



DESIGN AND DEVELOPMENT OF SOUVENIR JEWELRY USING HEXI PICTOGRAPH



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DESIGN AND DEVELOPMENT OF SOUVENIR JEWELRY USING HEXI PICTOGRAPH



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DESIGN AND DEVELOPMENT OF SOUVENIR JEWELRY USING HEXI PICTOGRAPH

BY

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HAS BEEN APPROVED BY THE GRADUATE SCHOOL IN PARTIAL FULFILLMENT  
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The patterns in Hexi rock paintings range from plants to characters, and then to various forms of variation and combination. The rich patterns contain profound and complex meanings, reflecting the will for survival, daily emotions, life wisdom, and the spiritual demands of the ancestors, reflecting the social conditions and survival history of primitive societies. The integration of Hexi rock painting elements into innovative jewelry design practices has had a significant positive effect on promoting the widespread dissemination, deep protection, effective inheritance, and sustainable development of local culture. At the same time, it also provides a unique perspective and new ideas for the innovative practice of jewelry design, enriching the diverse expressions in the field of design. Therefore, this article starts with a brief introduction to Hexi rock paintings, analyzes the necessity of activating the artistic elements of Hexi rock paintings, clarifies the application methods and element extraction design of Hexi rock paintings in jewelry design, in order to provide reference and thinking for related research.

Keyword : Souvenir market, Innovation, Jewelry design, Hexi petroglyph

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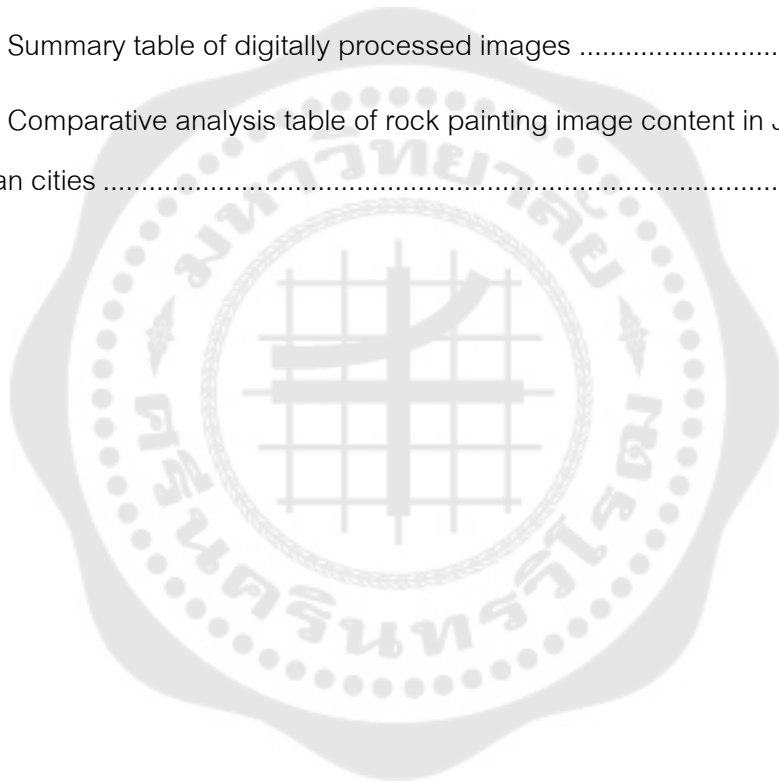
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# CHAPTER 1

## INTRODUCTION

### Research background

The jewelry industry is an emerging industry separated from the jewelry and craft gift industries. As the growing point of the new economy, jewelry has gradually matured in developed countries.

At present, the per capita occupation of jewelry in my country is very low, demand is strong, and the potential is huge. According to authoritative agencies' investigation of the Chinese female jewelry market, women occupy the largest share in the jewelry consumer market. The total annual trade volume of jewelry in the four major fashion cities of the world and Seoul, Tokyo, Hong Kong, and other cities is nearly 100 billion dollars. The per capita share of female jewelry in China is less than 5%, while that in Tokyo is 68.2%, Singapore is 48%, Hong Kong is 54%, South Korea is 68%, Malaysia is 47%, and Thailand is 68%. With the swift advancement of the market economy, women's pursuit of taste and quality of life is progressively enhancing. On the other hand, due to the sustainable development of the domestic economy and the swift rise in people's income, the demand for jewelry among women has also surged. They have become more fashionable, seeking to shape their personality and charm constantly, and advocating culture and customs (Domestic and foreign market demand survey, 2022).

Currently, China's jewelry design lacks brand innovation, and most jewelry enterprises produce their jewelry similar to major international brands, which makes the local jewelry design lack the characteristic vitality of Chinese culture and poor brand recognition. In addition, to cater to consumer preferences and obtain short-term high sales, enterprises rarely focus on the uniqueness and personalization of product design style, leading to the sameness of market products. Therefore, jewelry design innovation plays a more prominent role in consumer leadership. In 2021, the number of jewelry design patents with the legal status of "effective" was 8375, with a year-on-year increase of 40.73%. The competitive ecology of the jewelry industry is changing from the mode of changing price for quantity to the mode of leading the market by innovation, which is

also an important embodiment of the jewelry industry's driving to a new track of high-quality development and achieving quality-oriented growth(Gu, 2022).

The innovation of China's jewelry industry is mainly manifested in cultural innovation, technological innovation and supply chain management innovation. Cultural innovation, as the spiritual core of jewelry design, is mainly reflected in improving product design and culturally added value. Chinese traditional culture is based on the Chinese civilization and integrates the cultural elements of various regions and nationalities in China to form a unique culture, including regional culture, various schools of thought, and symbol totem, as shown in Figure 1.1 (three photos, 2022). With the improvement of people's aesthetic awareness and the love of traditional culture, people are no longer focusing on the decorative function of jewelry, but gradually paying more attention to the spiritual culture behind jewelry design. Therefore, integrating China's long history, ancient myths, and profound cultural heritage into the design will become a new source of inspiration for designers.



FIGURE 1 Colored pottery basin with human face and fish pattern

Source : Three shots (2022). The Night of the Museum - China National Museum (Part 1) Red Dragonfly (15), 10-13. Doi.

The Hexi rock painting elements are the epitome of the history and culture of the Hexi region, part of Gansu, and the natural materials accumulated by the local

people in the long-term production and life. The patterns created have distinctive national and regional characteristics and characteristics of the times. Hexi rock paintings have abstract and geometric forms of expression, and have important cultural research value. The rich motifs and unique organizational forms reflect the local people's awe of nature. The elements of Hexi rock paintings can develop and change continuously, and are inextricably linked with the form and structure of patterns.

The decorative patterns of rock paintings in Hexi Corridor are very rich and have more changes. But on the whole, the pattern of Hexi rock paintings has developed from realism to freehand brushwork and from concrete to abstract. No matter what type of decorative patterns are, they are the reflection of social history and culture at that time, reflecting the thoughts, feelings and concepts of the primitive ancestors. Although Hexi rock painting decoration is a simple and simple pattern, it contains a multiple and complex meaning structure, including cultural factors such as survival, reproduction, winter, power, religion, witchcraft, etiquette, etc. (Guo,Sun &Zhang,2018).



FIGURE 2 North goat rock painting of Yumu Mountain

Source : Guo Xiaoyun, Sun Yuan&Zhang Bowen (2018). Gansu Rock Painting Survey. Journal of Inner Mongolia Academy of Arts (02), 33-42 Doi.



FIGURE 3 Rock painting rubbings of Yumu Mountain - line camel

Source : Guo Xiaoyun, Sun Yuan&Zhang Bowen (2018). Gansu Rock Painting Survey. Journal of Inner Mongolia Academy of Arts (02), 33-42 Doi.



FIGURE 4 Four large dance (drill) rock paintings

Source : Guo Xiaoyun, Sun Yuan&Zhang Bowen (2018). Gansu Rock Painting Survey. Journal of Inner Mongolia Academy of Arts (02), 33-42 Doi.

With the change of the times, the material, use, manufacturing method and style of jewelry is constantly changing. Jewelry has also changed from an initial decoration or utility tool (Figure 1.5) to a carrier for people to express their feelings and emotions in modern life. It is this change that makes the variety and design of jewelry more diverse and richer. The artistic elements of Hexi rock paintings have entered the public's view with jewelry as the carrier and are integrated into the market. Consumers can buy the

jewelry they like through different channels, which not only meets their personal fashion needs, but also feels the traditional cultural connotation of the Chinese nation contained in jewelry.



FIGURE 5 One of the forms of jewelry in primitive society

The elements of Hexi culture have high aesthetic significance, and modern craftsmanship and aesthetics should be combined to design and create products. For example, the Dunhuang Museum, as a representative of the inheritance of Dunhuang traditional culture, uses cultural and creative products to break the boundary between classical art and modern avant-garde culture, and innovatively combines them, allowing Dunhuang traditional culture to once again enter the public's vision with a new look. For example, at the end of 2017, Dunhuang Research Institute and Tencent collaborated strategically to launch the New Year's digital creative activity "Dunhuang Poetry Scarf" at the end of 2018, which continued the patterns of Dunhuang caisson onto silk scarves. "Dunhuang Poetry Scarf" extracted the patterns of Dunhuang caisson into eight main bodies, totaling over 200 units, for users to combine, overlay, and design in an interactive manner.(Figure 6)



FIGURE 6 Dunhuang Poetry Scarf Image citation: from Dunhuang Museum )

The Ji Le Tian series of this hand tent features the mural "Rebound Pipa" from the Dunhuang "Ji Le Tu". A textured print design with a bright and charming red background, practical yet not lacking in appearance. (Figure 7)



FIGURE 7 Dunhuang Ji Le Tian Series Handbooks (Image citation: from Dunhuang Museum)

Nowadays, people advocate nature, pursue individuality, and return to nature has become a trend of pursuit. Ornaments with rich artistic styles are more and more popular with consumers. The artistic elements of Hexi rock paintings have also become an important creative idea of modern jewelry design. Designers are studying design with jewelry as the carrier. More and more designs containing the artistic elements of Hexi rock paintings are used in jewelry creation. The resulting products have the dual functions of wearing and viewing.

Hexi rock painting elements set a new development path for national jewelry design, and modern jewelry design also creates new social opportunities and opportunities for Hexi rock painting elements. The combination of Hexi rock painting elements and jewelry design has great practical significance and opens up a new channel for product dissemination for the dissemination of national culture.

Tourist souvenirs are an important part of the cultural and creative industry of museums. Integrating the cultural elements, image symbols and local cultural elements of the museum's own collections into the souvenirs is a new way for the museum's cultural dissemination and publicity. In recent years, with the success of the



development of souvenirs in foreign museums, Chinese museums have gradually realized the importance of souvenirs in museums. Museums all over the world have developed souvenirs one after another, but the overall level is not high, and the development capacity is insufficient. They still stay in the stage of blindly imitating or copying and copying the creativity and products of other museums in a whole set, without considering the characteristics of their own museums, resulting in serious product homogeneity and lack of characteristics in the museum souvenir market, which cannot reflect the cultural heritage and artistic taste of each museum.

In recent years, with the continuous development of culture and economy, society and people have paid more and more attention to museums. While protecting cultural relics and inheriting intangible cultural heritage, museums have also enriched people's tourism and cultural experience. Tourists also regard museums as a window to know about a certain country and place. Most tourists also hope to buy tourism souvenirs that can reflect the local culture, bring it back for collection or give it to relatives and friends. Therefore, museum souvenirs that are both cultural and practical have a great potential market. At present, more and more museums are indeed trying to develop and design souvenirs with local cultural characteristics. However, for various reasons, most of the products in the museum souvenir market are not at a high level as a whole. The products lack creativity, the form is too single, and even remain in the stage of blindly copying, which cannot reflect the cultural connotation and aesthetic art of the museum itself.

However, with China's rising economic status in the world pattern, it has become a factor to enhance cultural confidence and a necessary condition for Chinese cultural elements to become popular internationally. The design and construction of Hexi rock painting jewelry should fully integrate the content of rock painting, form a unique artistic style with the connotation of rock painting culture, annotate the aesthetic feeling of modern jewelry given by ancient culture with the language of design, and integrate Hexi rock painting culture into jewelry aesthetic creativity. Through diversified platforms, Hexi rock painting culture and series of jewelry will be promoted to the market and more

consumers, and the development of local economy will be promoted. Hexi rock painting jewelry is an idea of collision and integration of ancient culture, modern design concept and advanced technology, which more reflects the recognition of Chinese culture and local culture, and is also a promotion of cultural confidence.

To sum up, to some extent, rock painting is a record of human early life and an indispensable part of China's traditional culture. Although there are obvious differences in the content of rock painting and the expression methods are also different, but on the whole, there is a certain degree of randomness. In the process of creation, the modeling method of plane modeling and the composite method of plane layout is generally used, thus forming a unique aesthetic feeling, While bringing people strong visual impact, it also provides an important reference for subsequent redesign and creation. The innovative application of jewelry design based on Hexi rock paintings not only plays a positive role in promoting the spread, protection, inheritance and development of local culture, but also provides new directions and new ideas for the innovative application of jewelry design.

However, from the current jewelry industry, jewelry product design, research on Hexi rock paintings and local development, when applying "Hexi rock painting elements" to jewelry design, it is not only necessary to do a series of work such as market analysis, target positioning, marketing strategy and scheme determination, but also the most important thing is to do a good job in the overall planning of the artistry of rock painting elements and handicraft products, In order to ensure the full combination of practicality and artistry of products, relevant personnel are still required to actively explore the integration strategy of Hexi rock painting and jewelry design and local commercial development based on the status of jewelry design in the future, and Incorporate the Hexi rock painting culture and innovative design philosophies into jewelry design. Thereby achieving innovative development in jewelry design, It shows the artistic charm of jewelry design with local unique style.

Based on the development status and market potential of the jewelry industry and museum tourist souvenirs, this paper conducts an in-depth investigation and

analysis of Hexi rock art and its museum souvenir market, and finds that there are basically no Hexi rock art elements related products in museum souvenirs, and the existing products lack creativity and single form, which cannot achieve the benign combination of Hexi rock art cultural elements and museum souvenirs. Taking the above investigation as the starting point, the research direction of this thesis is established: taking cultural innovation as the spiritual core of jewelry design, and using Hexi rock art elements to design and develop tourist souvenir jewelry. Therefore, through case analysis and field research, this study discusses the design process of Hexi rock art and explores the relevant market, that is, pattern processing, product design and market analysis of Hexi rock art jewelry and souvenirs, tries to search, compare, classify and discover the characteristics and possibilities of Hexi rock art, and scientifically and universally promotes Hexi rock art souvenirs and other products.

#### **Research objectives**

1. To study Hexi rock painting element jewelry products.
2. To design and develop a new market for Hexi rock art jewelry souvenirs.

#### **Scope of the study:**

1. The Feasibility of Applying Hexi Rock Painting Elements in Jewelry Design.
2. Developing the Hexi Rock Art Jewelry Souvenir Market.
3. Population : Everyone Chinese and international buyers who like jewelry or need souvenirs is mainly suitable for museum culture enthusiasts (people who like rock painting culture and have a demand for souvenirs)

#### **Condition/Criteria for Questionnaire :**

Sample size: 50 persons who consent to give information. (Purposive sampling)

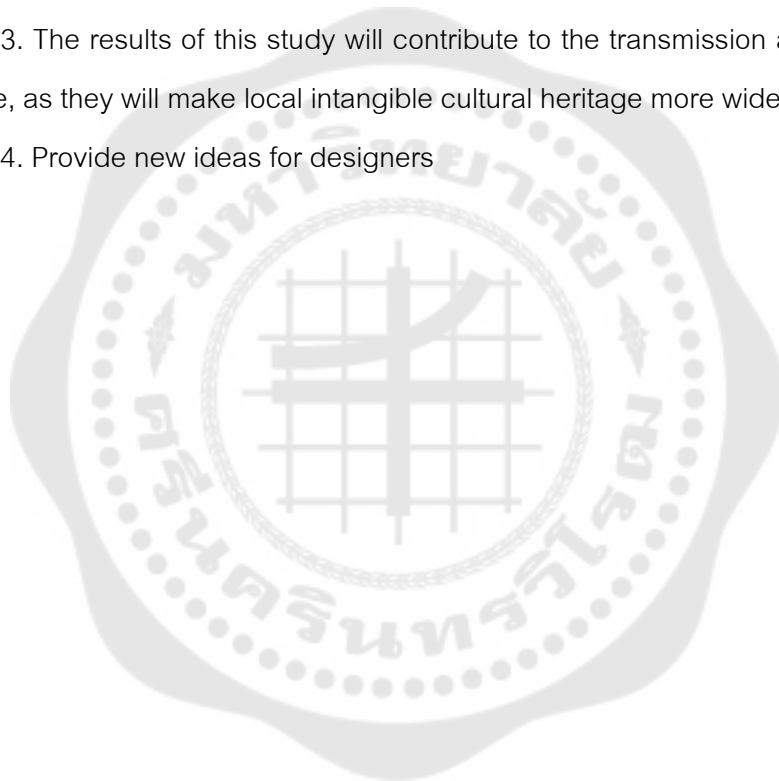
- Age Range 23– 45 Years
- Income at least 4,000 RMB per month

Condition/Criteria for Interview : Interview three industry experts and relevant professional designers engaged in culture and museums, or hold a forum (targeted

sampling) to discuss innovative design and explore how to promote the market of Hexi rock art jewelry souvenirs.

#### **Benefit(s) of the study**

1. The results of this research will be helpful for education purposes as it could be used as a teaching resource
2. The results of this study will contribute to the development of the local economy as it can produce relevant cultural and creative products
3. The results of this study will contribute to the transmission and development of culture, as they will make local intangible cultural heritage more widely known
4. Provide new ideas for designers



## CHAPTER 2

### LITERATURE REVIEW

This chapter includes the following theories, concepts and research papers related to Design and Development of Souvenir Jewelry Using Hexi Pictograph:

#### 1. Development of tourist souvenirs

Tourism souvenirs are ancillary products brought by the tourism industry. The selection of souvenirs in a region usually mainly covers the content related to the relevant specific tourism destination and its main attractions, but souvenirs usually also cover various elements related to the broader geographical area, or any cultural elements related to the background (Mathisen, 2020). In the development and design of museum souvenirs, the connotation and classification are involved, as well as the consumption ability of consumers, the media value of products, symbolic significance, social and cultural impact, etc. For example, the city of St. Petersburg will improve its capacity by selling souvenirs in museum stores, and will launch and sell high-quality souvenirs directly related to the exhibits of high-impact museums to enhance the city's brand. At the same time, distinguishing museum stores from more common mass souvenir stores also provides a competitive advantage for museum stores. In some surveys, it is found that the development and research of souvenirs generally support the use of traditional art and handicrafts as design inspiration, which can not only stimulate tourists' Interest in destination, at the same time, simultaneously also enhances the local cultural characteristics, which are particularly evident in museum souvenirs.

