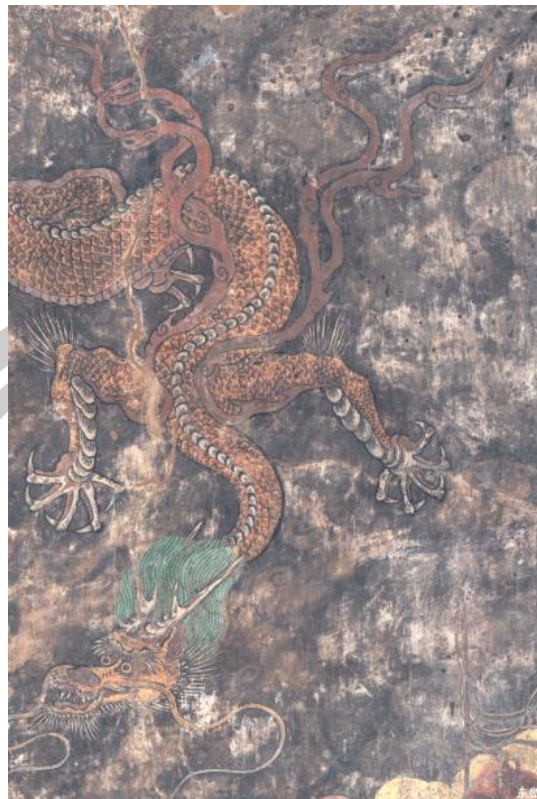


Figure 56 The dragon style in the Beiyue Temple mural

Source: ZhiYong Li (2024)

In the middle of the wall, there is a 6.4-meter-long blue dragon winding its body, which is not only the dividing line between the figures and the landscape, but also foreshadows the theme of the painting to some extent. The dragon has a small

head, a head covered with spikes, a beard and soft eyebrows, and crystal eyes, as if swallowing clouds and spitting out mist, staring at the white water waves on the lower left. The four claws are as powerful as the branches of the pine trees, trying to rush out of the wall, fierce and full of energy. Legend has it that the dragon is the god of clouds and rain. The dragon is painted in the middle of the wall to point out the theme of the mural, and at the same time connect the landscape on the left with the figures on the right. On the right side of the blue dragon, take the yellow dragons on the east and west as an example: there are two yellow dragons painted in the murals of Beiyue Temple, one on the east and west walls, and they have many differences in terms of their body characteristics. Take longan as an example: Eastern longan is very round, with large pupils, which is a characteristic of the Ming Dynasty; Western longan is serpentine, with a fierce look, with characteristics of dragons from the Tang and Song dynasties and even the early Yuan Dynasty, and is quite similar to the "Heavenly King Delivering a Child" by Wu Daozi.

From the perspective of painting art, among the existing Chinese monuments, the Beiyue Temple murals are the only murals in my country that can reflect the genealogy of the five mountain gods in the national sacrificial system. The exquisite figures are painted with a certain style of the Song and Tang Dynasties and retain some of the painting relics of the Tang Dynasty painter Wu Daozi. Its importance is self-evident. The painting of the Beiyue Temple murals is rich in content, with many characters, and the artistic value is the highest among the same Yue Temple. The inner meaning of the painting and the performance of the characters are very worthy of further in-depth study. The historical and artistic value of the Beiyue Temple murals is of great significance to the inheritance of the Yue Temple, and can also promote the protection and inheritance of local cultural tourism and cultural heritage. Therefore, the study of the murals and architecture of the Beiyue Temple has a high academic value.

From the perspective of painting art, among the existing Chinese monuments, the Beiyue Temple murals are the only murals in my country that can reflect the genealogy of the five mountain gods in the national sacrificial system. The exquisite figures are painted with a certain style of the Song and Tang Dynasties and retain some of the painting relics of the Tang Dynasty painter Wu Daozi. Its importance is self-evident. The murals of Beiyue Temple are rich in content and have many characters. The artistic value is the highest among the same Yue Temples. The inner meaning of the paintings and the performance of the characters are very worthy of further in-depth study. The historical and artistic value of the murals of Beiyue Temple is of great significance to the inheritance of Yue Temple, and can also promote the protection and inheritance of local cultural tourism and cultural heritage. Therefore, the study of the murals and architecture of Beiyue Temple has a high academic value.

Artistic value means: the creation of the murals of Beiyue Temple shows the superb skills of ancient technical craftsmen, which is the accumulation of wisdom and artistic crystallization of the ancient Chinese working people, and expresses the prayer for good weather and a peaceful life. The painting techniques carry the artistic skills and artistic expression techniques of painters of all dynasties. The characters are vivid, the clothes are gorgeous, and the postures are elegant. They have very high artistic value. For example, the "Flying God" in the murals on the west wall has a ferocious appearance, hairy bones, thick muscles, and strong hands and feet. It is a painting character image with the characteristics of Wu Daozi style. It is also the only existing Wu Daozi mural relic with extremely high research value. The murals show the spiritual temperament and life pursuits of people from all walks of life. The murals in Beiyue Temple are rich in stories and have strong symbolic significance.

(3) Ghosts and monsters

The depiction of ghosts and gods in the Beiyue Temple murals is very distinctive. The following are some of the main features. The images of ghosts and

gods in the murals are different. Some of the authentic flying gods in Wu Daozi's paintings have ferocious faces, some are majestic, and some are kind. Different forms of ghosts and gods symbolize different powers and functions. The murals use a lot of bright colors, including red, blue, green, and yellow, which enhance the visual impact of the picture. These colors are not only used to express the appearance of ghosts and gods, but also symbolize different meanings and attributes.(Figure 54)

Ghosts are usually depicted with ferocious faces and stern expressions to show their deterrence and power. Many ghosts wear armor similar to ancient soldiers and hold various weapons, such as spears and swords, symbolizing their combat duties in the underworld. The body proportions of ghosts may be deliberately exaggerated, such as having a larger head and protruding eyes, to enhance their sense of terror.

Ghosts are usually depicted in dark colors, such as black and gray, giving people a gloomy and terrifying feeling. Use red to highlight certain parts, such as eyes, mouths or weapons, to increase visual impact and mystery.

The images of ghosts and gods in the murals are very rich in details, including their costumes, facial expressions, weapons and tools held in hand, etc. These details show the superb painting skills of ancient craftsmen and their understanding of the culture of ghosts and gods. The murals not only depict individual images of ghosts and gods, but also show many scenes related to ghosts and gods. For example, ghosts and gods walk between heaven and earth, interact with humans, or perform tasks in the underworld. These scenes enrich the content of the murals and make them more storytelling. As a Taoist temple, the images of ghosts and gods in the murals of Beiyue Temple are full of religious symbolism. They are not only works of art, but also carriers of religious beliefs, conveying the teachings and values of Taoism. The depiction of ghosts and gods in the murals of Beiyue Temple reflects the high development and unique charm of ancient Chinese religious art. They are not only treasures of art, but also witnesses of culture and history. The image of the ghosts

symbolizes the authority and power of the underworld world, showing. These ghosts are not only artistic images, but also part of Taoism and folk beliefs, reflecting the society's understanding of concepts such as retribution for good and evil, and the cycle of yin and yang at that time (Figure 37)



Figure 57 The style of ghosts in the Beiyue Temple murals

Source: ZhiYong Li (2024)

4.2.2.2 Cultural value

The value of Beiyue Temple murals is not only an artistic treasure and a source of historical research, but also contains the spiritual temperament and ideal pursuit of ancient people, which is a cultural value worth studying. The image of the gods is the ancient people's infinite yearning for the universe, breaking the boundaries of time and space. It is the ancient people's artistic expression of natural forces. It is of great significance to explore the cultural traditions of religious worship and religious sacrifice, including the cultural traditions that have been passed down for thousands

of years. There is still a lack of in-depth research on basic issues such as how traditional painters complete the painting of indoor murals, how the team is formed, and how to protect the complete paintings of traditional religious murals. Promote the Beiyue Temple murals, promote the study of mural intangible cultural heritage inheritors, and make mural restoration a key issue to be solved.

There is a certain significance in studying the history of paintings and figures of past dynasties. In the damaged part of the fan wall, two layers of ink line traces identical to the east and west walls were found. It is speculated that the murals in the main hall were painted at least twice. At the same time, as a component of the national sacrificial architecture, the temple halls are responsible for redecorating it to maintain the majesty of the imperial power and keep it intact and beautiful. Judging from the existing materials, the Beiyue Temple did undergo several repaintings in the Ming Dynasty after the Yuan Dynasty. Among the Ming Dynasty inscriptions of the existing Beiyue Temple, there are four places that explicitly mention the issue of color painting.

This kind of repainting also exists in other Yue Temples. The scholars responsible for the study of the temples once said in the book "Temple": "The murals of the Dai Temple have been constantly mixed with the system and utensils of the emperor's ceremonial guards of the dynasty in which the repainters lived during the many repaintings and supplements." Moreover, "even if the original paintings cannot be preserved when the Tianfu Hall is rebuilt, they will definitely be copied first, and then repainted after the walls of the hall are repaired." The situation of Beiyue Temple is roughly the same. In addition, as far as the east and west murals are concerned, some images reflect quite different era characteristics. Take the east and west yellow dragons as an example: There are two yellow dragons painted in the murals of Beiyue Temple, one on the east and west walls, and they have many differences in terms of their body characteristics alone. Take the dragon eye as an example: the eastern dragon eye is very round and has a large pupil, which is a characteristic of the Ming

Dynasty; the western dragon eye is snake-like, with a fierce look, which has the characteristics of dragons since the Tang and Song Dynasties and even the early Yuan Dynasty. It is similar to Wu Daozi's "The Heavenly King Delivering a Child".

Compared with other mountain temple murals in China, the murals of Dening Hall have the following outstanding characteristics:

(1) The figures (gods) in the eastern and western murals are concentrated on the south side, divided into two layers, and divided into several groups according to the contents such as clouds. The north side faces the aisles on both sides of the fan wall, which are painted with mountains, waters, clouds, etc.

(2) The gods are tall, and the other accompanying figures are smaller and naturally arranged around. The figures have different expressions and the proportions are appropriate, which has a good viewing effect. The murals of other Yue Temples are later than those of Beiyue Temple in terms of historical age. Most of the paintings are from the Qing Dynasty. They are not as artistic as the murals of Beiyue Temple, and have a certain reference value for the study of ancient murals.

(3) The murals are of high painting level, and the murals of national-level sacrificial buildings are of high level. The murals use traditional line drawing techniques to express the texture and style of objects through different changes in lines, and use painting techniques such as gilding and gold-plating to make the murals more magnificent and dazzling.

(4) The picture depicts the emperor's arrogance vividly, and the other people, whether civil officials, military generals, or servants and maids, all have different expressions, and almost no one is the same. This shows the painter's extraordinary grasp of character modeling and artistic creation skills. In short, murals express people's inner world by depicting character stories, allowing visitors to pray for spiritual comfort while wandering through the entire picture. Murals reflecting religious content account for a large proportion.

Taoism began to use mural images to depict the gods it worshipped in the early days, and paid attention to using murals as an art form to promote its own ideas. "The Five Mountains, as a unique historical and cultural phenomenon, have always played an important role in ancient Chinese society. As one of its important forms of expression, Taoist Five Mountains murals have also become a carrier for reflecting the social and cultural dynamics of each period." Beiyue Hengshan and Quyang Beiyue Temple have a long history and outstanding cultural characteristics. The Hall of Denying in Beiyue Temple is a treasure house of ancient Chinese architecture, culture and art. It is also a concrete reflection of the social politics, economy and aesthetics of the time. The murals in the hall have extremely high historical and artistic value. The west wall is a picture of "clouds rising and rain falling", the west wall is a picture of "all nations in peace", and the back wall is a picture of "the tour of the God of Hengshan Mountain in Beiyue". The painting is spacious, with many tall characters, magnificent scale, symmetrical layout, strict composition, neat and vigorous brushwork, charming and unrestrained lines, and flags and ribbons fluttering in the wind. In the grand composition, the distribution of characters is sparse and dense, high and low, echoing from beginning to end, each in a different state. With the God of Hengshan Mountain in Beiyue as the center, the characters and animals are very dynamic, and are full of flying momentum everywhere. The colors used are appropriate in shades, appearing luxurious and deep, warm and peaceful. His expression is delicate but not greasy, bold and unconventional, with perfect and harmonious structure, clear layers, proficient, complex but not chaotic, and he flexibly uses a variety of depiction methods, with a strong sense of rhythm, and expresses different contents and characters through virtuality and reality. Looking at his paintings, you really feel like "you are swimming in the painting" and want to communicate with it.

4.2.2.3 Religious value

Sacrificial function: As a place of worship in Beiyue Temple, the murals have the most important value of providing visual support and decoration for religious ceremonies and sacrificial activities. These murals may depict gods, myths, religious ceremonies and other contents related to Beiyue Temple, providing scenes and symbols for sacrificial activities. Sacrificial murals have important religious value in Beiyue Temple, which is mainly reflected in the following aspects. With the support and decoration of religious ceremonies, sacrificial murals provide visual support and decoration for the religious ceremonies of Beiyue Temple, creating a sacred and solemn atmosphere. These murals may depict gods, myths, religious ceremonies and other contents related to Beiyue Temple, providing believers with scenes and symbols for participating in religious ceremonies.

Murals have symbols and expressions of faith. The content of sacrificial murals is usually closely related to the religious beliefs of Beiyue Temple. They may depict the images of gods such as the main gods, guardian gods, and gods of all ages, as well as myths and rituals related to religion. These murals deepen the believers' understanding and recognition of religious beliefs through artistic expressions, and strengthen their reverence and awe for the gods. Murals provide spiritual guidance and comfort. Sacrificial murals are not only visual decorations, but also spiritual guidance and comfort for believers. Through the images of gods and religious scenes depicted in the murals, believers can feel the presence and care of gods in religious ceremonies, thereby gaining spiritual comfort and encouragement. Faith inheritance and educational role: As part of the religious culture of Beiyue Temple, sacrificial murals carry the important function of faith inheritance.

These murals present religious beliefs, traditional stories and other contents in a vivid way, which helps to inherit and promote religious culture and provide religious education and moral education to believers. Sacrificial murals have important religious value in Beiyue Temple. They not only provide visual support and

decoration for religious ceremonies, but also are the expression of faith symbols and the source of spiritual comfort. At the same time, they also carry the responsibility and mission of religious inheritance and education.

4.2.2.4 Artistic value

The interview reflects the long history of Beiyue Temple in Quyang, Hebei, which is a national cultural relics protection unit with outstanding cultural characteristics. Beiyue Temple De Ning Hall is a treasure trove of ancient Chinese architecture, culture and mural art, but also at that time the specific reflection of social politics, economy, aesthetics, mural paintings in the hall has a very high historical value and artistic value.(Wang Long ,2024, Interview)

According to the above statement, the building was built in 1270 AD in the Yuan Dynasty. Most of the architectural components of the Yuan Dynasty have been preserved, and they have an important position in the history of Chinese architecture. The most precious thing is that the east and west walls and the back of the north gable in the Dening Hall are covered with murals. The wall is 8 meters high, the east and west walls are 18 meters long, the north gable is 27 meters long, and the mural area is about 500 square meters. It is a major Taoist building. The west wall is a picture of "Wan Guo Xian Ning", each 8 meters high and 18 meters long. The north gable is painted with "Beiyue Hengshan God Touring Picture", the mural is 8 meters high and 27 meters long.

From an aesthetic point of view, the Beiyue Temple sacrificial murals may have exquisite artistic skills and aesthetic expressions. The colors are magnificent, the lines are bold and powerful, and the shapes and other artistic techniques show the beauty and artistic value of the murals. The murals are based on Taoist themes, depicting the story of the gods of heaven and earth, the Five Mountains, and the Four Rivers gathering at Beiyue Hengshan. There are many characters but no one is the same. The murals use the iron wire drawing method. Hundreds of characters in the picture are neatly and exquisitely painted, with appropriate shades of color. In

addition, the technique of gilding with powder, the belts and clothes are inlaid with glazed river agate, and the scene is full of flowing light in the thunder and lightning environment. The characters in the painting are both vivid and lifelike. The colors use natural mineral pigments. The murals are still radiant after years of vicissitudes and have not lost their original appearance. The whole picture presents a lonely and solemn style of the heavenly palace through the expressions of the characters and the rendering of the landscape. The richness and luxury of the rich class are also fully displayed in the clothing. At the highest point of the mural is a painting of a "flying god", which can be regarded as a representative figure in the mural. He has a ferocious appearance, thick muscles and bones, looking down from a bird's eye view, holding a spear, riding the clouds, and running with the wind.

The style of the Beiyue Temple murals is directly referenced by Wu Daozi of the Tang Dynasty. Wu Daozi's painting style is typically reflected in the use of lines. In his early years, Wu Daozi used thin and powerful lines, and in his middle age, he developed a smooth and mature line drawing style of "pure vegetable strips". The reason why Wu Daozi has achieved such outstanding achievements in painting art is that he can innovate. He is good at absorbing the essence from the complex forms of objects, summarizing the concave and convex surfaces, yin and yang surfaces, into irreducible "lines", combining the internal movement of objects to form the organizational rules of lines, such as the high, side, deep, oblique, rolled, folded, floating, and raised postures of clothing folds, which completely depict the character of objects based on the organization of lines. The requirements for this kind of line are strict. Each line meets the requirements of vivid modeling and is full of rhythmic beauty. This is a line that integrates the achievements of previous generations and creates something new. Wu Daozi's painting style has been imitated and borrowed by many painters since the Tang Dynasty and the Song and Yuan Dynasties. In today's painting world where his relics have been completely lost, Wu Daozi is still well-known in the painting world. This is because he created a painting school that has

dominated the folk painting world for more than a thousand years - the folk traditional painting school. The murals we have seen since the Tang Dynasty are all influenced by Wu Daozi. The murals of Yongle Palace in the Yuan Dynasty and Fagang Temple in the Ming Dynasty are all in the style of Wu Daozi, and there are also works of Wu style in Dunhuang murals.

(1) The use of painting lines

The iron wire drawing and "water shield strips" used in the murals are rich in variations and highly expressive. Compared with other fine brushwork paintings with smooth strokes and the same thickness, the sense of rhythm and rhyme is more obvious, and it appears to be ups and downs, vigorous and powerful, giving people a feeling of people moving on the picture, giving people a sense of the vitality of people in motion, and showing his extraordinary shock in line art. This innovation changed the situation of lack of variation in lines in paintings at that time. It not only made Chinese painting pay more attention to the use of lines in creation, but also promoted the development of Chinese painting in terms of brushwork and form. The flexible and changeable characters shown in the Beiyue Temple murals reflect his superb painting skills and extraordinary personal charm. The creation of murals requires not only the painter's meticulous painting skills, but also the passion for painting. The iron wire drawing and water shield drawing are brought into full play, giving the viewer a hearty shock. This innovation in lines breaks the tradition. Gu Kaizhi pursued the vividness of the spirit, and paid attention to the depiction of eyes. He was particularly good at depicting female images. He used ancient silk lines and delicate brushwork to give people a soft and beautiful feeling. However, Wu Daozi's painting style was completely different. The male images such as the "flying ghost" depicted in the murals were majestic and shocking, and the lines were very varied. Gu Kaizhi's lines were unchanging, but Wu Daozi's lines were very varied. In addition, he continued Zhang Sengyou's "concave and convex painting method" to highlight the beauty of lines in figure painting. He played a very important role in the development of

Chinese figure painting and opened up a new path for the creation of figure painting for future generations.

(2) Composition

The compositional characteristics of Beiyue Temple murals usually reflect the essence of traditional Chinese art and the unique expression of Taoist culture. The following are some characteristics of Beiyue Temple mural composition:

The composition of Beiyue Temple murals usually revolves around Taoist mythology, gods, fairyland and religious rituals. Religious symbols such as Taoist priests, mythical beasts, gods, and religious scenes such as temples and altars often appear in the picture, highlighting the sacredness and mystery of religious themes. The murals often adopt a layered structure, placing the main characters or mythical beasts in the foreground, and the background is set off by elements such as mountains, waters, clouds or buildings, forming the spatial depth and layering of the picture. This composition method is designed to attract the audience's attention and allow the audience to deeply feel the situation and atmosphere of the picture.



Figure 58 Lines in the murals of Beiyue Temple

Source: ZhiYong Li (2024)

The Beiyue Temple murals often use bright and rich color palettes. Artists are good at using warm colors such as red, yellow, and green to contrast with cool colors, making the colors of the picture vivid and dramatic, which can not only convey a mysterious and supernatural atmosphere, but also highlight the solemnity and sacredness of religious rituals (Figure 58).

Various symbols and emblems are often used in the composition, such as dragons, phoenixes, lions, lotuses, etc. These symbols and emblems are not only decorative elements, but also the concrete embodiment of religious beliefs and cultural values. They convey Taoist thoughts and values through visual images, inspiring people to think about the order of the universe and the meaning of life. The composition of Beiyue Temple murals often focuses on creating a sense of mystery and ritual. Through fine details and mysterious background settings, the audience can feel the solemnity and sacred atmosphere of religious ceremonies. This way of expression can not only satisfy the pious emotions of religious believers, but also attract the artistic interests and aesthetic enjoyment of ordinary audiences. The composition characteristics of Beiyue Temple murals not only show the skills and aesthetic pursuits of traditional Chinese art, but also the concrete expression of Taoist culture and religious beliefs. These characteristics make Beiyue Temple murals an important part of cultural heritage, with far-reaching historical, artistic and religious significance.

(3) Mural colors

The names and classifications of Chinese mineral mural colors are usually based on the types of mineral pigments used. In ancient murals, artists often used various minerals and natural pigments to paint. These pigments have good durability and bright colors. The following are some common classifications of Chinese mineral mural colors and their characteristics:

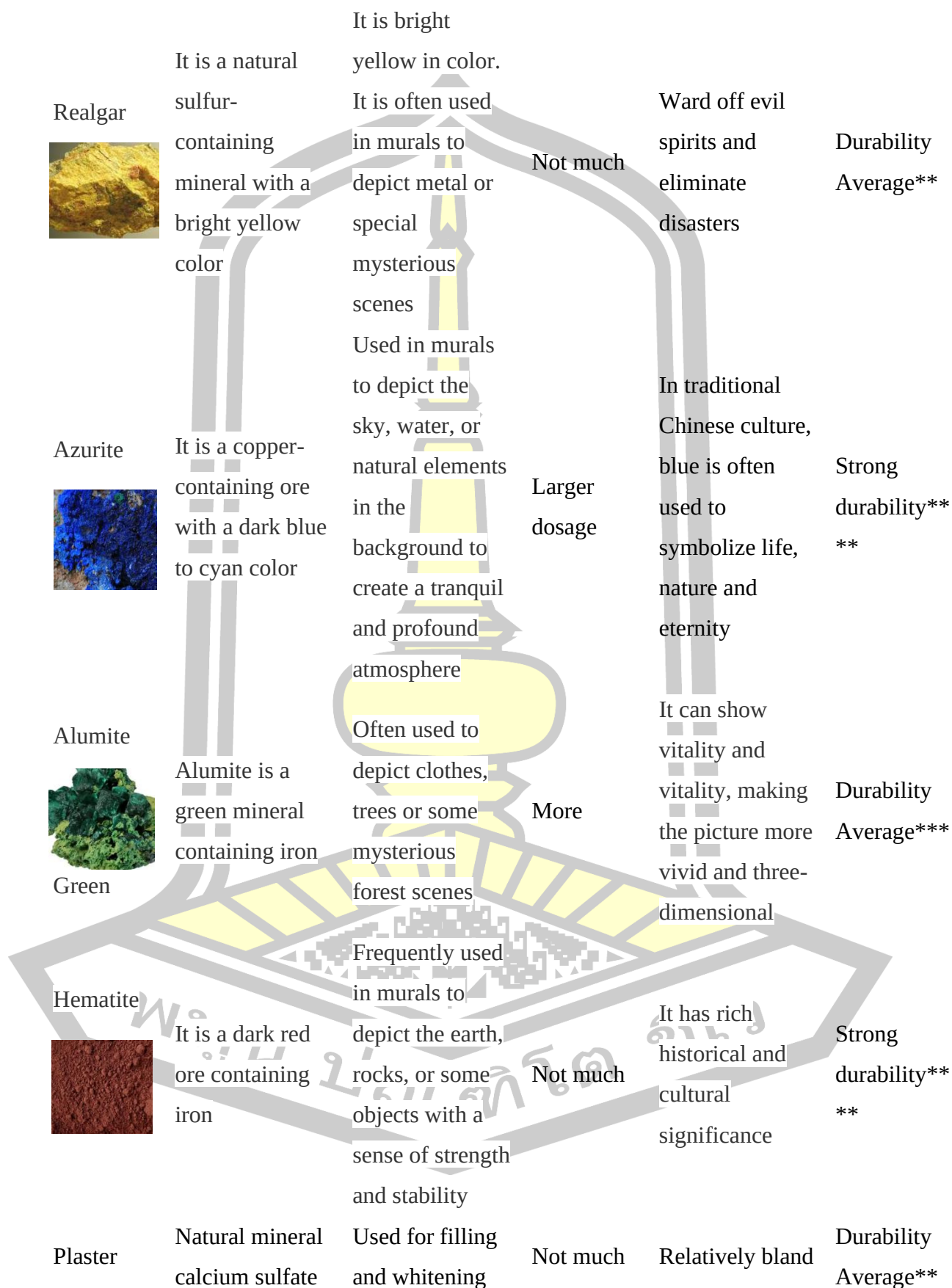
The classification and names of traditional Chinese mural colors can be classified according to their functions and performance characteristics in artistic

works: cyan, yellow: red, white, black, blue, green, red, etc. Gold: Gold symbolizes wealth and power, and is often used to depict the sacred places of the royal family, kings, wealth or gods. Silver: Silver is often used with gold to depict the sacred brilliance of nobles or gods. Cyan: This is a blue-green color that is often used to depict plants, mountains and rivers, as well as some animals and plants. Ochre: Ochre is a brown-red color that is often used to depict the background color of rocks, land or buildings. Purple: Purple was regarded as a noble color in ancient China and was often used to depict noble people, gods or palaces. Pink: Pink is often used to depict flowers, female figures, or solemn scenes of certain ceremonies.

These color classifications and names not only reflect the richness and refinement of the use of colors in ancient Chinese art, but also reflect its profound cultural connotations and symbolic meanings. Through the use of these colors, murals are able to express rich emotions, thoughts, and religious beliefs.

Table 7 Classification chart of pigments in frescoes

Color Name	Color Features	Uses of Color in Painting	Usage in murals	Color Meaning	Permanence of color materials
Cinnabar	It is a mercury oxide mineral that appears bright red	Widely used in ancient murals, often used to depict gods, important figures or ritual scenes	Larger usage in high-standard murals	The sacred and solemn symbolism represents the vitality and passion of life	Strong durability**
Red					**
Sienna	It is a yellow mineral containing iron	It is a yellow mineral containing iron	Larger usage	Can add vividness and stability to the picture	Strong durability**
					**





murals



Gold

Gold precious metal, showing bright golden color

The surface
adhesion color
of the concave
and convex
slurry of the
character's
clothing

Expensive
and small
usage

Magnificent and
decorative

Strong
durability**

Lapis lazuli



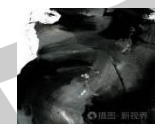
A dark green to blue copper-containing mineral

Lapis lazuli pigment is often seen as a symbol of nobility and mystery, and is often used to depict nobles, gods, or important ritual scenes

Expensive
and small
usage

Capable of creating an effect of depth and mystery in murals and paintings

Strong
durability**



Graphite

Carbon black natural mineral bright black, soft and smooth

Drawing and filling lines

More

Used in the unique Chinese art of painting, lines

Strong
persistence***

Chalk



It is composed of calcium carbonate and other sediments and has a soft, powdery texture

Used to create mural background and brighten the picture

More

White and soft

Strong
durability**

(4) Techniques

Is an expert in Chinese painting, he said that the Beiyue Temple murals are one of the representatives of ancient Chinese murals, and its painting techniques mainly reflect the characteristics and style of the ancient Chinese painting art, the following is a list of some of the painting techniques that may be used in the Beiyue Temple murals: Line drawing: Ancient murals often used varying thicknesses of lines to outline the contours and details, in order to highlight the image of the structure and dynamics. Line drawing can be used to express the outline of figures, buildings and decorative patterns. In traditional Chinese painting, the expression of lines plays an important role and has a long history of thousands of years. (Lu Long, 2024, interview)

Painters of all generations have inherited and developed the unique aesthetics and characteristics of lines, and formed unique artistic characteristics, which have been passed down from generation to generation and developed line skills to a peak. Xie He's "Guhua Pinlun" uses "bone method of using the brush" as a standard for evaluating paintings. In the murals in the Dening Hall of Beiyue Temple, the most commonly used line drawing technique is iron line drawing. The most commonly used method for drawing the folds of clothes of ancient Chinese characters is iron line drawing. Because the outer contour of the line looks like iron wire, we call it iron line drawing. It is an important technique for expressing harder cloth textures. In both paintings, the style is natural and unrestrained, and the style of "Wu Dai Dang Feng" jumps in the paintings.