#### 2. Overview of Hexi rock paintings

##### 2.1 Natural geographical environment in HeXi

Hexi is located in the west of current Gansu Province, from the west of Wushaoling in the east to the east of Xingxing Gorge in the west, Qilian Mountains and Altun Mountains in the south, and borders Inner Mongolia Autonomous Region in the north. Now it has jurisdiction over Jiuquan, Zhangye, Wuwei and Dunhuang and

Jinchang. According to some investigation records, The Hexi region is geographically typical of the temperate continental climate, with drought and little rain. From its natural environment, the Hexi region is dry and little rain, and the annual evaporation of rainfall is high. Compared with the cultural relics in the humid climate region of southern China, the cultural relics unearthed in this region are easier to be preserved due to the drought, which can be seen from the large number of Han Dynasty slips unearthed in the Hexi region, and also provide natural conditions for the preservation of murals in the Wei, Jin and the Sixteen Kingdoms periods. It is well preserved and its color is bright and different from the murals in other regions. Hexi rock paintings are widely distributed in Yumu Mountain, Jiayuguan Mountain and other places in Sunan, reflecting the creative wisdom of primitive ancestors, and are an important type in the development of Chinese culture. In the long process of development, the decorative patterns of Hexi rock paintings are different from the object shape to the form of expression. For example, the patterns of Jiayuguan Heishan rock paintings are mainly hunting patterns, as well as deer patterns and human face patterns, which are lifelike; The rock paintings of Yumu Mountain mainly include animal patterns, fish patterns, etc.

The decorative patterns of rock paintings in Hexi Corridor are very rich and have more changes. But on the whole, the pattern of Hexi rock paintings has developed from realism to freehand brushwork and from concrete to abstract. No matter what type of decorative patterns are, they are the reflection of social history and culture at that time, reflecting the thoughts, feelings and concepts of the primitive ancestors. Although Hexi rock painting decoration is a simple and simple pattern, it contains a multiple and complex meaning structure, including cultural factors such as survival, reproduction, winter, power, religion, witchcraft, etiquette and so on (Guo, Sun & Zhang, 2018).

On the mountain grassland of Sunan Yugur Autonomous County at the northern foot of the Qilian Mountains, there are a large number of rock painting resources with a wide range of themes, covering valuable information in the fields of celestial images, animals, war, hunting, domestication, animal husbandry, and symbols. These rock painting resources are covered with thousands of years of wind and frost,

facing the vast sky, vast and ancient, recording the evolution process of grassland culture development, bearing the profound history of the herders in the Hexi Corridor, and are important remains of the rock painting art treasure house on the Silk Road. In recent years, the cultural relics survey team in ZHANGYE area has discovered the black cliff rock painting of YUMEN Mountain in SUNAN for the first time. Since then, SUNAN rock paintings have been on the edge of Hexi cultural heritage investigation. SUNAN County Cultural Relics Bureau has carried out two rock paintings inspections in recent years, but they are intermittent due to the lack of human and financial resources and the wide distribution of rock paintings. (Li Han,2022)

The characteristics of the rock paintings' heritage carrier determine that they are deeply hidden in the mountains and valleys. Therefore, the rock paintings in the Hexi Corridor are distributed on the vast mountain grasslands, most of which are inconvenient for transportation. The rock paintings investigation involves human, financial, material, time and other management elements, which is a systematic project. The rock paintings in the Hexi Corridor play a very important role in the human, historical, archaeological and regional cultural display system of the Hexi Corridor, and should be in the management, protection, research Display, development and utilization are self-contained. Therefore, it is imperative to establish a specialized organization for management, protection, research and display, which is also in line with the objective requirements of the current management and protection of rock paintings, and is the ultimate solution to the on-site management and protection of rock paintings, as well as the development and utilization of the package. (Li Han,2022)

The rock paintings in the south of Hexi Corridor have the advantages of long time span, wide distribution range, rich content, complete types, large quantity and high concentration, which are of great value both in academic and artistic aspects. The painting period can be divided into the Late Paleolithic, Neolithic, Bronze, Xia and Shang, Spring and Autumn and Warring States, Qin and Han, Northern and Southern Dynasties, Sui and Tang Dynasties, Western Xia, Mongol and Yuan Dynasties, and Ming and Qing Dynasties. These rock paintings are a long and voluminous "history book" of

images. These ancient rock paintings condense and tell the valuable information of different nationalities in different periods, involving religious belief, production economy, social outlook, aesthetic thought and many other fields. Rock painting is the original image culture that human beings have left in different cultural characteristics and cultural systems in the process of diversified development, and it is also the carrier of human beings' spiritual activities such as thinking, feeling and living practice in long-term activities.

## 2.2 Historical and Social background of HeXi

In the Paleolithic era, some ancestors lived in Hexi region. The stone chips and leaves at the end of the Paleolithic era were found in Horezadgai in the Mazongshan mountain area in western Gansu. In the late Neolithic Age, many types of culture appeared in Hexi, such as Majiayao culture, Qijia culture, Siba culture and Shajing culture. From the Spring and Autumn Period and the Warring States Period to the early Western Han Dynasty, the Hexi region was mainly the habitat of nomadic ethnic groups such as Qiang, Yue, Wusun and Xiongnu. According to the Han Book(25 AD ~ 220 AD), the Yue family "lived in Dunhuang and Qilian, to the end of the time, the Fadan family broke the Yue family, while the old man Shan family killed the Yue family, and used its head as a drinking vessel. The Yue family was gone far away... The rest of the minority could not go, Baonanshan Qiang, the name of Xiaoyue family", "The king of Wusun called Kunmo. Kunmo's father Nandou Miben and Dayue's family were both in Qilian and Dunhuang." Later Huns occupied Hexi, posing a threat to the Central Plains. By the end of the 2nd century BC, the Han Dynasty had experienced the recuperation policy at the beginning of the founding of the country, and the society was stable and tended to prosper, so the comprehensive strength of the Han Dynasty was increasingly strengthened. In order to defeat the Huns, Zhang Qian was sent to the Western Regions to bring the Hexi region into view, and after defeating the Huns, he was included in the ruling area of the Han Dynasty. After the development of the Han Dynasty, the Hexi region changed from a nomadic economy to an economic system with equal emphasis on agriculture and animal husbandry in the Wei and Jin Dynasties, and achieved great



development. In the "Geographical Chronicle of the Book of Han", there is "(Hexi) Gu Yi is often cheap, less thief, by the qi of harmony, virtuous in Neijun... The region west of Wuwei is characterized by vast expanses of land and a sparsely populated environment. The water and grass are suitable for animal husbandry practices, which have resulted in the livestock in Liangzhou being spared by the world.."

### **3.Necessity of activation and application of elements in Hexi rock paintings**

Given the non-renewable nature of cultural heritage, the government and the art community are treating ancient objects as commodities with the intention of promoting the development potential of the destination (Zhu, Q., Rahman, R., Alli, H.,&Effendi, 2023). According to the some research books, the civilization of Hexi is created by the people of all ethnic groups that have been active here in history, and ethnic minorities also play an important role in it. They contain rich culture and history, diverse forms and rich contents, which provide many distinctive sources of inspiration for the design and development of jewelry. As the most intuitive expression carrier, jewelry designers tell the public the cultural language conveyed by Hexi rock paintings through jewelry products, and spread the rich and colorful culture of the people. With the improvement of consumption level, people's demand for spiritual and civilized life is increasing, and creative jewelry products are also receiving more and more attention. Jewelry products with Hexi characteristics have specific cultural attributes, and their shapes and colors are different from other forms of jewelry design. The designer starts from the aesthetic and needs of consumers and starts from the rich cultural connotation to create unique and personalized works of art for consumers. The artistic elements of Hexi rock paintings have entered the public's view with jewelry as the carrier and are integrated into the market. Consumers can buy the jewelry they like through different channels, which not only meets their personal fashion needs, but also feels the traditional cultural connotation of the Chinese nation contained in jewelry. Therefore, in the process of jewelry design, attention should be paid to the commercial value, cultural value and artistic value of the artistic elements of Hexi rock paintings, so as to spread culture with more innovative design works.(Siran, Z., Al-Khulaqi.,&A,2022)

## 4. Elements extraction of Hexi rock painting patterns in design

### 4.1 Pattern elements

According to Guan Ruiting (2017), in the eyes of the ancestors, the pattern is actually a personified object of worship. Therefore, the primitive clan tribes carved the totem image they worshipped on the bank wall or stone to pray for protection and achieve the purpose of communicating with the nature of heaven and earth. Many scholars believe that the decorative patterns of rock paintings in Hexi Corridor, from vivid and realistic animal and plant images to abstract and symbolic geometric patterns, contain primitive totemic meanings that mark the blood relationship of different clans and tribes. The rock paintings, which depict animals and geometric patterns, are not merely formal decorations or aesthetic creations. Rather, they possess a sacred significance as clan totems. The process of Hexi rock painting patterns from image realism to abstract symbols is the process of accumulation from content to form. The "meaning" of the accumulated form is the original totem meaning contained therein. The main geometric patterns may have evolved from animal patterns. The representative geometric decoration can be divided into two types: spiral decoration and wavy curve decoration... The two types of geometric decoration are clearly divided, which may be the totem symbols of different clans and tribes at that time. This shows two problems: first, some abstract geometric patterns of Hexi rock paintings are evolved from the figurative animal patterns, which shows that some geometric patterns are not evolved from the plant patterns, and the vortex patterns are not necessarily the evolution of water patterns; Second, the forms of these patterns contain the significance of primitive religion and totem worship. These two points have an inherent logical connection. It is precisely because the bird or fish as a totem image has special significance that it can be preserved and evolved to become meaningful formal symbols (Guan, 2017).

### 4.2 Spiritual elements

The primitive society is in a state of barbarism and the level of productivity is low. The primitive people uphold the concept that everything has a spirit, and believe that the phenomena of nature have a mysterious and powerful divine role. In order to

communicate with the gods and gain spiritual power and the will power to survive, the primitive ancestors produced primitive religious beliefs or some kind of witchcraft rituals. Li Zehou said: "In later generations, it seems to be only 'beautiful' and 'decorative' without specific meaning and content of abstract geometric patterns. In fact, in those days, it has very important content and meaning, that is, it has serious primitive witchcraft etiquette and totem meaning" (page27~37,1981).Peng Jixiang wrote in his Introduction to Art: "More theories believe that primitive dance is mainly related to prayer or totem worship."(2018) Yongxia wrote in his "History of Chinese Dance": "The initial text of dance is witchcraft. In the oracle bone inscriptions, dance and witchcraft are common, so we know that witchcraft and dance are the same word." Therefore, the dance patterns on the Hexi rock paintings represent a kind of witchcraft dance, or this kind of dance is essentially a kind of witchcraft ritual activity. In fact, in primitive society, witchcraft etiquette activity is a daily activity of primitive people. It may be both dance activity, witchcraft behavior, and daily life.

## **5. The value of applying Hexi rock painting elements in jewelry design**

### **(1) Highlight characteristics and show the charm of traditional culture**

Wu Weilin(2022) stated that Hexi rock painting elements are the epitome of the history and culture of the Hexi region, and the natural materials accumulated by the local people in the long-term production and life. The patterns created have distinctive national and regional characteristics and characteristics of the times. The rich motifs and unique organizational forms reflect the local people's awe of nature. The elements of Hexi rock paintings can develop and change continuously, and are inextricably linked with the form and structure of patterns. In order to better carry forward and inherit national culture, we should not only protect it, but also innovate it. Hexi rock painting has a strong national character. It combines excellent national culture with modern jewelry design for exploration and research (Wu, 2022). When designing, it is recommended that we focus on the aesthetic habits and lifestyle of the current public, convey the profound national cultural connotation through jewelry, and give it personalized characteristics, combine the unique ethnic rock painting elements of Hexi with modern

jewelry, make use of the rich shape changes of Hexi rock painting, re-create it, and introduce, extend and develop it to create new national jewelry. While highlighting its characteristics, it also fully displays the charm of national style jewelry.

### (2) Meet aesthetic needs and enrich jewelry design field

With the high-quality development of social culture and lifestyle, people's aesthetic level is constantly improving, and jewelry design is also constantly innovating in all aspects, keeping up with the trend of the times. The public aesthetic is increasingly inclined to the simple and geometric form of jewelry modeling(Wu,2022). With the abundance of materials and the rapid development of fashion, the value of materials can no longer become the only value pursuit of consumers. More attention should be paid to the cultural connotation conveyed by jewelry, and the exhibition of personalization and fashion. Hexi rock painting elements have a long history and cultural accumulation. In modern jewelry design, it can not only express art forms different from other brocade patterns, but also have traditional folk art characteristics. Rich pattern modeling, simple geometric form, and bright color contrast originate from natural creation, which can bring stronger national style and visual impact to jewelry design. This design style and color presentation is exactly the goal of modern jewelry design, which is in line with people's pursuit of art and aesthetic orientation. Therefore, Hexi rock painting elements set a new development path for national jewelry design, and modern jewelry design also creates new social opportunities and opportunities for Hexi rock painting elements.

### (3) Inherit national culture and enhance the connotation of jewelry design

The inheritance, protection and development of national culture have gradually been attached importance. Therefore, combining national culture with modern jewelry, enriching the expression language of jewelry design, and excavating the internal characteristics of national culture can endow modern jewelry with a higher level of connotation. Hexi rock painting elements have abstract and geometric forms of expression, and have important cultural research value. The traditional design ideas embodied in the patterns created by the people have played a certain reference role in the development of modern design, which can greatly enrich the theme of national

jewelry and endow modern jewelry with strong artistry, novelty of patterns and diversity of shapes. The combination of Hexi rock painting elements and jewelry design has great practical significance and opens up a new channel for product dissemination for the dissemination of national culture. The personalized, fashionable and extreme requirements of jewelry design make the combination of Hexi rock painting elements and modern jewelry have a deeper level of value enhancement. It is beneficial for modern jewelry design to transmit national culture in the way of jewelry, highlight distinctive regional cultural characteristics, enrich jewelry diversified styles, and enhance the artistic added value of the works.

## 6.Summary

In the process of integrating symbolic rock painting symbols or rock painting elements into jewelry, one of the most difficult tasks is to find suitable matching patterns or patterns, which involves the appearance, connotation and tribe/era of Hexi rock painting. This problem can be solved from several aspects - mining the background relationship between history and society, analyzing the symbolic meaning or emotional expression of the patterns or patterns through the appearance analysis, or finding the similarity of the known patterns and patterns. This research project takes the Hexi rock painting exhibits in the museum and its market as the starting point, and tries to extract and redesign the Hexi rock painting elements to meet the various needs of jewelry souvenir design, Study its social and historical background, and determine the importance and feasibility of Hexi rock painting. On the other hand, Hexi rock painting culture will be promoted from multiple angles, different spiritual contents, different forms, or more popular and portable ways. Tourists can even select or even customize according to preset standards, shapes, patterns, etc., which will improve the quality, authenticity and history of products and expand the market of products and contents. Swanson and Timothy (2012) observed that it is important to commercialize the intangible meaning of souvenirs from a marketing perspective and transform them into tangible consumable products sold by destination merchants. (page 493). Therefore,

this research topic mainly focuses on how to more carefully examine the elements of Hexi rock paintings and the jewelry souvenirs with clearer or more connection.

The focus of this research topic is mainly on two main aspects, that is, the design content used for making Hexi rock painting souvenir jewelry, and the selection of materials, such as selecting the theme or pattern patterns from existing exhibits, entering the museum commodity market in the form of publicity, souvenirs and works of art, and even creating Hexi rock painting series.

## 7. Article/Research Papers

### Literature on Tourism Souvenirs (1-8)

Wang, J.J. (2018) studied about Souvenir jewelry design of Chinese symbols, through an analysis of a series of tourist souvenirs marked by China, this article explores how designers handle local cultural elements and express local cultural characteristics. He found that with the development of the world tourism industry, most people can enjoy the pleasure of traveling. Other industries such as souvenirs, catering, and transportation have also benefited from this rapid change. The theme of souvenir jewelry is culture, which is the aggregation of commemorative jewelry and cultural relics. Therefore, we must clearly understand the integration of souvenirs and cultural innovation, which is very important for the design itself and related market development.

Maneechot.S & Kumsook.K (2018) studied about A study was conducted to examine the potential of jewellery glass and ceramic souvenirs as a tourism promotion from the identity of Phrae. This involved the identification and research of insights about Phrae and the identity of the province, with the objective of collecting data. Find the best design through interviews with experts and designers. Using the structured interview tool, the behavior and opinions of customers purchasing Phrae product souvenirs, especially Thai and foreign tourists visiting Phrae, summarized the needs in the design and found that there are some details, such as some unique patterns, that meet the requirements of souvenir design. The gemstones are processed into black opals through glass-ceramic technology, adding value to the ceramic glass material developed as gemstones, which uses silver to make the gemstone stand out in pattern

and color. The structural motifs of the Ban Wangburi building, which are characteristic of Pulai, were used, and plated in pink gold to match the color of the house. Through their research, designing glass-ceramic souvenirs can promote tourism in Play Province, making souvenirs in the form of jewelry, differing in patterns and gem materials, discovering and creating value for Play Province, and further conveying the good identity of Thai and foreign citizens.

Pl.X.Y. (2019) studied about Development direction of tourist souvenir jewelry. As a hot industry, tourism is developing rapidly. Tourist souvenirs are a kind of accessories brought by the tourism industry. In many countries, the tourism industry is still in its infancy, and there are many aspects that need to be improved. In order to reform tourism souvenirs, China has carried out research on the current tourism market. And put forward the new concept of "tourism souvenir jewelry". This paper analyzes the matters needing attention in the design of tourist souvenirs and jewelry one by one and develops the sub-model design scheme for the tourist attractions in Beijing and Shanghai with the method of example. This shows the necessity of developing tourism souvenir jewelry. Open a new vision for the development of tourist souvenirs.

Agustine, A.D. (2020) studied about Designing necklace using AMPERA Bridge as pendant motif design for souvenir of tourism. He used the Ampera bridge as an example to design necklaces with pendant motifs. Through preliminary research, model development and final product testing. The finished necklace with the Ampera bridge as the pendant pattern was completed, enriching the diversity of typical souvenirs of the Baron.

Ju, S.L., & Tao, Z. M. (2015) studied about Progress of Tourism Souvenirs Researches at Home and Abroad. They analyzed the main research content, research methods and research status of tourist souvenirs at home and abroad, and put forward research prospects, and put forward directions worthy of in-depth research in the future, including the correlation between tourist destination image and tourist souvenirs, human-local relations, human-material relations, material-local relations contained in tourist souvenirs, cultural symbol consumption of tourist souvenirs, economic effects of

tourist souvenirs, social and cultural influences, and the development of special tourist souvenirs. We must be clear that tourist souvenirs are an important part of the tourism industry, and the research methods of tourist souvenirs should also be more diversified and quantified. That is, the research object is more targeted, the research goal is clearer, and the research conclusion needs more data support. The research content is more systematic, including the connotation, classification, authenticity, development and design of tourist souvenirs, as well as the consumption, media value, symbolism, and social and cultural influence of tourist souvenirs.

Swanson and Timothy (2012) studied about The development of souvenir research in tourism. They considered souvenirs from four broad perspectives: the historical perspective of souvenir research, souvenirs as messengers of meaning, souvenirs as tradable commodities, and the commodification of souvenirs and crafts. Additionally, they examined the supply and demand side of souvenir production and consumption, including various aspects of distribution systems and producers. Moreover, the study examines the process of commercializing local crafts into consumer tourism products and proposes avenues for further research in this under-researched field of tourism.

Hashimoto, A., & Telfer, D.J. (2007) studied about The geographical representations embedded within souvenirs in Niagara Falls, with a particular focus on the concept of geographically displaced authenticity. By examining the concept of geographic scale and geographically dislocated authenticity associated with Niagara Falls souvenirs in Canada, they analyzed the types of Niagara Falls souvenirs, and explored the image of souvenir products purchased from local representatives (Niagara Falls) to Canadian national representatives, presenting 100 unobtrusive observations of tourists buying souvenirs at souvenir shops according to souvenir classification.

Guo, X. (2019) studied about Jewelry design art. The book shows that the artistic design of modern jewelry is diverse, and each style has its own unique beauty and expression, that is, they have both adaptability and limitations. Therefore, for jewelry designers, it is necessary to strengthen aesthetic cultivation and improve the aesthetic



ability of plastic arts. For the general jewelry enthusiast or consumer, should understand and master some basic knowledge of jewelry art and design, to enjoy more beauty in jewelry appreciation.

#### Literature on Jewelry Design (9-12)

Drozd, T., Prikhodko-Kononenko, L., & Kolosnichenko, M. (2022) studied about Gemological jewelry design and artistic design in decor elements. Their main purpose is to explore the combination of metals and gemstones with artistic design as decorative elements, and to demonstrate the feasibility of mixing precious metals with natural raw minerals through experiments. We have demonstrated and demonstrated that untreated minerals of different metal combinations have complete design features, demonstrating the effective and appropriate use of natural elements as stand-alone souvenirs and creative arts.

Direction, S. (2020) studied about This article presents an analysis of the potential for leveraging museum-quality art to build a competitive advantage. It examines the evolving city brand of St. Petersburg, with a focus on the role of museum shop souvenir strategies. The article offers insights into the ability to enhance the brand of the city of St. Petersburg through souvenirs sold in museum shops. It presents an analysis of the strengths of museum shop salesperson souvenirs, demonstrating how selling high-quality souvenirs directly related to high-impact museum exhibits can enhance the city's all-round branding. Concurrently, the study posited that differentiating the museum store from the more general mass souvenir store could confer a competitive advantage upon the museum store.

Zeng, L., Liu, Y. J., Wang, J., Zhang, D. L., & Yuen, M. M. F. (2014) studied about is to investigate the potential of semantic feature modeling for the design of jewelry. A semantic feature modelling system for jewellery design based on sketches, called Blue Sketch2 Jewelry, was proposed. This newly designed semantic feature class encodes domain-specific knowledge and provides productive semantic information. The advantage of using semantic features is to reduce the search space in sketch-based feature retrieval and to facilitate the selection of parameters from input

sketches for feature instantiation and placement. In contrast to previous feature-based business modeling tools, Sketch2Jewelry addresses the inaccuracy and ambiguity issues associated with freehand sketch input, such as those encountered with SolidWorks, which is limited to dummy sketches. The incorporation of semantic features as advanced building blocks, coupled with sketch input, enables the proposed Sketch2Jewelry system to significantly enhance jewelry design efficiency. Furthermore, Sketch2Jewelry facilitates the natural and efficient creation of complex jewelry models by non-experts through functional design. To illustrate the utility of the system, a number of examples are provided.

Yu, Q., Meng, K., & Guo, J. (2018) studied about The innovative application of silver material in contemporary jewelry design. The researchers employed their understanding of jewelry materials to analyze relevant design principles for innovative combinations of silver materials, traditional materials, and modern materials in jewelry design. They sought to address the current situation of modern silver jewelry design, which they identified as the lack of variety in the combination of materials, the prevalence of outdated patterns, and the conservative creative style. To this end, they developed an innovative approach to materials, patterns, and a creative style that combines culture and art. The evolution of silver jewelry design is analyzed, offering insights that can inform future developments in the field.

#### Literature on Museum Tourism Souvenir Jewelry Design (13-16)

Dubarova-Kostadinova.Z, Stewart.R, & Kostadinov.T., (2022) studied about An Approach to the Visual Presentation of Museum Artefacts. The objective of their research is to develop methodologies for the integration of digital tools at the design stage and to select graphic design solutions that align with the objectives of preserving and disseminating cultural and historical heritage. To enhance the applicability of the proposed method, the focus is primarily on the precise selection of exhibits of a given type to optimize their presentation in various contexts, including graphics, industry, and others. The necessity of utilizing artificial intelligence tools and contemporary

methodologies for image analysis is underscored, and techniques for analyzing and evaluating artifacts are investigated.

Guan, R.T.(2017) studied about Study on deer elephant petroglyphs in Hexi Corridor. by investigating many deer petroglyphs in the YULU Mountain, JIAYUGUAN Black Mountain and JIUQUAN MAMAN Mountain in the Hexi Corridor, he analyzed the artistic characteristics of the deer petroglyphs in the Hexi Corridor, traced the worship of animal deer, and revealed the characteristics of the times and artistic aesthetics of the northern nomads.

Sthapit, E., Björk, P., & Rasoolimanesh, S. M. (2022) studied about Toward a better understanding of memorable souvenir shopping experiences. The study primarily examined the influence of objective authenticity, the substantive stage of service landscapes, experience co-creation, participation, and shopping satisfaction on the recollection of souvenir shopping experiences. By collecting big data on 304 tourists purchasing souvenirs. "To prove that co creating experiences, participation, and shopping satisfaction have a good impact on the memory of souvenir shopping experiences, and we will bring family and friends to visit our hometown again next time."

He, L. H. (2022) studied about Place Representation through Souvenir Production and Consumption. In his existing tourism research, he has found that regular souvenirs produced in bulk often do not sell well. However, a small amount of data indicates that tourists prefer personalized and unique cultural and creative products. In recent years, cultural and creative products that have become increasingly popular in China are typically produced in batches. These phenomena indicate that it is necessary to better understand souvenirs, especially those produced on a large scale, and better understand cultural and creative products from a new perspective. Specifically, this study aims to understand how souvenirs are repositioned as cultural and creative products. It also seeks to examine how suppliers view the location of the relationship between cultural and creative products and tourists' perceptions of their location.

Literature on Hexi Rock Painting and Culture (17-20)

Zhu, Q., Rahman, R., and Alli, H. (2023) conducted a thematic review of souvenirs related to cultural heritage. It is commonly believed that souvenir research supports traditional arts and crafts as design inspiration, which can both stimulate interest in the destination and strengthen the local cultural identity. This growing interest in souvenirs and cultural heritage has led to a surge in research on this topic. As a preliminary step, the unavoidable interconnection between souvenirs and cultural heritage, as well as the process of transforming cultural heritage resources into souvenirs, were analysed. This was achieved by examining souvenir documents related to cultural heritage from 2018 to July 2022. In order to identify and select articles for comprehensive analysis, a set of inclusion and exclusion criteria was proposed to search and filter articles from three major databases, namely WOS, Mendeley, and Scopus. Ultimately, 27 articles that met the eligibility criteria were selected for analysis. As the analysis software yields quantitative results indicating trends in the study of cultural heritage-related souvenirs, at the same time, the qualitative analysis identified four themes. The following four themes were identified as key areas for analysis:

- (1) The meaning of souvenirs
- (2) The customer's willingness to buy
- (3) Transformation
- (4) Sustainability

Hagan, H.E., & Myers, L.C. (2006) studied about Tuareg Jewelry: Traditional Patterns and Symbols. Through a wealth of information about the symbolic meaning of Tuareg jewelry, such as the importance of symbolism for the Tuareg people, the forms of geometric patterns and designs, and numerous symbolic and practical meanings, they analyze and study what represents a viable indigenous attempt to preserve the Tuareg language, culture and Amazigh identity in northern Niger, and illustrate the role of the works in the daily life and traditional customs of the Tuareg people and the commentary on the meaning given to it by the Tuareg people. This article explains explain the various meanings contained in Tuareg jewelry and explain the role and significance of related elements into jewelry design pieces.

Hagan, H.E., & Myers, L.C. (2006) also said that jewelry design is a creative process and creativity based on the inner perception of beauty in art and theme art, and is the individual perception of beauty and image by artists, creators and consumers. The opposition of modern jewelry in terms of combination, perception, application, etc. The only thing that binds them together is common. Through different geometries and mixtures, plants, flowers, insects or animals, or imitating nature in decorative elements, as the main component of decoration, metal - as an additional element.

Apostolika, N.K. (2005) studied about Tracing symbols of life and symbols of death in Neolithic archaeological contexts. By studying the symbolic and decorative effects of several miscellaneous objects from the early Neolithic period, he obtained the results of their recognition and acceptance in certain recurring types, seen by all as "symbolic" of social and ideological information. In the late Neolithic period and the last period, due to their production in Greece and subsequent export to the European market for trade, the result of systematic production for commercial purposes emerged, becoming symbols of social and financial hierarchy and, in a sense, "symbols."

Mathisen, S.R. (2020) studied about This paper examines the commodification of Sámi spirituality in the context of tourism. The researcher began by examining the presentation of examples of Sámi souvenirs related to religious contexts in souvenir shops. He then proceeded to investigate the complex relationship between these factors in the field of religion, the past, the field of arts or crafts, and in relation to ownership issues. The objective was to explore the relationship between spiritualized and commercialized souvenirs and the general understanding of indigenous Sámi religion and spirituality in the West. One example of such souvenirs is a replica of a different size and quality of a Sámi eddy drum. Others discuss the use of symbols on the drum that are suitable for souvenir products such as jewelry or other design products. The starting point is the material souvenir itself, which is combined with live displays in shops, online and social media, and linked to the tourist imagination.

### Summary of the 21 papers

These 21 papers are mainly connected with the research on the application of cultural elements such as tourist souvenir market, jewelry design, museum tourist souvenirs, and rock paintings in design.

Papers 1-8 of the paper focus on tourist souvenirs and their markets; There is no clear definition of tourist souvenirs in academia. But everything belongs to its roots, tourist souvenirs belong to tourism commodities, and tourism commodities have a relatively clear definition. That is, the sum of tangible and intangible services with practical value and value provided by suppliers to meet the needs of tourists for the purpose of selling and exchanging.

Tourist souvenirs are divided into three categories, traditional tourist souvenirs, industrialized tourist souvenirs, unindustrialized tourist souvenirs, and traditional tourist souvenirs in daily life tourism to be deeply rooted in the hearts of the people. Such products are linked to the business cards of a place, such as graphic books in the Mogao Grottoes in Dunhuang and products related to the Forbidden City in Beijing. Most of the industrialized tourist souvenirs have local cultural characteristics and unique charm, but such goods are mainly sold locally. For example, beef jerky in Inner Mongolia, soy products, raisins in Xinjiang, etc. Unindustrialized tourist souvenirs are brand new tourist souvenirs in the context of the new era, with a wide variety of goods, but most of them are made by individuals or small teams, as the name suggests, "small workshops" are produced. Similar products have handmade handicrafts that are not clearly defined.

With the development of tourism in the world, most people can enjoy traveling. Other industries such as souvenirs, catering, and transportation have also benefited from this rapid change. And tourist souvenirs have become an important product that people bring to their relatives and friends. The material and local relations contained in tourist souvenirs, the consumption of cultural symbols of tourist souvenirs, the economic effect of tourist souvenirs, the social and cultural influence, and the development of

characteristic tourist souvenirs. It has become an indispensable part of the world economy.

Sections 9-12 of the thesis take jewelry design and materials as the main direction, not only study the artistic design content of jewelry design and decorative elements, but also explore the combination of metals and gemstones with artistic design as decorative elements, and prove the feasibility of mixing precious metals with natural raw minerals through experiments.

In their 2007 study, Hashimoto and Telfer examined the geographical representations embedded within souvenirs in Niagara. They explored the concept of geographically displaced authenticity. Geographical representations embedded in Niagara souvenirs" as the object of study. By studying the authenticity of the concept of geographical scale and geographical dislocation associated with souvenirs of Niagara Falls, Canada. Make reasonable market research based on the types of souvenirs in Niagara Falls. A review of the literature reveals that souvenirs frequently serve as a source of inspiration for traditional arts and crafts, which both stimulates interest in the destination and strengthens the local cultural identity is a significant aspect of the area's character. The growing interest in souvenirs and cultural heritage has stimulated the development potential of the related markets to a certain extent.

Papers 13-21 focus on the application of museum souvenirs, rock paintings, and cultural elements in jewelry. The museum is not only a cultural heritage preservation unit, but also a media for inheriting cultural heritage, and a carrier of cultural tourism projects. But the current status quo of tourist souvenirs in Chinese museums is; The variety is single, there is no innovation, the commodity price is expensive, and the public demand is low and unwilling to spend a lot of money to buy. In contrast, in Europe and North America, the income of many museum tourism souvenirs has become the main source of income for museums. The case of promoting the "St. Petersburg City Brand" by selling souvenirs in museum shops shows that selling quality souvenirs directly related to high-impact museum exhibits can enhance the city's all-round branding. It can be seen that making full use of market rules, market-oriented, and guided by

consumer demand, can improve the influence of museums and increase profits, and at the same time can drive the promotion of cultural element products.

As mentioned before, there is a good market, and good products will continue to emerge. As in "Souvenirs and the Commodification of the Sámi Spirit in Tourism", which begins with the live display of Sámi souvenirs related to the religious context in souvenir shops, investigates the complex relationship between these factors in the religious sphere, the past, the artistic or craft sphere, and the question of ownership. Explore the relationship between spiritualized and commercialized souvenirs and the general Western understanding of the religion and spirituality of the Sámi Aborigines. An example of such souvenirs is a replica of a Sámi Eddy drum of different sizes and qualities, while others discuss the use of symbols on the drum suitable for souvenirs such as jewelry or other design products. The starting point is the material souvenir itself, combined with live displays in shops, online and social media, and connected to the imagination of visitors.

Similarly, Hexi rock art can also be promoted to the market through commercialization, so that the public can know and understand, Research on this topic through the research and analysis of the tourist souvenir market (mainly museum souvenir market), from the connotation of Hexi rock art and product commercialization, to the design and market development of souvenir jewelry products as the ultimate goal, to open up new channels for the dissemination of local culture.



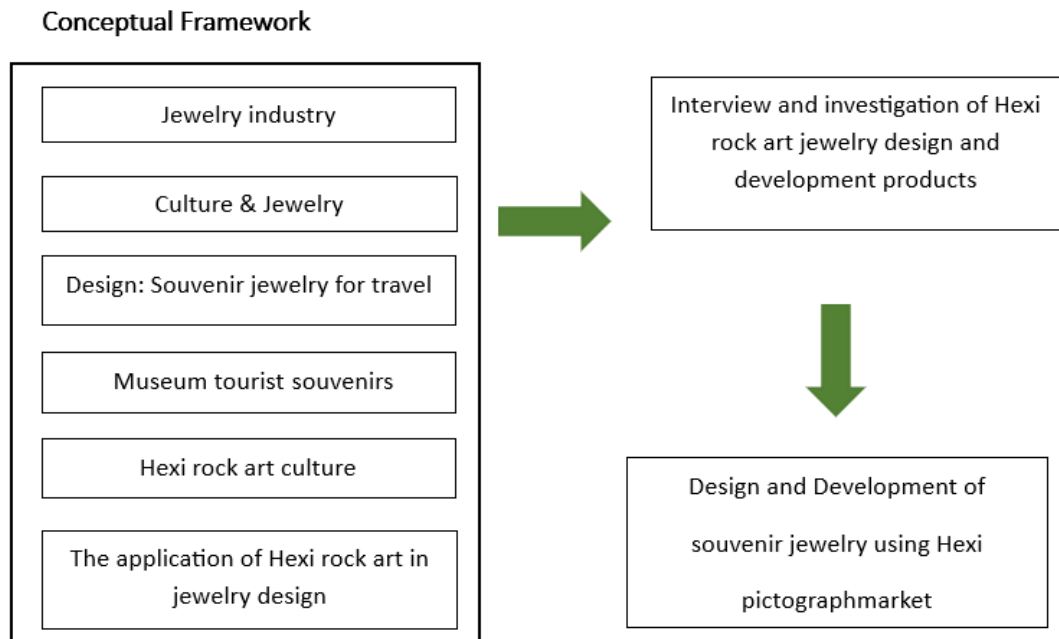


FIGURE 8 Conceptual Framework

## CHAPTER 3

### RESEARCH METHODS

#### **Step 1: To study.**

##### Organization of rock painting images in Hexi

Through preliminary investigation and literature research, it is found that the current research on Hexi rock paintings is basically based on archaeology and iconography, and in some places, rock paintings have not even entered the public's view, especially the innovative use of rock painting culture. The lack of resources in the Hexi Corridor has led to the fact that the rock paintings in Hexi are basically in a dormant state, and the cultural content of the rock paintings in the museum has not been emphasized, and has not played its due role in the process of the development of the local tourism industry. Therefore, the rock painting image information data of Jiuquan City and Jiayuguan City will be collected and organized according to the principles of location, site, cultural background, and type of rock paintings, and metadata will be considered to be added to the image files, including the GPS coordinates of the sites, description of the rock paintings, cultural background, and any other relevant information. This will provide basic materials for the later study of rock painting images in Hexi, as well as for the development of the tourist souvenir market, enrichment of museum stores, and the design and development of tourist accessories using the visual aesthetic value and cultural connotation of the rock paintings themselves.

#### **Step 2: To analyze.**

The researchers plan to use mixed research methods. Through fieldwork and literature research, excavate the geographic environment, social background and cultural background of Hexi rock paintings, combine with the application of jewelry art, establish the commercial value and artistic value of Hexi rock paintings applied to jewelry art, design and develop Hexi rock paintings art tourism souvenirs ornaments through the museum merchandise market survey and expert interviews, so as to make

the culture of Hexi rock paintings better developed and to open a new museum tourism souvenir Market.

Through preliminary background research on the history and culture of the area related to the Hexi rock paintings, as well as fieldwork and records, it is possible to learn about the ancient civilizations that once flourished in the area, as well as any known cultural practices or beliefs that may be related to the rock paintings.

The process of obtaining data will be divided into two steps: the first step is to identify the data sources, which can be done through internet search, literature survey, expert interviews, etc. to collect relevant data and information on the style, composition, color, and other characteristics of the rock paintings in Hexi. The second step is to classify, screen and organize the collected data and information to extract useful data and elements from them.