Wu Daozi's works are all-encompassing. Even his smallest works have very solid lines. All his works are rigorous and magnificent, making people feel comfortable and grand. Wu Daozi's use of lines is infinite and very particular.

Taking Gui Bo as an example, iron wire drawing is used to depict skin, and orchid leaf drawing is used to depict streamers and firelight, which can better express the sense of movement and rhythm. The lines are well-organized, curved, square, and

straight, each with its own advantages, smooth and rigorous. In the expression of beard and sideburns, the brush is very strong near the skin, the brush is thin and sharp,

The brushstrokes gradually become thicker and lighter from the inside to the outside, the hair seems to grow out of the flesh, the tendons are strong and powerful, As if they are about to fly high into the sky, the clothes and belts are vividly drawn, and the clothes and belts are drawn freely and lively, We can strongly and directly feel the rhythm of his entire brushwork, which is quite skillful and powerful,

Not only has power, but also has a sense of three-dimensionality, and each stroke contains this spiritual power. This way of using the brush is exactly the ultimate realm pursued by Wu Daozi. The description of Wu Daozi's painting in the literature is perfectly reproduced in the "Flying God" in the Beiyue Temple mural. Wu Daozi's passion for freehand brushwork is vividly expressed in the image of the "Flying God". Quyang Ghost is mainly outlined with ink lines, and the advantages of line drawing are fully reflected. The lines are written one by one, with different strokes of lightness, heaviness and slowness. Each line seems to grow naturally from the wall.

Said that from the point of view of painting enthusiasts the brush strokes gradually become thicker and lighter from the inside out, the hair seems to grow out of the flesh, the sinews are strong and powerful, as if they are about to fly up into the air, the depiction of the sash is vivid and lifelike, and the sash is free and lively, and we can strongly and directly feel the rhythmic sense of his whole brushwork, which is quite skillful and powerful. Not only is there a sense of power, but also a sense of three-dimensionality, each stroke contains this spiritual power. The figure is full and majestic, with curly sleeves and hair fluttering, and the visual effect is strong. The image is not only real and vivid, but also has a rigorous, generous and solemn charm. Although the brushstrokes are bold, they are very skillful. Zhu Jingxuan once described Wu Daozi's brushstrokes as "standing the brush and sweeping, like a whirlwind" 5. "Standing the brush" means standing the brush upright, and the center

of the brush is mainly used when moving the brush; "swinging the brush" means tilting the brush and the side of the brush is mainly used when moving the brush. He writes very fast, like the wind. (Tong Jing Hang, 2024, interview)

(5) Techniques and painting procedures:

Is a mural painting inheritor and introduces the process of mural painting in terms of its restoration and painting. Basic wall work: choose wall materials suitable for mural painting, such as lime wall and mud wall. Ensure that the wall is flat and dry, and carry out any necessary preparation and sanding. After applying, you can ensure that the wall is smooth; in the second step, apply fine mud, stir and dilute the clay with water, and let the residue settle. Then only use the upper layer of clay and add some fine sand, mix well, and apply it on top of the coarse mud. , the thickness is about 4 cm, smooth it completely. Then apply a layer of white paste. Soak chalk powder in water, then add soy milk, stir it into porridge with a wooden stick, and finally brush it on the wall. Be sure to pay attention to it evenly when brushing to ensure that every place is brushed; finally, brush it with a layer Alum water. The functions are: 1. It acts as a solid base for the wall, and plays a role in setting off the color, making the color solid and vivid. The mixing ratio is 200 grams of glue, 100 grams of alum, and 1,250 grams of water. First dissolve the alum with warm water, then pour the thin glue into the alum water while it is still warm, mix well, and use a brush to brush the wall surface one by one, one stroke at a time, without overlapping, because there will be alum in the overlap. (Liu Zi Qun, 2024, interview)

This step will make the wall harder and tighter, and will also make the colors you apply later brighter. Through this series of operations, the foundation of the mural has been completed.

The second step is to draw the mural. This process is also divided into several parts. First, the story to be drawn is traced on the wall with thin carbon strips. The fine charcoal strips used at this time are somewhat similar to the pencils we use today, but at that time they were made of wicker. During the drawing process, the

artist needs to hold a charcoal pen in one hand and a coarse cloth in the other. If he encounters a mistake in the drawing, he can erase it in time and spread the entire story on the wall. Painters with more advanced painting skills will do the inking. They will carefully outline the lines drawn in the first step through ink lines, and correct the areas that need to be modified in the previous step. After this step is completed, it will be difficult to make changes.

In the third step of the coloring stage, the master draft artist stipulates the overall composition layout and tone of the entire wall according to the plot of the picture, and determines the arrangement of color tones based on the needs of the theme characters and plot. This process is very important. It is the key to determining the overall tone and atmosphere of the mural, as well as the comprehensive artistic effect of the entire mural. Large-scale murals require a huge area and require a lot of colors. There will be many painters working at the same time. At this time, the main painter needs to be in the back to control the overall situation. In order to determine the color, people will also give different numbers to different colors, and even write them in the corresponding positions in advance. When the painters were coloring, they applied the colors according to the color numbers written on them. After this step is completed, the entire mural is generally completed. Next, some special techniques will be added to make the characters in the mural more lifelike.

Has been engaged in mural painting for many years, and he says that the Beiyue Temple murals have a very unique style. The murals are characterised by bright lines, bright colours, cheerfulness and brightness, and rarely use muddy, grey tones. This is related to the geographical environment and appreciation habits. Based on this, the colors used in murals are mostly pure colors (that is, true red, green, etc.), with "intermediate colors" occupying a secondary position. Due to this need, the technique of flat painting is often used. After flat painting, the folds or other textures are slightly dyed to express the concave and convex feeling of the object. However, this "concave and convex feeling" is different from the light and dark surfaces of oil

paintings. It pays attention to the "decorative style". As long as the color can vividly bring out the effect of the theme, the "concave-convex feeling" is secondary to Chinese painting. After the pleats are dyed, the lines are outlined again with the same color, which is called "le", also known as "outline". "Outlining" can make the object image more cheerful and prominent, and enhance the appeal of the image.(Lv Han Zhi,2024, interview)

In order to enhance the glorious and rich atmosphere of the murals, there is also the process of "gilding" and "powder setting". For example, the armor and weapons of generals, the jade belts of civil servants, and the gold ornaments of pommel and horse ceremonial guards use the techniques of "standing powder" and "gilding" to increase the magnificent effect. The gold foil method requires the use of gold foil honey. After grinding the gold foil thoroughly, add some honey to make it sticky and slender, and then apply it on the mural. This method can also make the mural more magnificent. There is another method called the standing powder method.

The powder method can make the lines on the murals convex and make the characters more three-dimensional. Wenxi soil is mixed with rice soup and tung oil. After stirring, a viscous liquid will appear, and then it is poured into a pig bladder similar to modern cream decoration. A copper tube is added to the tip, and the powder mud is applied to the corresponding position by squeezing. When it is almost dry, the gold-plating method is used. In addition, the concave-convex method and the overlapping method are also used in the process of making murals. Most of these methods are to make the murals more colorful and three-dimensional.

Liu Zhi Tai, (interviewed, 2024)A fresco practitioner, gave his views on the leaching process of the paintings. In order to enhance the splendour and magnificence of the mural painting, there are also the processes of ‘standing powder’ and ‘inlay powder’. Such as the general's armour weapons, civil servants of the jade belt, saddle horse guards of the gold ornaments, are used ‘standing powder’ and ‘inlay powder’ technique to increase the effect of the golden splendour. Gold foil law to use gold foil

honey, gold foil honey after gilding, and then use gold foil honey dip gold . After the gold foil mixing, add some honey, so that it is viscous and slender, and then laid on the frescoes, this method can also make the frescoes more gorgeous. There is a method called standing powder method. The white powder leaks out of the needle holes on the wall. After it is uncovered, the image of the picture suddenly appears on the wall. The jargon is called "leaking score". After the outline of the drawing leaks out of the wall, the lines can be drawn according to the powder marks. For murals in the north, a layer of gray ground is first applied after wiping, which is called "hanging soap" in the jargon. The gray base makes the small white dots on the white powder leak more clearly visible. If it is a white wall, red powder is used. After leaking the score, you can start to put ink (i.e. outline) and color. Another way to use the powder is to use the rubbing method. First, use a charcoal stick to trace the lines on the back of the score, turn it over and spread it on the wall, and use a dry cloth to rub it hard on the front. After uncovering it, the image of the character will be printed on the wall.

In terms of painting techniques, the mural combines meticulous brushwork with freehand brushwork, and adopts a variety of expression techniques such as outlining, filling, shading, and flat painting. The characters in the picture are vivid, their facial features are meticulously sculpted, their expressions are exaggerated, and their characteristics are prominent. For example, among the five main gods on the west wall, the costumes of the characters are mostly borrowed from the costumes of Chinese emperors. Among them, the warriors wearing armor and green robes are flying, holding spears, having leopard heads and round eyes, with wrinkled faces, and wearing armor. They are portrayed in detail, with both form and spirit, different dynamics, full composition, strong momentum, and the tense situation of chasing and fighting is vividly displayed on the wall.

(6) Background of murals

The murals in Beiyue Temple were inspired by the Tang Dynasty painter Wu Daozi. Wu Daozi's achievements in murals are amazing, and no one can replace his

position in people's hearts. Since Buddhism was introduced into China, it has injected fresh blood into Chinese painting. Many painters have emerged, formed their own unique artistic style, and created a large number of colorful works. Among these painters, Wu Daozi has an influence that cannot be ignored. In terms of painting form, the "Wu Dai Dang Feng" he created changed the religious painting style introduced from foreign countries to China. The murals in Beiyue Temple were not mainstream at the time. Most of the foreign cultures were "dense style" with dense brushstrokes. Wu Daozi did not inherit and continue this style, but unified Confucianism, Buddhism and Taoism. The clothes and ribbons of the characters in the murals in Beiyue Temple flutter in the wind and change in various ways, which impressed countless people. The dense style created by Gu Kaizhi and Lu Tanwei before Wu Daozi, as well as the "Cao Yi Chu Shui" created by Cao Zhongda, were all simple inheritances of the Buddhist culture introduced into China, without developing and innovating it. The emergence of Wu Daozi changed this situation, allowing foreign religious culture to be sublimated in Chinese civilization. The difference between Indian religious works and traditional Chinese works is that the costumes of the characters in Indian works are thin and few, as if they are glued to people's skin. The "Cao Yi Chu Shui" Indian paintings have greatly influenced the "Cao Yi Chu Shui" created by Cao Zhongda. In China at that time, people's dressing style was similar to this. Chinese clothing developed to the Northern Wei Dynasty and also had the feeling of wide robes and large sleeves. People associated the close connection between the skin and clothing of the depicted object with the pure whiteness and cleanliness like a lotus emerging from the water.

4.2.2.5 Cultural value

(SongYing Jie interview 202), who is locally involved in the protection of Beiyue Temple, said that the sacrificial murals of Beiyue Temple, as a part of the historical building, have important historical significance, recording the religious beliefs, cultural traditions, and social styles of a specific period of time, and providing

important clues and materials for posterity to understand history. Every year, the local community will hold related rituals and folk cultural exchange activities. Folk culture. Sacrificial murals may also reflect local folk culture and customs, such as festivals and traditional rituals, and provide important reference materials for studying local folk customs. In terms of cultural value, Beiyue Temple sacrificial murals have the following important significance.

Historical significance. Ancient murals are a form of expression of traditional Chinese painting. The ancients used superb artistic means and visual language to show the characters and scenery of that era. It is a civilization archive that cannot be ignored in the history of Chinese art. From the perspective of artistic inheritance, exploring the implicit information in ancient Chinese murals and giving full play to the value of murals can promote the revival of national culture. In the process of inheriting the art of ancient Chinese murals, we can deepen the artistic conception of mural creation according to the concept of contemporary art and further enhance the artistic style. Before that, we should also deeply understand the cultural connotations contained in ancient murals, and deeply explore the painting techniques and aesthetic trends of ancient murals. This has certain practical significance for inheriting traditional mural art and carrying forward the spirit of Chinese aesthetics. Exploration of the protection and historical and cultural value of ancient Chinese murals Taking a precious photo archive collected by the Dunhuang Archives of Gansu Province as an example for analysis, the largest and best-preserved Yue Temple buildings and murals in existence. Looking at the mural art alone, the preservation of the Beiyue Temple murals is very complete, and the artistic styles of various periods are revealed. The Beiyue Temple murals have promoted the research and exploration of history by later generations and played an important role in enriching historical materials. The Beiyue Temple murals are rich and elegant. From the perspective of the theme, there are solemn and majestic emperors, brave and fierce generals, and clear and beautiful real people in the murals. Some of them are talking, some are thinking, and their

expressions are different, but they echo each other and blend into one. From the perspective of painting techniques, the painting style of the Beiyue Temple murals has the legacy of the Tang and Song dynasties. For example, the brushwork of clouds and clothing lines has the charm of Wu Daozi in the Tang Dynasty, and the overall sense of art. From the perspective of texture expression, each object has a different texture, such as bronze and golden tripods with a metallic feel, colorful flowers, and emotional faces. From the perspective of color, the Yongle Palace murals chose more decorative heavy color outline painting techniques. The colors mainly used were green, cinnabar, stone yellow, etc. The colors were thick and full, and white was used for intervals, making the murals look very bright and vivid.

(1) Recording historical culture:

As part of the historical building, the Beiyue Temple sacrificial murals record the religious beliefs, cultural traditions and social outlook of a specific period. These murals reflect the lifestyles, religious beliefs and artistic aesthetics of people at that time, and provide precious materials for future generations to understand historical culture. As witnesses of history, sacrificial murals carry memories and stories of the past. They convey people's understanding and memory of historical events and cultural traditions through images, symbols and texts, helping people to understand and remember the importance of history. As an important form of expression of religious themes, murals vividly display Taoist myths, images of gods and religious rituals. These murals not only deepen believers' understanding and admiration of Taoist doctrines and gods, but also become important objects of believers' prayers and worship in temple fairs and religious activities. The gods and stories depicted in the murals often become the content passed on by word of mouth among believers, further promoting the spread of Taoist beliefs.

(2) Education and enlightenment:

The murals of Beiyue Temple convey Taoist doctrines, moral norms and historical stories through vivid images, playing an important role in educating the

people. These murals convey traditional values such as loyalty, filial piety, benevolence, righteousness, respect for heaven and earth in a visual form, making moral education more intuitive and vivid. Every April 4th, the local area will organize grand temple fairs, including religious sacrifices at Beiyue Temple, mural viewing, drum and music performances, and cultural exchange activities. During the temple fair, the murals become the objects of worship and blessing for believers and tourists. People express their respect and prayers to the gods by worshipping the gods in the murals and participating in related rituals. This collective religious activity not only enhances the cohesion among believers, but also becomes an important social ritual.

Common religious ritual scenes in the Beiyue Temple murals, such as sacrifice, blessing, fasting, etc., not only show the religious activities of Taoism, but also reflect the important position of these rituals in social life. These murals provide valuable information for future generations to understand and study ancient religious rituals

(3) Folk ritual culture:

(Lv Ai Interview 2024) Experts say that the Beiyue Temple ritual murals may reflect local folk culture and customs, such as festivals and traditional ceremonies. These murals depict scenes and forms of people participating in ritual activities, reflecting the lifestyle and values of local people. Beiyue Temple murals reflect a large number of festival customs, such as the Spring Festival, Dragon Boat Festival and Mid-Autumn Festival. The festive scenes and activities in the murals show how ancient people celebrated festivals, performed rituals and entertainment. These murals are not only a record of festival customs, but also an important way to understand and pass on traditional festival culture.

Preserving traditional knowledge: Sacrificial murals record the inheritance and development of traditional knowledge and skills by local people. They may depict handicrafts, traditional medicine, farming techniques and other aspects, providing important reference materials for the study of traditional culture and skills.

As an important part of historical buildings, the sacrificial murals of Beiyue Temple not only record the religious beliefs and cultural traditions of a specific period, but also reflect the local folk culture and customs. These murals carry rich historical and cultural connotations, are of great significance to cultural inheritance and social development, and deserve in-depth study and protection. Historical significance refers to the role played by sacrificial murals in Beiyue Temple. As part of historical buildings, these murals record religious beliefs, cultural traditions and social outlooks of a specific period, providing important clues and materials for future generations to understand history.

In Beiyue Temple, sacrificial murals, as artworks for decorating walls, are not only for beautifying buildings, but also carry the precipitation and inheritance of history. These murals may depict local historical events, myths and legends, religious rituals and other contents, reflecting the social, cultural and religious conditions of a specific historical period. By observing and studying these sacrificial murals, people can understand the religious beliefs, lifestyles, artistic aesthetics and other aspects of people at that time, which helps us understand and interpret history more comprehensively. As part of historical relics, these murals have precious historical significance, providing a window for future generations to understand the past, and promoting the inheritance of history and the development of culture.

(4) Cultural inheritance and education:

The murals of Beiyue Temple show rich historical culture and folk traditions. Through the murals, local residents and tourists can understand the content of ancient religious rituals, social life, traditional costumes and arts and crafts. These murals are not only treasures of visual art, but also important educational resources, which help the next generation to understand and inherit traditional culture and folk customs. As an art form, murals have a profound impact on local folk art. The painting techniques, color application and composition methods in the murals are often borrowed and imitated by local folk artists. This influence is reflected in folk art forms such as

paper-cutting, embroidery, and New Year paintings, enriching the local folk art expression techniques and content. Murals play an important role in decoration and cultural atmosphere creation in temple fairs and religious activities. Every temple fair, believers and tourists will pray, worship and watch in front of the murals. This collective activity not only enhances the cohesion of the community, but also promotes social interaction and cultural exchanges. Murals have become an important place and medium for people to gather and communicate. As an important cultural carrier, murals preserve a large amount of historical and cultural information and play an important role in the inheritance of traditional culture. They not only record religious beliefs and rituals, but also reflect the social life, clothing, architecture and arts and crafts of the time, providing a rich cultural heritage for future generations.

4.3 The digital conservation and dissemination model of Beiyue temple murals

4.3.1 The development of digital technology in cultural heritage protection

In this chapter, the researcher will conduct practical creation based on the application of digital media 3D animation in the protection and dissemination of Beiyue Temple murals, and construct a research model based on the digital collection of murals and the production process of 3D animation. The researcher constructed the research framework in the following way. The theoretical model consists of four modules and six design links. Four modules: the early mural collection process; the mid-term Beiyue Temple architectural data collection; the post-animation production; evaluation and feedback. Six production links: concept design; mural and architectural collection; 3D animation production; 3D animation synthesis; communication media design; evaluation and feedback.

In 2017, the State Council of China issued the "Opinions on the Implementation of the Inheritance and Development Project of Chinese Excellent Traditional Culture" to promote the research and interpretation of cultural protection and inheritance, education and popularization, protection and inheritance, innovation

and development, and communication and exchange, and achieved important results. Protect and inherit cultural heritage, adhere to the principle of protection first, rescue first, rational use, and strengthen management, do a good job in cultural relics protection, rescue and protect endangered cultural relics, implement the restoration plan of collection cultural relics, and strengthen cultural relics protection in new urbanization and new rural construction. Then in 2022, 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 proposed that by the end of the 14th Five-Year Plan period, the cultural digitalization infrastructure and service platform will be basically built, the data centers of various cultural institutions will be basically connected, the digital layout of the cultural industry will be basically completed, and the construction of public cultural digitalization will leap to a new level, forming an online and offline integrated interactive and three-dimensional cultural service supply system. The goal of "presenting the Chinese cultural landscape in all aspects and sharing the digital achievements of Chinese culture by the whole people" requires strengthening the data storage standards of the Chinese culture database. Promote the construction of digital cultural infrastructure and service platforms. Digital infrastructure is the cornerstone of the development of the digital economy and an important support for digital cultural services. Promote the construction of the national cultural network and the national cultural big data system to serve the storage, transmission, transaction of cultural resource data and the distribution of digital cultural content.

Is in the understanding of the murals, said Beiyue Temple murals in the local high visibility, but outsiders know little, publicity is not in place. Beiyue Temple mural art mainly through the government website and a small number of television interviews for publicity. 2000 years ago, the relative lack of mural protection, mural inlaid precious metals and jade loss is serious. In recent years, the protection of frescoes has gradually received attention. This way of publicising frescoes is an

effective way for Beiyue Temple. With the progress of science and technology and the development and change of society, the government should change this traditional way of publicity. Secondly, as the murals of Beiyue Temple are affected by wind, sand and dust in the current natural environment, the protection of the murals should be strengthened, especially by using digital protection technology. Previously, the limited means of communication constrained its wider dissemination. Therefore, without the intervention of digital media transmission methods, its cultural connotations and values are difficult to effectively spread to a wider area and more young people, leading to a gradual decline in its recognition in modern society. Through digital technology, the connotations and symbols of Beiyue Temple murals can be re-innovated on digital media, thus promoting and protecting Beiyue Temple murals.(Wang long,2024, interview)

Ms. Tong (interviewed, 2024) said that there is currently a lack of research on the application of digital media in the dissemination of Beiyue Temple murals. Whether from the level of the local county and city government of Beiyue Temple or from the level of local people, there is a lack of construction of a digital publicity and protection platform for Beiyue Temple mural art. There is no relevant digital mural promotion on local WeChat and video accounts. At present, the inheritance of Beiyue Temple murals does lack the intervention of digital media inheritance methods, which brings great limitations to its inheritance. Based on the application of digital media in the inheritance and protection of Beiyue Temple murals, practical creation is carried out, combined with digital technology, to promote the dissemination and inheritance of Beiyue Temple murals in the digital age, so that more people can understand, respect and protect this exquisite ancient painting art work.

Du Chen (interviewed, 2024) said that in recent years, Baoding City, Hebei Province has gradually strengthened its efforts to protect cultural heritage, and there are few digital protection organizations and groups in Hebei Province. However, due to factors such as technology and staffing, good results have not yet been achieved.

He believes that it is necessary to accelerate the promotion of digital publicity and protection of cultural heritage, allow more digital innovation professionals to join the work of cultural heritage mural dissemination, and reasonably and efficiently use digital media and other technical means to contribute to the protection and dissemination of cultural heritage.

Based on this, as a professional practitioner of painting, we further sorted out the development of digital protection and research at home and abroad to lay a solid foundation for the next step. By sorting out the professional practical experience and interviews of digital technology in the protection and dissemination of cultural heritage, we conducted research on the design and creation of three-dimensional animation practices using the concepts of iconography, communication, and digital cultural reproduction, and constructed a path model suitable for the protection and dissemination of digital animation of Beiyue Temple murals.

As mentioned above, in Paris, France in 1972, the 17th UNESCO General Conference adopted a historic convention, the Convention Concerning the Protection of the World Cultural and Natural Heritage, which clearly stated that cultural heritage is the essence of the history of human civilization, and is rare, non-renewable and inimitable. It belongs not only to the country where it is located, but also to all mankind. The protection of cultural heritage began from then on. The meaning and scope of digital protection of cultural heritage. Cultural heritage is the main and most direct way for historians to explore the past and find the past. Everyone knows that cultural heritage is called heritage because of its timeliness, Uniqueness and non-renewable. The speed of social development is too rapid. Human activities, environmental changes, natural disasters, etc. are many of the reasons for the destruction of cultural heritage. Maybe people did not do it on purpose, but just accidentally. Many years have passed. When they look back, the cultural heritage they want to protect is on the verge of disappearing. People begin to miss, recall, and try to pursue it, but in the end they are often helpless.

In 1995, Those of the Digital Revolution, known as the ‘missionary of the digital revolution’, put forward the concept of digitization in his book *Being Digital*. The book was translated into more than 30 languages and sold well worldwide, becoming a classic among bestsellers. Since then, the word ‘digital’ has become one of the important words, and the book *Being Digital* is also known as the ‘digital classic’. Digitization is a technological tool. From the initial computer, digital camera, digital scanning instrument, mobile phone to the later digital TV, digital library, digital museum, with the development of science and technology, digitization has gradually come into our lives, integrated into our lives and occupied our lives. It can be said that digital technology has brought us unprecedented experience. Today's era cannot be separated from the Internet, cannot be separated from digitization.(Wang, N. Y., 2022)

On November 26, 1976, UNESCO adopted the "Recommendation on the Safeguarding and Contemporary Role of Historic Areas" at the Warsaw-Nairobi Conference, which directly included "environment" as a category. In the 2005 "Operational Guidelines for the World Heritage Convention", cultural heritage includes cultural landscapes, historic towns and town centers, heritage canals and heritage routes. The relevance of immovable cultural relics has gradually been emphasized. During this period, the relevance of immovable cultural relics is mainly reflected in the addition of many types that can reflect the interaction and influence between them and the surrounding environment (natural environment, artificial environment, and human environment). The 1976 "Recommendation on the Safeguarding and Contemporary Role of Historic Areas" mentioned three types: historical areas, architectural areas, and environments. Among them, the environment refers to natural or artificial areas that affect the static and dynamic methods of understanding historical areas, or natural or artificial fields that are directly connected to historical areas in space, or have social, economic, and cultural connections. In the 2005 "Operational Guidelines for the World Heritage Convention", cultural heritage includes five types: cultural landscapes: historic towns and town centers, heritage

canals, and heritage routes. Among them, the most obvious relevance is cultural landscapes, heritage canals, and heritage routes. Heritage canals are outstanding examples of buildings or features of important periods in human history that have outstanding universal value from an artistic, historical or technological point of view and are related to economic and social development. Heritage routes are transportation routes with physical boundaries, unique characteristics and historical functions, reflecting the economic and trade exchanges, cultural and ideological exchanges between peoples, countries and even continents in historical periods, and related cultural relics and historical relations⁴⁰. The rich concepts reflected in the above definition provide a special cognitive framework, focusing on the various connections between immovable cultural relics, and the value connotations and entities of heritage have multiple elements working together. (Li Peng, 2018)

Indicated that the characteristics of digital technology are analysed from a technological point of view. With the advent of the digital era, more and more industries are trying to keep up with the pace of the times with the help of digital information, and the field of cultural heritage is not an exception, and people are beginning to study how to use the current technological means to provide some help for the protection of cultural heritage. Therefore, digital protection, that is, in order to avoid natural and man-made damage, use digital means to protect, rescue, maintain, repair and maintain cultural heritage, so as to maintain the authenticity of its historical and cultural resources for cultural heritage, so as to further inherit and utilize it. The digital protection of cultural heritage is not simply to put the cultural heritage on the Internet in its original form, but to reproduce and restore the cultural heritage through the use of digital protection and development technologies such as digital archaeology, digital collection, digital storage, digital restoration, and digital integration, so as to form a renewable, shareable and usable digital form. Simply put, it is to translate cultural heritage in a modern and easy-to-understand way, interpret it

from the perspective of the times, preserve it in the way of the times, and use it in accordance with the needs of the times. (Zhang Cheng Wen,2024, interview)

In terms of cultural heritage protection, the protection technology and protection concepts of developed countries such as the United States, France, the United Kingdom, and Japan are currently in the world's leading position. In 1978, the United States established a book database to preserve the ancient books and documents collected from various countries. Then, in 1986, France used digital information technology to implement digital storage and digital dissemination of 35,000 art collections. Now the French Museum of Fine Arts Union (RMN) has collected more than 500,000 works of art with the help of digital technology; the digital virtual Louvre has realized the virtual roaming of museum exhibitions and realized the online dissemination of 120,000 collections. The Art Project created by Google was launched in 2011. (Liu, L.&Qiu, 2024) Google has cooperated with major museums around the world, using advanced street view shooting technology and high-definition pixel photography, and using virtual museums to realize information sharing and cultural relics sharing, providing scientific research, exhibition display, cultural exchange, education and training services for different users, so that people can visit museums around the world without leaving home. So far, 151 museums around the world have reached cooperation agreements with Google, and there are more than 32,000 exhibits in virtual museums. In the 1990s, Japan used 3D scanning technology to generate a digital model of the Great Buddha in the Kama kura period and virtually rebuilt the main hall of the Great Buddha. It also digitally restored the disappeared ancient streets and realized the virtual 3D model reproduction of Monk Jianzhen and Toshodaiji Temple. The advanced digital technology and digital protection concepts of developed countries have explored the truth, opened up ideas, and provided reference for the digital protection of China's cultural heritage.

In the 1980s and 1990s, digital technology was gradually used in the protection of cultural heritage in China. Taiwan began to create a database of ancient

books in 1983, and then in 1987, the Aerial Survey and Remote Sensing Company of the Ministry of Coal of China began to digitally photograph ancient murals in Shaanxi. In the late 1980s, Fan Jinshi, then executive vice president of the Dunhuang Research Institute, first proposed the concept of "Digital Dunhuang". Subsequently, the Dunhuang Research Institute started cooperation with domestic and foreign research institutes. Two-dimensional digitization technology of murals based on photography and computer technology, three-dimensional reconstruction technology of colored sculptures based on laser scanning and structured light, and digitalization technology of large sites based on remote sensing mapping and oblique photography... Empowered by science and technology, the Dunhuang Grottoes have achieved a large number of digital results.

4.3.1.2 Advantages and characteristics of digital technology

Conceptual design is an important step in the early stages of 3D animation creation. It conceives complete creative concepts and ideas, and provides guidance and reference for subsequent design practices and production sessions. After these concepts have been organised, analysed, deepened and optimised, we can use it as a guide for sketching keyframes for subsequent 3D animations. The purpose of the sketches is to more standardise the subsequent execution of the work. Therefore, this paper puts conceptual design in the study of the 3D animation art creation process to better lay the foundation and support for subsequent creation. The main functions of concept design for 3D animation creation include: refining the overall conceptual content of the design concept, spatial context, thematic concept, design style, modelling style, etc., which provides a good support for the subsequent creation of setting up detailed information on sample modelling design, scene construction, material types, textures, colour schemes, etc. (Du chen, 2024, Interview)

Wang Bao Long(interview,2024)It is believed that over the years, most of the ancient murals in China have suffered different degrees of damage, the most common of which is the fading and mutilation of the murals, which has brought great

trouble to people's research on murals. As we all know, the use of pigment is an important raw material in the production process of mural paintings, and the level of technological development and art and culture at that time can be inferred according to the different pigments. Murals in different regions have their own characteristics, and different producers will also use different production processes and methods. Therefore, if you want to thoroughly understand the artistic level at that time, the analysis and discussion of pigments is a starting point, which can provide reference value for the selection of mural protection methods. Although the photography technology commonly used by people in the past is convenient to operate, the data information it contains is very limited, and digital scanning spectrum technology solves this problem. First of all, the band spacing of digital high-definition scanning is relatively small. This method can obtain specific information of mural images and spectral information of mural data. Hyperspectral mural data includes a variety of visible light and of course infrared, with more band information. (Lin, Y.K., 2024)

Argued that nowadays, due to natural or man-made factors, ancient Chinese wall paintings are suffering from various kinds of damages, some of which are irreversible, so the conservation and restoration of wall paintings is urgent. The Mogao Grottoes in Dunhuang, for example, are a typical example. Digital high-definition data processing technology is used in the Mogao Grottoes in Dunhuang. Some impurities or diseases in the murals have affected the murals. The draft information of many murals is not clear or even unrecognizable. In order to collect these real data information, the high-definition imaging system plays an important role. This system can be understood as a camera, but not an ordinary camera, but a camera with very high pixels. This high-resolution camera can receive a spectrum of 1000nm, and the number of bands is as high as more than 900. When using digital high-definition scanning data processing, the data impact can be analyzed by principal component analysis. According to the previous introduction, the principal components are separated by the size of the variance, and different processing methods are used

for different principal components. In the actual application process, it is found that the first principal component is the most valuable data impact. This is because the variance value of the first principal component is large, and there is not much noise information involved, which is more conducive to the processing of mural data information. In addition, in order to ensure the accuracy of the principal component analysis, the second principal component or even the third principal component can be selected for analysis. (Wang Lu Min, 2024, interview)

The digitalization practice of Kaihua Temple murals should follow the principle of giving equal importance to history and technology, and reasonably use the principles of digital technology and aesthetics: First of all, in the creation of cultural and creative products of murals, the deconstruction and reconstruction of murals is the basis. Through the analysis of digital ultra-clear images, elements in the picture can be selected artificially or by computer programs, and reconstructed to form a new work of art. For mural images, there are many characters, with different faces, different expressions, and both form and spirit. The modeling of landscapes, weapons, animals, and figures together constitute the modeling system of Beiyue Temple murals. This artistic and stylistic modeling concept can provide a premise for the reproduction of digital images of murals. Secondly, in the field of two- and three-dimensional animation, it was born in the era of film industry, and its characteristic is to use paintings or other plastic arts images to express the author's creative intention. The unique and distinctive decorative style of the story themes in the Beiyue Temple murals is a unique condition for the digital creation of murals, which should be explored in depth. Whether it is character modeling or background, the artistic style and plastic language of the Beiyue Temple murals can be integrated into the picture design. Secondly, in the field of virtual interactive design, virtual reality technology is the use of computers. (Song, B., & Jia, 2023)

Give full play to the value of the murals in the Yue Temple. The murals in the Beiyue Temple are important historical witnesses of the sacrifices of the state of Mu

during the Song and Yuan dynasties, and have strong characteristics of the times and regional attributes. In addition to their own high artistic value, the murals in the Beiyue Temple are of great importance in studying the history of the development of the Yue Temple, the history of painting, and the history of the spread of Taoism. Using digital technology to digitally store and disseminate the Baisha murals and realize resource sharing can not only facilitate researchers to conduct in-depth excavations of the murals, but also reduce the close contact with the murals on the spot, and save research costs. (Wen, 2023)

Increase the dissemination channels of the murals in the Beiyue Temple. According to online data, as of June 2018, the number of Chinese netizens reached 802 million, with a penetration rate of 57.7%. The development of Internet technology has broken the traditional concept of time and space, and the earth has shrunk into a "global village". Museums in various provinces and cities are also using digital technology to disseminate cultural relics on the Internet, allowing people to truly see the world, history, and the future without leaving home. The Baisha murals, freed from the constraints of time and space, can be spread to any corner of the world with an Internet connection, allowing the world to see such a beautiful art treasure in Lijiang, Yunnan, China, thereby increasing people's curiosity about the murals and triggering people to truly get off the Internet and personally experience and get close to the Baisha murals.

Promote mutual exchanges between murals. There are relatively many murals left in my country, but there is little exchange between murals in various provinces and cities. The Beiyue Temple murals were only exhibited abroad in the 1980s and 1990s. The murals are very precious and large items, and they must be disassembled, packaged, and transported when exhibited abroad, which requires a lot of time and financial resources. (Niu, J. L ,& Gao, 2022)

(Wang Lu Min Interview 2024) is a digital design expert who introduces the software and equipment used for the indicated techniques. The simulation generates a

three-dimensional virtual world, providing users with a simulation of the visual, auditory, tactile and other senses. VRML, Java-script and other modelling languages can be used to build the Kaihua Temple mural interactive virtual exhibition hall, but also through the development of Unity3D, Virtuoso and other tools to build a virtual display system. Virtual reality is just a reflection of the real world. If you want to be more artistic, ornamental and emotional, you also need the guidance and enrichment of real art and culture. Therefore, before carrying out the interactive design of virtual reality technology, it is necessary to fully understand the artistic characteristics and cultural connotations of the Kai hua Temple mural paintings. Using virtual technology to build mural museums and mural exhibition halls, the audience can have an immersive experience and better convey and spread the artistic and cultural connotations of the mural paintings.

For example, in 2011, digital three-dimensional digital technology was used to digitally scan the cultural relics unearthed from the Liao Tomb of Turki Mountain, laying the foundation for the digital museum. Modern scientific and technological means are used to preserve the information of these unique historical and cultural treasures forever, giving full play to the value of this information in cultural relics protection, research, display, education, and communication. At present, there are many museums at home and abroad that use 3D scanning technology to protect, collect and exhibit cultural relics. After the 21st century, the Louvre in France, the Metropolitan Museum of Art in the United States, the British Museum in the United Kingdom, the National Museum of Tokyo in Japan, etc. have all expanded their museums digitally (Zhang, K., & Zhang, 2023). At present, some museums in China have established their own digital museums, and some are under construction or in the process of preparation. At present, the digitization of cultural relics mainly uses 3D laser scanning technology and digital photogrammetry technology. 3D laser scanning technology is a new technology that can quickly obtain 3D geometric data of objects

with high precision. There are also several museums in China that use 3D scanning technology to carry out the digital construction of museums.

The Capital Museum is at the forefront of China in this regard. Du Kan of the Capital Museum wrote "Research on the Application of Digital Modeling Technology in the Protection of Collection Cultural Relics", which tentatively and systematically outlines the application of 3D scanning technology in museums. The Inner Mongolia Museum is also actively carrying out the construction of digital museums, and has achieved initial results. It has completed the laser 3D data collection and modeling of more than 600 pieces (sets) of precious cultural relics. This is undoubtedly of great help to me in writing this article. Wu Yu han and Zhou Ming quan from the School of Information Science and Technology of Beijing Normal University focused on the application of 3D scanning technology in cultural relics protection in their article "Application of 3D scanning technology in cultural relics protection", and cited many domestic and foreign examples, such as Stanford University's "Michelangelo Project" and the Digital Palace Museum project jointly developed by the Palace Museum and Nippon Publishing Printing Co., Ltd., which are all applications of 3D scanning technology. In the article, the authors also discussed the principles of the technology and its specific applications and significance. They also made specific records and discussions on the scanning of the Terracotta Warriors' heads. In addition, Lin Dejing and Sun Xiaodong from the Computing Center of Beijing Institute of Fashion Technology mentioned the application of point cloud data in their article "Point Cloud Data Reduction Technology for 3D Scanning of Human Body", and made specific discussions on the application of point cloud in 3D scanning technology.

From a macro perspective, it systematically summarizes and concludes the reasons, current situation and difficulties of building digital museums, which is of great inspiration to this article. For example, when talking about the relationship between real museums and digital museums, it is said that digital museums transcend the geographical and physical limitations of real museums. In the new stage of social

development, they shift from "object-oriented" to "information-oriented", and based on digital information, they expand the on-site services of real museums to more extensive and in-depth information services that transcend time and space. (Lv Ai, 2023, interview)

4.3.1.3 Characteristics and principles of digital acquisition

Digital three-dimensional (Three-Dimension) technology is a virtual reality technology. Virtual museums use this virtual reality technology to achieve virtual reproduction of cultural relics and scenes. The premise and basis for achieving this is the three-dimensional digitization of the cultural relics in the collection. Digital three-dimensional scanning technology is an advanced technology that integrates optical, mechanical, electrical and computer technologies. It uses optical principles to perform optical scanning or laser scanning on the collected objects. More specifically, most of them use structured light illumination technology. The light beam is emitted from the projector and illuminates the collected object. The light signal returned from the surface of the measured object returns to the receiver. These light signals are the collected data, and they are a collection of point coordinates of a large number of three-dimensional space objects. The core principle of the application is a high-precision distance measurement system and angle measurement system. (Zhu, J., 2012)

It can avoid partial loss of information because the method it adopts to directly obtain three-dimensional information is a non-contact method from the perspective of collection method, which will not cause direct loss to cultural relics and ensure the safety of people and cultural relics. It also has advantages such as high accuracy, fast speed, and no time limit. Virtual reality technology uses computers to generate virtual models of cultural relics from the data collected by two-dimensional scanning technology, and finally allows the experimenter to have a sensory world of hearing, vision, and touch, as if they were touching and appreciating cultural relics in person. Virtual reality technology came into being with the development of computer technology. Virtual reality technology is the latest technology in the computer field

that has been developed by integrating various scientific and technological technologies such as computer graphics technology, multimedia technology, human-computer exchange technology, network technology, three-dimensional reality technology and simulation technology. It is also a comprehensive application of various disciplines such as mechanics, mathematics, optics, and mechanism kinematics. Among them, web3D technology is a form of implementation of virtual reality technology. Web3D technology is simply the product of the combination of web technology and 3D technology, which is actually the extension of 3D technology to the Internet. 3Its creation has the following advantages:

First, it allows computer users to experience a virtual three-dimensional environment; second, it allows computer users to actively participate in the virtual reality environment; third, users can change or change the virtual environment they are in at will. Virtual reality technology has three basic characteristics⁴: immersion, interactivity, and imagination. The following introduces the characteristics of these three basic characteristics.

4.3.1.4 Basic characteristics of digital virtual murals

Stated that the advantages of digital are more obvious, fast and efficient, and a great experience.

Immersion: It is the feeling of being immersed in the virtual environment or virtual objects. The emergence of virtual reality technology is based on the study of human physiological characteristics. With the help of auxiliary equipment, people can watch and touch the virtual environment, and truly experience the real feeling in the virtual environment, which ultimately reflects the immersive characteristics of this technology. (Z. Q. Liu, 2024)

(2) **Interactivity:** This feature is a further improvement and sublimation of immersion, which truly reflects the uniqueness of virtual reality technology. In more popular terms, it is interaction. The experiencer can interact with the virtual

environment or objects through hardware devices such as keyboards, mice, sensors, etc., and finally achieve synchronization between the experienter and the information.

(3) Imagination: Generally aimed at large scenes, the experienter can have the feeling of wandering in the scene. This is actually a virtual space, but the experienter can have a "real" feeling through this technology.

Virtual reality technology is actually in the same vein as scanning technology. Both are specific technologies of digital technology. Virtual reality technology realizes the value of scanning technology results. It is also a key technology used in museums.(Zhao Xing Biao, 2024, Interview)

1992 marked a new era of the combination of cultural heritage and modern information technology. With the launch of the "Memory of the World" project, a new model of digital recording, protection and development of cultural heritage was opened. my country is not to be outdone in the digital age. At the end of 1999, the Palace Museum established the Palace Museum Image Database, which stores more than 50,000 image data; in 2005, Lan tian Shui lu Temple also scanned and simulated more than 3,700 painted clay sculptures. In recent years, cultural heritage scenic spots such as the Qin Shi huang Terracotta Warriors and Horses Museum, the Hemudu Cultural Site, and the Old Summer Palace Site have been vigorously promoting digital protection and development programs. Digital technology has been increasingly used in cultural heritage protection and development. At present, my country's scientific and technological level can easily realize digital acquisition, image processing and other tasks. It can convert existing material cultural heritage into binary digital information through photography, scanning, photography, etc., and store them all in computers and the Internet. It can use current three-dimensional technology to process digital information and make three-dimensional movies. We can even wear certain equipment through virtual reality technology to realize that we are in it. my country has also carried out many cultural heritage digitization research projects, such as "Digital Forbidden City", "Digital Dunhuang", "Digital Yuanmingyuan", etc., and has

achieved some favorable results in the field of digital protection. However, it must be admitted that my country is relatively backward in this field compared with the West in terms of technology and academics. Most of the digital protection research projects carried out in my country are also in cooperation with foreign countries. Many advanced technologies and concepts still need to be learned from foreign countries. It is easy to have problems such as cultural connotation and technology not being connected, which greatly restricts our development. At this level, more people with professional skills and interest in cultural relics protection are needed to join this great cause. Any digital protection activity of cultural heritage must exist in a specific historical background and historical origin. Only by relying on the inspiration, creativity and imagination of artists and designers, and using digital technology to integrate and improve traditional cultural resources, can it be contemporary without losing its own characteristics.

Stated that the current traditional exhibitions do not facilitate the communication between murals, and the development of digital technology can open a convenient door for the communication between murals. With only a mobile phone, an iPad or a computer, communication between murals in different regions can be accomplished. It can also strengthen the communication between domestic and foreign mural paintings, learn the advanced digital technology protection and development experience abroad, and apply it to the protection of murals in China, to promote the development of China's digital protection technology. Although the digitisation process of Baisha murals is still in the exploratory stage, as early as the 1990s, many large-scale cultural heritage sites across the country carried out digital conservation and development research. The Mogao Grottoes in Dunhuang, the jewel on the north-west beach of the yellow sand, is one of the pioneers.(Zhang Cheng wen, 2024, Interview)

Digital virtuality is the basic characteristic of digital art media and technology. In the virtualization of cultural heritage, cultural information is used as an

object, which is produced, encoded, and stored in digital form in computers, and transmitted to each other in computer networks, and restored to a form of representation that people can subjectively feel through decoding. Various cultural experiences can be obtained through virtual display. French virtual philosopher Pierre Levy believes that virtuality is not compared with real existence but with actual existence. He believes that virtuality is creative. In virtual space, language is no longer the only carrier of culture, including symbols, images, video touch and other forms to support human information exchange. The virtual space construction of murals mainly provides complete image information for murals through high-precision photography, digital scanning and three-dimensional model reconstruction. At the same time, combined with sensory interaction, virtual roaming, image animation and other technologies, the expressiveness of virtual space is enhanced, allowing users to fully immerse themselves in the experience.

4.3.2 Protection methods

4.3.2.1 Summary of Objectives 1 and 2

The objectives of this study include three parts: to study the history of Beiyue Temple murals; to study the symbolic meaning and value of Beiyue Temple murals; and to study the digital preservation and dissemination model of murals. Through reading and field investigation, historical documents and objects related to Beiyue Temple and murals are collected, and the history of Beiyue Temple is sorted out to find its long history and rich cultural connotations, including national religious sacrifices and the evolution of architecture and murals of successive dynasties. The folk activities carried out by local residents around Beiyue Temple, including folk sacrificial activities, festival activities, temple fairs, etc., are studied in detail. The cultural value and artistic value of Beiyue Temple murals are analyzed from the perspectives of semiotics, iconography and aesthetics, and the positions and costumes of the characters in the murals, the image characteristics of the characters and the painting characteristics are analyzed.

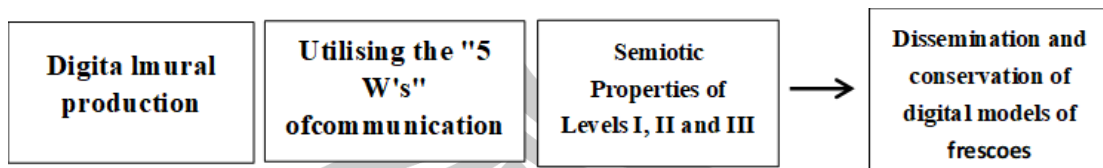
Relying on the research on mural painting techniques and artistic characteristics, through relevant research and practice, murals are collected and digitally produced for digital media promotion. Digital collection of Beiyue Temple murals is carried out to master first-hand information, and digital three-dimensional technology is used to establish a digital museum to promote Beiyue Temple murals.

Combine the protection and publicity of murals, explore the production process and restoration methods of murals, combine the protection and publicity of Beiyue Temple murals, better publicize and protect local cultural relics, explore the deep intrinsic value of murals, keep pace with the development of Beiyue Temple murals, take the road of digital development, promote the progress of local culture, and analyze the difficulties encountered in the development of cultural tourism in combination with actual conditions, and find solutions. Thereby enhancing the brand effect and economic benefits of regional culture.

Drawing on the experience of digital communication of Dunhuang murals, using social media platforms such as Douyin, Instagram, Facebook, Twitter, etc., to publish pictures and short videos of digital murals, online digital platforms actively promote Beiyue Temple murals. Provide guidance for the digital protection and development of Beiyue Temple culture in Quyang, Hebei. Through historical document investigation and related research, combined with the actual pictures and data collected on site during the field investigation of Beiyue Temple, the historical development of Beiyue Temple can be grasped. In terms of inheritance and protection, a combination of formulating relevant research plans and collecting and copying materials on site is adopted.

4.3.2.2 Preliminary Design

In the preliminary design part, the researcher conducted research on the application of research concepts, 3D animation concept design, sample extraction, sample design, etc. through interviews with relevant experts and group discussions. The research results are as follows:



1) Application of theoretical concepts

This chapter uses Saussure's semiotics "signifier" and "signified", which are a pair of categories in structural linguistics. In the structural linguistics of Swiss Saussure, "signification", "signifier" and "signified" are three closely related concepts. Signification represents the relationship between the following two: on the one hand, it is the language symbol that represents specific things or abstract concepts; on the other hand, it is the specific things or abstract concepts represented by the language symbol. He called the language symbol used to represent abstract concepts in signification as signifier, and the specific things represented by the language symbol as signified, which is the meaning to be expressed by signification. The signifier refers to the word form or pronunciation of the word, and the signified refers to the object or meaning represented by the word. For example, the word "table" as a language symbol is the signifier, and the table as a concrete object is the signified of the language symbol "table", and it is also the meaning of this language symbol.

Figure 59 A Research Framework for the Application of Digital Media in Cultural Heritage Preservation and Dissemination

Source: ZhiYong Li (2024)

The basis of Peirce's semiotic theory is the three universal categories he proposed: firstness, secondness, and thirdness. Firstness is the independent existence of an individual, and has no connection with any other things. These things exist regardless of whether they are perceived by people, without time and place restrictions. Secondary existence is the awareness of external things, involving the relationship between the subject and the perceived things. Tertiary existence is the

thought that provides information, which is cognition and concept. It provides information to our mind, and we see the operation of symbols in third-level existence. These three universal categories are integrated and cannot be separated, just like a piece of paper, although there are two sides, but we cannot separate it. Lasswell's "5W" communication theory and media creation concept, the research strategy analysis of the three-dimensional animation practice creation ontology makes the research more logical, scientific and reasonable (Figure 59).

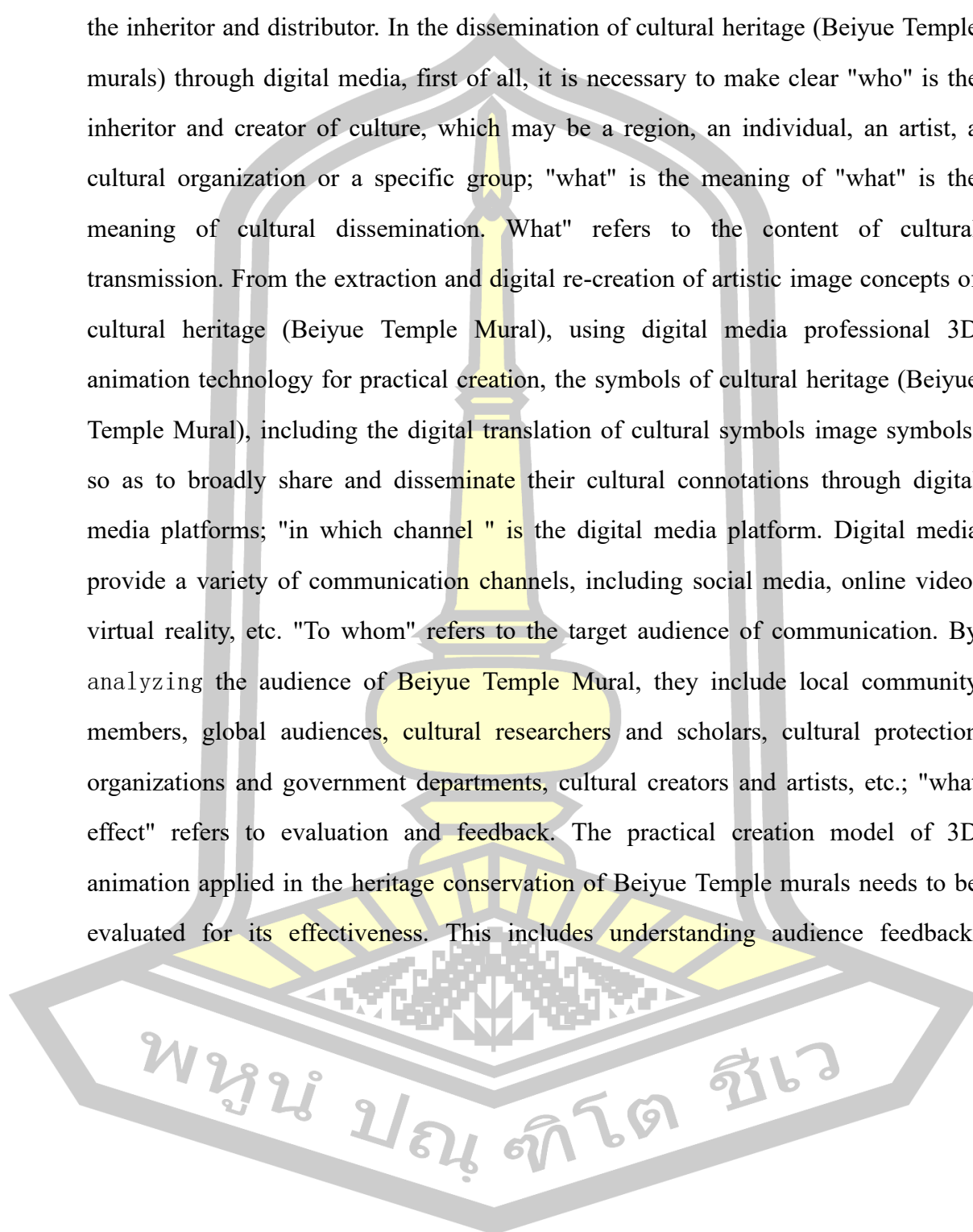
Charles Sanders Peirce, the founder of American pragmatism, divided the symbol system into three parts: image, index, and sign, and established a general theory of symbol system. The research was conducted based on the semiotic theories of the American scholar Peirce (1839-1914), widely regarded as the father of modern semiotics. The design concept is based on the concept of semiotics. According to semiotics, symbols are a unique cultural phenomenon of human beings. Symbol is a "creative language" that gives meaning to an object through a certain code. It is through the creation and use of symbols that human beings are able to transcend themselves and discover the possibility of infinite freedom. The role of symbols in human activity is similar to that of tools in the labour process, but whereas the former only gives meaning to, or discovers meaning from, an object, the latter also exerts a material influence on the object. In this sense, not only language, but also all cultural phenomena, such as art, myths, costumes, etc., belong to the category of symbols. According to Peirce, the founder of semiotics, symbols can be divided into symbols, pictograms and signs. The latter type of symbols is not directly related to literature and art. The semiotic approach to art or semiotic aesthetics is the application of semiotic methods to the study of art and aesthetics. This approach starts from the principle that "art is a symbol", and regards artworks as a diversified and multi-layered symbol system, in order to explain the creation of meaning, the structure of meaning, the communication of meaning and the function of meaning, etc. The

method of art seismology or semiotic aesthetics is to apply the semiotic method to the study of art and aesthetics.

In Peirce semiotics, there are three levels of being, and he puts linking the body to the world as Peirce's second level of being. Here the self (ego) and the other (other) meet for the first time. Secondary existence involves our interaction with something external. In secondary existence, the subject and the things perceived by us are ever-changing. But in tertiary existence, because the relationship between the subject and what is perceived is governed by universal laws, the facts of secondary existence can be unequivocally universal, and because of this, people can express and communicate with each other using the same symbols. The relationship between primary existence, secondary existence and tertiary existence is a progressive relationship from lower to higher, from simple to complex. In other words, the second level of existence contains the first level of existence, and the third level of existence contains the second level of existence. The symbol belongs to the third level of existence and thus contains both of the other two. (Figure 55)

Secondly, based on the communication law under the "5W" communication theory. Based on Lasswell's 5W communication theory, the concept of digital reproduction is integrated into 3D animation and virtual tour design to carry out the practice of digital heritage of Beiyue Temple murals. Harold Lasswell, one of the founders of communication science and an American political scientist, put forward the 5W communication theory in his book *The Structure and Function of Social Communication*, which has had a far-reaching impact on the development of communication science. Harold D. Lasswell put forward five basic elements of the communication process, namely who, what, in which channel, to whom and with what effect (Harold D. Lasswell, 1948). In the actual creation process of digital media, specific analyses based on the "5W" communication theory can make the research more systematic and logical. Based on the theoretical concepts of the "5W" communication theory, combined with the practical creation of digital media, we aim

to promote the communication of Beiyue Temple murals in the digital era. "Who is the inheritor and distributor. In the dissemination of cultural heritage (Beiyue Temple murals) through digital media, first of all, it is necessary to make clear "who" is the inheritor and creator of culture, which may be a region, an individual, an artist, a cultural organization or a specific group; "what" is the meaning of "what" is the meaning of cultural dissemination. What" refers to the content of cultural transmission. From the extraction and digital re-creation of artistic image concepts of cultural heritage (Beiyue Temple Mural), using digital media professional 3D animation technology for practical creation, the symbols of cultural heritage (Beiyue Temple Mural), including the digital translation of cultural symbols image symbols, so as to broadly share and disseminate their cultural connotations through digital media platforms; "in which channel " is the digital media platform. Digital media provide a variety of communication channels, including social media, online video, virtual reality, etc. "To whom" refers to the target audience of communication. By analyzing the audience of Beiyue Temple Mural, they include local community members, global audiences, cultural researchers and scholars, cultural protection organizations and government departments, cultural creators and artists, etc.; "what effect" refers to evaluation and feedback. The practical creation model of 3D animation applied in the heritage conservation of Beiyue Temple murals needs to be evaluated for its effectiveness. This includes understanding audience feedback,



engagement, impact, etc. Digital media provide data and analytical tools that can be used to monitor and assess communication effectiveness (Figure 60).