The content of the research on images will be presented in the form of a table, and the specific content will be carried out in the following aspects:

1. Analyze the artistic styles and techniques in rock paintings. Identify and organize recurring motifs, symbols and themes.
2. compare known symbols and motifs in the region's Hexi petroglyphs with known motif symbols and motifs, exploring motifs that may convey specific meanings or tell a story, and providing content factors about cultural interactions and influences.
3. to look for patterns, similarities and differences between the rock paintings of Jiuquan and Jiayuguan in the broader context of the creation of the various rock painting sites in the two regions, and to analyze in depth the connotative meanings of the rock paintings in the two regions.

### **Step 3: To design.**

Using computer vision and image processing techniques, digitize Hexi rock paintings and extract features such as shape, color and texture of patterns and motifs as design materials for jewelry souvenirs. Searching and analyzing a large number of open data sources to find market and cultural information related to Hexi rock paintings. In addition, interviews, statistics and analysis of tourists' preferences and consumption

behaviors, and word-of-mouth on social media were used to obtain data on the market demand and consumption trends of Hexi cultural souvenirs and jewelry.

### **1. Pattern :**

Hexi rock art elements the natural materials accumulated by the local people in long-term production and life, and the patterns created have distinct regional characteristics and era characteristics. The rich motifs, as well as the unique organizational form, reflect the local people's reverence for nature. The elements of Hexi rock art can continue to evolve and change, and are inextricably linked to the formal structure of the pattern. In order to better carry forward and inherit national culture, it is necessary not only to protect it, but also to innovate. Hexi rock art elements have abstract and geometric expressions. Therefore, when designing, consider extracting, deforming and reconstructing the lines in the Hexi rock paintings, and should also pay attention to the aesthetic habits and lifestyles of the current public. Through jewelry to convey the profound local cultural connotation, and give it personalized characteristics, the use of Hexi rock paintings rich pattern shape changes, re-create it, and introduce, extend and develop it to create new tourist souvenir jewelry, endowing modern jewelry with strong artistry, pattern novelty and shape diversity.

### **2. Materials:**

In the history of jewelry development, jewelry materials have also experienced a long evolution and development, Paleolithic primitive society, people use stones, animal bones and other production tools and ornaments, and then later through social culture, economic development, began to use metals, gemstones, etc., and in the use of jewelry, is also dominated by the hierarchy, such as primitive society period, tribal or ethnic group leaders have the power to control jewelry, into the feudal society period, royalty and magnates become the main users of expensive jewelry, Therefore, it has been found that the value of traditional jewelry depends more on the value and characteristics of the material. However, combined with the development of modern

society, the diversification, characteristics and value of jewelry materials are not limited to traditional materials.

Non-traditional materials utilized in contemporary jewelry encompass two categories:

(1) Synthetic and inorganic materials that were manufactured as a result of technological advancements.

(2) Alternative organic materials, such as plant petals and shells. (Siran, Z., & Al-Khulaqi, A. 2022)

Therefore, considering the pattern form and concept of Hexi rock art itself, the current situation of the tourist souvenir market (mainly for museum tourist souvenir jewelry), so as to facilitate consumers' daily wear and use and the complexity of jewelry technology processing, the design products in this study consider the design and production of metal and enamel technology, and launch the Hexi rock art series of tourist souvenir jewelry. But it must be noted that the work itself is related to the idea of modern design, the material craftsmanship is only the surface used to add color to the product, that is, the basic technical part. In the overlapping part of product content and material technology, the understanding of materials, and the exploration of processes are all ways to help products achieve better performance. Yu, Q., Meng, K., & Guo, J. (2018) research proposed: materials from around can better reflect the cognition and love of life.



FIGURE 9 Works by Russian artist Ilgiz Fazulzyanov



FIGURE 10 Buccellati Opera Color Collection

### 3. Function :

Historically, jewelry was defined as ornaments worn on the head. However, it has since been expanded to include ornaments worn on any part of the body, such as earrings, pins, pendants, bracelets, etc. This expansion can be attributed to the physiological need to beautify the body. (Siran, Z., & Al-Khulaqi, A. 2022, Dec). Consequently, the utilisation of Hexi rock art elements in the design and development of jewellery products is a suitable approach for the current generation, who are gradually developing an increasingly sophisticated aesthetic awareness. Furthermore, it offers the potential to enhance the commercial appeal of the museum without compromising its intrinsic value, thereby facilitating the dissemination of Hexi rock art culture to a broader audience.

**Step 4: To evaluate.**

1. Interview conditions/criteria: Interview three industry experts, including experts engaged in museum culture, rock painting research and design experts (J) , or hold a talk and exchange meeting (targeted sampling) to discuss innovative design and how to promote the market of Hexi rock painting jewelry and souvenirs.

2. Content: Design and development of Hexi pictograph souvenir jewelry

3. Market survey conditions/criteria: relevant museum staff, exchange the current status of jewelry products in the museum tourism souvenir market, as well as the status of jewelry souvenirs related to Hexi rock paintings.

4. Investigation: Through research, examination, interview and communication, the design is completed and submitted to three experts for review, and finally improved according to the experts' review.



## CHAPTER 4

### DATA ANALYSIS AND RESEARCH RESULTS

The presentation of the data analysis and research results are divided into two sections.

#### 1. The cultural history of Hexi Petroglyphs

##### 1.1 The origin and development of rock paintings in Hexi

Petroglyphs originated in primitive society. They are pictures drawn and carved on rocks by the ancestors in ancient times using realistic or abstract forms of expression over the long years. These pictures always record the life scenes of people in ancient times in the most intuitive way. Most of the petroglyphs are chiseled with hard stone tools (Figure 11). The chiseled parts are shallow and dense, with traces of old and old color (Figure 12). A small part of the petroglyphs are made of natural mineral colors or by burning Charcoal depiction of insufficient wood formation (Figure 13).



FIGURE 11 Primitive social tools made of stone



FIGURE 12 Helan Mountain Human Face Rock Paintings





FIGURE 13 Petroglyphs painted in red ochre

According to the region, Chinese rock paintings can be divided into southern rock paintings and northern rock paintings. Among them, Hexi rock paintings refer to the rock paintings located in the Hexi Corridor of Gansu Province, China, and are also typical representatives of northern China rock paintings. The original Hexi rock paintings probably originated in the Neolithic Age about 17,000 years ago. These rock paintings were found in caves and rock walls in Qinghai, Gansu and other places, forming a unique prehistoric art gallery. The rock paintings in Hexi are rich in content, including animals, figures, statues, symbols and various patterns, presenting the life scenes, social organization forms and humanities at that time.

The development of primitive Hexi rock paintings has gone through different historical stages. In the area of Hexi Corridor, many hunter-herdsmen and nomadic tribes have lived and thrived. Due to social development, tribe changes and climate changes, Hexi rock paintings have unique Rich and diverse changes have also formed various customs or cultures, including many symbolic rock paintings in rock paintings, which have gradually formed the writing system of ethnic minorities. In the research on the development of rock art in Hexi, some experts believe that its formation may be related to the change of climate and environment at that time and the exchange of local culture. When the climate in the Hexi area began to change to aridity, this may have prompted the local nomadic people to begin to transform to agricultural production, and formed many new cultural elements in the process. At the same time, since the Hexi

Corridor straddles the cultural exchange area between Central Asia and China, it also provides conditions for the formation of petroglyphs.

Among them, most of the early petroglyphs are mainly based on simple line outlines and color fillings. The picture composition is simple, the depiction is relatively rough, and the themes are diverse, including simple geometry, figures, animals, plants, etc. With the changes of the times, the expression forms of petroglyphs have gradually diversified, and the content and painting skills have gradually been enriched and improved. More complex patterns and details have appeared, the colors used have become more diverse, and the painting techniques have become increasingly mature. A preliminary investigation and research of the pattern development of primitive Hexi rock paintings has identified four distinct stages. The first stage is the early petroglyphs, mainly geometric patterns and animal images. The second stage is the mid-period petroglyphs, in which figures gradually appeared, and some sacrificial scenes and dance patterns began to appear. The third stage is that of the petroglyphs, which can be divided into two periods: the middle period and the late period. The images of characters are more perfect, and the content of petroglyphs is gradually rich and colorful, such as hunting, war, production and life scenes. The fourth stage is the rock paintings in the late period. At this time, the expression forms of the rock paintings tend to be more realistic, such as the details of the characters' demeanor, clothing and utensils.

The discovery of primitive Hexi rock paintings provides important evidence for the study of society, economy and religion in the Neolithic Hexi region. At the same time, petroglyphs also record the interaction between ancient humans and animals, and are also of great value for the study of zoology and ecology. It is precisely because of their high artistic and academic value that they have also been included in China's key cultural relics protection objects. However, due to its location in Northwest China and limited popularization of rock art culture, Hexi rock art is not well known to the general public, and there are basically no related cultural products on the market. The systematic arrangement and classification of rock paintings, as well as the interpretation

of the cultural symbols and meanings contained in rock paintings, not only gradually uncovered the mystery of this prehistoric art, but even through further research, we can more comprehensively understand the history of ancient humans. Ways of thinking, artistic concepts and lifestyles provide important clues for exploring the origin and development of human civilization.

To sum up, the origin and development of primitive Hexi rock paintings, as a precious heritage of Chinese prehistoric art, have brought us endless space for thinking and exploration. The primitive Hexi rock paintings are important witnesses of prehistoric human art, and are also important materials for the study of ancient civilization and archaeology. Through the study of these prehistoric works of art, we can better understand the wisdom and creativity of ancient humans, and feel the continuation and inheritance of civilization. It is hoped that in the next research, the connotation of the original Hexi rock paintings can be further excavated, and more wisdom and strength can be contributed to the development of human civilization.

### 1.2 Regional classification of Hexi petroglyphs

Hexi rock paintings are a type of rock paintings distributed in the Hexi Corridor area of Gansu, Qinghai and Ningxia provinces (regions) in China. The patterns and connotations of the original rock paintings in Hexi also vary with different sites and regions in the Hexi Corridor, and their geographical distribution is very wide, covering multiple counties and cities in multiple regions. The geographical environment of the Hexi Corridor is diverse and unique, and it is this environment that provides conditions for the formation of petroglyphs. Due to the influence of long-term weathering, erosion and natural forces, the rock paintings in Hexi not only integrate the local geographical characteristics, but also carry important information of ancient culture. Among them, Gansu Province is one of the areas with the widest distribution, the largest number and the highest quality of petroglyphs, covering the whole territory of Gansu, combined with rich natural environment and cultural heritage, it has formed a unique Gansu culture. The petroglyphs in Qinghai Province are mainly concentrated around Qinghai Lake, Qilian Mountains, and the northeast foothills of Qilian Mountains. They are important

materials for studying the ancient culture of Qinghai and the development history of early Tibetan Buddhism. The rock paintings in Ningxia Hui Autonomous Region are distributed in Zhongwei City, Guyuan City, Wuzhong City and other places. Grassland patterns and camel paintings are the most distinctive, reflecting the production and life scenes of the ancient local nomadic peoples.

Taking the distribution of Hexi rock paintings in Gansu Province as an example, according to the investigation of relevant cultural relics departments, up to now, a total of 72 rock paintings have been discovered in Gansu Province. The petroglyphs are mostly distributed in remote mountains, Gobi or river ditches, which are remote and far away from towns, and have preserved relatively primitive features. According to the division of regions, there are rock paintings in Jiuquan, Jiayuguan, Zhangye, Wuwei, Jinchang, Baiyin, Gannan and Longnan.

#### Rock paintings in Jiuquan City:

According to field surveys by relevant departments and experts, Jiuquan rock paintings are mainly distributed in Subei, Dunhuang, Aksai, Guazhou, and Yumen, including 23 in Subei and 1 in other regions. Subei County is located on the north and south sides of the west end of the Hexi Corridor in Gansu Province. It is also the largest minority autonomous county in Gansu. There are glaciers, snow-capped mountains, rivers, wetlands, grasslands, canyons and other diverse topography and landforms. These little-known mysterious rock paintings in Subei, including Daheigou Rock Paintings, Huiwanzi Rock Paintings, Algeritai Rock Paintings, etc., are mostly They are all in the pastures and range of the herdsmen. Therefore, the herdsmen are likely to be the creators of the petroglyphs. Since most nomads have no writing, they transmit information through petroglyphs. These petroglyphs are simple in carving techniques, but they vividly record the nomadic life Traces of national reproduction and development. Most of them are characters and animals, mainly reflecting nomadic life.



FIGURE 14 Algetai rock painting site site Image citation: from the Subei Museum

Animal:

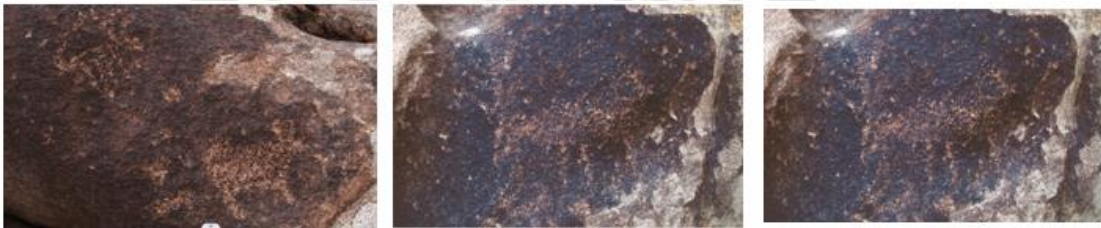


FIGURE 15 Bison (Algeta Petroglyphs) Image citation: from the Subei Museum



FIGURE 16 Camels (Algeta petroglyphs) Image citation: from the Subei Museum



FIGURE 17 Deer (Algreta petroglyphs) Image citation: from the Subei Museum



FIGURE 18 hunting map - bison (algretai petroglyphs) Image citation: from the Subei Museum



FIGURE 19 Ibex (Lao Dao Huduge rock painting) Image citation: from the Subei Museum



FIGURE 20 Camel herd (Pudu Hulust Rock Painting) Image citation: from the Subei Museum



FIGURE 21 Camels (Puduhurust Rock Paintings) Image citation: from the Subei Museum



FIGURE 22 Deer (Puduhurust Rock Art) Image citation: from the Subei Museum



FIGURE 23 Camels (Budu Hulust Rock Paintings) Image citation: from the Subei Museum



FIGURE 24 Ibex and wild donkeys (Puduhurst petroglyphs) Image citation: from the Subei Museum



FIGURE 25 Wild donkeys (Puduhurst petroglyphs) Image citation: from the Subei Museum





FIGURE 26 Camels (Pudhulust Rock Paintings) Image citation: from the Subei Museum



FIGURE 27 Wild donkeys (Puduhurust Rock Paintings) Image citation: from the Subei Museum

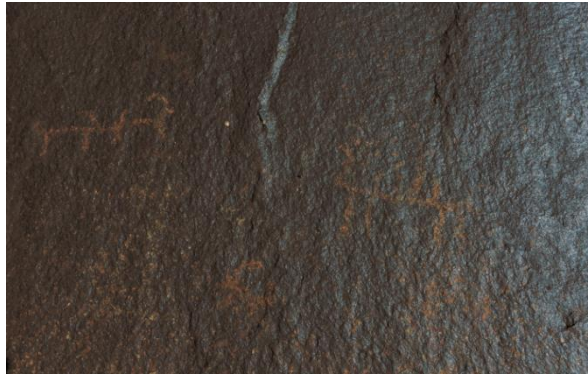


FIGURE 28 Argali (rock painting in Cuangkugou) Image citation: from the Subei Museum



FIGURE 29 Qingyang (Daheigou rock painting) Image citation: from the Subei Museum



FIGURE 30 Elephants (Daheigou Rock Paintings) Image citation: from the Subei  
Museum

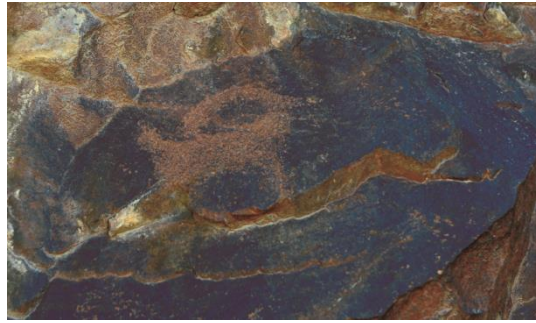


FIGURE 31 Ibex (Gegwusu rock painting) Image citation: from the Subei Museum



FIGURE 32 Camel (Gegewusu rock painting) Image citation: from the Subei Museum



FIGURE 33 Camel (Gegewusu rock painting) Image citation: from the Subei Museum



FIGURE 34 Ibex (Gegwusu rock painting) Image citation: from the Subei Museum



FIGURE 35 Combination of animals (Gegewusu Rock Painting) Image citation: from the Subei Museum



FIGURE 36 Deer (Hanxia petroglyphs) Image citation: from the Subei Museum



FIGURE 37 Qingyang and deer (rock paintings in Beishan, Hongliuxia) Image citation: from the Subei Museum



FIGURE 38 Camels (Houhuiwanzi petroglyphs) Image citation: from the Subei Museum



FIGURE 39 Dog (Houhui Wanzi rock painting) Image citation: from the Subei Museum

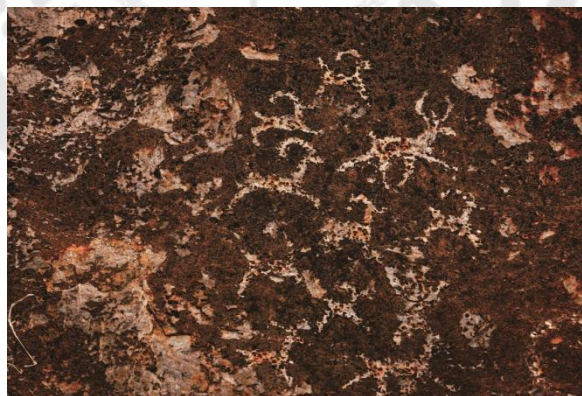


FIGURE 40 Blue sheep (Huiwanzi rock painting) Image citation: from the Subei Museum



FIGURE 41 Bison (Huiwanzi petroglyphs) Image citation: from the Subei Museum



FIGURE 42 Ibex (Holezadge petroglyph) Image citation: from the Subei Museum



FIGURE 43 Wild donkeys (Holezadge petroglyphs) Image citation: from the Subei  
Museum



FIGURE 44 Camels (Seven Donkeys Petroglyphs) Image citation: from the Subei Museum



FIGURE 45 Deer (Sander petroglyph) Image citation: from the Subei Museum

Human:



FIGURE 46 Figures (Algreta petroglyphs) Image citation: from the Subei Museum



FIGURE 47 Dancers (Algreta petroglyphs) Image citation: from the Subei Museum



FIGURE 48 Figures (Algreta petroglyphs) Image citation: from the Subei Museum





FIGURE 49 Dancers (Algreta petroglyphs) Image citation: from the Subei Museum

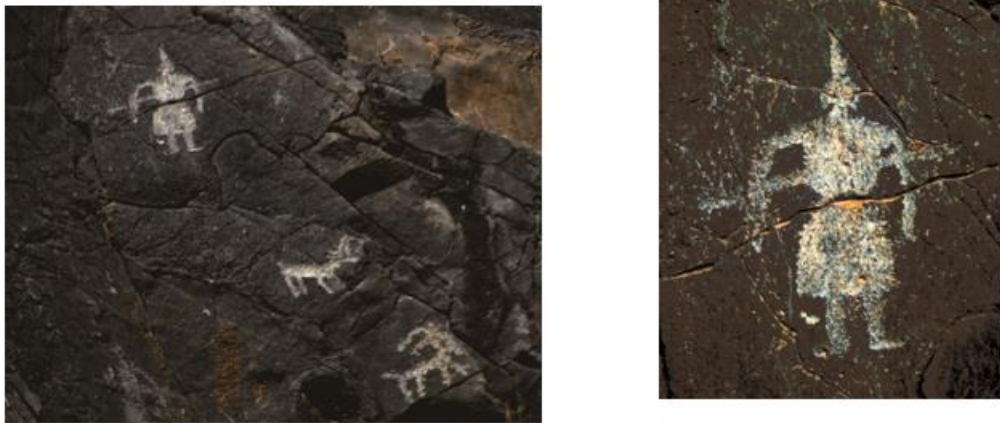


FIGURE 50 Alerter (Daheigou rock painting) Image citation: from the Subei Museum



FIGURE 51 Rider (Houhuiwanzi Rock Painting) Image citation: from the Subei Museum



FIGURE 52 Humans and Animals (Holezadge Petroglyphs) Image citation: from the Subei Museum

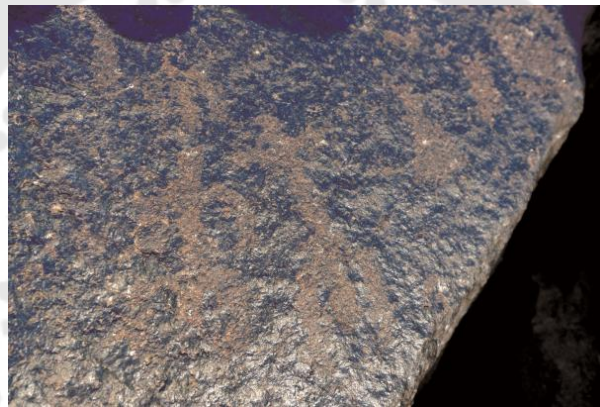


FIGURE 53 Dancer (Sander petroglyph) Image citation: from the Subei Museum



FIGURE 54 Human figure (same as ancient rock painting) Image citation: from the Subei Museum

Life scene:



FIGURE 55 Hunting (Algre Terra petroglyphs) Image citation: from the Subei Museum



FIGURE 56 Cattle Training (Algreta Petroglyphs) Image citation: from the Subei Museum



FIGURE 57 Grazing (rock paintings in Kuangougou) Image citation: from the Subei  
Museum



FIGURE 58 Grazing (Daheigou petroglyphs) Image citation: from the Subei Museum



FIGURE 59 Hunting picture (Daheigou rock painting) Image citation: from the Subei Museum

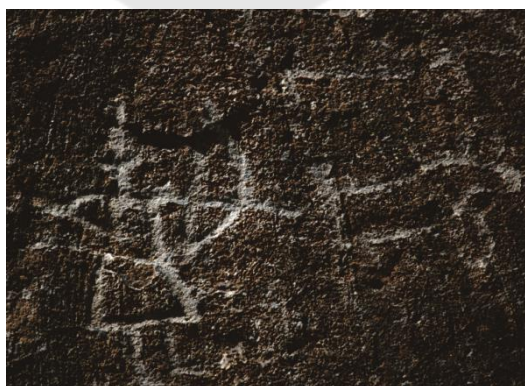


FIGURE 60 Hunting (Daheigou petroglyphs) Image citation: from the Subei Museum



FIGURE 61 Group Attack Map (Daheigou Rock Paintings) Image citation: from the Subei Museum

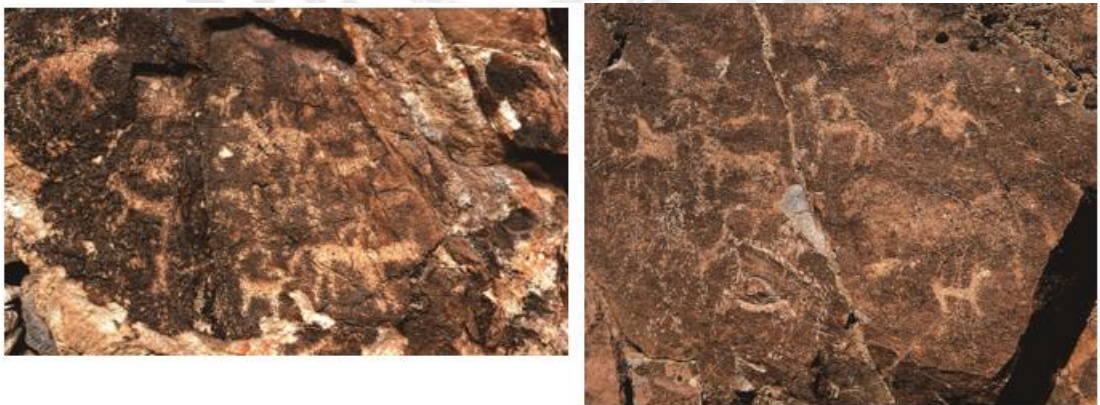


FIGURE 62 Grazing (rock paintings in Beishan, Hongliuxia) Image citation: from the Subei Museum



FIGURE 63 Hunting (seven donkey petroglyphs) Image citation: from the Subei Museum



FIGURE 64 Grazing (deep groove petroglyphs) Image citation: from the Subei Museum

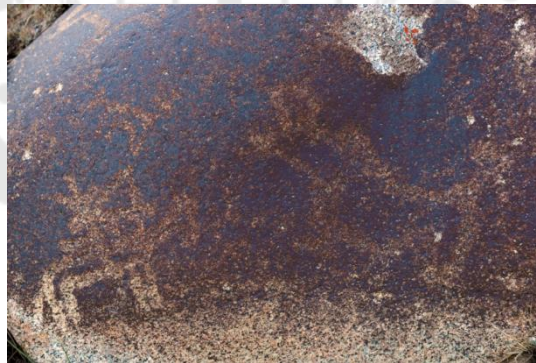


FIGURE 65 Hunting (Zhazigou Rock Paintings) Image citation: from the Subei Museum



FIGURE 66 Two hunters celebrating the tiger hunt (Daheigou petroglyphs) Image citation: from the Subei Museum



FIGURE 67 Combination map (Daheigou petroglyphs) Image citation: from the Subei Museum

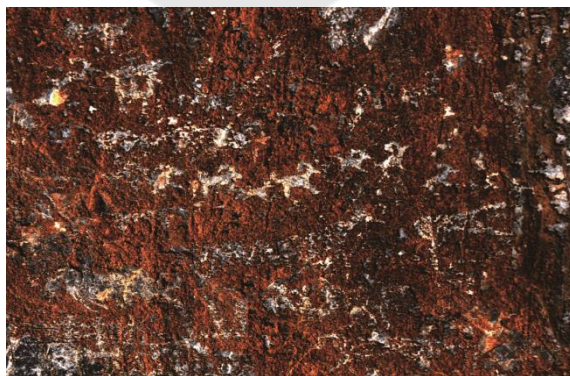


FIGURE 68 Combination map (Huiwanzi Rock Painting) Image citation: from the Subei Museum



FIGURE 69 Assembled picture (Sandar petroglyphs) Image citation: from the Subei Museum

**Totem symbol:**



FIGURE 70 Totem Worship Picture (Daheigou Rock Painting) Image citation: from the Subei Museum





FIGURE 71 Reproductive Worship Picture (Old Daoist Huduge Rock Painting)

Image citation: from the Subei Museum



FIGURE 72 Mysterious symbols (Lao Dao Huduge rock paintings) Image citation: from the Subei Museum



FIGURE 73 Mystical Symbols (Sander Petroglyphs) Image citation: from the Subei Museum

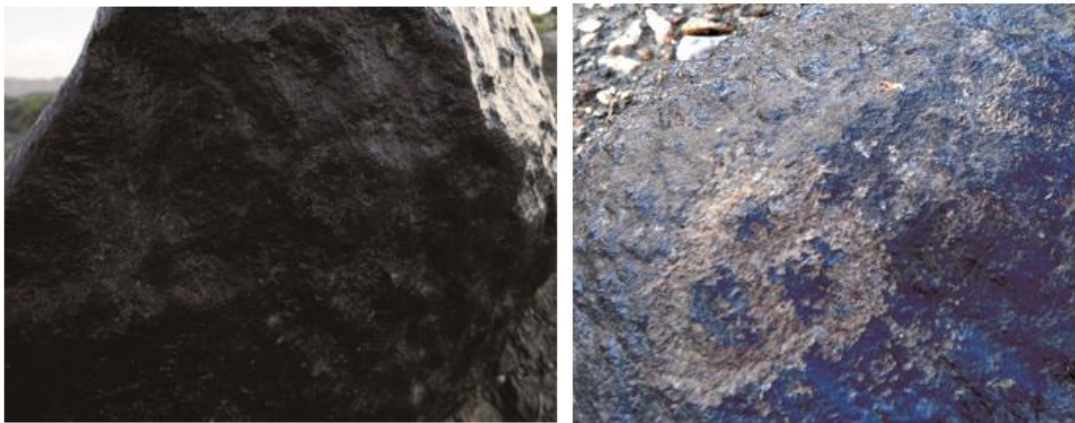


FIGURE 74 Mystical Symbols (Sander Petroglyphs) Image citation: from the Subei Museum



FIGURE 75 Mystical Symbols (Sander Petroglyphs) Image citation: from the Subei Museum



FIGURE 76 Mystical symbols (deep trench petroglyphs) Image citation: from the Subei Museum



FIGURE 77 Mysterious symbols (rock paintings of Dajingquan in Shibaocheng) Image citation: from the Subei Museum

Vegetation :

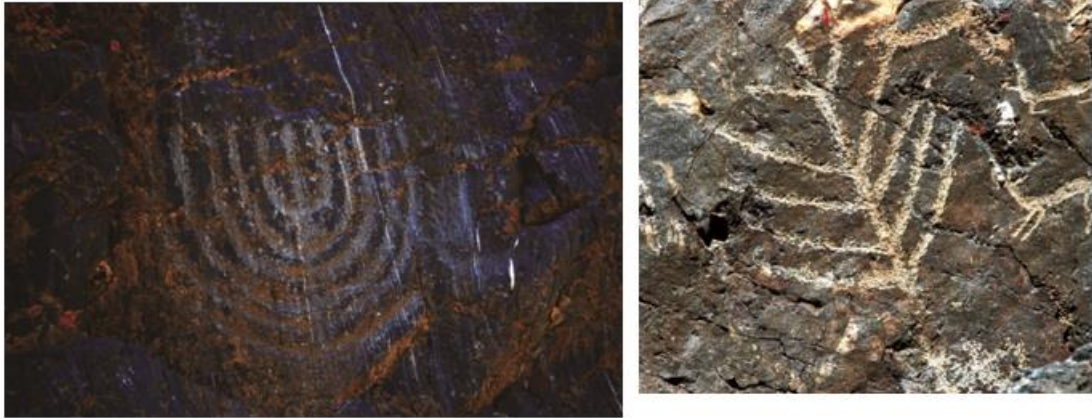


FIGURE 78 Vegetation (Daheigou Rock Paintings)

Image citation: from the Subei Museum

other:



FIGURE 79 Untitled (Pegg Paintings of Algre Terrace)Image citation: from the Subei  
Museum



FIGURE 80 Untitled (Canggougou Rock Painting) Image citation: from the Subei Museum



FIGURE 81 Chariot (Daheigou Rock Painting) Image citation: from the Subei Museum



FIGURE 82 Untitled (Liugou rock painting) Image citation: from the Subei Museum

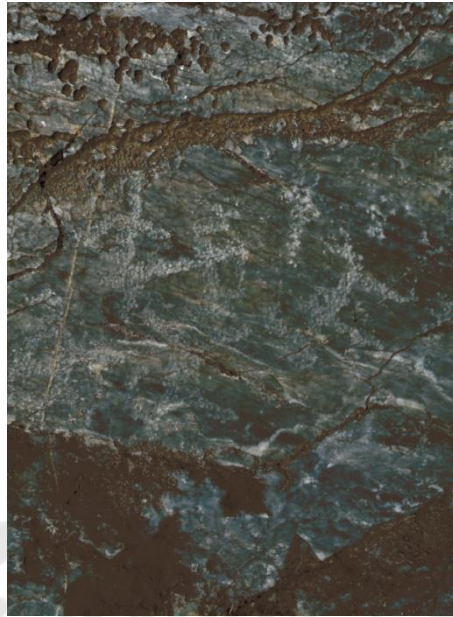


FIGURE 83 Untitled (Seven donkey petroglyphs) Image citation: from the Subei Museum



FIGURE 84 Untitled (Sander petroglyph) Image citation: from the Subei Museum



FIGURE 85 Untitled (Sander petroglyph) Image citation: from the Subei Museum

The petroglyphs in Aksay Autonomous County are mainly Qingyazigou rock paintings, which reflect the content of hunting and domestication of animals in ancient times. Most of the images are expressed in lines and have a strong life scene; In this area, there have been nomadic ethnic groups such as Serzhong, Wusun, Yuezhi, Turkic, Mongolian, and Kazak. The national cultural information of the petroglyphs at the Qingyazi site, the characteristics of the times and the living culture are relatively obvious. The rock paintings here are relatively concentrated. Nomadic production maps, life record maps, etc., relatively complete records of the history of nomadic development, and accurately express their ideology on small rocks.



FIGURE 86 National dance (rock paintings in Qingyazigou) Image citation: from Dunhuang Academy



FIGURE 87 Partial figures (rock paintings in Qingyazigou) Image citation: from Dunhuang Academy

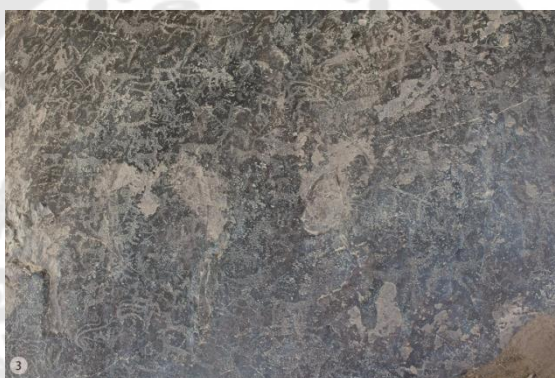


FIGURE 88 De patterns drawn by different techniques (Qingyazigou rock paintings)

Image citation: from Dunhuang Academy

#### **JliuQuan Petroglyphs:**

The contents of Heishan rock paintings in Jiayuguan are mainly dances, hunting, figures, animals, pagodas, etc. Most of them are patterns reflecting wild animals. At that time, the Huns saw more totem animals and figures during their regional activities. The petroglyphs are used to record what they have seen and heard, and the content of the petroglyphs also reflects national characteristics, such as tigers reflect strength and bravery, deer reflect dexterity and sensitivity, and eagles have keen vision. There are many images of animals and plants in the rock paintings of Heishan. These animals and plants have different needs for climate and living environment, so to a



certain extent, they reflect the changes of climate and vegetation landscape in Hexi area.

**Animal:**



FIGURE 89 Stag (Black Mountain Petroglyphs) Image citation: from Dunhuang Academy



FIGURE 90 Bison (Montenegro petroglyphs) Image citation: from Dunhuang Academy



FIGURE 91 Three Antelopes (Montenegro Petroglyphs) Image citation: from Dunhuang Academy



FIGURE 92 Bison resting on the ground (Montenegro petroglyphs) Image citation: from Dunhuang Academy



FIGURE 93 One tapir, eleven running gazelles (Black Mountain petroglyphs) Image citation: from Dunhuang Academy

Life scene:



FIGURE 94 Tiger, Snake, Camel, Whip Bearer Driving Horse Image citation: from Dunhuang Academy



FIGURE 95 Hunting picture (3 wolves, 6 gazelles, 2 bison) Image citation: from Dunhuang Academy



FIGURE 96 Camel Hunting Picture (Black Mountain Petroglyphs)



FIGURE 97 Partial picture of sacrificial hunting (rock paintings in Heishan)



FIGURE 98 Part of the sacrificial hunting picture - sacrificial dance scene Image citation:  
from Dunhuang Academy



FIGURE 99 A cow gives birth to a calf, two deer mate, and one jumps Image citation:  
from Dunhuang Academy

### Zhangye Rock Paintings:

The rock paintings in Zhangye City are mainly concentrated in the Yumu Mountain area. The rock paintings are rough and unrestrained, simple and vivid, and have unique cultural connotations. The petroglyphs can be roughly divided into animal images, astronomical patterns, birds and livestock, hunting and animal husbandry, religious worship, reproductive worship and various symbols. Judging from the creation style, content, preservation condition, overlapping phenomenon, wind erosion degree or color difference of nicks and stone scale, these petroglyphs convey information of different periods, which can be traced back to the Stone Age at the earliest.

#### Animal:



FIGURE 100 Bison (rock painting in Heishitugou, Yumu Mountain) Image citation: from Dunhuang Academy



FIGURE 101 Wolves and ibex (rock paintings in Sitarzigou, Shandan) Image citation: from Dunhuang Academy



FIGURE 102 Mother and Child Deer (Shandan Sitarzigou Rock Painting) Image citation:  
from Dunhuang Academy



FIGURE 103 Big Horned Deer (Emwood Mountain Wooden Rock Painting) Image  
citation: from Dunhuang Academy



FIGURE 104 Striped tiger (rock paintings in Alatau Mountain, Shimugou, Yumushan,  
Rock Paintings in Laohugou) Image citation: from Dunhuang Academy



FIGURE 105 Big-horned deer (heifangdizi petroglyphs in the east area of Mushujingzi, Yumushan) Image citation: from Dunhuang Academy

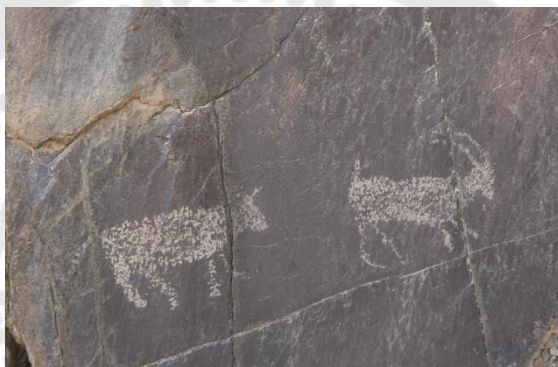


FIGURE 106 Cattle and ibex (Heifangdizi petroglyphs in Mujujingzi East District, Yumu Mountain) Image citation: from Dunhuang Academy



FIGURE 107 Camels and people in disguise (rock paintings in Alatau Mountain, Shimugou, Yumushan, Rock Paintings in Laohugou) Image citation: from Dunhuang Academy

Life scene:



FIGURE 108 Hunting scene (rock paintings in Heishitugou, Yumu Mountain) Image citation: from Dunhuang Academy



FIGURE 109 Hunting and consumption of cattle (Heifangdizi petroglyphs in Mujujingzi East District, Yumushan) Image citation: from Dunhuang Academy



Totem symbol:



FIGURE 110 Mainly abstract symbols, circle symbols similar to the sun or Dharma wheel  
(Radium Mountain petroglyphs) Image citation: from Dunhuang Academy



FIGURE 111 Sun Symbol (Radium Mountain Petroglyphs) Image citation: from  
Dunhuang Academy



FIGURE 112 Abstract symbols (Radium Mountain petroglyphs) Image citation: from Dunhuang Academy



FIGURE 113 Handprints (Radium Mountain Petroglyphs) Image citation: from Dunhuang Academy

#### **Wuwei Rock Paintings:**

Wuwei has a long history. As early as four or five thousand years ago, northern ethnic groups such as Rong, Yuezhi, and Wusun lived together. The city has a history of nearly 2,200 years, dating back to the expedition sent by Emperor Wu of the Han Dynasty to Hexi, during which Huo Qubing, a hussar general, defeated the Xiongnu and demonstrated the "martial arts military might" of the Han Empire. Wuwei's strategic location at the intersection of the ancient Silk Road, the economic hub of the Central Plains and Western Regions, the nexus of the cultures of these regions, and the gateway

to the western section of the Silk Road render it a significant site. The Wuwei Ganquanzigou petroglyphs are situated 2,000 meters southeast of Ergou Village, Xiying Town, Wuwei City, while Ganquanzigou (Tougou) is approximately 3,000 meters into the mountain.