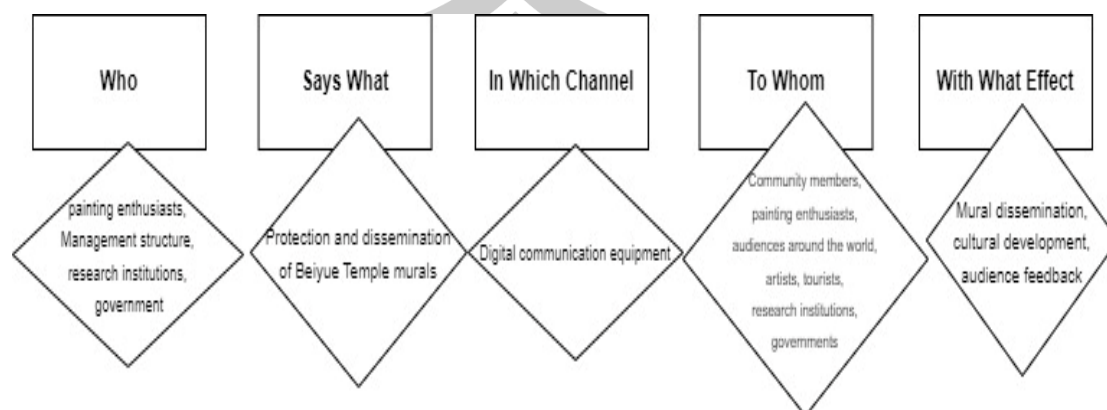


Figure 60 Research Path Based On “5W” Communication Theory

Source: ZhiYong Li (2024)

By combining Lasswell's "5 Ws" theory with digital media for the dissemination of cultural heritage, heritage owners and cultural institutions can plan and implement digital heritage programs more systematically. This combination helps to ensure the effective dissemination of cultural elements and provides tools to quantify and evaluate the effectiveness of dissemination activities in order to continuously improve and optimize dissemination strategies. This contributes to the preservation, transmission and promotion of cultural heritage, making it better adapted to the needs and challenges of the modern digital age. The integration of Lasswell's "5W" communication theory with digital media is of great significance for the dissemination of cultural heritage, as it helps to achieve the following key objectives and values: pinpointing the target audience, optimizing content creation and selection, choosing the appropriate communication channel, communicating and tailoring the message accurately, and evaluating the effectiveness of the communication and feedback. The following are some of the key objectives and values to be realized Third, based on the heritage and development of the concept of media creation. The concept of media creation does not have a specific single

proposer, and it has been gradually formed in the evolution of media studies, communication, art and other fields. This concept covers digital creative activities, including but not limited to text, images, audio, video and other creative expression on the media platform.

The concept of media creation involves the process by which individuals or teams in the digital age utilise various forms of media for creative expression. 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 has been expanding to cover 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, means of expression, language method and mode of communication.

Media creation is a kind of cultural productivity, which is not only a reflection of social reality, but also a process of creating and disseminating cultural concepts. Media creation is not only a form of cultural expression, but also a medium for the dissemination of social values. Media creation carries the dissemination of knowledge and is also an important medium for cultural inheritance. In the creation process of 3D animation, as a media creator, it is necessary to think based on the basic value connotation of culture, cultural identity, the concept of cultural protection and dissemination, and express it specifically in the work, so as to enhance the quality, depth and breadth of the creative work. In this way, it can guide the innovative protection and dissemination of Beiyue Temple mural 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, which is an important means to create high-quality cultural products and cultural content, and promote the innovative protection and dissemination of cultural heritage.

Finally, based on the inheritance and development of learning culture. Learning-based culture refers to the learning of Beiyue Temple mural paintings, and through the three-dimensional animation digital system, the knowledge of the culture of Beiyue Temple mural paintings will be transmitted to the youth. By teaching young people the cultural connotation of Beiyue Temple murals, they can deeply understand the wisdom and creativity of paper-cutting culture, which is not only the inheritance of skills, but also the transmission of culture, beliefs and values. By learning the cultural knowledge of Beiyue Temple murals, the younger generation can appreciate the cultural connotations and values behind the traditional art.

Learning about culture plays a key role in the rich cultural tradition of Beiyue Temple murals, especially in the learning process of young people. This study focuses on the creative practice of digital media to engage young people in learning culture through the exhibition form of 3D animation in digital media, providing them with a deeper learning experience. This type of learning is not only the transfer of knowledge, but also an immersive experience of the values and lifestyles of the Beiyue Temple murals.

2) Conceptual Design

(Wang ,2024,interviewed) Said that collecting information from the field survey and carrying out digital mural collection work on the Beiyue Temple mural is an important step in the preliminary phase of 3D animation, developing and implementing the conceptualization of complete production concepts and ideas, and providing guidance and references to the design practice and production aspects of the pre, mid and post-production phases of the whole process for the smooth advancement of the process. In the concept of collation, analysis, in-depth, after the optimisation, we can use this as a guide for the subsequent three-dimensional animation to draw key data support. The purpose of drawing plane sketches is to make the process and implementation plan of the subsequent work more clear. The main role of the concept of 3D animation production includes: elaboration of the design

concept of the overall conceptual content, spatial posture, theme concept, design style, modelling style, etc., for the subsequent creation of the set sample modelling design, scene construction, material type, texture, colour matching and other details of the information, are to provide good support.

Said that the Beiyue Temple mural originated from the ancient Chinese national mountain sacrificial cultural sites, mountain sacrificial culture as the main theme and connotation, reflecting the Chinese culture on the concept of natural reverence and tolerance, and therefore determine the concept of three-dimensional animation practice creation of the Temple of De Ning. The two murals, Yunxing Yu Shi Tu and Wan Guo Xianning Tu, show that the gods of the heavenly palace do their duty to pray for rain for the earth and bless the earth with good weather. After completing the task of bringing rain to the world, the gods of the heavenly palace return to the palace after work.(Li Hai Bin,2024,Interview)

In three-dimensional animation work creation, the main performance clues to the style of the Hall of Dening mapping, Dening of the Hall of the external environment collection, the Hall of the inner style of the collection of the production, the collection of frescoes digital collection and finishing, on the basis of the synthesis of the work, design, reorganization, according to the viewer to visit the route of the activities of animation of the viewpoints and lenses of the arrangement, will be the mural will be integrated into the three places in the animation.

(Mr Ma ,2023,interviewed,) Said that the work in the virtual presentation of the internal and external appearance of the Beiyue Temple and the original appearance of the mural paintings, reflecting the culture of the Beiyue Temple and the ancient flavour of the building. The exquisite and vivid ancient murals are presented to the viewers through the digital virtual space, allowing them to have an immersive visual experience in the virtual world. The virtual space is based on the scene of De Ning's Hall, which is the main line, and builds the scene design with the architectural style of Song and Yuan in China, with tall buildings, exquisite paintings, and many fairy

characters, forming a virtual reality of the world of Wuyue Immortal World. Viewers can enter the virtual scene through human-computer interaction to appreciate the ritual cultural connotation and artistic value of Beiyue Temple murals, as well as the shocking visual and auditory effects.



北岳
诸神图

Figure 61 Typography for the 3D animated title "Beiyue Gods and Goddesses Scroll"

Source: ZhiYong Li (2024)

3) Sample extraction

Due to the age of the ancient architecture of Beiyue Temple, the ontological information is mostly missing, and it is not enough to obtain complete architectural data by looking through local records and other resources. At this time, according to the age of the building, we can refer to the corresponding canonical books and the building structure of the same period to explore the details of the practice. For example, the Song Dynasty's "Construction Methods" (hereinafter referred to as "Methods") and the Qing Dynasty's "Engineering Practices Rules and Regulations" describe in detail the systems and practices of ancient buildings, as well as the corresponding diagrams and nomenclature. In order to collect detailed data and

information, it is necessary to expand multiple channels, and to supplement contemporary advanced technology with reference to historical documents. In order to obtain the entity data of ancient buildings, the traditional measurement method mostly adopts manual tape and the use of total station, laser rangefinder and other tools to collect the ancient building points to push forward, but due to the complexity of the structure, the accuracy by the technical level of the mapping personnel interference, mapping efficiency is low. And with the continuous maturity of three-dimensional scanning technology and UAV close-range measurement technology, the two technologies are used together with complementary advantages, and their applications in ancient architecture are becoming more and more widespread. In this paper, we mainly use laser ranging equipment and Trimble 3D scanner to collect on-site data information of ancient buildings due to the complexity of ancient buildings, in order to obtain more complete data, before scanning also need to be on-site survey combined with the existing information according to the scanning equipment. Due to the complexity of the ancient buildings, in order to obtain more complete data, a site survey was carried out before scanning, and a scanning programme was prepared after testing the performance of the scanning equipment. For the characteristics of the building, the UAV RTK equipment was used to obtain the distant view data such as the roof of the building, the Trimble TX8 scanned the near view space, the handheld scanner scanned the corners and some details, and the digital collection of the building was carried out by means of a combination of tests to clarify the position of the site layout and hand-drawn mapping.

Mural digital collection work, the requirements of the technical conditions are very strict. First of all need to be carried out on the basis of the premise of protecting the safety of cultural relics, the use of non-contact acquisition equipment; the acquisition process must not have any physical contact with the murals, to avoid causing damage to the murals; do not use a continuous light source, the spotlight used in the colour temperature is accurate, and does not contain ultraviolet rays. Secondly,

in the high-precision image data acquisition, according to the collection of the environment and the size of the fresco, to take a number of segmented shooting, and then these shooting images spliced together, a single fresco (3 square metres or more) spliced image file size over the level of more than the original large output data volume, so as to achieve the possibility of the original fresco large replication of the possibilities and feasibility. Splicing image is a very hard work, it not only requires computer hardware and software configuration is quite high, and splicing process operation to be very careful, otherwise a little deviation can not restore the real situation of the photographed cultural relics. In order to ensure the accuracy of the late splicing, we must have strict quality control of the collection process in the early stage. With the rapid development of digital imaging equipment and widespread popularity: people on the image quality requirements are increasingly high. Although SIR, PHASE and other manufacturers of high-end digital camera manufacturers use the digital back of the effective number of pixels in the continuous improvement, but when faced with a larger format or length of the subject, in order to ensure the accuracy of the image but often have to use a combination of multiple shooting and post-splicing method to restore the image into a whole in order to achieve the standard we want. Image splicing in the photographic world is a relatively marginal problem, but in China's cultural relics photography has a very important significance of the following, will be specific on the murals of high-precision digital image acquisition techniques and methods for discussion, many of which are the summary of practical experience for discussion.

4.3.2.3 Selection of equipment

After the mural experts in various aspects of communication and all aspects of consideration and testing, we chose to use the Swiss production of Sinar brand P2-type large-format technology camera, Sinarback 86H-type digital back as a mural image data acquisition of the main equipment. Acquisition file format using RAW colour gamut for Adobe RB, Schneider AP0 lens, China Aitus spotlight lighting

LS300; implementation of the same line of shooting direction from left to right in turn, to determine the sampling resolution, according to the actual resolution to calculate the actual shooting range; the overlap of the two adjacent images in the 40% 50%, according to the length of the captured image, the actual shooting range, the overlap rate that Calculate the number of shooting lines, and record the shooting data in detail.

Table 8 Picture collection equipment

Equipment	Model	Equipment parameters	Application	Dimensions
Large Format Camera	Sinar P2	4×5 inch elevation angle 45-50 degrees	Digital Capture of Murals Camera	90X85X73M M
Camera Digital Back	Sinarback 86H	Sensor 36x48 inches	Digital Image Collection	
Lens	Fujinon W300mmf/5.6	300MM	Camera Lens	
Camera Stands	E-IMAGE EP=880MK	78-175cm	Camera Equipment Mounts	
Image Processors	Dell 7680 Graphics Mobile Workstation	Inteli9 Graphics 8G	Digital Image Editing	414X273X25 mm
photography light	Nanlite Forza720b	800w	fill light a shot	5000g

Source: ZhiYong Li (2024)

Digital capture device performance: Senna P2 has a high degree of perfection and ease of operation of the performance of the room world-recognised outstanding performance, good stability, with precision fine-tuning, pitch angle is larger, there is anti-detachment professional asymmetric swing and pitch axis, so that the negative

base, whether it is in the vertical or horizontal axis of the movement, are kept in the focal plane to ensure that segmentation of collection of each mural are in the same plane. The Sinarback 86H professional digital back is equipped with a world-recognised excellent high-quality CCD image processor, which works on flat objects, and captures a single still image with an image data volume of about 288MB (48 million effective pixels). We compare in many ways after the use of Dell Graphics Workstation 7680 professional monitor for post-processing, as a solution to the collection of large murals and splicing problems.

The role of auxiliary tools: infrared level is used to find the centre of the mural, so that the camera is aligned with the centre of the mural, so that the camera up and down, left and right panning can be used as a reference. Laser rangefinder, used to measure the area of the mural and measure the distance between the camera and the mural, to facilitate the calculation of the camera and the mural of the placement of the distance, angle meter, light meter, colour card, lift ladder(Figure62).



Figure 62 Mural digital acquisition site Scroll"

Source: ZhiYong Li (2024)

1) Image File Acquisition Method

After the pre-equipment metering and digital acquisition of photographic equipment adjustment, according to the plan from the leftmost to the rightmost acquisition planning. The use of large-format technical cameras with digital back to the mural data acquisition, the use of the same image field principle of acquisition, that is, the use of technical cameras can be shifted to the function of moving the camera back group of the mural data acquisition, and in the optimal resolution of the lens within the scope of the entire mural are applied to the lens of the best optical resolution can be achieved more than 190MB mural painting quality.

Senna professional digital back, equipped with the world-recognised excellent high-quality compound achromatic Fujinon lens, the mural shooting work, shooting to get a single data volume of 190-288MB (48 million effective pixel number) or so. And the use of SinarP2 + 86H digital back system, equipped with German professional photography lighting, shooting and synthesis of the digital image data volume obtained for the mural in 1 square metre, the number of lenses 2-4 separate overlapping images, the final collection of the image data file obtained is large, high-precision, colour reproduction quasi.(Figure 63)

2) Colour control

Accurate colour reproduction is not only important for the true reflection of the mural itself but also helpful for the later splicing, which to a large extent makes the splicing work easier. In the past, it is unlikely to achieve the accurate grey balance of the whole frame by using the traditional silver salt film, so we often find that there are more or less colour differences between two images in the post-processing, which causes great difficulties to the splicing work. However, after obtaining the image through the Xena digital back, and then introducing the professional colour control technology in the post-processing of the digital image file processing, it is very easy

to achieve the predetermined colour reproduction indexes. The colour reproduction of each digital image and the colour reproduction of each digital image for each file will be Each digital image and the image generated for the special colour description file saved together, no matter where, can accurately restore the colour. For mural capture, restoring the true shape and true colour of the mural is the purpose of the job. If the colour restoration is controlled, it will save a lot of effort in the later splicing work. Every time before formal shooting, a colour card should be shot and this colour card file should be put together with the image files taken and saved. Shooting colour card finished before you can carry out the formal shooting work.



Figure 63 Fresco Digital Capture Colour Card Recognition Scroll"

Source: ZhiYong Li (2024)

3) Splicing and post-production

Post-splicing of several important aspects and factors. Display colour management (splicing with the server with the EIZO and capture with the Apple laptop monitor)

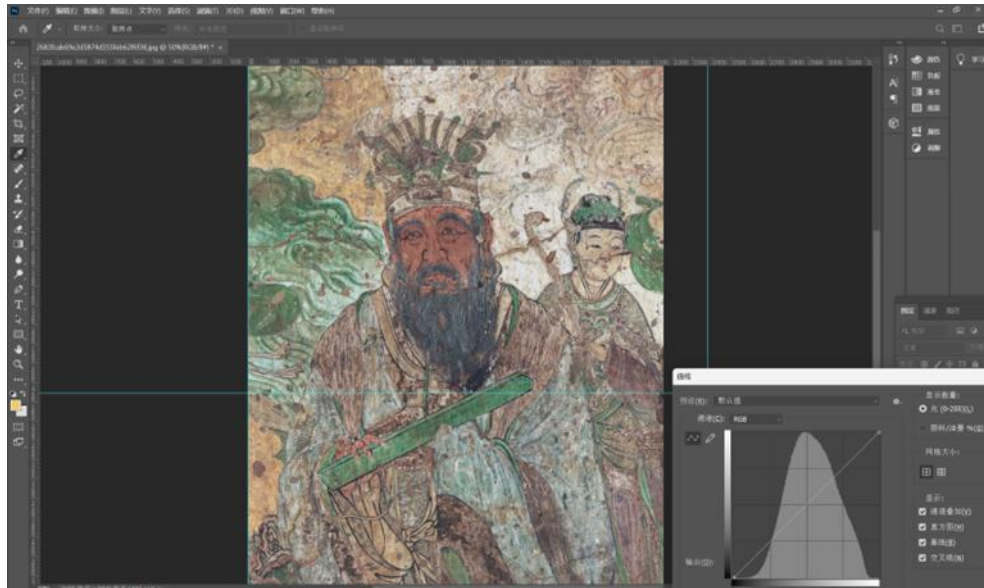


Figure 64 Fresco digital image post-composition and adjustment

Source: Zhi yong Li (2024)

The use of colour management equipment, calibrate the colour of all working monitors, so that the acquisition to the final splicing of the monitor display image colour consistency, in order to achieve the input and the terminal display of the colour reproduction is always the same (Figure 64).

Acquisition site to establish a colour management processing workspace, the monitor will be placed in the ambient light can not be directly exposed to the place, or the use of the monitor hood, in order to work in the area of the monitor colour to achieve the standard state of the image processing software is set to the same: for example, Adobe Photoshop software in the colour restoration.

Raw files of the correct development, digital camera raw files need to focus on the key is the image of the grey balance, in order to accurately restore the grey

balance of the image, the acquisition of the need to use the standard colour card, in order to facilitate the later development of the image to find the standard grey.

4) Image clarity

Fresco digital results in the image with 400dpi resolution, in the image of the original resolution to be able to distinguish the details of the fresco; the whole fresco



digital image with no loss of focus, not fuzzy, with a complete, uniform, consistent clarity. The whole fresco can not find obvious traces of splicing, image sampling resolution of not less than 400dpi.

Figure 65 Digital composite image of the west mural of Beiyue Temple

Source: ZhiYong Li (2024)

5) Image colour

The final result of the image in the full range of consistent light intensity light intensity of the full range of changes in 10% or less, the final image of the fresco exposure can clearly distinguish between the fresco image of a variety of colours and details.

4.3.2.4 Mid-term production

(Ms Zhang , 2024, interview) said that in the process of constructing a 3D animation scene, it is necessary to give full consideration to important components such as the construction of the scene space, the expression of compositional forms,

and the structural relationship between models. Three-dimensional model scene construction uses three-dimensional modelling software to create a virtual space to display the cultural symbols, cultural connotations and values of the Beiyue Temple murals. The three-dimensional modelling software involved in this paper is animation three-dimensional production software. Creating a virtual real space, the model produced can be combined and constructed by digital to create a virtual scene that conforms to reality and highly restores reality. Full then, when constructing a virtual scene space, it is necessary to consider the size, colour, shape, material and other details of the model to ensure the authenticity and credibility of the created scene.

Establishment of three-dimensional animation of the Beiyue Temple murals, firstly, complete the acquisition and synthesis of digital murals, and then carry out the three-dimensional production of the main hall of the Beiyue Temple, the Hall of Deining and the acquisition of the digital map of the murals for the animation of the synthesis of the production.

Production of three-dimensional animation digital mural art, the first to understand three-dimensional animation digital mural, as - emerging wall art form, it contains rich dimensions. As 3D digital mural is a composite of technology and art as a means of communication As 3D digital mural is a composite of technology and art as a means of communication, its conceptual definition is constantly changing in its rapid development, and the art theory community has not yet made a A definitive and authoritative definition has yet to be made by the art theory community. The definition of 3D digital mural in this thesis is to satisfy the purpose of 3D digital mural theory research. painting theory research for the purpose of this thesis. The so-called 3D animation digital mural refers to the information culture as the soil, digital technology as the basis, and human multi-sensory organs as the platform, through interactive behaviour. Organs as a platform, through the way of interactive behaviour, combined with the laws and methods of art design, to create the process of immersive art environment works.

It is the process and result of creating an immersive art environment through interactive behaviors, combined with the laws and methods of art design, so as to embrace and realize people's illusory imagination. Compared with traditional murals, 3D animation digital murals emphasise more on cultural values as the starting point to achieve an environment.

1) Introduction to the software AUTODESK 3D MAX

3D Studio Max, often abbreviated as 3ds Max or MAX, is a PC-based 3D animation rendering and production software developed by CAD software, whose predecessor was the DOS-based 3D Studio series. Its predecessor is the 3D Studio series of software based on the DOS operating system, and the latest version is 2012. Before the appearance of Windows NT, industrial-level CG production was monopolised by SGI graphics workstations. 3D Studio Max+Windows NT combination immediately lowered the threshold of CG production, preferred to be used in the animation of computer games, and then further began to participate in the production of special effects for film and television. (Chen, S., & Wang, 2023)

3ds Max is not an easy software to become proficient in, it requires time and dedication to learn and practice. For beginners, don't expect to master all the complex operations and functions of the software in a very short time, it requires a lot of practice. 3ds Max modelling tools are like a treasure chest, on the one hand, it provides a very wide range of modelling tool components, which is the main reason for its popularity in the game industry; on the other hand, it also provides Nurbs sheet modelling tool components, which can start to meet the needs of different models. On the other hand, it also offers the Nurbs sheet modelling toolkit, which can start to meet the needs of different models. 3D MAX also provides better tools for rendering. In past versions, 3ds Max was released with an inline renderer based on scanline algorithms, and since 3ds max 5.0, ray tracing rendering algorithms in the form of Lightscape have been added. The latest version of 3ds Max has been further improved to include the Mental Ray renderer. So it's safe to say that the 3dsmax package is truly

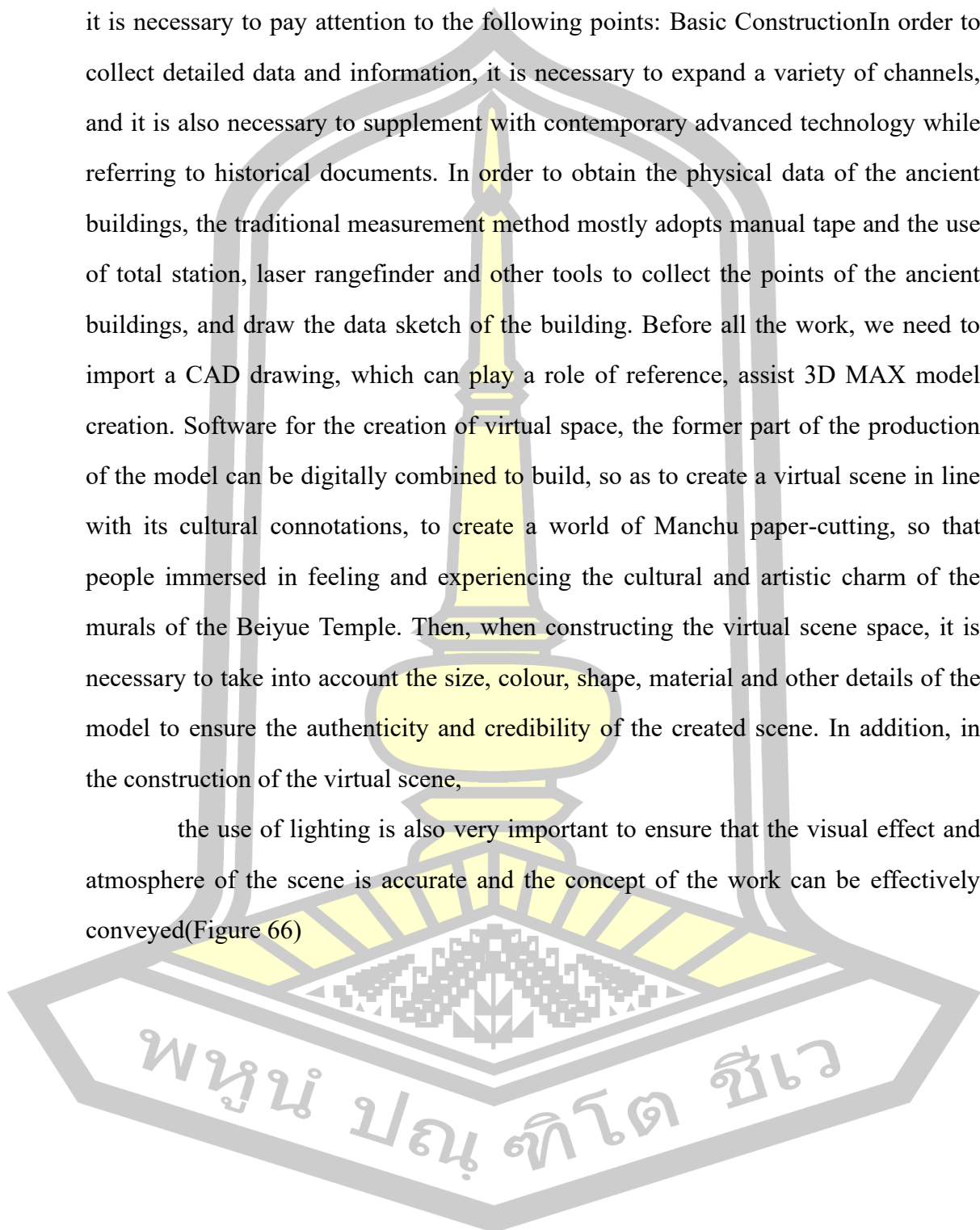
at the cutting edge of rendering technology. Of course, not all tools are available in the 3D MAX software, but as some of the tools we often need, we can also use plug-ins, such as Vray, ForestPro, TreeFactory, and so on. 3D animation production is a multimedia computer as a tool, integrated literature, aesthetics, dynamics, film art and other multidisciplinary products. In practice, it requires multi-person co-operation, bold innovation, continuous improvement, close integration with social reality, reflecting people's needs, and advocating justice and harmony. As a professional in the field of real estate, architectural planning and design, and film and media - 3D animation industry, with its outstanding technical advantages and forward-looking service consciousness, to provide a full range of integrated solutions for customers from all walks of life, to promote the perfect realisation of their dreams. Our partners in the 3D animation industry cover a wide range of fields such as real estate, media, planning and design, and marketing planning, etc. We create the best input and output through the excellent media combination. Through the excellent media combination to create the best input-output ratio, to create greater value for customers. (Zhu, J., & Lin, 2017)

2) Architectural 3D modelling

Architectural renderings and architectural animation scene creation need to establish the main model. The biggest difference is that the rendering can only render the main building, most of the scenery and so on can be added later using Photoshop software, so the rendering time is relatively short, and in the post-processing can be done on the screen to make great adjustments; Architectural animation in addition to the establishment of the main building outside the creation of the environment, trees, scenery, etc., which is for the performance of the machine as well as the final rendering of the output time is also a test. This is also a test for the machine performance and the final rendering output time. Model for the whole animation provides the most primitive material, use what method to modeling no limit, but in order to make the model more in line with the requirements of the animation, so that

they can spend more energy on animation production, rather than finishing the model, it is necessary to pay attention to the following points: Basic Construction In order to collect detailed data and information, it is necessary to expand a variety of channels, and it is also necessary to supplement with contemporary advanced technology while referring to historical documents. In order to obtain the physical data of the ancient buildings, the traditional measurement method mostly adopts manual tape and the use of total station, laser rangefinder and other tools to collect the points of the ancient buildings, and draw the data sketch of the building. Before all the work, we need to import a CAD drawing, which can play a role of reference, assist 3D MAX model creation. Software for the creation of virtual space, the former part of the production of the model can be digitally combined to build, so as to create a virtual scene in line with its cultural connotations, to create a world of Manchu paper-cutting, so that people immersed in feeling and experiencing the cultural and artistic charm of the murals of the Beiyue Temple. Then, when constructing the virtual scene space, it is necessary to take into account the size, colour, shape, material and other details of the model to ensure the authenticity and credibility of the created scene. In addition, in the construction of the virtual scene,

the use of lighting is also very important to ensure that the visual effect and atmosphere of the scene is accurate and the concept of the work can be effectively conveyed(Figure 66)