*FIGURE 114 Engraving of 3 horses, 1 cow, and 1 deer (Ganquanzigou petroglyphs)*

*Image citation: from Dunhuang Academy*

#### **Jinchang Rock Paintings:**

Jinchang City currently has one district and one county under its jurisdiction, namely Jinchuan District and Yongchang County. There are five rock art sites in total, which involve images of animals, hunting, animal husbandry, symbols, etc., which are a true reflection of the hunting and herding life of ancient ancestors in Jinchang. A considerable number of petroglyph resources are located on the mountainous grasslands in the north and south of the Hexi Corridor, revealing and recording the historical trajectory of hunters and herdsmen from barbarism to

civilization, telling the spiritual world of northern hunters, livestock breeders and late nomads, and becoming the cultural heritage of different ethnic groups here. The imprint or symbol of human civilization left in the long history of Hexi.

**Animal:**



FIGURE 115 Ibex (Camel Peak petroglyph) Image citation: from Dunhuang Academy



FIGURE 116 Bison (Camel Hump petroglyph) Image citation: from Dunhuang Academy



FIGURE 117 Bison, deer, and ibex (Daquan petroglyphs) Image citation: from Dunhuang Academy



FIGURE 118 Camels (Daiquan petroglyphs) Image citation: from Dunhuang Academy



FIGURE 119 Running and Playing Horses (Huamen Rock Painting) Image citation: from Dunhuang Academy



FIGURE 120 Big horned deer (Niuwashan petroglyphs) Image citation: from Dunhuang Academy



FIGURE 121 Herd of animals (Niuwashan petroglyphs) Image citation: from Dunhuang Academy



FIGURE 122 Argali (Niuwashan petroglyphs) Image citation: from Dunhuang Academy

Life scene:



FIGURE 123 Hunting scene, three yaks, two hunters on horseback (Daquan petroglyph)

Image citation: from Dunhuang Academy

## 2. Distribution, main images and content analysis of petroglyphs in JiuJia area, Gansu

Please refer to the table below for the detailed information map of the petroglyphs in Jiuquan and Jiayuguan City

(Table 2.1 Classification and content analysis of main images of petroglyphs in JiuQuan City)

(Table 2.2 Main image classification and content analysis table of petroglyphs in JiaYuguan City)

(Table 2.3 Digitally processed image summary table)

(Table 2.4 Comparative Analysis Table of Contents of Rock Art Images in JiuJia City)

In order to make the image clearer and facilitate the classification and analysis of the image, the subject researchers carried out digital image processing on the collected images. In the form, the subject researchers will compare the photos taken in the field with the digitally processed images.

According to current statistics, there are 23 rock art sites in Jiuquan City and 1 rock art site in Jiayuguan City. The research project will select representative rock art images among them for analysis.

TABLE 1 Classification of main images and content analysis table of petroglyphs in JiuQuan City

JIUQUAN	NUMBER	CONTENT	IMAGE
Animal	Deer image 1	<p>Hanxia petroglyphs - According to the image processing results, the image of the rock painting is a deer, the huge antlers are obviously exaggerated, the limbs of the deer are clear, and the antlers are strongly patterned. This group of images is more typical among the deer images in Hexi rock paintings, the body of the deer is composed of only two arcs, which represent the back and abdomen respectively, and the legs are represented by zigzag curves. The patterned shape is a major feature of the petroglyphs of deer images in the Hexi Corridor. By summarizing the shape and antlers of the deer into smooth geometry or curves, the beauty of the lines is preserved, the style is simple, the lines are smooth, and the integrity of the image is preserved. From another perspective, it also reflects the deer worship consciousness in the typical animal worship in the rock paintings of the grasslands in northern my country. The ancestors believed that the horns of animals are a bridge to communicate with the gods, and horns can also promote the reproduction of species. Animals with horns have supernatural powers. Divine power. In the petroglyphs, the images of exaggerated antlers and enlarged body also imply the meaning of praying for a good harvest and peace, which is why ancient ancestors chose deer as objects of worship.</p>	 



TABLE 1 (CONTINUE)



JIUQUAN	NUMBER	CONTENT	IMAGE
	Deer image 2	Sander petroglyphs - According to the results of image processing, the image is a dynamic running deer, the antlers are branch-like, the tail is a bit incomplete, the limbs are strong and long, the running movement is very strong, the head of the deer is tilted back, and the antlers are tilted backward to buttocks. The height of the deer body is basically the same as the antlers. The antlers in this group of patterns are extremely exaggerated, like the branches of a big tree, full of decorative sense, but the body shape is very simple, and the overall shape is simple and clear.	 
	bison image 1	Algreta petroglyphs - According to the results of image processing, the image is a bison. The chiseling method is used to emphasize the external outline of the bison, and the body of the bison is decorated with dense chiseling points.	 
	sheep image 1	Algretai petroglyphs - According to the image processing results, the image is an argali, and the shape of argali is portrayed in the way of line expression, which is relatively not realistic enough, reflecting the aesthetic differences of different creators in different periods.	 
	sheep image 2	Budu Hulusitai Rock Painting - According to the image processing results, the image is a wild goat. The petroglyph pattern uses silhouettes to depict the animal image. The pair of large curved horns on the top of the wild goat's head are very obvious. In the higher mountain forests, they often live in alpine caves in summer, and migrate	

TABLE 1 (CONTINUE)




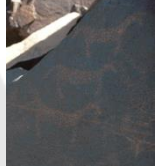



JIUQUAN	NUMBER	CONTENT	IMAGE
		<p>from the top of the mountain to the knife forest in winter. From this, it can be inferred what the natural environment was like in the area where wild goats lived.</p>	
sheep image	3	<p>Daheigou Rock Paintings - According to the image processing results, the image is a Qingyang. The back and waist of the Qingyang are straight, and the head is triangular. The features are still very obvious.</p>	 
donkey image		<p>Budu Hulusitai Petroglyphs - According to the image processing results, the image is a wild donkey. It can be seen from the shape of the animal's moving limbs and swaying long tail that this group of wild donkeys is dynamic and looks like a group walking .</p>	 
elephant image		<p>Daheigou Rock Paintings - According to the image processing results, the image is an elephant, which is also an animal species rarely seen in Hexi rock paintings. Combined with the elephant's living environment and habits, It provides clues to the age of rock paintings in Hexi, and also provides some evidence for climate changes in the Hexi Corridor.</p>	 

TABLE 1 (CONTINUE)







JIUQUAN	NUMBER	CONTENT	IMAGE
People	character image 4	<p>Daheigou petroglyphs - This group of rock paintings can be clearly classified as scene rock paintings. According to the image processing results, the marked image is a human figure, with a bow and arrow in his right hand, and a knife or shield in his left hand. Combined with the scene environment, it can be known as a hunting picture, and the image of the characters is hunter. What is interesting is that clothing appears in this group of characters, which is different from most other characters. Most of the characters do not depict the clothing of the characters. The researchers speculate that it may be related to the age of rock painting creation, to a certain extent It reflects the aesthetic consciousness of the society at that time.</p>	 
	Character image 5	<p>Daheigou Rock Paintings - This group of rock paintings are scene rock paintings. According to the image processing results, the marked image is a horse rider, the figure is wearing a hat, the hair or headband is floating behind the head, and the limbs of the horse are not parallel. Comprehensive It can be inferred from the above that the image is in the dynamic process of running, combined with the whole picture, it can be clearly identified as a group attack picture.</p>	 
	Character image 6	<p>Holezadegai Rock Paintings - This group of rock paintings is a scene-type rock painting. Character depictions do not occupy a major position in the entire picture. In particular, the images are also very simplified, with no clothing or hat decorations. According to the investigation, the rock painting site dates from the Paleolithic period to the Warring States period, so it can be speculated that the creation of this image is related to the times.</p>	 

TABLE 1 (CONTINUE)





JIUQUAN	NUMBER	CONTENT	IMAGE
Character image 7	Character image 7	Shander Rock Paintings - This group of rock paintings are scene-type rock paintings from the Neolithic to the Spring and Autumn Period and the Warring States Period. The carving techniques of this group of rock paintings are extremely simple, rough and powerful, and have a unique style.	 
Character image 8	Character image 8	The Rock Paintings of Crescent Lake represent a group of rock paintings from the scene, chiseled by intaglio techniques. These rock paintings span the Warring States Period to the Western Han Dynasty. The figures depicted in these rock paintings wear hats or some kind of tribal decorations, hold a bow in their right hand, an arrow in their left hand, and one leg is bent. The character dynamics are clear, and the figures are depicted in a realistic manner.	 

Table source: drawn by the author

TABLE 2 Main image classification and content analysis table of petroglyphs in Jiayuguan City


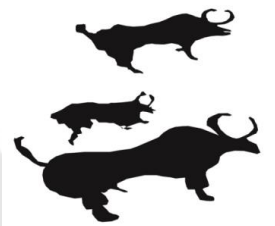




JIAYUGUAN	NUMBER	CONTENT	IMAGE
Animal	bison image 1	Heishan Rock Paintings - According to the image processing results, this group of images are three bison. The patterns are mainly portrayed on the surface, and they all show walking dynamics. The tail is raised and swayed. The body is strong and powerful. The animal shape is realistic and concrete. .	 
	bison image 2	Rock Paintings in Heishan - According to the results of image processing, this group of images is an image of a cow mainly depicted in lines, showing the dynamics of walking slowly, with its tail hanging down, like a leisurely walk, and the image is complete.	 
	bison image 3	Rock Paintings in Heishan - According to the results of image processing, this group of images is a group of images of cattle mainly depicted on the face, with arched backs, forward horns, and high raised tails. It can be seen that this group The bison presents a similar offensive state, and the whole group of images looks strong and powerful.	 

TABLE 2 (CONTINUE)



JIAYUGUAN	NUMBER	CONTENT	IMAGE
	sheep image 1	<p>Rock Paintings in Heishan - According to the results of image processing, this group of images is a group of images of antelopes mainly depicted on the surface. Although the lines are simple, they are flexible. From the observation of form, they seem to be like a running sheep. There are other patterns behind the main body, but due to the age, the specific image can no longer be seen clearly, like another sheep following behind, or it may be scratches left on the rock after the weathering of the natural environment.</p>	
	sheep image 2	<p>Heishan Rock Paintings - According to the results of image processing, this group of images is a group of images of standing sheep that are mainly depicted in lines. Most of the lines are straight lines, and the images presented are simple and clumsy.</p>	

TABLE 2 (CONTINUE)






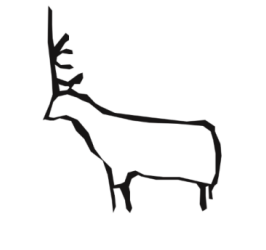
JIAYUGUAN	NUMBER	CONTENT	IMAGE
	camel image 1	Montenegro Petroglyphs - Herd of Camels Grazing	 
	camel image 3	Heishan Rock Paintings - According to the image processing results, this group of rock paintings are the images of camels chiseled by silhouette method, with the camel's head raised high, and the camel's body is strong and heavy, very imposing.	 
	deer image	Rock paintings in Heishan - According to the results of image processing, this group of rock paintings are inscribed deer images with lines, and the torso and horns on the head of the deer can be clearly distinguished.	 

TABLE 2 (CONTINUE)

JIAYUGUAN	NUMBER	CONTENT	IMAGE
People	character image 1	<p>Heishan Rock Paintings - According to the results of image processing, the outlines of the characters can be clearly seen. Judging from the posture, they seem to be dancing or jumping and running. The upper body and arms are slender. From the perspective of human body structure, the proportions of the characters in this group of rock paintings are not accurate. , but very interesting.</p>	
	character image 2	<p>Heishan Rock Paintings - According to the image processing results, this group is a single image of a person, and the whole body of the person is chiseled to express the outline. From the perspective of posture, it seems to be shooting with a bow and arrow, with the arms half curled up. The image of the person is complete, but One thing to note is that there is a difference between the drawing method of the bow and arrow figure and the way of depicting the characters. The lines of the tools are shallower and more connected, and even not obvious to the naked eye. You can consider the possibility that the characters and tools are not from the rock paintings of the same era or the characters' movements. possible.</p>	



TABLE 2 (CONTINUE)







JIAYUGUAN	NUMBER	CONTENT	IMAGE
	character image 3	Montenegro Rock Paintings - According to the image processing results, this group is a single image of a person. Judging from the posture, the characters seem to be dancing. One hand is raised, and the short fingers of the characters can be seen, and the other arm is half-curved, the figure seems to be wearing a hat on the top of the head. The figure is complete and cute. Different from the other figures listed, the figure in this group of petroglyphs is more rounded, like a child wearing a hat dancing.	 
	character image 4	Rock Paintings in Montenegro - According to the image processing results, this group is human images. The larger figure has his hands on his hips, and there is an indistinct pattern engraved on the side. It seems to be a child. The two figures seem to be dancing, and they seem to be adults teaching children.	 
	character image 5	Black Mountain Rock Paintings - According to the image processing results, this group of rock paintings has two patterns. What can be seen more clearly is the animal image in the front, with two high humps, a long neck, tilted forward, and the body and limbs are relatively long. It is long and can definitely be the image of an animal, a camel. Based on the rough outline and scene, it is estimated that the figure behind it should be a human figure. Judging from the posture, it looks like walking or standing. Judging from the combination, it should be a scene of camels grazing.	 

TABLE 2 (CONTINUE)




<p>character image 6</p>	<p>Black Mountain Rock Paintings - According to the image processing results, the picture shows a whip-wielding man driving a horse. In addition to human figures, the whole set of pictures also contains animal images of tigers, snakes, and camels, which is very rich. The figure holds a long whip and raises his arms high, with complete dynamics.</p>	
<p>character image 7</p>	<p>Black Mountain Petroglyphs - According to the image processing results, the picture shows a dancer, wearing a long tunic that reaches the ankle, with one hand on the hip.</p>	
<p>character image 8</p>	<p>Montenegro Rock Paintings - According to the results of image processing, this picture and task image 7 belong to the same group of rock paintings, and they are dancers from the same group. Both of them are wearing tunics with one hand on their hips. The headdress is presumably related to identity or religion, and the human figures are arranged horizontally.</p>	

Table source: drawn by the author

TABLE 3 Summary table of digitally processed images

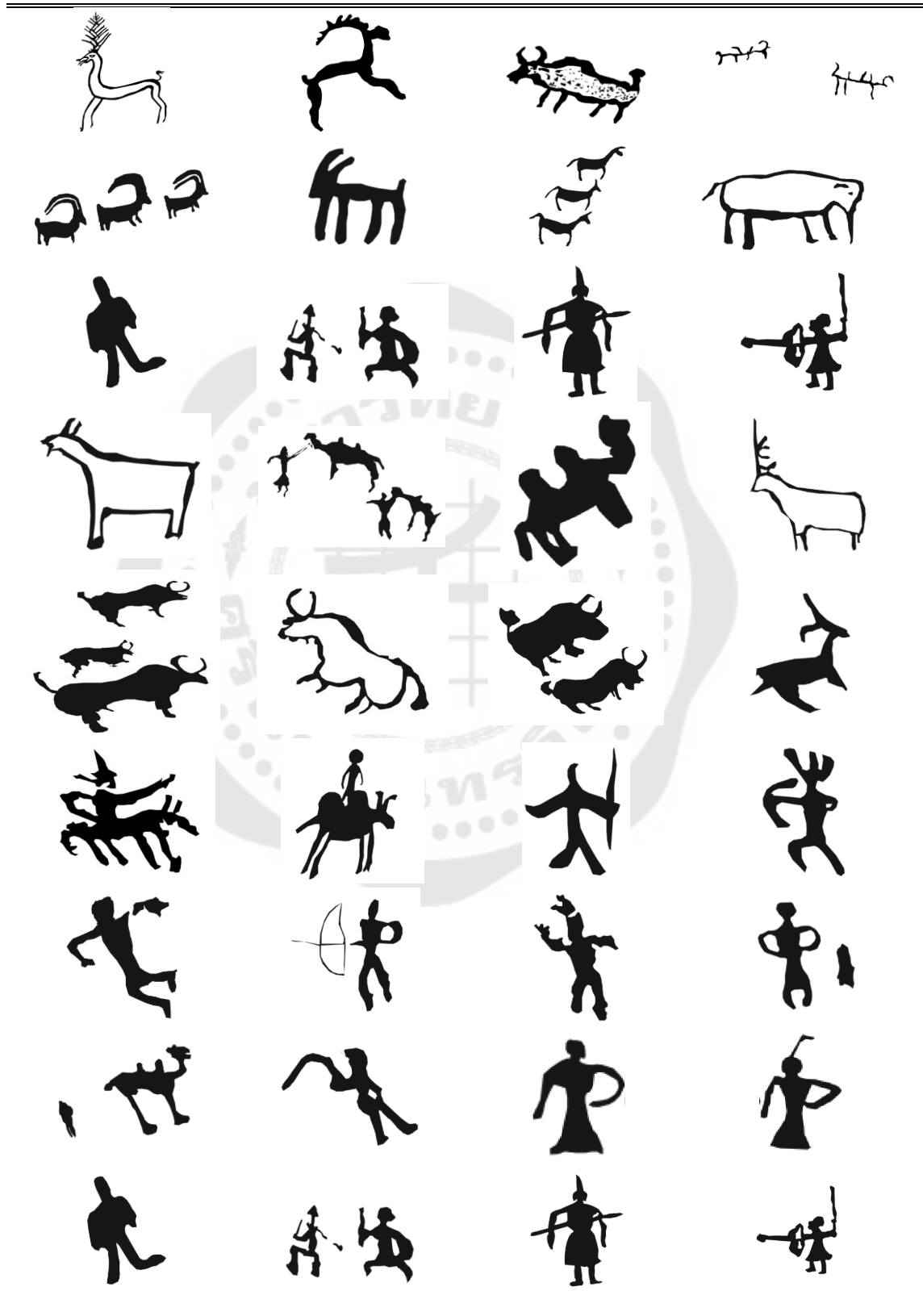


Table source: drawn by the author

Due to the unevenness of the rock surface, the age of creation, and the weathering of the rock, many petroglyph patterns are difficult to identify. Except for the unidentifiable named patterns, according to image processing technology, the currently recognizable patterns are: horse, Animal images such as cattle, sheep, dogs, deer, tigers, wolves, snakes, and camels; characters such as hunters and dancers; the scenes depicted include dancing, hunting, riding horses, riding camels, hunting, etc., and there are many mysterious symbol.