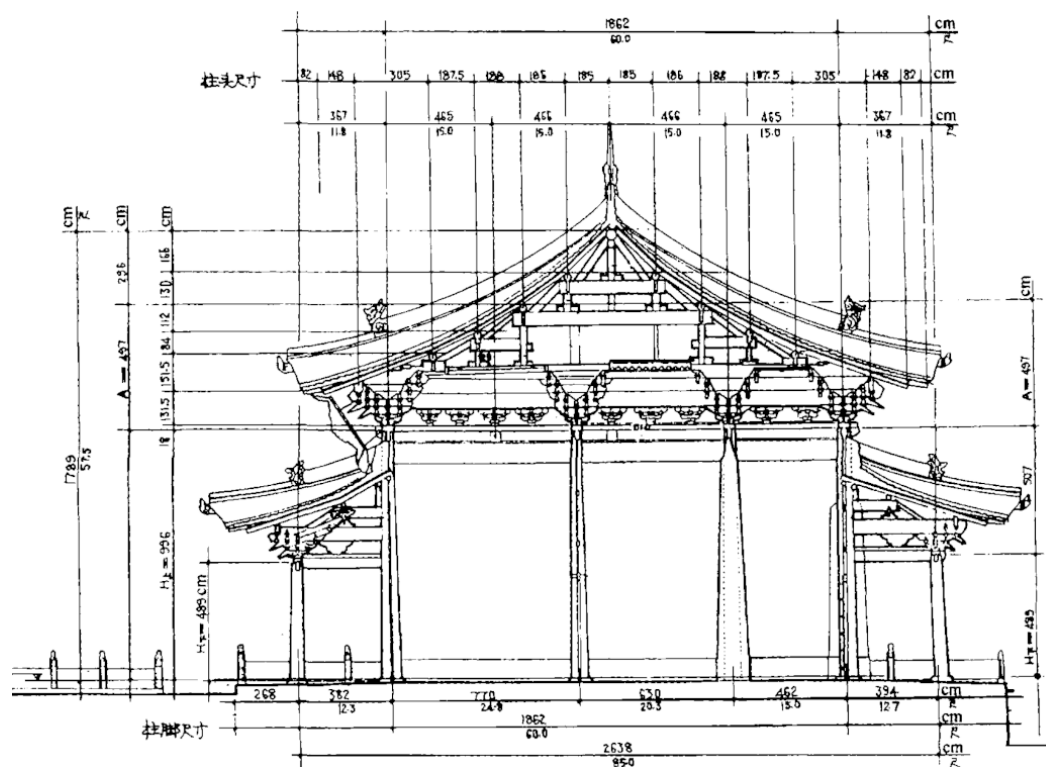
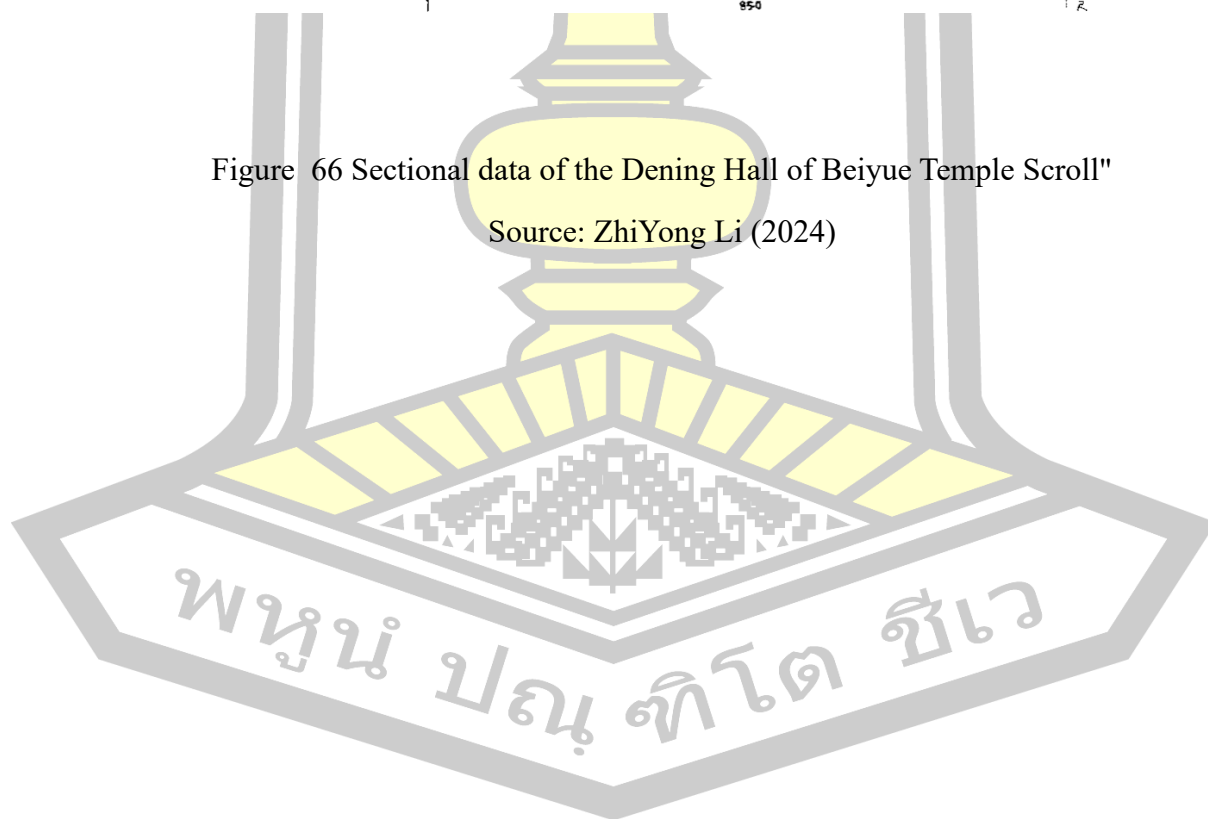


Figure 66 Sectional data of the Dening Hall of Beiyue Temple Scroll"

Source: ZhiYong Li (2024)



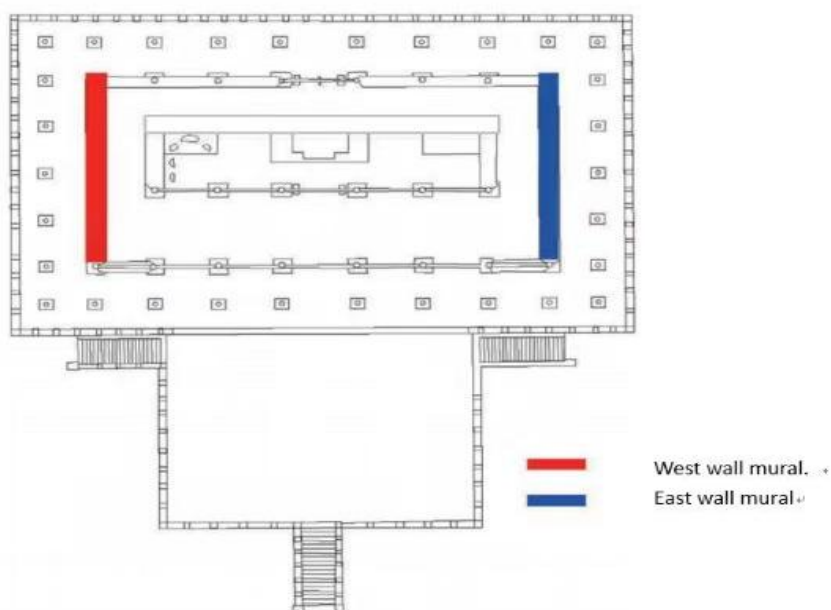


Figure 67 CAD drawing of the cross-section data of the Dening Hall of Beiyue Temple Scroll"

Source: ZhiYong Li (2024)

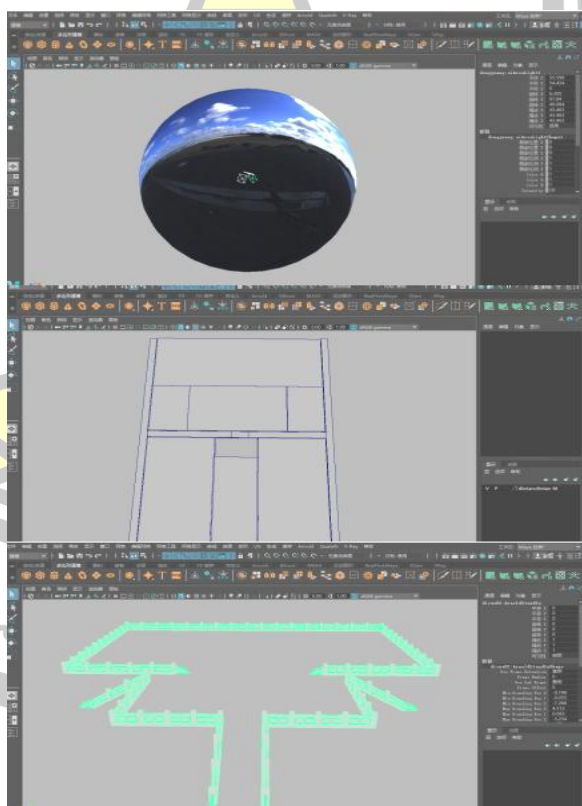


Figure 68 Beiyue Temple 3D MAX model creation diagram

Source: ZhiYong Li (2024)

The production of 3D animation models is an important part of the mid-term production work. The model performance in the creative process mainly involves the production of models based on conceptual design, and the production and deepening of modelling is based on the presentation of details and changes in various aspects based on dimensional changes. 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 three-dimensional model is based on the theory and cognitive method of traditional modelling art, with the technical realisation characteristics as the clue, the presentation of the model is based on the combing and induction of the ontological characteristics of the artistic symbols, and the modelling method of the model has to be in line with the technical characteristics of the rules of three-dimensional composition. In three-dimensional animation, the production of architectural models is mainly embodied in the construction of the relationship between the language structure of form and body. (Figure 68). Form refers to the outer edge modelling and contour of the object, and structure refers to the collocation and arrangement of the overall parts, and the inner structure and combination of artistic symbols. Relationship is an important element of modelling's impact on the senses, playing a role in defining the relationship between the whole and its parts and determining the visual feeling of modelling. In the three-dimensional coordinate system, there are no two isolated concepts of form and structure, and they change and interact with each other at any time with different observation angles. Guiding the visual coordination between the two through understanding the transformation of dimensions is the essence of the work and research on 3D model representation. (Deng, 2019)

The scene of the 3D animation of the Scroll of the Gods of Beiyue includes the direct creation of the virtual space visible on the screen and the virtual imaginative space extended through the perception of the artistic value of the executed object. Creating a sense of space is an important purpose of scene performance, and the work

of art serves as a manifestation of the creator's subjective consciousness. In the creation of three-dimensional animation of "Everything has a spirit", the virtual space scene constructed after the materialisation of cultural symbols, with the "Hall of Gods" scene as the main spatial expression, designed and constructed with the architectural details of the main hall of the Beiyue Temple restored, including arches, pillars, roof ridges, floors, walls, murals, doors and windows of the hall, etc., which constitutes a virtual reality Beiyue Temple Denning's Hall. Temple De Ning's Hall. This figurative form gives the sense of space an aesthetic meaning in the work. The almost infinite changes in the form of the constructed scene space make the existence of the sense of space present the dual attributes of figurative and mural painting, and at the same time, it also gives the scene space a wireless imagination and artistic charm.

In the process of scene construction, grasping the lens language is also an important link. Comprehensive scene integration and lens design techniques can theoretically achieve unlimited expansion of creative space. This feature itself conforms to the relationship between the camera lens framing range and the real world space - extracting and defining the local. The camera viewfinder determines the boundary of the picture, extracts and emphasizes the picture content from the overall scene, and connects the camera movement with the lens group to achieve direct or indirect connection between the content inside and outside the picture, and determine the integrity and objectivity of the internal and external space. Through the changes in the time dimension and the comprehensive experience of the perception 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 image resolution, breaking through the limitations of two-dimensional picture drawing technology. Lens movement can be expressed in a wide range from macro to micro, and the sense of space can be infinitely expanded. (Deng Qiang, 2023) The picture presented by each lens language

must be expressed with a concept that fits the theme. The composition of the picture, the tendency of movement, the relationship between form and light and shadow, the color tone of the picture and other factors are all to create a sense of space.

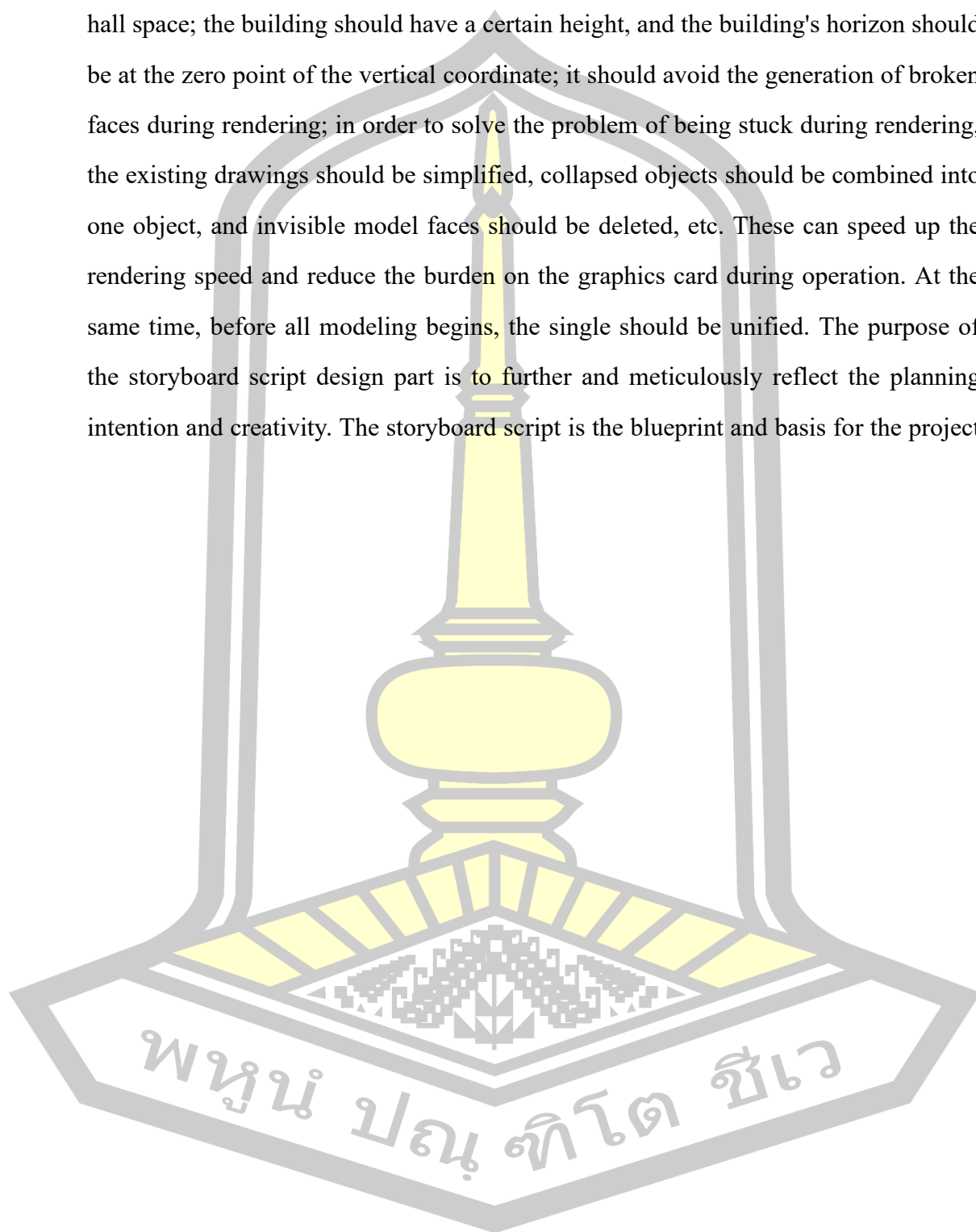
Regarding the scene composition design of 3D animation design, the selected composition is set according to the corresponding data obtained from the interview with the paper-cutting artist. It is not difficult to see from the history of paper-cutting in the first chapter of the article that paper-cutting art is famous for its unique symmetrical and balanced composition. In the typical works of Yiwu Lushan Manchu paper-cutting, the use of symmetrical elements runs through the whole process, creating a harmonious visual effect. Paper-cutting artists achieve this symmetry by arranging patterns, shapes and lines symmetrically along the central axis and 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 people a visual feeling of auspiciousness and reunion. When interviewing paper-cutting artists, the techniques and importance of paper-cutting composition were discussed in depth.

On the basis of symmetry and balance, changes and contrasts will also be cleverly used to enhance the visual impact and layering of the work. Composition is not an unchanging rule, but a flexible creative method that can be adjusted according to different themes and emotions to be expressed. In this interview, the paper-cutting artist expounded on the importance of paper-cutting composition in the artistic creation process. (Song, Interview, 2024)

(2) Combination of building parts

In 3D MAX, each ball needs to be assigned a material and then pasted into the model, but no attributes (such as highlights, highlight range, etc.) need to be added. For example, if a building is assigned the relevant material and background map as shown in Figure , it will appear as Figure 3. In the process of building modeling, it should be noted that the invisible facades should be closed with walls to

prevent light from penetrating through the doors and windows and revealing the main hall space; the building should have a certain height, and the building's horizon should be at the zero point of the vertical coordinate; it should avoid the generation of broken faces during rendering; in order to solve the problem of being stuck during rendering, the existing drawings should be simplified, collapsed objects should be combined into one object, and invisible model faces should be deleted, etc. These can speed up the rendering speed and reduce the burden on the graphics card during operation. At the same time, before all modeling begins, the single should be unified. The purpose of the storyboard script design part is to further and meticulously reflect the planning intention and creativity. The storyboard script is the blueprint and basis for the project



manager to organize the completion of the project. Before production, the script planning and design should be fully done. The storyboard script table is filled in by the planner and the project manager, and all the artistic ideas of the planner are integrated into the storyboard script, fully reflecting the creative ideas and artistic style of the planner. (Figure 69)(Figure 70)

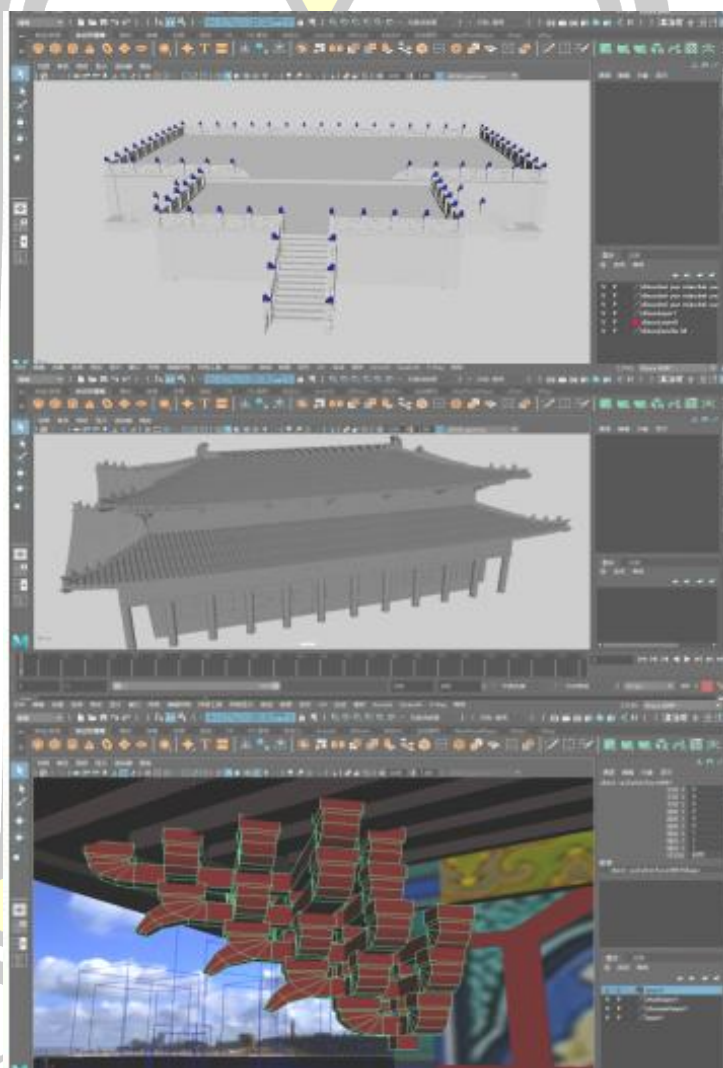


Figure 69 Beiyue Temple 3D max model building parts assembly

Source: Zhi yong Li (2024)

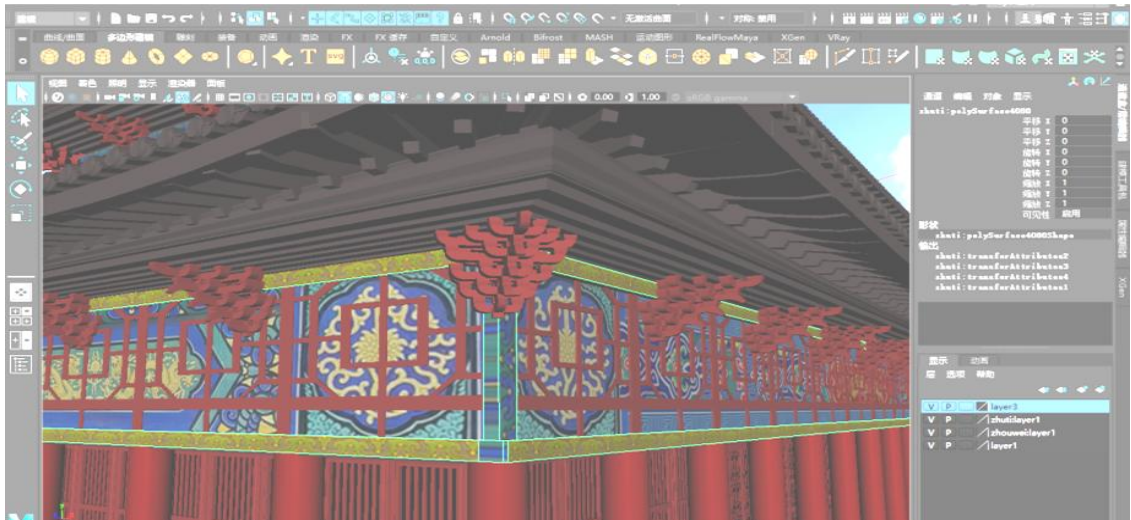


Figure 70 Beiyue Temple 3D max model building parts assembly

Source: Liz Hi (2024)

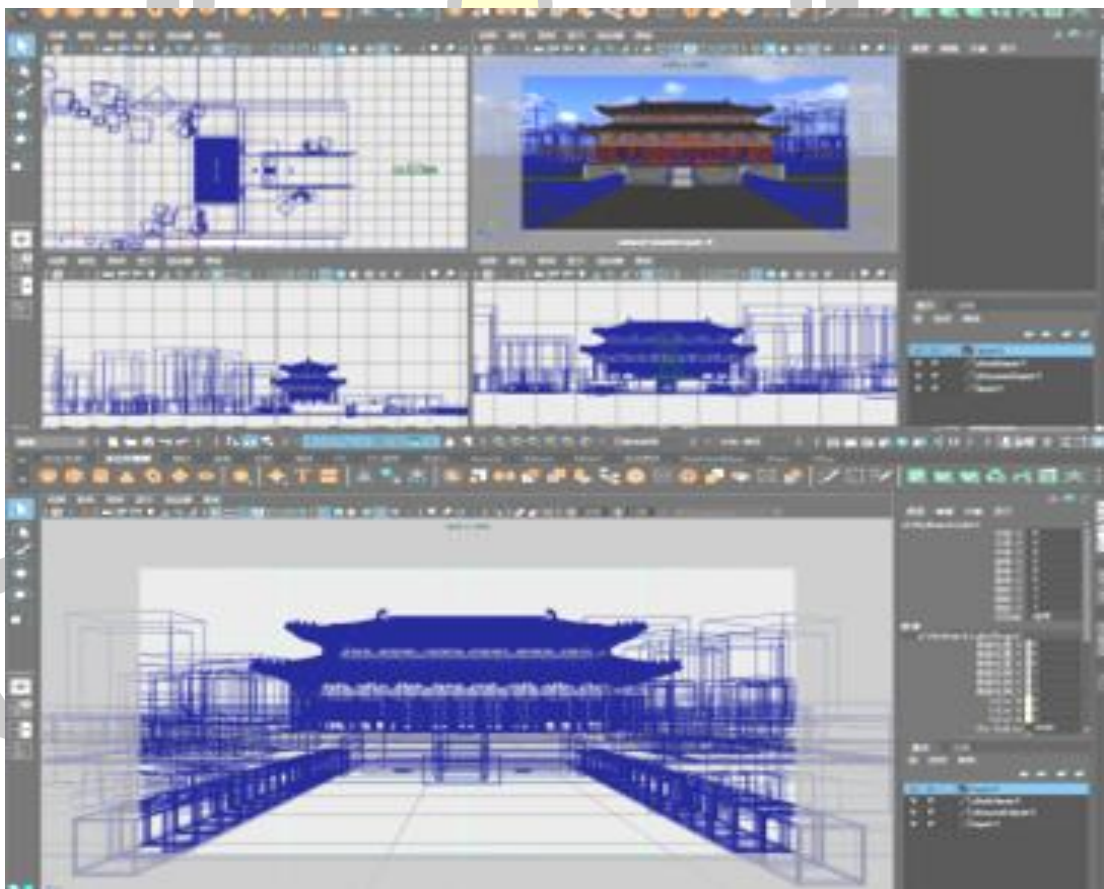
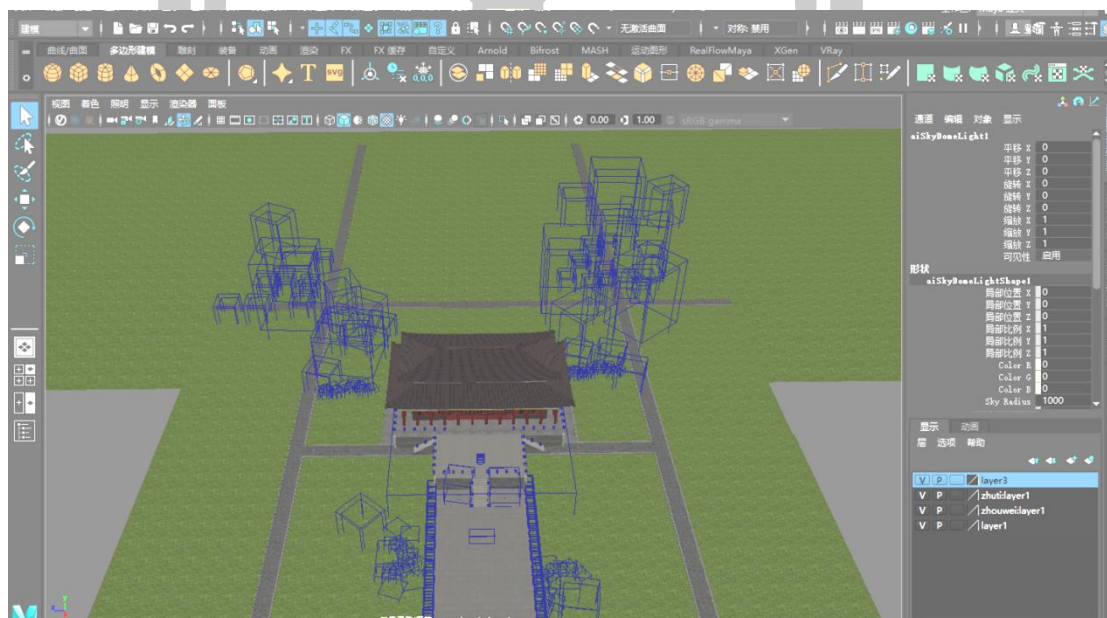


Figure 71 Beiyue Temple 3D max model scene assembly process

Source: ZhiYong Li (2024)

Scene roaming and lighting settings in architectural animation

The modeling of the 3D model making part is that the 3D modeler draws a three-dimensional building model in the computer through the 3D modeling software based on the previous architectural drawings and photo materials. This is a very heavy task in 3D architectural animation. Excellent models are the key and foundation for the success of the project. All objects that appear in the scene must be modeled, and the personnel in charge of model making in the group will make them. Model making is divided into two parts. The first is the building that expresses the theme. The second is that the models of auxiliary buildings, distant view buildings, trees, street lights, cars, people, etc. also need to be established and organized in the 3D scene.(Figure



71)

Figure 72 Top view of Beiyue Temple 3D max model scene

Source: ZhiYong Li (2024)

In architectural animation, camera movement animation is the main part, which is one of the reasons why many people call architectural animation architectural browsing animation. In architectural animation, the positioning and style of each shot are reflected by the camera. A good work must have a good camera with strong visual impact, so that it can leave a deep visual effect on the audience. In 3D

MAX, cameras are divided into target cameras and free cameras, and different cameras have different functions. When making camera movements in architectural animation, it is easy to produce two-point perspective deformation. In order to solve this camera deformation problem, 3ds max provides us with a very suitable tool camera correction to solve the two-point perspective problem. First, you need to create a camera, select the camera, and right-click the mouse. In the pop-up right-click menu, select Apply Camera Modifier. After adding this modifier, you can make corrections in quantity and direction. Max's camera can achieve the real effect of stepless zoom. When making, you can make full use of this function to create some lens special effects [3]. The function of the target camera is similar to that of the free camera, but it has two objects, the first object is the camera and the second object is the target point. The camera always stares at the target point. Take the following figure as an example. The following figure uses the target camera because the target camera has a better viewing angle and is easier to control.(Figure 72)