Among them, the hunting pictures can be divided into three types: single hunting, group hunting and group hunting. The characters in the picture have different postures. The hunter in the hunting picture is usually located behind the animal. The hunter usually wears a tunic, a pointed hat, long boots and holds a weapon for hunting. According to historical research, in the pre-Qin and Qin-Han periods, there were a large number of Serbians living in the Western Regions, and some small city-states and even the entire country in the Western Regions were composed of Serbians. This image may be Serbians, who originally lived in the Hexi Corridor. Later, they migrated north and south to the Tianshan Mountains and Central Asia. As for the typical dance picture in Jiayuguan Heishan Rock Paintings, the dancers wear robes and feather-like ornaments on their heads, with one hand on their waist and the other hanging high; or their hands on their hips, which makes people feel a strong sense of rhythm.

These rock paintings are mainly created using chiseling techniques, reflecting people's hunting, herding, dancing and other content at that time, and have a strong flavor of life.

TABLE 4 Comparative analysis table of rock painting image content in Jiuquan and JiaYuguan cities

	JIUQUAN	JIAYUGUAN
Distribution of petroglyphs	The Jiuquan rock paintings are primarily located in the Subei area, with a total of 23 sites, and one in Dunhuang, Aksai, Guazhou, and Yumen, respectively. A total of 19 petroglyph sites have been identified in SuBei.	Jiayuguan rock paintings are mainly Heishan rock paintings, located in the northwest corner of Jiayuguan, and there are many rock painting spots.
Time	<p>There are many rock painting sites in Jiuquan City, and the creation time of different sites is different. The time spans from the Neolithic Age to the Han Dynasty. The summary is as follows:</p> <p>The Algetai petroglyphs span the period from the Warring States Period to the Western Han Dynasty.</p> <p>The petroglyphs of the Budu Hulu Site span a temporal range from the Spring and Autumn Period to the Western Han Dynasty.</p> <p>The petroglyphs in Kuangougou span the period from the Warring States to the Western Han Dynasty, with a focus on hunting and grazing.</p> <p>The Daheigou petroglyphs also span this period, with a similar focus.</p> <p>Gegewusu Petroglyphs: Neolithic-Bronze Age</p> <p>The Hanxia petroglyphs span the period from the Warring States Period to the Western Han Dynasty. (inscribed, sheep, deer)</p> <p>North Mountain petroglyphs in Hongliuxia: From the Warring States Period to the Western Han Dynasty</p> <p>The Houhuiwanzi petroglyphs span the period from the Warring States Period to the Western Han Dynasty.</p> <p>The Huiwanzi petroglyphs span the period from the Spring and Autumn Period to the Western Han Dynasty.</p>	Warring States Period to Ming Dynasty (475 BC/403 BC-1644)

TABLE 4 (CONTINUE)

	Kholzadga petroglyphs: Paleolithic to Warring States Period	
	Petroglyphs of the Old Daoist Huduge: From the New Period to the Spring and Autumn Period and the Warring States Period	
	Liugou petroglyphs: From the Warring States Period to the Western Han Dynasty	
	Petroglyphs of Seven Donkeys: Spring and Autumn Period to Western Han Dynasty	
	Sander Petroglyphs: From the New Period to the Spring and Autumn and Warring States Periods	
	Deep Groove petroglyphs: Spring and Autumn Period to Western Han Dynasty	
	Petroglyphs of Dajingquan in Shibao City: From the New Period to the Spring and Autumn and Warring States Periods	
	Tonggutuo petroglyphs: From the Warring States Period to the Western Han Dynasty	
	Petroglyphs of Crescent Lake: From the Warring States Period to the Western Han Dynasty	
Petroglyph theme	Camels, bison, sheep, dogs, horses, donkeys, etc., the hunting grounds are the main ones; the combination of people and animals; the combination of witchcraft, mysterious patterns, deer and trees, etc.	Bison, sheep, wild deer, tiger, leopard, wolf, snake, etc., mainly hunting scenes; large-scale dance, sacrificial scenes, etc. Animal portraits are typically represented by a large number of beautifully drawn images of yaks.
Production method	chiseling, milling, line engraving	Grinding method, chiseling method, line engraving method
Rock painting modeling	Single line, line outline, silhouette	Silhouette-based, with some line outlines
Petroglyph carrier	Mountain rock face and boulder surface in the ditch	Mountain rock face and boulder surface in the ditch

Table source: drawn by the author

Through the above overview and comparison of petroglyphs, it can be seen that in this long and narrow petroglyph distribution belt in Gansu, there are differences in rock paintings at various locations. Therefore, they also have different tribal cultures. Judging from the themes of rock paintings, there are many images of sheep and dogs in Jiuquan rock paintings, and images of deer and trees appear many times. Jiayuguan Heishan rock paintings are typical of a large number of exquisitely crafted yak images. However, since Jiuquan City and Jiayuguan City are both located in the west of the Hexi Corridor, and the two cities are bordered, and part of the area is included, the following common points can be concluded: the petroglyphs in the west of Hexi are mainly animal-themed, and most of them are chiseled. Line modeling or silhouette modeling, mainly concrete and realistic life scenes, rock painting records are full of natural and realistic styles.

Due to the unique geographical location of Gansu, the Hexi Corridor is also the activity area of most nomadic peoples in history. It connects the southeast and northwest, and the expansion and migration of various tribes and ethnic groups. Cultural exchanges and dissemination lead to diversity. In addition, it should be noted that since the boundaries between these areas are not fixed, they must overlap to a certain extent. Therefore, with the continuous development of the understanding of the original petroglyphs in Hexi, further research and discovery are needed to improve the classification of these areas. or supplement.

### **3.Hexi petroglyphs and jewelry design**

Hexi rock paintings have unique patterns and symbols. These patterns and symbols come from ancient people's lives, beliefs, religions and cultures, and are their cognition and abstraction of the environment and society. Applying these patterns and symbols to jewelry design can give jewelry unique symbolic meaning and cultural connotation. For example, you can design necklaces, earrings, rings and other jewelry with themes of mythical animals, characters or natural elements in Hexi rock paintings to attract consumers.

Secondly, the original Hexi rock paintings have a unique artistic style with distinctive lines and patterns. Applying these artistic elements to the design of jewelry tourist souvenirs can create jewelry products with both cultural and artistic value and market value. For example, you can use the unique shapes, filigree crafts or enamel craftsmanship of Hexi rock paintings to integrate the cultural artistry of Hexi rock paintings into modern aesthetics and embody it in jewelry products, which not only satisfies the embodiment of its cultural artistry, but also satisfies the practical needs of consumers. Function.

In addition, the original Hexi rock paintings, as a treasure of Chinese culture, have unique historical and cultural significance. Integrating Hexi rock painting elements into jewelry design can help inherit and promote China's cultural heritage. By introducing the history and stories behind Hexi rock paintings to consumers, consumers can better understand and appreciate the treasures of ancient Chinese art. This can not only enhance people's sense of identity and pride in Chinese culture, but also promote cultural exchanges and the promotion of traditional arts.

Of course, there are also some issues that need to be paid attention to when designing jewelry based on original Hexi rock paintings. The first is to protect and respect the original form and integrity of Hexi rock paintings. Secondly, there is the market background. The market for jewelry designed with original Hexi rock paintings as elements has broad development prospects. As people's attention to and recognition of traditional culture increases, the demand for jewelry with historical and cultural connotations gradually increases. The rise of museum stores also provides good market opportunities for jewelry designed with Hexi rock paintings as elements.

The design elements in the Hexi Rock Painting series of jewelry are all taken from Hexi Rock Paintings and applied to Hexi Rock Paintings. The following workflow was carried out when extracting elements of Hexi rock paintings:

- (1) Collect related rock painting elements. The elements, types and quantities in Hexi rock paintings are very large. In order to collect complete and authentic content, on-site inspections and communication with relevant cultural relic



experts are very necessary. During the process, the content and shape of all relevant elements are confirmed.

(2) Classify and summarize elements. Classify and summarize the contents of existing rock art sites through field investigations, communication with relevant cultural relic experts, and photography records.

(3) Select typical patterns in rock paintings for design conception.

(4) Selection of theme and style.

The jewelry design of the Hexi rock painting series will be based on the new Chinese style, and will be designed and created based on the unique natural environment of the Hexi rock painting. When analyzing the pattern elements, it can be found that most of the elements are expressed in the form of lines or silhouettes, so the design will be In the design, enamel technology and filigree technology are appropriately integrated, and multi-material expressions are attempted to stylize the Hexi rock painting jewelry works and convey their cultural connotations.

In the context of a market that uses museum stores as a platform, researchers on this topic believe that such jewelry products should be positioned as unique, authentic, and culturally significant pieces. As for the positioning of consumer groups, it is mainly aimed at people who have studied or appreciated or are interested in museum-related culture and history. These consumers usually have a certain level of education and purchasing power, and pay great attention to personal matters in their daily lives. Style, willingness to share products with content, and willingness to collect meaningful products for your own use.

At present, the content of jewelry products in museum stores is generally relatively simple. In order to satisfy the purchasing power of most consumers, most museum jewelry products choose to be promoted with a relatively "safe" and popular product positioning and design, but in essence, it is not culturally appropriate. The inheritance and promotion of jewelry does not have a high influence, and it does not meet the innovation and creativity requirements that design should have to a certain extent. Moreover, the price of jewelry products varies according to factors such as the

materials used, the level of craftsmanship, and the uniqueness of the work. . Generally speaking, the price of this type of jewelry products is higher than other jewelry cultural and creative products to convey its value, uniqueness and authenticity.

Therefore, to summarize the above points, regarding the consumer positioning of this series of Hexi Rock Painting jewelry products, please refer to the following:

a. Quality and craftsmanship: Museums often position their jewelry souvenirs as high-quality, well-made items. Emphasis on the use of quality materials, craftsmanship and attention to detail appeals to consumers who value quality and authenticity.

b. Cultural and historical significance: Emphasize the background cultural or historical significance of jewelry souvenirs, position the product as meaningful and educational, and attract consumers who are interested in the historical culture and traditional art behind the product.

c. Exclusivity and uniqueness: The development of this series of Hexi rock painting jewelry tourist souvenirs is a brand-new attempt. The gaps in the market will definitely position this series of products as exclusive or unique.

d. Locality and handicrafts: The locality of this series of jewelry products is an opportunity to promote the regional culture. The handmade design and production attracts consumers who want to support local businesses and appreciate handmade unique jewelry products to a certain extent.

e. Educational and informative: This series of jewelry products can also be used as educational tools to provide the public with information about the historical or cultural background of jewelry products.

### 3.1 Animal rock paintings and jewelry design

Extraction and design of animal elements in Hexi rock paintings are the first to be considered. Extract, abstract and reconstruct the animal elements in Hexi rock paintings to discover content that can be redesigned in the rich culture of Hexi rock paintings. , and transform and abstract the extracted animal elements, and integrate and recreate them with jewelry design according to the design concept and the

principle of formal beauty. To re-understand and discover the characteristics of Hexi rock paintings with a design perspective, it is also necessary to consider the market background, so that the extracted animal rock painting elements and jewelry design products can be perfectly combined while meeting market demand, so that Hexi rock painting culture can be spread more widely.

### 3.1.1 Practical application of animal elements in jewelry design

#### Option 1:

##### Design Concept:

(1) Jewelry material selection: The main material is metallic silver, which increases the gorgeousness and preciousness of the jewelry. In addition, the enamel technology is integrated to enrich the colors, and the theme connotation is reflected through the selection of colors.

##### (2) Design elements:

a. The image of two leaping horses: By designing the image of horses on the jewelry, it shows the dynamic and vitality of two leaping horses. Take advantage of the horse's free posture when running to reflect the horse's elegance and power.

b. Prayer and a better life: Horses represented strength, loyalty and freedom in ancient times, and the image of two horses leaping together emphasizes dynamism and vitality. This image can also symbolize wishes for a better future life and express people's yearning for freedom, happiness and success.

##### (3) Jewelry type:

a. Necklace: Designed as a pendant with two leaping horses, suspended from the necklace, it shows movement and vitality. Choose to inlay gemstones on some elements to increase the magnificence of the jewelry.

b. Bracelet: Combined with the image of a horse, natural elements are used as the curved part of the bracelet to show the agility and strength of the horse.

c. Earrings: The design uses the fusion of horse shapes and natural plants to show the beauty and dynamics of the horse.

Through the above design concepts and ideas, a series of jewelry works with horse elements were created, showing the agility of horses and their wishes for a better life. Such a design can not only show the important role of ancient horses in military and life, but also convey the yearning for freedom, strength and a better future life..



#### Transcript of interviews with experts

This interview questionnaire will collect experts' opinions on the design of this set of jewelry products. Through interview exchanges, the researchers collected data on the following three questions:

Expert	Expert appraisal		
	Styles and Patterns	Material selection	craftsmanship in the creative process
Prof.Rinbun (design expert)	It can be seen that the new Chinese style is extracted, the pattern and the design elements are combined, and the shape can be simple and highlight the theme.	The combination of silver material and enamel is in line with the design concept and consumption positioning of the product, and it can be considered to increase natural gemstones, and use the natural color of gemstones to reflect the natural style.	Professional works that meet the purpose of production can be promoted.
Prof.Ding (culture expert:aXiaosheng Ding)	The cultural theme is prominent, and the style is obvious.	The material is in line with the design concept and application	Professional works that meet the purpose of production can be promoted.
Prof.Wang (education expert:Haozhen Wang)	The animal features can be more pronounced, and the whole form is slightly single.	The color matching is not clear enough, and the materials are in line with the design concept and application	Professional works that meet the purpose of production can be promoted.

(Note: The interviews were recorded using “online + offline” communication notes and audio recordings)

### Option 2:

#### Design Concept:

(1) Jewelry material selection: The main material is made of metal, gold plating technology is added, and enamel technology is integrated to enrich the colors.

#### (2)Design elements:

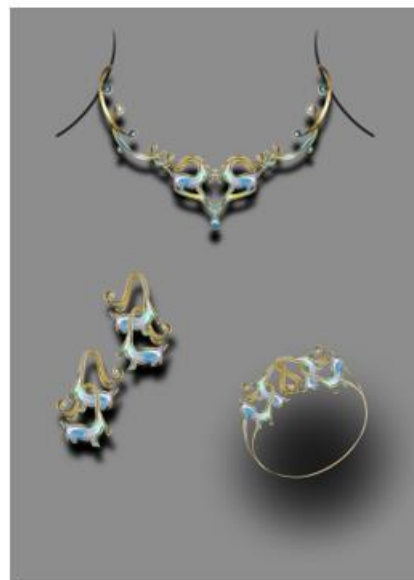
a. The design of this set adopts the image of a herd of wild goats in rock paintings. During the design, we focused on details to carve the shape of the horns to highlight their characteristics and present the kind and lovely image of wild goats. At the same time, it draws on traditional Chinese patterns, patterns and other elements to

enrich the visual effects of this set of jewelry products and highlight traditional Chinese culture.

b. The design of this set of jewelry products draws on elements widely used in traditional Chinese decoration, giving it auspicious and auspicious meanings. In traditional culture, sheep are animals associated with images such as kindness, docility, and unity. Therefore, symmetrical forms are used to show the stability and balance of the sheep in the pattern, and to convey the meaning of good luck and good blessings.

(3) Type of jewelry: This set of designs includes single items such as pendants, earrings, rings, etc. You can also create multiple pieces of combined jewelry such as necklaces and bracelets by designing the pattern of sheep.

In short, sheep, as a symbol of good luck and auspiciousness, are widely used in traditional Chinese decorations. Through the use of symmetrical forms, the opposition of the two sheep and the depiction of characteristics, jewelry with wild goat elements is created that is full of beauty and meaning, allowing people to feel auspicious and warm emotions.



### Transcript of interviews with experts

This interview questionnaire will collect experts' opinions on the design of this set of jewelry products. Through interview exchanges, the researchers collected data on the following three questions:

Expert	Expert appraisal		
	Styles and Patterns	Material selection	craftsmanship in the creative process
Prof.Rinbun (design expert)	Through observation, it can be seen that the designer integrates traditional Chinese patterns and the image of wild goats to design, and whether it is possible to add gradient Chinese red to better reflect the new Chinese style.	It can be seen that the diversity of the use of materials is rich in expression.	The connotation of Chinese culture can be seen through the design, and the belief in the Chinese Hexi rock art pattern is conveyed, which is a professional work, in line with the purpose of production, and can be promoted.
Prof.Ding (culture expert:aXiaosheng Ding)	The cultural theme is prominent, and the style is obvious.	The material is in line with the design concept and application.	Professional works that meet the purpose of production can be promoted.
Prof.Wang (education expert:Haozhen Wang)	The shape is relatively simple and clear, the color is elegant, and the variation can be increased appropriately. For example, the center of the object can be thicker, and the two sides of the object can be slender, which will have a visual contrast.	The use of materials is diverse, enriching expression.	More professional works can be promoted if they meet the purpose of production.

(Note: The interviews were recorded using “online + offline” communication notes and audio recordings)

#### Option 3:

Design Concept:

(1) Jewelry material selection: The main material is made of metallic silver, with auxiliary materials such as cloth ropes and wooden beads to enrich the product content and enhance the sense of movement. It integrates filigree enamel technology and metal hollowing technology to highlight the natural, brave and wild characteristics of the bison

(2) Design elements:

a. This set of designs adopts the image of bison in rock paintings, focusing on the outline of the bison. It expresses the bison's form in a simplified way and combines the natural dune shape with the muscle lines of the bison. Through clever line and contour design, the image of the cow has a strong sense of wild power.

b. The bison represents the most primitive wildness, as well as bravery, strength and nature.

(3) Type of jewelry: This set of designs includes necklaces, earrings and bracelets.