In 3D MAX works, there is another indispensable thing, and it is very difficult to control, which is lighting. The quality of lighting settings will directly affect the visual effect of the work. 3D MAX also provides users with many different lights, such as target spotlights, target parallel lights, free spotlights, free parallel lights, floodlights, skylights, mentalray area floodlights and mentalray area spotlights, etc. In indoor renderings, the projection function of lights can be used to make the wall bright in some places and dark in some places, thereby enhancing the sense of reality. Animation is based on the principle of human vision to create moving images. When a series of related still images are watched continuously and quickly within a certain period of time, continuous action will be felt. Each single frame is called a frame. Keyframe animation is the most widely used animation method in computer animation. The definition of keyframe is a keyframe picture used to describe the displacement, rotation, scaling, scaling, deformation transformation and light camera status of a model.(Figure 73)

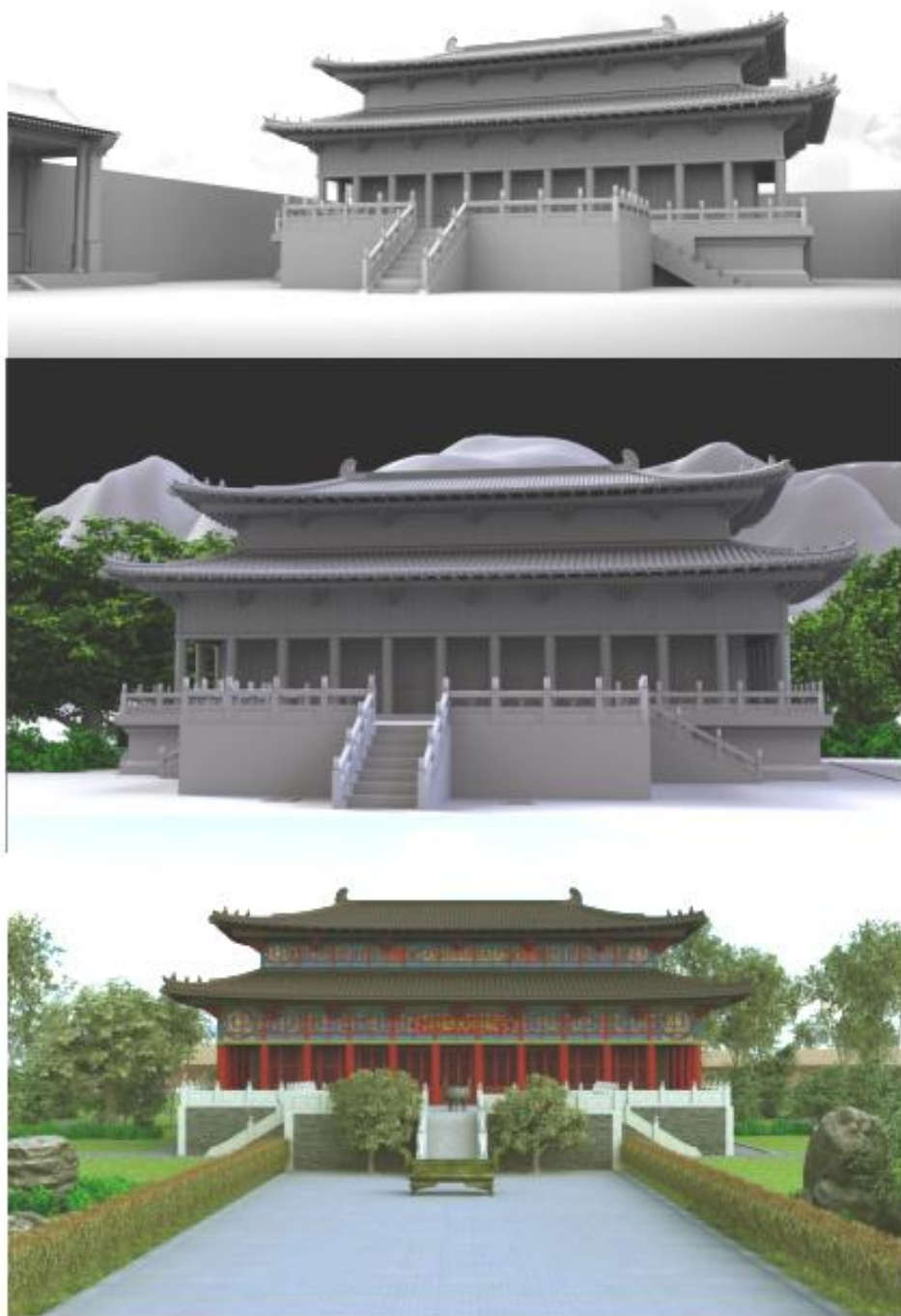


Figure 73 Lighting rendering process of Beiyue Temple 3D max architectural mode 1

Source: ZhiYong Li (2024)

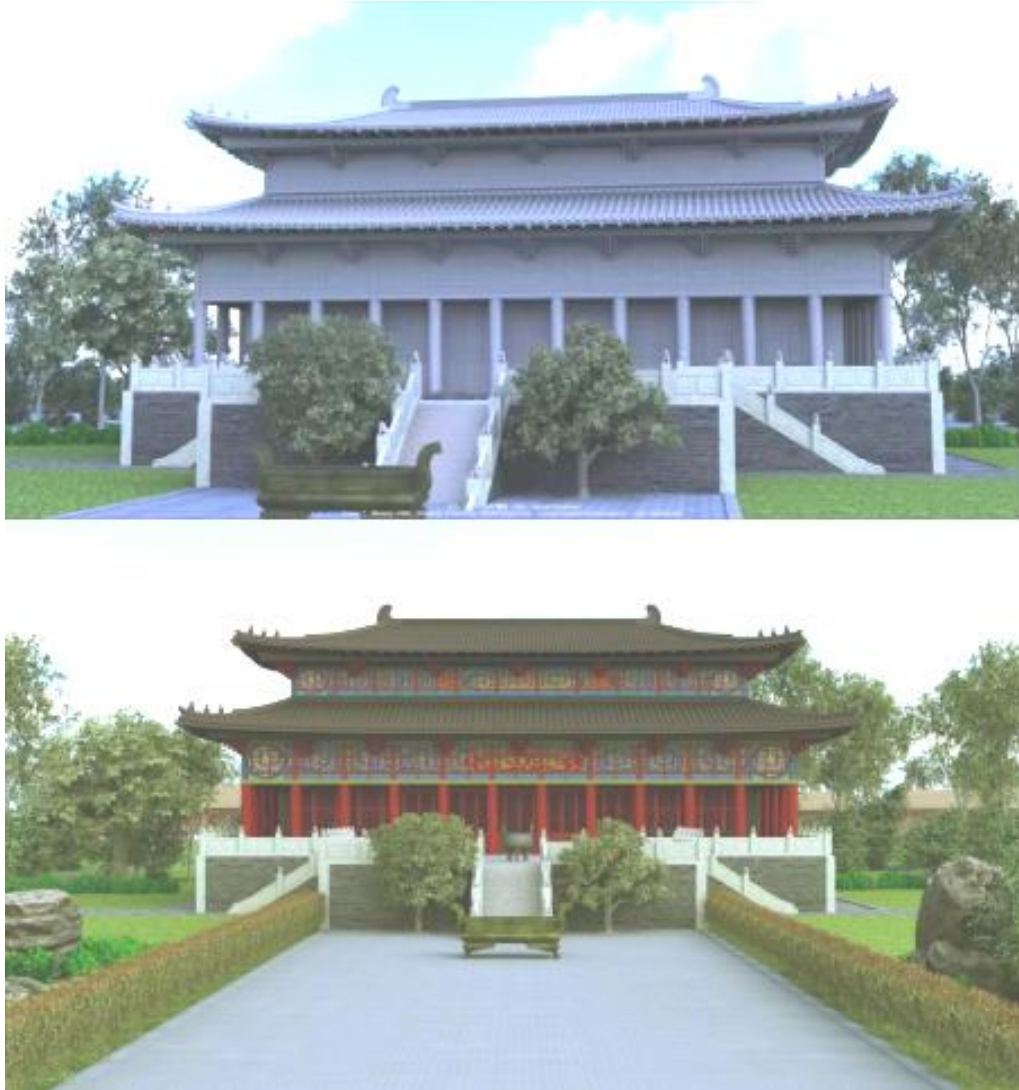


Figure 74 The internal production process of the Beiyue Temple 3D building
Source: ZhiYong Li (2024)

(4) Architectural animation production

Architectural animation virtual film works must have a distinct and prominent theme design in order to attract people. Therefore, the conception and creation before production are very important. Otherwise, it is far from enough to rely solely on excellent three-dimensional rendering effects. The conception and design mainly determines the architectural aesthetic expression focus to be expressed in the work. For each animation work, we will be organized by the project manager. The production team will collectively discuss and research the animation expression plan. Professional planners will produce animation scripts based on creative ideas, express

them in the form of text, and simply express the ideas in the form of single-frame drawings in the form of storyboard sketches. If you are just making some simple animation content, then you only need to form a rough outline of the script in your mind. If you want to complete some larger architectural projects that require cooperation from multiple fields and multiple people, then we will draw more detailed sketches for mutual communication (Figure 74)(Figure 75)..

4.3.2.5 Post-production synthesis

(Mr Kang, 2023, Interview)It is emphasised that a very important part of the visual effect of the final shot in animation production is improved through the post-compositing process. The design concept of layered compositing in post-production compositing originated in American animated films. The relationship between background and subject in animation post-compositing is crucial. Adjustment, processing and integration of the different layers of image elements that make up an image in the compositing process. Three-dimensional animation rendering output requires high equipment, which affects the related production effect.

1) Animation synthesis of the murals in the Denying Hall of Beiyue Temple

(1) Create a new project: Open After Effects and create a new project. You can select the settings related to the resolution, frame rate, and duration of the project.

(2) Import materials: In the project panel, import the previously produced 3D modeling materials and rendered video materials. You can drag the materials into the project panel or use the "Import" option in the "File" menu.

(3) Create a synthesis: In the synthesis panel, create a new synthesis of 3D animation. Synthesis is the main workspace of the animation project, where you can combine materials, create animations, add special effects, etc.

(4) Add materials to the synthesis: Drag the imported pre-rendered video materials into the synthesis panel, and they will appear in the timeline.

(5) Add effects: 3DMAX software provides a wealth of effects and presets that can be applied to materials or synthesis to create special effects. You can add text animation, color correction, blur, mask and other effects.

(6) Create keyframe animation: Use keyframes to create animation effects. Select a property (such as position, rotation, opacity) on the timeline and set a

keyframe, then change the value of the property at different time points. After Effects will automatically interpolate between keyframes to create a smooth animation.

(7) Audio processing: If you have audio material, you can import it into the composition and edit and synchronize the audio as needed. You can add audio effects, fade in and out, audio layers, etc.

(8) Rendering and Output: After completing the 3D animation, use the 'Add synthesis to renderqueue' option in the 'Composition' menu to configure the rendering settings and then start rendering the final 3D animation video file.



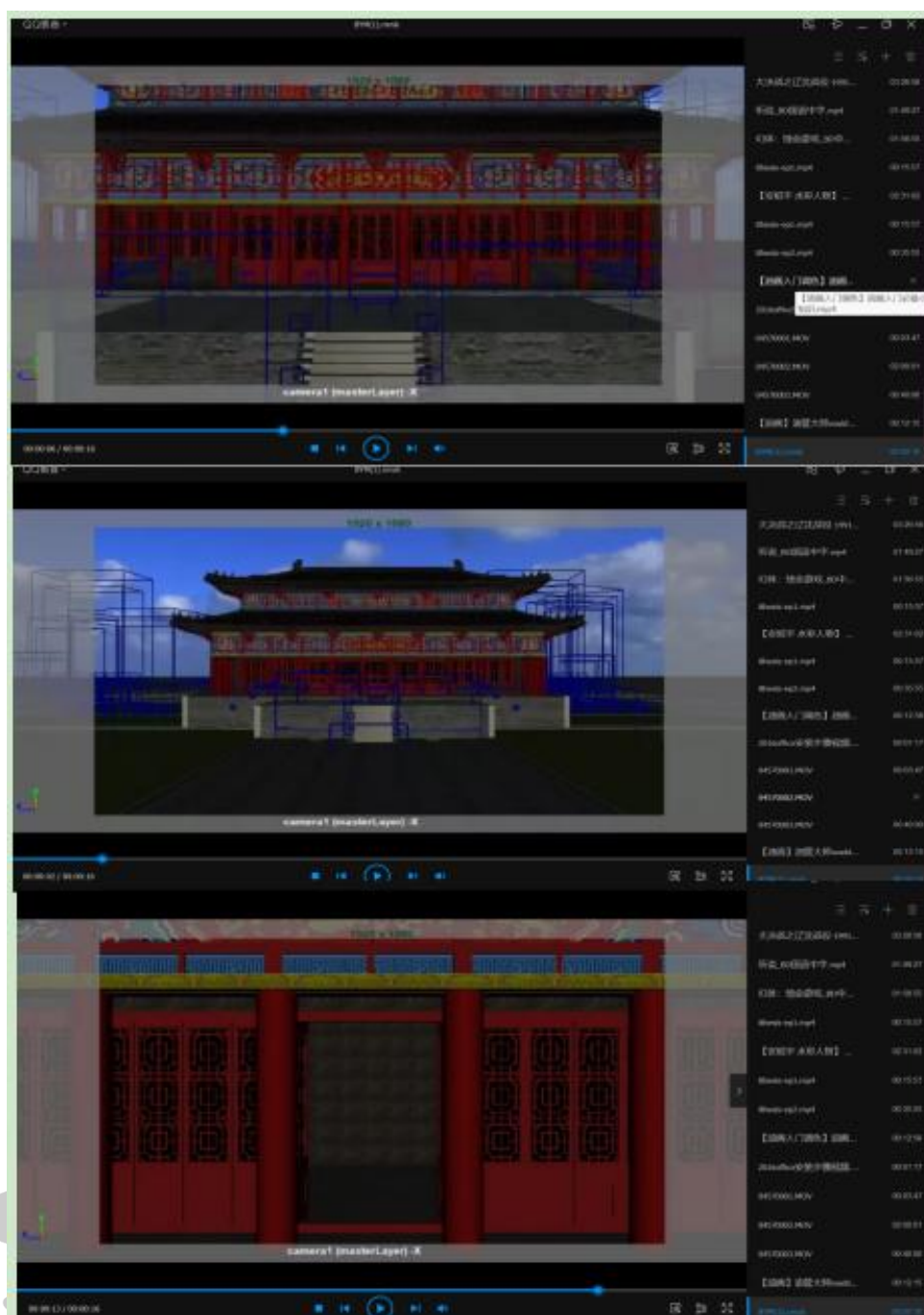


Figure 75 Beiyue Temple 3D animation video demonstration

Source: ZhiYong Li (2024)

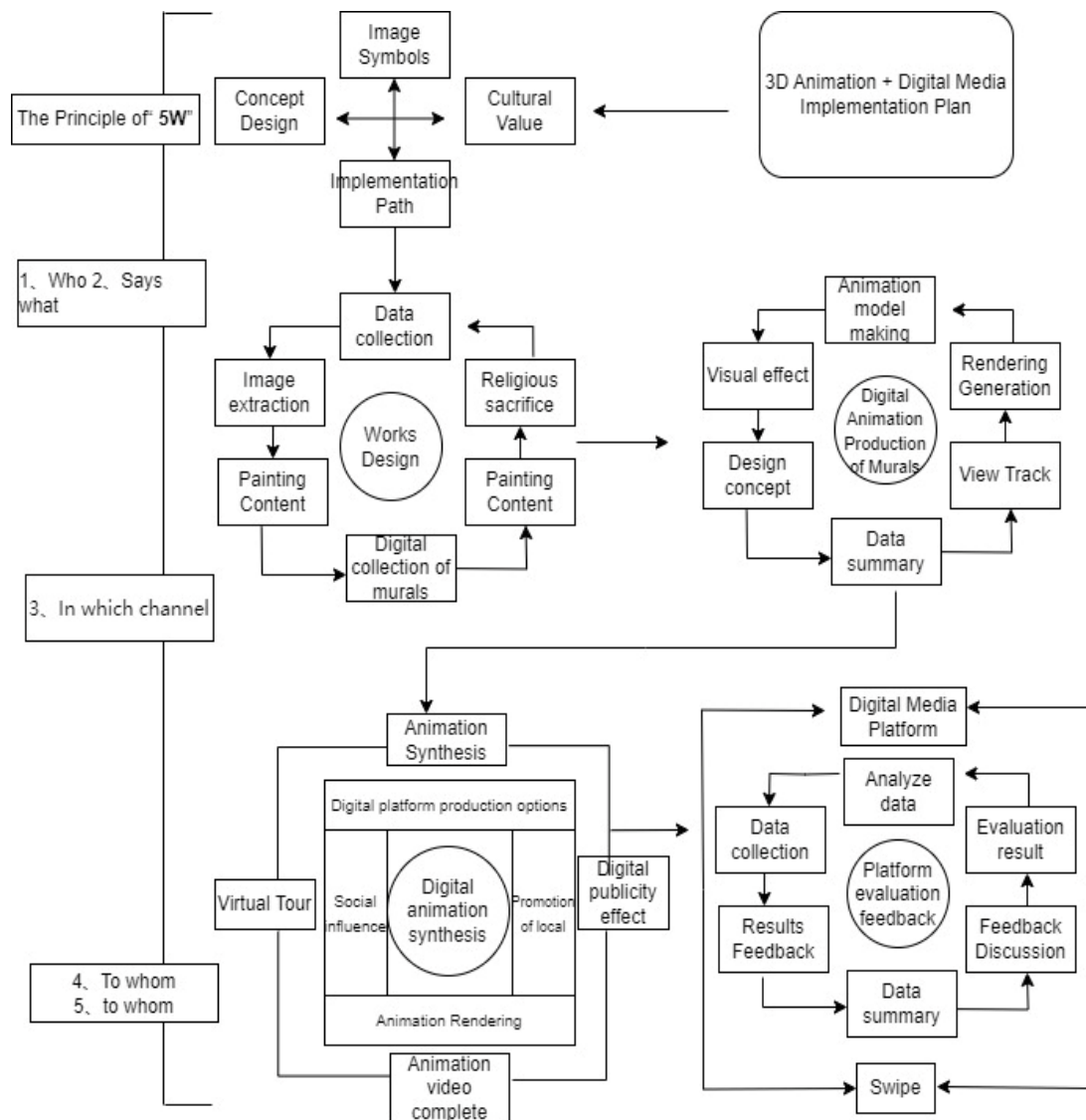


Figure 76 Practice Path Model for 3D Animation (Digital Media) Creation

Source: ZhiYong Li (2024)

The synthesis and editing steps of 3D animation shots need to be mentioned here. The more complex the lens effect of aesthetic presentation, the longer it takes for the audience to understand the visual information conveyed by the lens and picture and the content of the script development. Therefore, a very important link in the overall production is to adjust the editing time of key shots in the post-editing. The lens, background, and lighting design of 3D animation are more complex, and the visual design sense is stronger. The post-production editing and synthesis of 3D animation is a key step in 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.

Establish a set of virtual reality scenes to realize the dissemination of murals. A virtual panoramic simulation environment created by a computer through three-dimensional digital means is based on vision and hearing. It shows the mirror reproduction of the real world or any completely artificially created, thinking-free overall environment. The experimenter is completely immersed in it. Through certain technical means, various forms of interaction can be carried out with the virtual environment or objects in the space. Immersive interactive virtual reality is an experience method that covers the field of vision, such as VR/AR, which has an immersive feeling, can walk in space, can interact with body senses, and is based on spatial information rendered by a virtual reality engine. The common point of the environmental perception system in VR and AR scenes is that, whether it is collecting scenes in the virtual world through simulated sensors or collecting scenes in the real world using real sensors, after obtaining the scene data, the environmental perception system needs to model the scene and calculate the real-time positioning of the moving subject. On this basis, the system can provide pathfinding guidance for the moving subject in the VR/AR scene. However, the environmental perception system in VR and AR scenarios still has its own directions worth exploring. For example, in VR applications, researchers need to focus on restoring sensors, moving subjects, and interaction models in the real world, and at the same time, they need to consider how to efficiently reconstruct the scenes that need to be tested. In AR applications, researchers need to focus on improving the accuracy of positioning and reconstructing scenes in different scenarios, because this is the basis for improving the user experience of AR applications.

Production Summary

The environmental perception system in VR/AR environments can collect, identify, analyze and interpret environmental information through sensors, cameras, lidar, depth cameras and other devices, providing a more intelligent, natural and realistic user experience for virtual reality and augmented reality technologies. Moreover, the environmental perception system in VR/AR scenarios is a technical direction with broad application prospects and is in a state of rapid development and

progress. More and more research institutions and technology companies have joined this research direction and invested a lot of manpower and material resources to explore and study this technology, and have achieved many significant results. Some important problems faced by environmental perception systems are that environmental perception systems in real scenarios are difficult to verify in complex and unknown environments, and it is difficult to maintain system performance when there are more parallel tasks. Therefore, the environmental perception system in VR/AR scenarios is still effective, which is a very meaningful research direction (Zhu Shuliang 2023)

The characteristics of virtual roaming are as follows: (1) Interactivity. Interactivity in virtual reality technology refers to the ability of users 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 user gestures, such as waving, clenching fists, grabbing, etc., and convert these gestures into interactive operations in the virtual environment, allowing users to directly interact with the virtual space with their hands, realizing gesture recognition and tracking. Applying it to the inheritance and protection of 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 the virtual environment. Virtual reality uses realistic images, sounds and tactile feedback to make users feel as if they are in a real or fictional environment. Through stereo sound technology, virtual reality can simulate sound sources from different directions, allowing users to feel that the sound comes from a specific location in the virtual environment, enhancing auditory immersion. Well-designed virtual reality scenes and plots can arouse

These virtual experiences are designed to arouse emotional resonance among users, allowing users to have emotional connections with the characters and stories in the virtual environment and increase users' immersion. Virtual reality technology emphasizes a fully immersive experience, separating participants from the real environment and immersing them in the virtual world and generating interaction. (3) Conceptuality. Creators can use virtual reality technology to construct images of the real world or to construct a world they imagine in their minds. Users can roam in the

environment constructed by the creator, switch perspectives at will, and move around at will, using the virtual environment to unleash their imagination and creativity.

This study applies virtual roaming technology to virtual reality (VR) technology. Virtual roaming is an immersive experience that allows users to immerse themselves in a virtual environment, move freely and explore. Its goal is to create a feeling of being 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 in it immersively and feel the real visual experience brought by the virtual environment space. In the application of digital animation in the promotion and protection of Beiyue Temple murals, the interactive technology in virtual roaming is integrated into three-dimensional animation, allowing the audience to immerse themselves in the world of paper-cutting art. Such a virtual world can provide a more vivid, unique, interesting and intuitive way of cultural heritage inheritance and protection, so that more people can actively pay attention to and understand Beiyue Temple murals. All scenes can be achieved through virtual roaming, with a three-dimensional, immersive and interactive experience effect, allowing people to truly and vividly feel the atmosphere and charm of cultural heritage. The involvement of virtual roaming in three-dimensional animation is of great significance to the inheritance and protection of cultural heritage.

The application in the Beiyue Temple mural painting publicity and protection, the virtual roaming in the interactive technology into the three-dimensional animation, so that the audience immersed in the world of paper-cutting art, such a virtual world can provide a more vivid, unique, interesting, intuitive cultural heritage inheritance and protection, so that more people take the initiative to pay attention to the Beiyue Temple mural painting. All scenes can be achieved through virtual roaming, three-dimensional, immersive, interactive experience effect, so that people can truly and vividly feel the atmosphere and charm of cultural heritage.

Virtual roaming intervenes in three-dimensional animation, which is of great significance to the inheritance and protection of cultural heritage, and is elaborated below:

(1) Inheritance and protection of cultural heritage: virtual roaming achieves inheritance and protection of cultural heritage by simulating and reproducing scenes and performances of cultural heritage. Cultural heritage often includes oral traditions, performing arts, festivals and so on, which are preserved and disseminated in digital form through virtual roaming to prevent their gradual disappearance.

(2) In-depth interactive participation experience: virtual roaming allows users to participate in the presentation of cultural heritage in an interactive way. Users can move freely, explore, and interact with cultural elements in the virtual environment, so as to have a more in-depth understanding and experience of cultural heritage, rather than just passive viewing.

(3) Global Popularisation and Dissemination: Virtual roaming technology can disseminate cultural heritage to all over the world through the Internet, so that people can experience and learn about cultural traditions without having to be physically present, thus promoting the global dissemination and awareness of cultural heritage.

(4) Virtual reconstruction and preservation: Some cultural heritage may be destroyed in reality due to time, environment or human factors; through virtual roaming, these cultural elements can be virtually reconstructed and preserved in the digital environment to ensure their permanent preservation.

(5) Cultural education and inheritance: virtual roaming can be used for education and training to pass on cultural heritage to the younger generation and cultural researchers, and through interactive virtual learning experiences, people can have a deeper understanding and learning of traditional culture.

(6) Promotion of cultural exchange and dialogue: virtual roaming technology can promote exchange and dialogue between different cultures. Through virtual roaming, people can experience and understand the traditions of other cultures, thus enhancing cross-cultural understanding and respect.

(7) Sustainability of cultural preservation: Virtual roaming technology provides a new way for the sustainable protection of cultural heritage. Digitised

cultural heritage can be passed on and continued among future generations without the constraints of time and physical space.

Argues that the transmission and preservation of cultural heritage through the production of digital virtual tours plays an important role. It provides a new way to disseminate and preserve traditional culture through digitisation, interactivity and global dissemination, helping to ensure that these precious cultural elements are passed on to the next generation. At the same time, virtual roaming technologies offer new ways to transmit and preserve cultural heritage. Roaming promotes cultural diversity, exchange and dialogue and helps to establish good communication channels. (Zheng Li Jing, 2024, interview)

4.3.3 Digital Creative Design

(Shi Xin Yue, 2024, interview) argues that cultural creative products, as the presenting carrier of cultural creative design, express the ideological connotation of cultural creative design to the public in a figurative way. The development of cultural creative products of Beiyue Temple murals should not only focus on the connotation and meaning conveyed, but also on the application of the product carrier. Overall, the diversity of cultural and creative products is of great significance to increase the consumer groups, promote the circulation of products, and enhance the popularity of Fenyang Shengmu Temple and the development of cultural and creative design.

Excellent and beautiful product appearance can attract consumers' eyes and promote the development of cultural and creative industries. The development of cultural and creative products welcomed by the public should pay attention to the following issues: First, avoiding the uniformity of products; at this stage, most cultural and creative products are still at the level of designing cultural drawings, without focusing on the diversity of carriers, and most of them are the same as other cultural and creative products, without differentiation. Secondly, the variety of cultural and creative products should be increased. In addition to daily necessities, it is necessary to expand the audience of the products, from the elderly to infants and young children, and to develop interesting and lovely children's products, trendy toys and electronic devices. Overall, the diversity of cultural and creative products is of great significance in increasing consumer groups, promoting product circulation and improving product quality.

Digital creative design, cultural and creative section of the most important, the design of the frescoes in line with contemporary aesthetics of the style of cultural and creative. Beiyue Temple Scenic Area currently more need for some new mural cultural and creative products to enrich their scenic gift shop, and these new products not only need to be unified in style, but also need to make the product map style unity, so that visually more advanced, but also more able to let the consumer to produce inertia thinking, to see this style of products will be able to know clearly, is from the Beiyue Temple Scenic Area gift mall. To the product display page given a slow scrolling animation, to the limited space on the product page for more display, so that consumers realise that the Beiyue Temple mural cultural and creative products can be more, to attract consumers to point into the mall home page for reading, selected goods, you can order through the online shopping form to buy. The Taobao cultural and creative shop of the Palace Museum can categorise goods due to the benefits of Taobao's own functionality, which

This is due to the fact that the Taobao platform can classify products into different categories when the shop sets up the products, and after distinguishing the product categories, consumers can find exactly the products that meet their purchasing needs. For the cultural and creative mall on the webpage, this item of classification is also extremely important. Beiyue Temple Scenic Area's own cultural heritage is the main source of attracting tourists, and within the tourists there are a large number of researchers and scholars, their purpose is to observe, analyse, in-depth study of Beiyue Temple Scenic Area within the cultural products, such as murals on the characters, inscriptions on the text, and for the replica of these cultural relics is the best reference to be able to take away. Still, there should be cultural and creative products that can be closer to consumers' daily life, so that consumers can take them away and keep them as a souvenir. Therefore, when designing the interface of the Cultural and Creative Mall, a distinction was made between daily necessities and collectibles to help consumers distinguish the categories of cultural and creative products they need.

The section of the Cultural and Creative Mall also chooses the same treatment as the museum information, adding the manuscript of the buildings in the Beiyue Temple Scenic Area as the background, which not only ensures the unity of

the style with the previous section, but also gives the monotonous background a sense of aesthetics. Cultural and creative products are essentially designed to meet people's cultural identity needs and entertainment needs, both of which are indispensable. In the existing cultural and creative product design of Fahai Temple, the designers often limit themselves to flat decorative paintings, stickers, refrigerator stickers, mobile phone cases and other uniform designs, which can meet the user's needs for cultural identity, but give people a feeling of tastelessness. Pictures of beautiful creative design does not let the consumer eye, the lack of entertainment creative design is difficult to stimulate the consumer's desire to buy. With the development and progress of science and technology, design concepts are also progressing and updated, as designers can consider their own understanding and artistic processing into the work, to improve the entertainment of the product.

The first step of the design. Firstly, some elements of the mural paintings of the Beiyue Temple were refined, mainly from the east wall, west wall and the main hall of the Beiyue Temple, in three parts. West wall painting of a holy mother dressed in fancy dress in a sedan chair, holding the Ruyi and magic weapon, face beautiful large description of the holy mother following the five mountains of the great emperor travelling to pray for rain scene, extracted from the mural featured in the more popular image of the public favourite image of the design of the well.(Figure 77)

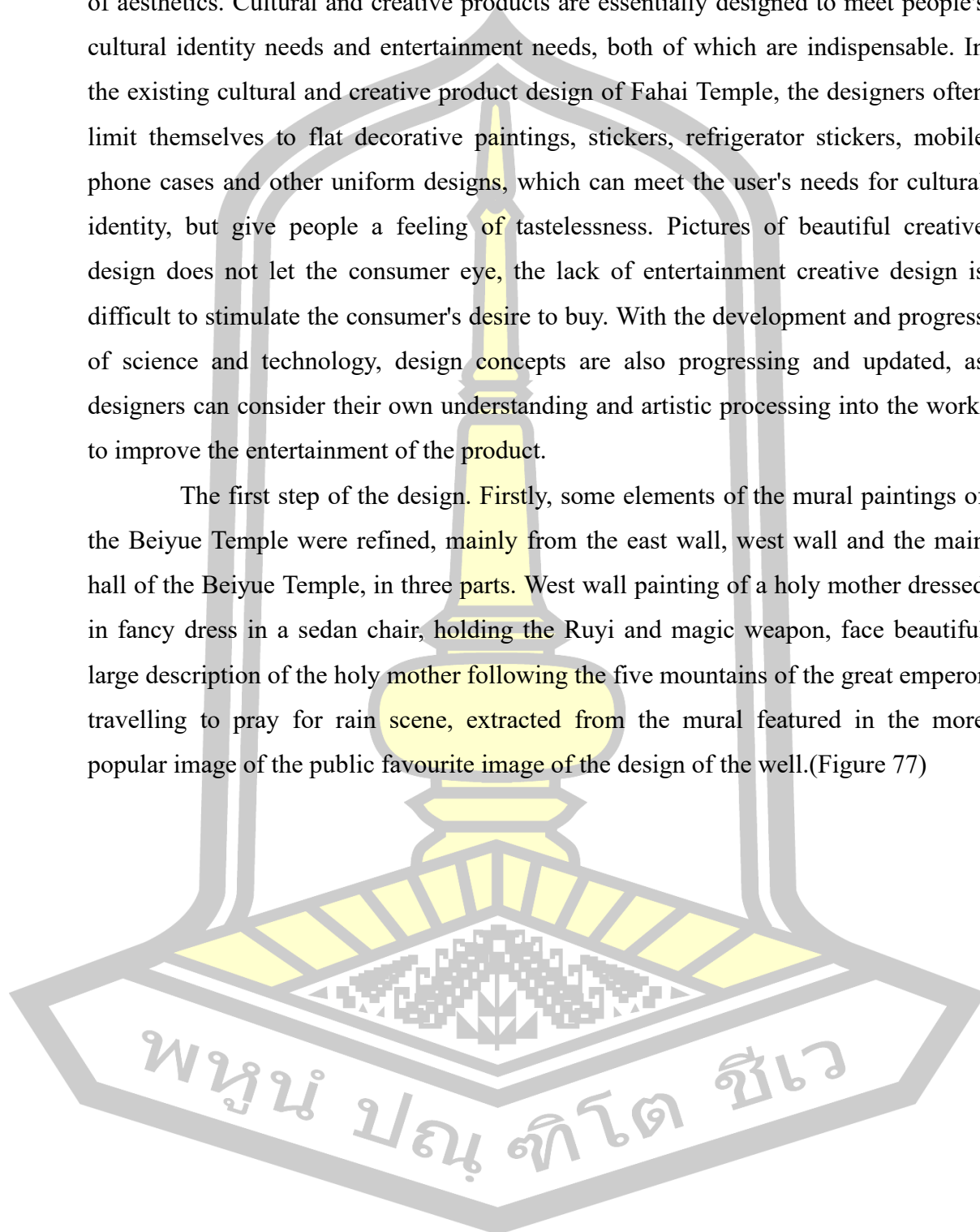




Figure 77 Digital cultural and creative characters

Source: ZhiYong Li (2024)

CHAPTER V

CONCLUSION DISCUSSION AND SUGGESTIONS

This chapter summarises and discusses in detail the research theme ‘Beiyue Temple Mural Painting: Application of Digital Media in Cultural Heritage Inheritance Protection’. This research has made a detailed summary and discussion on the historical origin, artistic value, inheritance status, inheritance problems and the application of 3D animation in the inheritance protection of Beiyue Temple mural art. The historical background, status quo, problems and the theoretical model construction of immersive new media installation art in Dalian urban commercial space are summarised and discussed. Finally, the conclusion section provides specific suggestions for future research:

Research Objectives

1. To study the history of the murals at Beiyue temple.
2. To study the symbolism and the value of mural paintings at Beiyue temple.
3. To study the digital conservation and dissemination model of Beiyue temple murals.

5.1 Conclusion

- 5.1.1 The history of the murals at Beiyue temple.
- 5.1.2 The symbolism and the value of mural paintings at Beiyue temple.
- 5.1.3 The digital conservation and dissemination model of Beiyue temple murals.

5.2 Discussion

- 5.2.1 Discuss the cultural value of Beiyue Temple murals from the perspective of semiotic theory.
- 5.2.2 Discuss the opportunities and challenges facing the inheritance and protection of Beiyue Temple murals.
- 5.2.3 Discuss the application value of digital media in the inheritance and protection of Beiyue Temple murals under the theory of communication.

5.3 Suggestion

5.3.1 Suggestions for the application of research results

5.3.2 Suggestions for further research

5.1 Conclusion

5.1.1 The history of the murals at Beiyue temple.

By combing and summarising this chapter, firstly, the historical origin of Beiyue Temple murals is studied, and the development of Beiyue Temple murals is written in detail through the overview of the development of Manchu paper-cutting, analysed from the perspectives of materials, tools and techniques, production steps, forms and contents, etc., and the development and changes of Beiyue Temple murals are observed from the process. Secondly, the cultural value of Beiyue Temple murals is analysed and summarized, and the cultural value of Beiyue Temple murals is analysed and summarized from the aspects of cultural value and cultural symbol value. The value embodied in the cultural value is mainly embodied in the historical value, religious value and artistic value of Beiyue Temple murals. To interpret the semiotic value of Beiyue Temple mural paintings with Pierce's concept of semiotics, the cultural symbols formed through the identity and relationship of the mural characters express the unique religious culture and national aesthetics, and have a strong traditional Chinese cultural characteristics. The cultural concept of worshipping mountains is the main theme to be expressed in the murals. Finally, the concept of cultural identity of Beiyue Temple mural is summarised. Through the identity of cultural symbols, the identity of religious inheritance, and the identity of innovation and development, this painting art can realise cultural identity in the contemporary social life with the perspective of tradition and modern development, and inject a new impetus for cultural dissemination. This kind of innovation is not only a respect for culture and art, but also a modern response to cultural identity, which is realised through innovative development.

5.1.2 The symbolism and the value of mural paintings at Beiyue temple.

By summarising the current situation of the dissemination and protection of Beiyue Temple mural paintings, the current situation of the dissemination and protection of Beiyue Temple mural paintings is concluded from the perspective of the

current situation of the dissemination and the protection policy of the national government, the perspective of the publication of literature, the perspective of the current situation of the protection of cultural heritage, the perspective of the cultural tourism, and the perspective of the establishment of the digital means of dissemination. By summarising the dilemma of the inheritance and protection of Beiyue Temple murals, the current problems encountered in the inheritance and protection of Beiyue Temple murals are summarised from the perspectives of insufficient publicity, low participation of young people, backwardness of murals protection technology, limitations of communication media and insufficient innovative digital communication means. At present, the protection and dissemination of Beiyue Temple murals need to be supplemented and improved with the presentation of the digital era, to enrich the cultural diversity of Beiyue Temple murals, to achieve the diversification of dissemination methods, so that it meets the aesthetic needs of the times. Only by clarifying the core issues of digital media protection and dissemination of Beiyue Temple murals, and using the communication advantages of digital media technology, can we deepen people's understanding of the cultural connotations of Beiyue Temple murals, and ultimately break through the limitations of time and space to achieve the cultural identity of Beiyue Temple murals.

5.1.3 The digital conservation and dissemination model of Beiyue temple murals.

Based on the status quo and problems of inheritance protection of Beiyue Temple murals collected in research objective 2, the researcher constructs a 3D animation work with unique artistic and cultural value from the perspective of art and culture, targeting the corresponding problems, from the conceptual design of 3D animation, sample extraction, sample design, 3D model production, 3D scene construction, 3D animation rendering generation, combination of virtual tour technology, and virtual tour accessibility, Authoritative expert evaluation and other perspectives of design elaboration, with semiotics, communication, digital cultural reproduction and other conceptual theories as the core support, constructed a theoretical model of digital acquisition technology and 3D animation in the inheritance and protection of Beiyue Temple mural paintings, to provide new thinking and practice for the application of digital media in the inheritance and protection of

cultural heritage, so as to promote the digital protection and dissemination of cultural heritage.

To sum up, this study concludes that the historical origin of Beiyue Temple murals is summarised, and concludes that the current situation of Beiyue Temple's religious ritual culture, the history of mountain worship culture, and the artistic value of the murals are where the most significant cultural value of Beiyue Temple murals lies. Using Pierce's semiotic concept to interpret the symbolic value of Beiyue Temple murals, the cultural symbols formed by exploring the relationship between the symbols of the murals' characters express the unique cultural characteristics and artistic aesthetics, with strong characteristics of Taoist rituals. The cultural symbols, digital heritage protection, and innovative development of Beiyue Temple mural paintings are important media means to realise its cultural identity. Through the perspective of tradition and modern development, this traditional art is able to realise its cultural identity in contemporary social life, and enter a new momentum for the ancient Beiyue Temple. This innovation is both the protection of cultural heritage and a modern response to cultural identity, which is realised through innovative development.

In summary, the inheritance and protection of Beiyue Temple mural painting is worrying, and it needs to be supplemented and improved in the digital era, to enrich the cultural communication diversity of Beiyue Temple mural painting, and to achieve the diversification of the communication mode, so that it meets the aesthetic needs of the times. Only by clarifying the core issues of digital protection of Beiyue Temple murals and using the communication advantages of digital media technology can we deepen people's understanding of the cultural connotation of Beiyue Temple murals, and ultimately break through the limitations of space and time to realise the cultural identity of Beiyue Temple murals. Based on the research objectives 1 and 2, the researcher has sorted out the history and value of Beiyue Temple murals and the current situation and problems of inheritance and protection. Focusing on the perspective of art and culture, the researcher constructed a three-dimensional animation work with unique art and cultural value and solved the corresponding problems. Taking the conceptual theories of semiotics and communication as the core support, the theoretical model of 3D animation in the inheritance and protection of

Beiyue Temple murals is constructed. It provides new thinking and practice for the application of digital media in the inheritance and protection of cultural heritage, so as to promote the digital protection and dissemination of cultural heritage.

Based on the status quo and problems of the inheritance protection of Beiyue Temple murals collected in Research Objective 2, the researcher constructs a digital mural collection from the perspective of art and culture to address the corresponding problems, obtains complete digital information of the murals, and produces three-dimensional animation works with unique artistic and cultural values on its basis, from the conceptual design of the three-dimensional animation, the extraction of the digital collection, the design of the samples, the production of the three-dimensional model, and the three-dimensional scene construction, 3D animation rendering generation, the combination of virtual tour technology, virtual tour accessibility, authoritative expert assessment and other perspectives of the design of the elaboration of the concept of semiotics, communication, digital technology and other conceptual theories as the core support, to build a three-dimensional animation in the inheritance of Beiyue Temple mural protection of the theoretical model for the application of digital media in the inheritance and protection of cultural heritage to provide a new way of thinking and practice, so as to promote the cultural heritage of the digital Protection and Dissemination.

The conclusion of this study is to summarise the historical origins of Beiyue Temple murals, and to conclude that the spread of religious culture, the embodiment of cultural values, and the aesthetic embodiment of paintings are the most significant cultural values of Beiyue Temple murals. The symbolic value of Beiyue Temple murals is explained by Pierce's concept of semiotics, and the cultural symbols formed by exploring the relationship between various things in the murals express the characteristics and artistic aesthetics of the Beiyue Temple murals, which have a strong religious cultural characteristics. The cultural concept of ancient mountain worship is the embodiment of its valuable cultural value. The cultural symbols, educational heritage and innovative development of Beiyue Temple murals are important media means to realise its cultural identity. Through the perspective of tradition and modern development, this traditional art is able to realise its cultural identity in contemporary social life, injecting new impetus into the inheritance of

Manchu culture. This innovation is both a respect for tradition and a modern response to cultural identity, which is realised through innovative development.

In summary, the inheritance and protection of Beiyue Temple murals is worrying, and it needs to be supplemented and improved in the digital era to enrich the cultural diversity of Beiyue Temple murals and achieve the diversification of dissemination methods, so that it meets the aesthetic needs of the times. Only by clarifying the core issues of the inheritance and protection of Beiyue Temple mural paintings in digital media and using the communication advantages of digital media technology can people deepen their understanding of the cultural connotation of Beiyue Temple mural paintings, and ultimately break through the limitations of space and time to realise the cultural identity of Beiyue Temple mural paintings. Based on the research objectives 1 and 2, the researcher has sorted out the history and value of Beiyue Temple murals and the current situation and problems of inheritance and protection. Focusing on the perspective of art and culture, the researcher constructed a three-dimensional animation work with unique art and cultural value and solved the corresponding problems. Taking the conceptual theories of semiotics and communication as the core support, the theoretical model of 3D animation in the inheritance and protection of Beiyue Temple murals is constructed. It provides new thinking and practice for the application of digital media in the inheritance and protection of cultural heritage, so as to promote the digital protection and dissemination of cultural heritage.

5.2 Discussion

5.2.1 Discussion on the cultural value of Beiyue Temple murals under the theory of semiotics.

Through literature review, the artistic value of Beiyue Temple murals was studied. After reviewing the literature, it was found that Liu Xinlin conducted an in-depth discussion on the artistic value, historical value and commercial value of Beiyue Temple murals in his research. First, in terms of artistic value, the composition expression of Beiyue Temple murals; in terms of painting images, it highlights the rich artistic heritage of Quyang Beiyue Temple's local history and culture; in terms of color, it reflects the traditional Chinese artistic aesthetics in Beiyue Temple murals,

and in terms of content, it reflects the ancient awe of gods. Secondly, in terms of historical value, Beiyue Temple murals embody the local sacrificial culture, primitive beliefs, rituals and other profound and unique historical and religious cultures, and are the embodiment of the wisdom of the local people of Beiyue Temple.(Wang Xiong Fei ,2024,Interview)

Research on the regional style and national characteristics of Beiyue Temple murals. Du Chen researcher from the regional cultural characteristics, painting language and other perspectives of its in-depth analysis, and with other areas of digital protection of the main features are not subject to is the air conditioning room constraints, for the traditional cultural heritage of the publicity and promotion of the effective technical support. Achieved in the analogue digital space to show the real cultural heritage and its occurrence and development in the folk customs. The digital preservation of cultural heritage resources has become a new opportunity for the development of folk culture, and is an operable means of preservation in line with today's period of rapid economic development and rapid social transformation. (Zhao Weiping, 2013)

Along with the progress of the level of science and technology, high-resolution image acquisition technology and tools were subsequently produced, and the digital acquisition and storage technology of higher quality and clarity also gained development. Convenient and fast access to relevant art materials, to achieve permanent protection and storage of cultural resources, information sharing, scientific research application and inheritance development. (Li, 2021)

Research on the regional style and national characteristics of Beiyue Temple mural paintings. Researcher Du Chen made an in-depth analysis from the perspectives of regional cultural history and painting characteristics, and compared them with the mural art of other regions. Beiyue Temple mural of humanities background, modelling characteristics, colour performance and other angles to sort out and display, reflecting the Beiyue Temple mural in the paper-cutting art is extremely important art status. Only through in-depth research and analysis of the Beiyue Temple mural can we not only understand its surface form, but also truly comprehend its deeper meaning, and only then can we talk about its innovative development. (Duchen,2024,Interview)

Researcher Zhao Wei researches from the perspective of art semiotics through

literature review and the perspective of semiotics and image theory. She pointed out that the Beiyue Temple murals recorded the religious beliefs of the five heavenly deities of the five mountains praying for rain to bless the country's prosperity and people's peace through symbols, and preserved the strong Chinese mountain sacrificial culture. How to preserve and continue the history and culture of Beiyue Temple and revitalise it in the current environment has become a key issue to be solved. This project will explore the necessity and practical significance of semiotics in the study of the visual language of ancient mural art. Drawing on the semiotics theory of Charles Sanders Peirce, the founder of American pragmatism, we start from the principle that "art is a symbol", and regard artworks as a multifaceted and multilevel symbol system, in order to explain the creation of meaning, structure of meaning, communication of meaning, and function of meaning, etc. We will also discuss the importance of semiotics in the study of the visual language of ancient wall paintings. The Beiyue Temple murals are analysed from four levels, namely, three levels of existence, aesthetic method, emotional expression and life form. The visual language of Beiyue Temple murals is discussed in depth with the aim of exploring the rich connotation of conservation, and a comparison is made between murals that use virtual reality to express the multiple illusions of the charm of ancient painting art. From the humanistic background of Beiyue Temple murals, modelling characteristics, colour expression and other perspectives of the frescoes of Beiyue Temple were sorted out and displayed, reflecting the extremely important artistic status of Beiyue Temple murals in the art of paper-cutting. Only through in-depth study and analysis of the Beiyue Temple murals, not only to understand its surface painting techniques, but also to truly understand its deep inner meaning, it is possible to talk about its inheritance and protection. (Du Chen, 2024, interview)

Through the literature review, in the perspective of graphic theory, researcher Lv Ai conducts research from the perspective of artistic iconography. He pointed out that the Beiyue Temple recorded the religious beliefs of the five heavenly deities of the five mountains praying for rain, and preserved a strong contemporary Chinese culture of Yue Temple rituals. In the face of how to protect and disseminate Beiyue Temple and related murals, and have a better influence and be liked by the public in the current digital era, it has become a key issue to be solved urgently. This topic will

explore the necessity and practical significance of semiotics in the study of the visual language of traditional mural art. Drawing on the semiotics theory of Charles Sanders Peirce, the founder of American pragmatism philosophy, from the principle of "art is a symbol", we consider artwork as a multifarious and multilevel symbolic system, in order to explain the creation of meaning, structure of meaning, communication of meaning, and the function of meaning, etc. We will also discuss the importance of semiotics in the study of the visual language of traditional mural art. The Beiyue Temple murals are analysed from four levels, namely, three levels of existence, aesthetic method, emotional expression and life form. An in-depth discussion of the visual language of Beiyue Temple murals aims to explore the rich connotation of conservation and the possibility of using virtual reality to express the multiple illusions and multi-level emotional experience of the charm of ancient painting art.

Art, myths, costumes and so on all belong to the category of symbols. According to Peirce, the founder of semiotics, symbols can be divided into symbols, pictograms and signs. The latter symbols are not directly related to literature and art, and the semiotic approach to art, or semiotics, is the application of semiotic methods to the study of art and aesthetics. This is divided into three levels of existence in Peirce's semiology, and he puts linking the body to the world as Peirce's second level of existence. Here the self (ego) and the other (other) meet for the first time. Secondary existence involves our interaction with something external. In secondary existence, the subject and the things perceived by us are ever-changing. But in tertiary existence, because the relationship between the subject and what is perceived is governed by universal laws, the facts of secondary existence can be unequivocally universal, and because of this, people can express and communicate with each other using the same symbols. The relationship between primary existence, secondary existence and tertiary existence is a progressive relationship from lower to higher, from simple to complex. In other words, the second level of existence contains the first level of existence, and the third level of existence contains the second level of existence. The symbol belongs to the third level of existence and thus contains both of the other two.

As a traditional cultural symbol, Beiyue Temple mural painting has both practical and aesthetic functions. Interpreting the art of Beiyue Temple mural painting

from the perspective of semiotics will make the research path of Beiyue Temple mural painting more systematic and the research idea more reasonable.

The use of Pierce's semiotics in the Ers believe that the symbol is composed of "reproduced body", "object", "interpretation of the item".

The concepts of image, index, and notation to study the figurative value and abstract value of digital Beiyue Temple murals can deeply analyse the integration of this traditional art form with digital media. Energy index: in the digital Beiyue Temple mural, energy index includes the specific presentation of digital paper cuts, including patterns, colours, lines, etc., which are physical features that can be directly perceived by the viewer. The specific value of digitised Beiyue Temple murals lies in their visual aesthetics and technical details. Digital media can achieve finer pattern design and visual effects, making the paper-cut works more vivid and attractive, and the viewer can appreciate the aesthetic value of digital paper-cutting. Referring to: Referring to is the abstract or cultural connotations represented by the digital Beiyue Temple murals, including cultural traditions, historical background, emotional and spiritual significance, and the abstract value of the digital Beiyue Temple murals lies in the cultural and historical information conveyed by them. The paper-cut works spread the abstract elements such as traditional Manchu stories, religious symbols, folklore and so on through digital media, which helps to pass on and promote the culture of Beiyue Temple, so that more people can understand and appreciate the art of Beiyue Temple mural paintings.

The researcher believes that the study of the artistic value of the Beiyue Temple murals should not be based solely on its own artistic value, but should emphasise the importance of theoretical and conceptual research. Through the literature review, it was found that previous related studies were mostly conducted from the perspectives of historical value, cultural value and artistic value. In the literature review, it was found that Du Xiaoxuan's research was conducted from the perspective of art semiotics on the murals of Beiyue Temple, and the research was carried out from the perspectives of artistic abstraction, artistic illusion, and emotional expression, while most of the research stayed in the discussion of abstract value.

To sum up, the innovation of this study lies in the use of semiotic theory to summarize the research theme, the use of Saussure's semiotic concepts of energy and

reference for interpretation and integration, and the study of Beiyue Temple murals is divided into concrete value, i.e., "ability to refer to", which covers the production techniques, stylistic features, colour composition, etc.; abstract value, i.e., "reference to", which covers the production techniques, stylistic features, colour composition, etc.; and abstract value, i.e. "referent", covering artistic value, cultural value, cultural connotation and so on. In the eyes of the researcher, the relationship between symbols and meaning of the ring is the basic starting point of semiotic research, symbols have a strong interpretation and integration function, Beiyue Temple mural as a traditional cultural and artistic symbols, has a strong practical function and aesthetic function, interpretation of the art of paper-cutting from the perspective of semiotics is a better research path for the study of the Beiyue Temple mural research, the research path is more systematic, the vein is clearer.

5.2.2 Discussion on the opportunities and challenges faced by the inheritance and protection of Beiyue Temple murals.

This paper studies the dilemma facing the inheritance and protection of Beiyue Temple mural paintings by means of literature review. Through the literature review found that the protection of Beiyue Temple murals in a single way, the dissemination is limited to the local and more rudimentary website attraction is weak. Beiyue Temple mural painting understanding of the crowd single, young people understand less and less, there is a risk of survival. Through the Beiyue Temple frescoes audience, popularity, dissemination methods and other analyses, found that the Beiyue Temple frescoes publicity is low, the amount of mass dissemination is almost none, did not form a distinctive cultural tourism development model.

Expanding from the original narrowly defined professional field to the public field, the protection of cultural heritage is a social undertaking, which must rely on the wide participation and general concern of the society, attracting public participation and communication in various fields, otherwise the cultural heritage will be out of touch with the overall life of the society, and can not be truly protected. This situation requires that full attention be paid to the power of communication in the protection of cultural heritage, and that various means of communication be used to convey knowledge and information about cultural heritage to the public. Especially in the context of the current rapid development of network communication technology, the

concept of protection is implanted in the minds of the public through the combination of information, resources and protection technology, which can lead to the close integration of cultural heritage protection with society, culture and economy, so that the protection of cultural heritage can move from the technical scope of a few professionals to the real social communion and sharing.

Cultural heritage data can be intelligently integrated and analysed, which is conducive to the discovery of new historical patterns and cultural connotations. At the same time, digital technology-assisted restoration and recovery of damaged cultural relics, as well as the use of digital twins to restore historical scenes, can provide the public with the possibility of experiencing the charm of cultural heritage in an immersive setting. Finally, the way of public participation in cultural heritage has also become more convenient and diverse due to the application of digital technology. Online platforms, social media, digital museums, etc. provide more open channels for the public to get close to and share cultural heritage. Cultural heritage is no longer on static display, but can positively interact and resonate with modern life, and has become an important source of enhancing the public's cultural confidence and sense of cultural identity.

Artistically processed three-dimensional models, through virtual reality or augmented reality technology, perfectly blend the weight of history with future technology in an immersive way, enhancing the communication power of cultural heritage and stimulating the public's love of history and desire for exploration. Despite the challenges of environmental adaptability, data management and technology integration, 3D animation technology has undoubtedly reshaped the landscape of heritage conservation and restoration, and it is expected that it will play an even more outstanding influence in the future in the harmonious symbiosis of science and technology and humanistic values. (F. Y. Wang, 2024)

With the advancement of science and technology, digital technology has provided new ideas and means for the protection of cultural relics. Digital technology can scan and copy cultural relics with high precision, so as to achieve the digital preservation and display of cultural relics. This not only avoids the damage of cultural relics due to natural factors, but also allows more people to understand and appreciate cultural relics through the Internet, thus promoting the inheritance and development of

culture. At the same time, social participation has gradually become one of the important ways of heritage conservation. (Lin, 2024)

Digital conservation is an innovative way of conservation. Through digital technology, cultural relics can be digitally scanned and stored, and a digital cultural relics database can be established to achieve the permanent preservation of cultural relics. At the same time, through virtual reality, augmented reality and other technologies, cultural relics can also be made "alive", so that visitors can feel the charm of cultural relics more intuitively and understand history more deeply. Social participation is another important way of protection. Encourage more people to participate in the protection and inheritance of cultural relics, so that more people understand history and love history. Various educational activities are carried out to enable young people to understand revolutionary history and cultivate their patriotic feelings. At the same time, various community activities are carried out to let more people participate in the protection and inheritance of cultural relics, and jointly guard the historical memory. The cultural relics of the CPC Shandong Early History Memorial Hall are valuable historical wealth.

According to the research of previous scholars, the optimisation process of cultural creativity and scientific and technological means adapted to the needs of popular culture is known as the depth of cultural and technological integration in the cause of cultural heritage protection. It should be emphasised that in this process, on the one hand, culture and science and technology are closely connected, but they cannot be integrated for the sake of integration, or put together in a rigid way; on the other hand, they cannot be integrated arbitrarily by virtue of the needs of their respective different stages. In daily practice, the integration of culture and science and technology in cultural heritage protection must be able to keep up with the spiritual life of the public.

In daily routine protection work, the scientific research team can use advanced laser scanning technology to establish three-dimensional digital models of all kinds of cultural relics, and then complete the digital record of cultural heritage and its permanent preservation, monitoring and analysis of the state of cultural heritage, non-contact virtual restoration of cultural relics and virtual display of cultural heritage, and many other functions. Take the architectural heritage landscape as an example, co-

development and design of a variety of digital terminal application platform, can help the relevant work units to establish three-dimensional model performance of the outdoor landscape and architectural image, this set of rigorous processes to ensure that the team restoration to the maximum extent possible to be faithful to the original historical appearance of the heritage itself. (Chen,Z.W.,& Fan, 2016)

The researcher agrees with the solution to the dilemmas faced by the dissemination and conservation of Beiyue Temple murals as described by the above researchers, but the researcher found new problems based on the methods of literature review, field surveys, observational interviews, and empirical studies, the propaganda dilemma and the communication dilemma at the media level.

The researcher found that the communication and protection of Beiyue Temple murals are not innovative enough and not integrated enough with the communication methods of the digital age. Excessive reliance on the entity of the traditional medium of communication, limiting the Beiyue Temple murals in the digital age, the breadth and depth of the dissemination of the effect of this traditional inheritance from the development of the times does not meet the current fast-paced information dissemination environment, the audience group is limited.

Through the Beiyue Temple mural painting dissemination and protection of the dilemma of a more detailed discussion, it can be found that its inheritance must be in line with the needs of the development of the times and innovation and development, through the digital age of inheritance and dissemination of complementary and perfect, in order to enrich the cultural diversity of Beiyue Temple mural paintings, the dissemination of the diversity of the times so that it meets the needs of the aesthetics. Innovation and inheritance development must respect its traditional cultural connotation, innovation and dissemination methods, to retain its original simple and rugged style characteristics. Then, the protection and dissemination of cultural heritage Beiyue Temple mural painting art through digital means can help achieve its permanent preservation and promote its innovation, dissemination and protection.

5.2.3 Discussion on the application value of digital media in the inheritance and protection of Beiyue Temple murals under the theory of communication.

Through the literature review, it is found that in the new period, modern communication has seen great changes in the form of expression, content,

communication objects, media and concepts, especially the gradual intellectualisation and rejuvenation of the audience, which also puts forward personalised requirements for the content of communication. It is required that the works have strong visual impact, perfect and realistic images, and can be broadcasted through touch media, digital TV, interactive media and smart phones .

People can only visit traditional murals on site, or appreciate them sporadically through pictures and videos in news reports. In order to protect ancient murals, the scenic area stipulates that tourists cannot take photos of murals in caves, because flash and other factors will damage the murals when taking photos, so they cannot watch them to their heart's content or fully appreciate the beauty of the murals. However, this regret can be made up by digitally collecting and disseminating mural information. The development of the Internet has provided a good soil for the survival and development of online self-media.

Murals need to connect with mainstream platform-based digital media, create communication content that conforms to the characteristics of the media based on their media characteristics, encourage users to produce content, develop and cultivate opinion leaders, thereby increasing the volume of omni-channel communication and creating a positive cultural heritage communication ecology. Current platform-based digital media include: social media platforms such as Weibo, WeChat, and QQ; short video platforms such as Douyin and Kuaishou; long video platforms such as iQiyi, Tencent, and Youku; barrage video websites represented by B Station; local portals; clients, mini-programs, video accounts, etc. In order to spread murals well, it is not only necessary to develop new media channels, but also to operate existing media well.

Over a large number of literature analysis in the digital mural research direction is mainly in two aspects, on the one hand, the use of digital technology to restore the murals and murals, cultural relics, such as virtual construction, through the digital means of assisting in heritage protection, cultural relics tracing reproduction; on the other hand, the digital presentation, through the digital design of innovation to achieve the interpretation of the murals on display, and at the same time can be used to interactive technology for interactive immersive experience. Digital technology cross-study to promote the mural paintings to more intuitive, convenient, more diverse ways

to achieve the display, but also to make the Mogao Caves culture to visualisation, interactivity and reproducibility of the characteristics of the dissemination of the digital high-speed development of the era, China's digital marketing is also a diversified trend of flourishing, a large number of traditional cultural forms of marketing into the flow of marketing, such as cultural and creative Forbidden City, and the emphasis on the digital era of interaction and experience in the concept and performance of the impact on the traditional cultural and cultural heritage. The digital era emphasises interaction and experience, which impacts on the traditional visual culture presentation forms in terms of concept and performance, and is specifically manifested in the diversity and change of design media, design methods, design ideas, communication methods, design objects, and the integration of science and technology, marketing, art, management and other multidisciplinary intersection and infiltration.

Yao Si, an aesthetician of the Kantanz school, summarised the practice of art as three components in Aesthetic Experience and Literary Hermeneutics, namely, the production of literature and art, the acceptance of literature and art, and the production and dissemination of artistic effects. "the production and dissemination of artistic effects. In digital display design and application, we should also consider how to deal with the relationship between "acceptance" and "production and dissemination of effects", i.e. user experience and information design in interaction design. Digital display design is the fusion of "technology" and "art", in the art of design techniques, with the help of digital means of continuous innovation, in order to make the display activities interesting and artistic attraction. (Xue , J. Y., & Chu, 2019)

The development of digital media technology has opened up opportunities for online display and dissemination of cultural communication, as well as providing tourists with the opportunity to travel around the country without leaving their homes. Nowadays, digital museums represented by digital Palace Museum and digital Dunhuang Museum have set off a museum fever in China. The so-called digital museum, broadly speaking, is the use of digital technology to the museum construction, maintenance and dissemination of museum operations; narrowly speaking, is the use of digital technology will be offline museum exhibits, cultural

relics, etc. transferred to the line, to achieve the long-distance roaming of a form of museum display and dissemination.

Cultural heritage display and dissemination is an important part of cultural heritage protection, scientific and technological means into the cultural content of the display, can greatly enhance the audience experience, enhance the interactivity between tourists and cultural relics and heritage, edutainment, and better achieve the cultural heritage to convey cultural and historical knowledge function. Therefore, vigorously promote the integration of culture and science and technology, enhance the cultural heritage business itself the level of integration of culture and science and technology, can be solved in the process of integration of culture and science and technology of the key technical problems, the use of a variety of acoustic and optical technology, virtual reality technology, human-computer interaction technology, knowledge engineering technology and new media technology, enhance the interactive experience.

Digital innovation design is an advanced creative activity, which is based on comprehensive knowledge and involves many aspects such as philosophy, science, technology, art and culture. Using experiential innovation design as a means of inheriting and preserving cultural heritage, it focuses on interaction with people, so that cultural heritage can appear in people's daily life and become a part of cultural life, and thus be better preserved and inherited. (Fan, 2024)

In the new media environment, the demarcation between the "dissemination to the receiving population" of communication is becoming increasingly blurred, because both the transmitter and the audience are active subjects in the communication and exchange of information in the process of new media communication, and they frequently interact with each other.

The use of immersive communication techniques for cultural heritage communication involves both the senses and the interaction between the communicator and the audience. "Immersion" refers to a form of perception in which the whole body and mind are in a state of feeling or thought. Although the term "immersive communication" is relatively recent, its practical existence has a long history and is considered to be one of the most effective ways of transmitting knowledge and ideologies, and was once widely used in the field of philosophy,

religion, liturgy and other ideological domains. The corresponding digital communication involves video animation, VR technology communication, Internet interactive communication and so on.

5.3 Recommendations

5.3.1 Recommendations for the application of research results

The application of research results can be divided into the following parts. First of all, Hebei Province cultural heritage inheritance protection related government agencies can use the research results as a reference to guide the inheritance protection of Beiyue Temple mural painting art and related cultural heritage. Through the research results of the application mode paradigm of digital media 3D animation in the inheritance and protection of Beiyue Temple mural paintings, the research results can provide an effective reference for the inheritance and protection of cultural heritage and realise the digital inheritance and sustainable development of cultural heritage.

Secondly, the research results can be applied to the art education of digital media related majors in schools, and the practice model of the research can be applied to the relevant courses and teaching of cultural heritage inheritance and protection, providing theoretical and practical references for art education and contributing to the innovative inheritance of cultural heritage.

Thirdly, the research results can be applied to cultural tourism promotion. The application of digital media 3D animation in cultural heritage protection can be applied to the promotion of local cultural tourism, providing interactive cultural experience, while promoting local cultural characteristics, attracting tourists to participate in culture and experience culture, and promoting 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 the traditional exhibition space, so that more audiences around the world can enjoy the Beiyue Temple murals online.

Finally, the research results can also be applied to social media promotion. The creative works generated by the research will be shared and promoted on social media

to show the artistic charm of Beiyue Temple mural paintings and trigger the attention and protection of this cultural heritage, which can be exchanged and shared by the public on the Internet platform.

To sum up, we can see the results of the application of digital media in the inheritance and protection of cultural heritage, which can be applied to government agencies, school education, cultural tourism promotion, virtual museum display, social media platform promotion, etc. The above ways can be transformed so that the modern people can contact and understand the traditional national culture through the Internet platform, which brings the audience closer. On the other hand, by enhancing the influence of traditional culture, more and more people, especially young people, enhance the sense of identity of this national culture, and devote themselves to the inheritance and development of traditional culture, which is the real cultural innovation first, inheritance-based, international exchange and cooperation.

5.3.2 Further research suggestions

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

1. The application of artificial intelligence in cultural heritage transmission and protection: the application of artificial intelligence technology in cultural heritage transmission and dissemination will, on the one hand, break through the cognitive structure of people's cognition of cultural communication, make the inheritance subject of cultural heritage more diversified, and the forms of dissemination more diversified, and the artificial intelligence technology will, by constructing a larger cultural communication platform and efficiently transforming more cultural resources, promote more effective dissemination and higher quality utilisation of cultural heritage, and provide researchers with more research possibilities.

2. sustainable development and cultural preservation: researchers may consider the sustainable development role of digital media in the transmission of cultural heritage, and study how to promote the sustainability of cultural heritage and community participation through digital technologies.

3. Interdisciplinary research: Researchers are encouraged to try interdisciplinary cooperation, combining digital media with anthropology, sociology, computer science and other disciplines, to understand and promote innovative transmission of cultural heritage in a more comprehensive way.

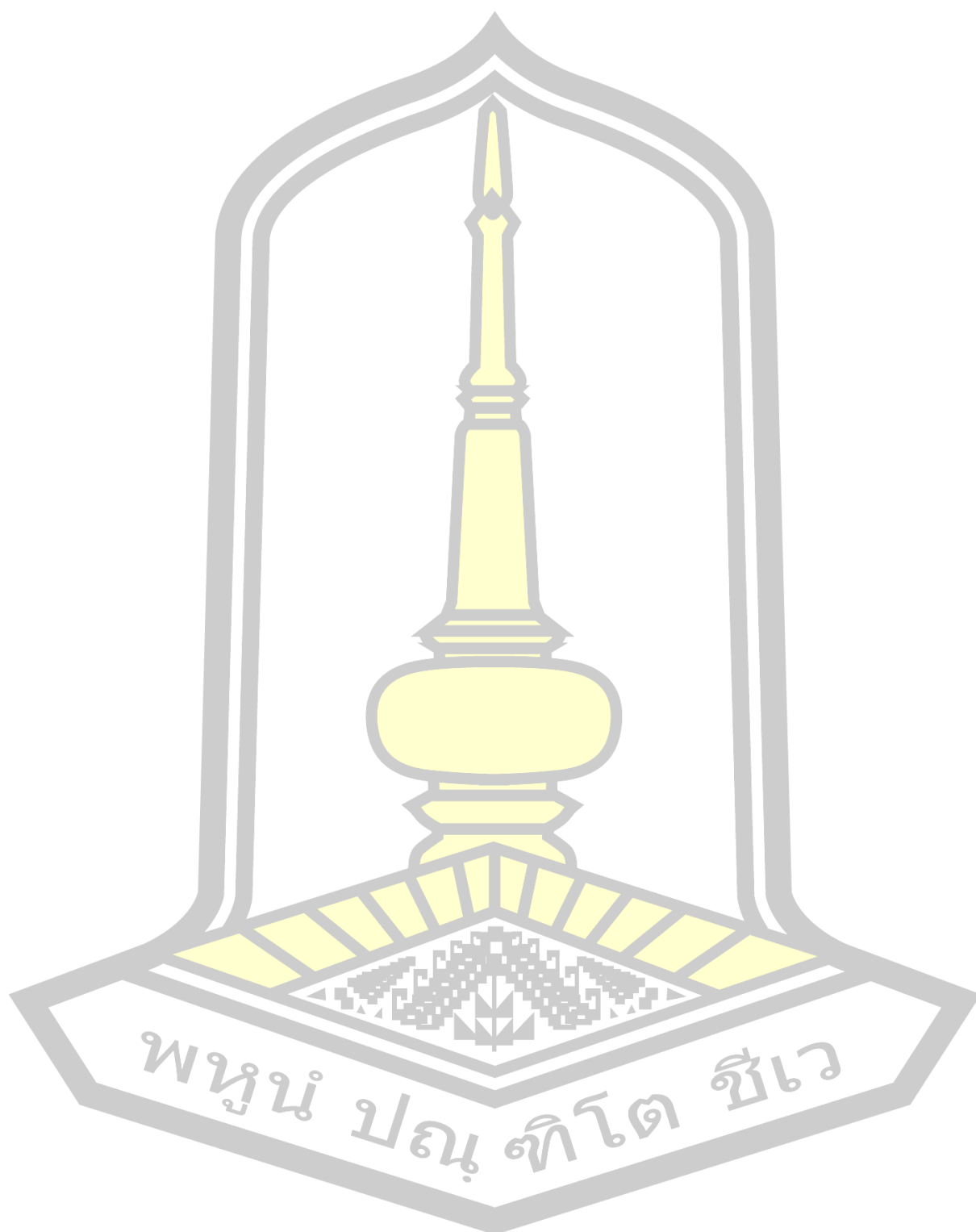
4. Application of digital cultural heritage repositories: a feasible measure to establish permanent digital cultural heritage image data repositories in the cloud using computer discipline technology and photographic capture, and to widely share high-definition data to disseminate cultural heritage.

5. It should also deeply excavate the cultural connotation of murals and carry out secondary creation, build virtual museums with the help of digital technology, set up the "three micro one end" digital communication matrix, use short videos and other forms to attract the attention of the audience, and develop cultural and creative products to cater for the market, so as to enhance the dissemination of the temple murals.

In summary, future research can explore more deeply the cutting-edge technologies of digital media, such as artificial intelligence, virtual reality, augmented reality and other digital technologies; it can also be explored from the perspectives of social media, mass interaction, sustainable development, and international communication; and interdisciplinary research can be carried out. Further deepening the exploration of cultural heritage inheritance and protection will help promote the development of digital media in the field of cultural heritage inheritance and protection, and bring more ideas and challenges for the innovative inheritance of Chinese traditional culture.

In conclusion, digital media technologies and platforms provide space for traditional cultural innovation and inspire new artistic expressions and possibilities for cultural evolution. In the digital age, we have the opportunity to integrate cultural heritage into everyone's life and revitalise traditional culture. Through interdisciplinary research and international co-operation, we will jointly explore how digital media can better serve the protection and dissemination of cultural heritage and achieve sustainable transmission.

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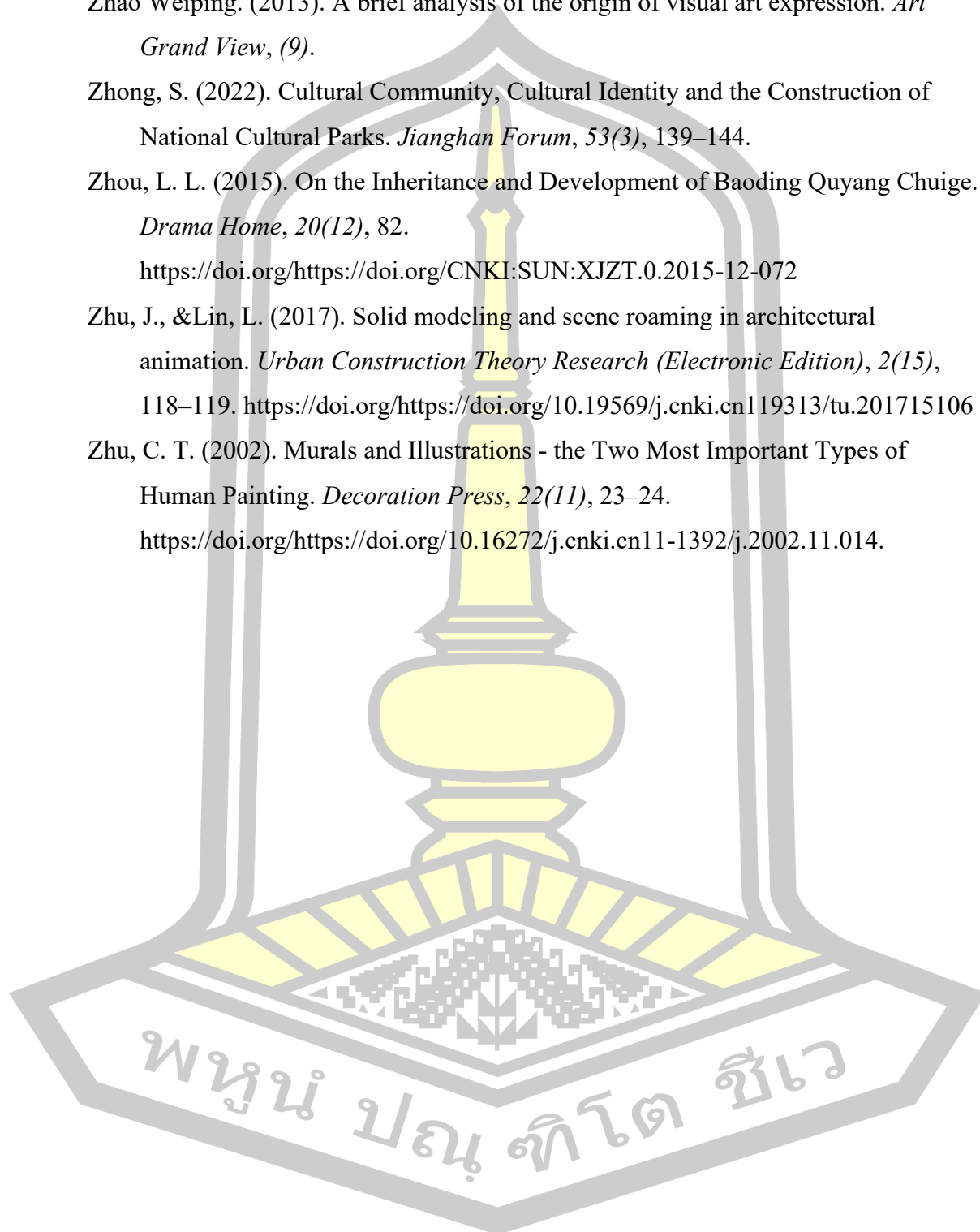
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APPENDIX

List of interviewees

Key Informants

Interview with Lv Ai (Dunhuang City, Dunhuang Academy) and interviewer ZhiYong Lion April 10, 2024. (Mural expert)

Interview with Ms. Wang Limin (Quyang County, Quyang County Cultural Center) and interviewer ZhiYong Lion April 21, 2024. (Government official)

Interview with Mr. Su Xinsheng (Shijiazhuang City, Hebei Provincial Cultural Relics Research Institute) and interviewer ZhiYong Lion December 20, 2023. (National mural protection expert)

Interview with Mr. Wang Xiongfei (Hangzhou City, China Academy of Art Mural Professional Office) and interviewer ZhiYong Lion May 28, 2024. (National mural protection expert)

Interview with Mr. Liu Zi Qun (Shijiazhuang, Hebei Academy of Fine Arts Mural Laboratory) and interviewer ZhiYong Lion May 28, 2024. (Provincial mural inheritor)

Casual Informants

Interview with Mr. Zhang Cheng Wen (Hebei Academy of Fine Arts) and interviewer ZhiYong Lion April 27, 2024. (Teacher and digital media expert)

Interview with Ms. Wang Lu Min (Hebei Academy of Fine Arts) and interviewer ZhiYong Lion May 5, 2024. (Digital media designer)

Interview with Mr. Zhang Lei (Shijiazhuang personal design studio) and interviewer ZhiYong Lion May 18, 2024. (Designer)

Interview with Mr. Song Ying Jie (Quyang County Government Office) and interviewer ZhiYong Lion June 23, 2024. (Government staff)

Interview with Mr. Du Chen (Hebei Normal University) and interviewer ZhiYong Lion October 4, 2022. (Teacher and digital media expert)

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

Interview with Ms. Zheng Li Jing (Shijiazhuang Digital Design Studio) and interviewer Huang Lin on June 8, 2024. (Digital media expert)

Interview with Mr. Li Long Long (Quyang Stone Carving Studio) and interviewer ZhiYong Lion June 19, 2024. (Stone carving inheritor)

Interviewee Mr. Zhao Xing Biao (Hebei Academy of Fine Arts) and interviewer ZhiYong Lion May 25, 2024. (3D digital technician)

Interviewee Mr. Lv Han Zhi (online interview) and interviewer ZhiYong Lion
June 15, 2024. (Mural restoration inheritor)

General Informants

Interview with Mr. Liu Zhi Tai (Shijiazhuang) and interviewer ZhiYong Lion
April 8, 2024. (Mural inheritor)

Interview with Mr. Zhang Jian Hong (Shijiazhuang) and interviewer ZhiYong
Lion May 16, 2023. (Mural digital collector)

Interview with Mr. Song Jian Guo (local villager) and interviewer Huang Lin on
April 20, 2024. (Snack shop operator)

Interview with Mr. Wang Tian Bo (local resident) and interviewer ZhiYong Lion
April 20, 2024. (Tour guide)

Interview with Mr. Li Zi Tao (local resident) and interviewer ZhiYong Lion
January 20, 2024. (Art student)

Interview with Ms. Yin XiaoYuan (Hebei Academy of Fine Arts) and interviewer
ZhiYong Lion January 20, 2024. (Mural painting major college students)

Interview with Ms. Tong Xin (Quyang Vocational High School) and interviewer
ZhiYong Lion December 5, 2023. (Mural enthusiasts and art teachers)

Interview with Mr. Wang Yong (Quyang) and interviewer ZhiYong Lion April 8,
2024. (Mural enthusiasts and art teachers)

Interview with Mr. Li Bo Wen (Quyang County) and interviewer ZhiYong Lion
April 20, 2024. (Mural enthusiasts and students)

Interview with Ms. Zhang Tian Mei (Quyang County) and interviewer ZhiYong
Lion February 15, 2024. (Local villagers and students)

Interview with Mr. Lu Longi (Quyang County) and interviewer ZhiYong Lion
April 15, 2024. (Art teacher)

Interview with Ms. Hao Wei Kun (Hebei Academy of Fine Arts) and interviewer
ZhiYong Lion December 15, 2023. (Art teacher)

Interview with Mr. Zhen Yan Chang (Quyang County) and interviewer ZhiYong
Lion April 15, 2024. (Local villagers & Stone Sculptor)

Interview with Mr. Wang Bao Long (Shijiazhuang) and interviewer ZhiYong
Lion March 15, 2024. (Digital collection staff)

Appendix A

Key Informants

Title: Beiyue Temple murals: issues of digital dissemination and protection

Name: _____ Age: _____ Gender: _____

Occupation: _____ Time: _____ Place: _____

I am a student of Mahasarakham University of Culture and Science. I would like to interview you. The purpose of this interview is mainly to understand the relevant information of Beiyue Temple murals. The results of the interview are for academic reference only. It provides some suggestions for promoting the protection, publicity and development of Beiyue Temple murals. Thank you for your cooperation.

1. How long have you been engaged in mural-related work? Will you continue to work in this field in the future?
2. Can you tell us about the history and origin of Beiyue Temple murals?
3. Can you tell us about the history and changes of Beiyue Temple?
4. Can you tell us about the types, quantity and characteristics of Beiyue Temple cultural relics?
5. What influence do you think the protection and dissemination of Beiyue Temple murals have suffered in the context of multiculturalism?
6. Do you know what legal documents the national and local governments have promulgated on cultural heritage?
7. What support have the national and local governments and cultural departments given to the protection of Beiyue Temple murals?
8. What changes have you brought to your life by engaging in the protection of Beiyue Temple murals?
9. Do you think digital media is helpful for the dissemination of Beiyue Temple murals?
10. What do you think are the difficulties in the development of traditional murals in the process of dissemination? Please give examples.
11. Do you think young people like digital new media? How to increase young people's enthusiasm for mural protection?
12. What is the current status of mural protection and inheritance? Please briefly describe.
13. Can you make some suggestions on the development of Beiyue Temple from the perspective of mural protection and inheritance using digital technology?

Appendix B

Casual informants

Title: Beiyue Temple: A Guide to Historical Value, Development and Dissemination

Name: _____ Age: _____ Gender: _____

Occupation: _____ Time: _____ Place: _____

1. Do you know about the Beiyue Temple murals? Do you know how many ancient murals are preserved in Hebei?
2. Have you ever visited and read ancient murals and books? How did you feel at that time?
3. Do you think the murals have a big impact on your personal life? In what aspects?
4. What do you think of the Beiyue Temple murals? What about your family or friends?
5. Are there people around you who work in mural-related fields? How do people evaluate their work?
6. Will you work in the restoration of murals in the future? Why?
7. Do you think it is necessary to develop the Beiyue Temple murals in Hebei? Why?
8. What do you think is the impact of the Beiyue Temple murals on the local development of Hebei? In what aspects is the impact reflected?
9. What do you think of the impact of the Beiyue Temple on the local area?
10. Do you think the Beiyue Temple cultural tourism has an impact on the economic development of the local area? Why?
11. Do you think it is necessary to strengthen the promotion of the Beiyue Temple murals among young people?
12. What do you think is the main way to protect and spread the Beiyue Temple murals at present? What areas can be improved?

Appendix C

General informants

Title: Beiyue Temple: A Guide to Preservation, Development and Dissemination

Name: _____ Age: _____ Gender: _____

Occupation: _____ Time: _____ Place: _____

1. Do you know the cultural heritage of Beiyue Temple? Have you heard of Beiyue Temple, one of the five major temples?

2. Do you know when Beiyue Temple was first built? If you know, please tell us the time and legend.

3. Have you seen the murals in Beiyue Temple? In your experience, what are the artistic characteristics of the murals in Beiyue Temple? Where did you get the relevant knowledge?

4. Have you seen pictures of Beiyue Temple on public facilities such as subways, buses, and streets in Hebei? Where have you seen the murals of Beiyue Temple?

5. Have you participated in or watched sacrificial activities or performances related to Beiyue Temple opera?

6. Do you know what aspects are involved in the restoration of murals? What do you think of these experts?

7. Compared with shadow puppetry in other regions, what advantages and disadvantages do you think Changsha shadow puppetry has?

8. What impact do you think socialization has on Beiyue Temple?

9. Will you promote Beiyue Temple to your family or friends through FACEBOOK, Douyin, WeChat, etc.?

10. Will you buy Beiyue Temple tickets and related souvenirs? What do you think of the murals in Beiyue Temple?

11. Do you think Beiyue Temple has played a positive role in the local economic, social and cultural development?

12. From the perspective of cultural protection, what measures should the local government take to protect and promote Chang Beiyue Temple?

Title: Beiyue Temple: A Guide to Conservation, Development and Dissemination

Key Informants

No.	Name	Gender	Role	Age
1	Wang Long	Male	Conservation Specialist	55
2	Wang Li Min	Female	Mural Conservation Specialist	64
3	Lv Ai	Male	Fresco conservation experts, cultural scholars	56
4	Wang Xing Fei	Male	Fresco expert and painter	62
5	Liu Zi Qun	Male	Fresco copying expert and painter	36
6	Zhang Qian,	Male	Mural digital protection expert	48
7	Wang Jianqi	Male	Shaanxi History Museum mural restoration expert,	65

Casual Informants

No.	Name	Gender	Role	Age
1	Zhang Cheng Wen	Male	Teacher & Digital media expert	40
2	Wang Lu Min	Female	Digital media designer	30
3	Zhang Lei	Male	Designer	43

4	SongYing Jie	Male	Government works	47
5	Du Chen	Male	Teacher & Digital media designer	34
6	Zheng Li Jing	Female	Digital Media Specialist	36
7	Li Long Long	Male	Digital media artist	34
8	Zhao Xing Biao	Male	3D digital technician	39
9	Lv Han Zhi	Male	Mural inheritor	25
10	Liu Zhi Tai	Male	Mural inheritor	30
11	ZhangJian Hong	Male	Mural digital collector	28

General Informants

No.	Name	Gender	Role	Age
1	Song Jian Guo	Male	Local villagers	72
2	Wang Tian Bo	Male	Local villagers	40
3	Li Zi Tao	Male	Student	18
4	Yin XiaoYuan	Female	Fresco enthusiasts& Student	22
5	Tong Xin	Female	Mural enthusiast and art teache	27

6	Wang Yong	Male	Mural enthusiast and art teacher	25
7	Li Bo Wen	Male	Mural enthusiasts and students	23
8	Zhang Tian Mei	Female	Local villagers & Student	18
9	Lu Long	Male	Art teacher	29
10	Hao Wei Kun	Female	Art teacher	38
11	Tong Jing Hang	Male	Fresco enthusiasts& Student	23
12	Tian Yu	Male	Fresco enthusiasts&Art teacher	31
13	Zhen Yan Chang	Male	Local villagers& Stone Sculptor	55
14	Wang Bao Long	Male	Digital collection staff	43



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