#### Transcript of interviews with experts

This interview questionnaire will collect experts' opinions on the design of this set of jewelry products. Through interview exchanges, the researchers collected data on the following three questions:



Expert	Expert appraisal		
	Styles and Patterns	Material selection	craftsmanship in the creative process
Prof.Rinbun (design expert)	The combination of multiple elements of design and exquisite shape can clearly see the new Chinese style.	There are a variety of materials and rich expressions, such as the use of silver materials, as well as the fusion of wood, cloth rope and other materials, and the choice of other materials.	The product is widely used in the process diversity, can be put into actual production, the audience range is narrow, and the wearing occasion is relatively limited.
Prof.Ding (culture expert:aXiaosheng Ding)	The cultural theme is prominent, and the style is obvious.	The material is in line with the design concept and application.	Professional works that meet the purpose of production can be promoted.
Prof.Wang (education expert:Haozhen Wang)	The animal form is too concrete, resulting in an average shape, but the overall sense of volume is very good, and the color itself is too strong, so you can use more light colors to adjust, and the object itself will be lighter and more transparent.	The materials are diverse, the expression is rich, and the sense of volume is full.	More professional works can be promoted if they meet the purpose of production.

(Note: The interviews were recorded using “online + offline” communication notes and audio recordings)

#### Option 4:

##### Design Concept:

(1) Jewelry material selection: The main material is made of metallic silver, with turquoise, cloth rope, wooden beads and other auxiliary materials to enrich the product content. It integrates cloisonné enamel technology and metal hollowing technology. The overall shape expresses the beauty and elegance of the big-antlered deer. flexible.

(2) Design elements:

a. The design of this set adopts the image of the big-antlered deer in rock paintings. Through the design of lines and outlines, and adding traditional auspicious cloud patterns, it expresses the traditional Chinese style and makes the image of the deer more vivid and mysterious.

b. Combined with the traditional jewelry styles of nomadic people.

(3) Jewelry type: This set of designs includes necklaces, earrings and bracelets.



#### Transcript of interviews with experts

This interview questionnaire will collect experts' opinions on the design of this set of jewelry products. Through interview exchanges, the researchers collected data on the following three questions:

Expert	Expert appraisal		
	Styles and Patterns	Material selection	craftsmanship in the creative process
Prof.Rinbun (design expert)	It highly reflects the new Chinese style, with harmonious and eye-catching patterns, diverse structures, fashionable colors, and modern aesthetics.	The materials are diverse, reflecting traditional Chinese culture, such as tassels, and are harmoniously matched with the elements.	Moire reflects the Chinese style, highlights the designer's design level, is a professional work, in line with the purpose of production, can be put into production.
Prof.Ding (culture expert:aXiao sheng Ding)	The cultural theme is prominent, and the style is obvious.	The material is in line with the design concept and application.	Professional works that meet the purpose of production can be promoted.
Prof.Wang (education expert:Haozhen Wang)	The form is simple, the visual effect is good, the color matching is comfortable, and the animal morphological characteristics are complete and clear, and I personally like this series very much.	The materials are diverse, and the Chinese style is prominent.	Professional works that meet the purpose of production can be put into production.

(Note: The interviews were recorded using “online + offline” communication notes and audio recordings)

#### Option 5:

##### Design Concept:

(1) Jewelry material selection: The main material is metallic silver, using silver gold plating technology, and enamel technology is integrated to enrich the colors to increase the gorgeousness and preciousness of the jewelry.

##### (2) Design elements:

a. This set of designs uses a combination of herders and camels.

b. Inspired by the map blocks and routes corresponding to the Hexi Corridor Silk Road, use flowing lines to express the walking distance of herders and camels, express the dynamics of mobile life, and enhance visual aesthetics.

(3) Type of jewelry: This set of designs includes necklaces, earrings and bracelets. The bracelets are semi-opened.



#### Transcript of interviews with experts

This interview questionnaire will collect experts' opinions on the design of this set of jewelry products. Through interview exchanges, the researchers collected data on the following three questions:

Expert	Expert appraisal		
	Styles and Patterns	Material selection	craftsmanship in the creative process
Prof.Rinbun (design expert)	The more luxurious visual effect, the lines are flexible, full of movement, and the style has unity.	Although the designer mainly uses silver, he highlights the style through high-temperature enamel coloring, and the combination of metallic and powerful.	Through the designer's design, it can reflect the cultural story of the nomadic people in northern China, and it is a professional work that meets the purpose of production and can be put into production.
Prof.Ding (culture expert:Xiaosheng Ding)	The cultural theme is prominent, and the style is obvious.	The material is in line with the design concept and application.	Professional works that meet the purpose of production can be promoted.
Prof.Wang (education expert:Haozhen Wang)	The lines flow well and the overall tone is uniform.	It has the movement of the animal itself, the overall shape is fluid, and the unity of the series is also very good.	Professional works that meet the purpose of production can be put into production.

(Note: The interviews were recorded using “online + offline” communication notes and audio recordings)

#### Expert evaluation ranking table for jewelry



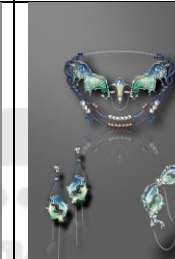

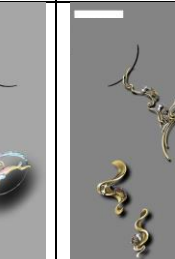
This evaluation ranking table will sort the animal rock art jewelry design works according to the A-E level based on expert opinions, and collect information from experts on jewelry product evaluation for the design and research of Hexi rock art jewelry tourism souvenirs. Researchers will invite experts to conduct a comprehensive ranking based on the style of the evaluation ranking table, taking into account product patterns, styles, materials, design, creativity, and other aspects.

(Note: This evaluation ranking table is divided into two parts, including a summary table of works and an evaluation ranking table)

### Part 1 : Summary Table of Animal Rock Art Jewelry Products

Part 2: Evaluation ranking, experts are requested to conduct a comprehensive evaluation and ranking of animal rock art jewelry products according to the A-E rating order.

### Part 1 : Summary Table of Animal Rock Art Jewelry Products

Name	Animal-1	Animal-2	Animal-3	Animal-4	Animal-5
Design - drawing					

### Part 2: Evaluation sorting table

Rank sequence	Product name
A	Animal- 1
B	Animal-4
C	Animal-5
D	Animal-2
E	Animal-3

### 3.2 Figure rock paintings and jewelry design

Rock paintings are the expression of the real world and the spiritual world of ancestors. These rock paintings show people's activities such as hunting, gathering, gatherings, and sacrifices, as well as the interaction between humans and animals. Figures are often presented in a variety of themes such as dance, battle or ritual, including dancers, hunters, horseback riders, etc.

#### 3.2.1 Practical application of character elements in jewelry design

##### Option 1:

##### Design Concept:

(1) Jewelry material selection: The main material is metallic copper, paired with turquoise, and enamel technology is used to enrich the colors.

(2) Design elements:

One of the main elements of jewelry is elemental people. The main inspiration for the design of this set of jewelry comes from the people performing

sacrifices and dances in the rock painting sites on the Hexi Corridor. The human form is outlined with simple lines, emphasizing the smooth curves and softness of the human body. At the same time, some geometric elements are added to the jewelry to highlight the modern sense. The simple and original design style expresses the feeling of integration with natural stones and ground weathering marks, symbolizing the blending and integration of human beings and nature. Symbiosis.

(3) Jewelry type: This set of designs includes necklaces, earrings and bracelets.



#### Transcript of interviews with experts

This interview questionnaire will collect experts' opinions on the design of this set of jewelry products. Through interview exchanges, the researchers collected data on the following three questions:

Expert	Expert appraisal		
	Styles and Patterns	Material selection	craftsmanship in the creative process
Prof.Rinbun (design expert)	It clearly reflects the pattern elements of Hexi rock paintings.	The materials used are diverse, and the application of materials takes into account the market value and demand, and meets the standards of commercial design.	The design is modern, collectible, considering whether the daily wear is too grand, the design is creative, and the Chinese story and Chinese culture are conveyed.
Prof.Ding (culture expert:aXiaosheng Ding)	The cultural theme is prominent, and the style is obvious.	The material is in line with the design concept and application.	It is a professional work that meets the purpose of production and can be promoted.
Prof.Wang (education expert:Haozhen Wang)	The form is intertwined with a sense of space, and the color is almost contrasted with the surface, and the natural atmosphere is strong. Personally, it is recommended that the dots will be strengthened, the overall mottling feeling will be enhanced, and the vision will appear more flexible.	The materials used are diverse, and the application of materials takes into account the market value and demand, and meets the standards of commercial design.	Professional works that meet the purpose of production, take into account the sales group, and can be put into production.

(Note: The interviews were recorded using “online + offline” communication notes and audio recordings)

#### Option 2:

##### Design Concept:

(1) Jewelry material selection: The main material is metallic silver, with gold plating, pearls, turquoise, and enamel technology to enrich the colors.

(2) Design elements:



Dancers symbolize human beings' communication, communication and response to different cultures. At that time, society used songs and dances to impart production knowledge and life knowledge, entrust the ideals and aspirations of the nation, and conduct extensive social activities. They were closely connected with people's lives and had a positive impact. social role. The soft curves are used to express the softness of the dancer's body and the fluttering shape of the silk and satin dance clothes.

(3) Jewelry type: This set of designs includes necklaces, earrings and bracelets.



#### Transcript of interviews with experts

This interview questionnaire will collect experts' opinions on the design of this set of jewelry products. Through interview exchanges, the researchers collected data on the following three questions:

Expert	Expert appraisal		
	Styles and Patterns	Material selection	craftsmanship in the creative process
Prof.Rinbun (design expert)	The style is modern, there is dynamic beauty, with the help of Hexi rock art elements, to meet the principle of symmetry and balance of design	Reflecting the oriental beauty with pearl decoration is the highlight of this set of design, and the design color matching is coordinated	The designer has a bold idea and transforms the design elements to show the beauty of the curves.
Prof.Ding (culture expert:aXiaosheng Ding)	The cultural theme is prominent, and the style is obvious.	The material is in line with the design concept and application.	It is a professional work that meets the purpose of production and can be promoted.
Prof.Wang (education expert:Haozhen Wang)	The form is rich, and the colors are bright and clear. Cold and warm contrasts comfort.	The materials and shapes are complex and unified, and I personally like this series very much.	Professional works that meet the purpose of production can be put into production.

(Note: The interviews were recorded using “online + offline” communication notes and audio recordings)

### Option 3:

#### Design Concept:

(1) Jewelry material selection: The main material is metallic silver, gold plating, with zircon, turquoise, and enamel technology to enrich the colors.

#### (2) Design elements:

a. The design of this set adopts the characters of folk dances in Hexi rock paintings. The characters are full of vitality, and the performance is full of elegant lines and dynamic interaction, making it echo the characters' performance movements. In the design of the bracelet, add some interactive elements, such as flowing ribbons, etc., and use elegant curves and delicate materials, such as silver jewelry or pearls, to create a lightweight and flexible bracelet. In addition, inspired by the characters' performance themes, the bracelet's color scheme chooses bright colors, such as red, orange, purple,

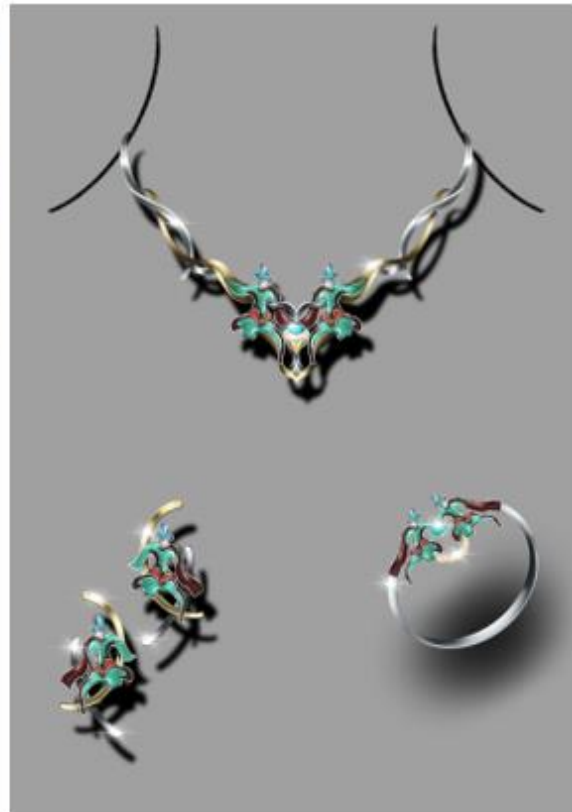
etc., to highlight the vitality and interesting characteristics of the characters. At the same time, the elegant lines and the interaction between the characters It will make the design more graphic and bring visual enjoyment to the audience.

b. Earrings: The design of the earrings is inspired by the wings of birds. The light lines contrast with the movements of the characters, showing their elegance and freedom. The earrings use silver elements, which are in sharp contrast with the characters' clothing, highlighting their performance temperament, adding interest to the characters, and echoing the dynamics of their performances, making the whole picture more lively and interesting.

c. Necklace: Show your personality through clothing and accessories. The color of enamel technology adds to their elegance. The characters' movements interact with the pendants illuminated by light, creating a dreamlike picture effect, making people feel the mystery and charm of their performances.

(3) Jewelry type: This set of designs includes necklaces, earrings and bracelets.

Through the design concept of this pair of characters and jewelry, we can explore part of the style and shape of the people at that time, and at the same time, it also increases the visual sense of the design, making the whole scene more vivid and interesting.



#### Transcript of interviews with experts

This interview questionnaire will collect experts' opinions on the design of this set of jewelry products. Through interview exchanges, the researchers collected data on the following three questions:

Expert	Expert appraisal		
	Styles and Patterns	Material selection	craftsmanship in the creative process
Prof.Rinbun (design expert)	The design style is unique, detailed, and has a sense of dancing design, which can convey the way the local people live.	The design materials are diverse, including copper, silver, gemstones, etc., giving people a good visual appearance.	This set of design works is creative and able to convey the story behind it, and the designer is very thoughtful.
Prof.Ding (culture expert:aXiaosheng Ding)	The cultural theme is prominent, and the style is obvious.	The material is in line with the design concept and application.	It is a professional work that meets the purpose of production and can be promoted.
Prof.Wang (education expert:Haozhen Wang)	The color is comfortable and the shape is neat. The volume is moderate, and personal advice can strengthen the center area of the necklace, and the petals are denser and brighter, which may be more visually appealing.	The materials are diverse, and the visual perception is very good.	Professional works that meet the purpose of production can be put into production.

(Note: The interviews were recorded using “online + offline” communication notes and audio recordings)

#### Option 4:

##### Design Concept:

(1) Jewelry material selection: The main material is metallic silver, combined with enamel technology to enrich the colors.

(2) Design elements: This set of jewelry is designed using the image of the warning person in Hexi rock paintings. The character stands straight with his feet and seems to be in a state of tension at all times, creating a serious atmosphere. Therefore, the use of lines combined with the characters makes the scene more vivid.

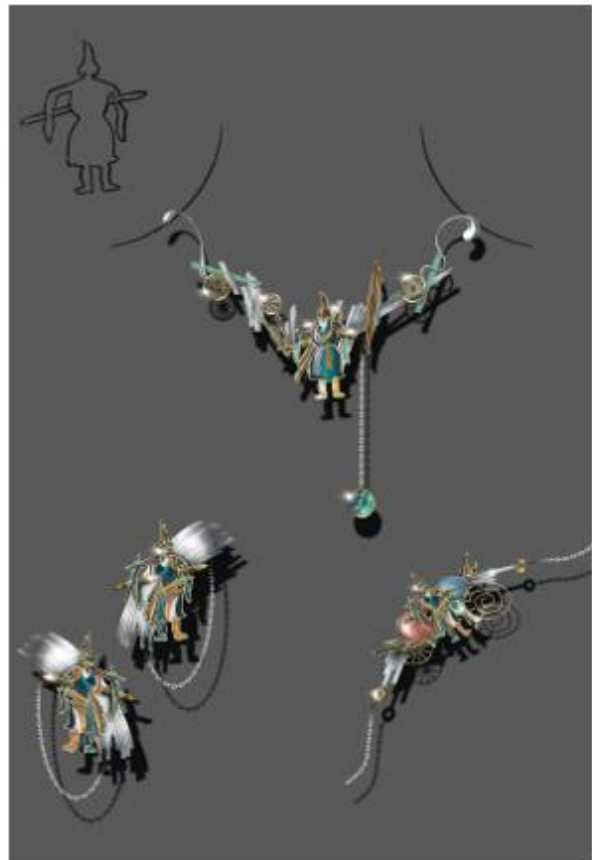
a. The contrast between dynamic and static: through the straight posture of the characters, the serious atmosphere of the warning person is created. Use irregular lines and patterns to break up overly rigid characters and enrich the scene.

b. Use of lines: Use the changes and flow of lines to express the strength and determination of the warrior. Thick lines can emphasize the strength and majesty of the warrior person, while thin lines can show the delicacy and flexibility of the warrior person.

c. The contrast and symmetry of elements can enhance the coldness and solemnity of the warrior image. Through the contrast of light and dark and color, the character image can be made more three-dimensional and realistic.

d. Expression of texture: Through the depiction of details and the expression of texture, textures and details are added to the warriors' clothing and equipment to make them look more textured.

(3) Jewelry type: This set of designs includes necklaces, earrings and bracelets.



### Transcript of interviews with experts

Expert	Expert appraisal		
	Styles and Patterns	Material selection	craftsmanship in the creative process
Prof.Rinbun (design expert)	The design style is more modern, and the pattern design is very detailed.	Consider whether there are too many materials to use, and focus on the theme.	The design has a sense of hierarchy and diversity. It can reflect the characteristics and personality of the character.
Prof.Ding (culture expert:aXiaosheng Ding)	The cultural theme is prominent, and the style is obvious.	The material is in line with the design concept and application.	It is a professional work that meets the purpose of production and can be promoted.
Prof.Wang (education expert:Haozhen Wang)	The processing of the relationship between the color blocks and surfaces is slightly gray, and the details are handled very well, but the shape structure is too uniform and single.	Consider whether there are too many materials to use, and focus on the theme.	The design is layered, slightly complex, and the production is considered.

This interview questionnaire will collect experts' opinions on the design of this set of jewelry products. Through interview exchanges, the researchers collected data on the following three questions:

(Note: The interviews were recorded using "online + offline" communication notes and audio recordings)

#### Option 5:

##### Design Concept:

1. Jewelry material selection: Use metal materials such as silver or copper as the main material to increase the sense of luxury and preciousness. The main process is enamel technology.

2. Design elements:

a. The image of a hunter with a bow and arrow: By designing the image of a hunter on jewelry, you can show their calm and confident state. They can wear the clothes common to the people of the ancient Hexi Corridor, hold bent bows, nock arrows, and look ready to go.

b. Depiction of hunting scenes: Natural elements such as grasslands and vines can be added to the design to create a hunting scene in the ancient Hexi Corridor. Through meticulous carving and inlay techniques, the scene of people hunting in the vast land in ancient times is reproduced.

c. Dynamic expression: through the detailed design of jewelry, the image of the hunter is made more vivid.

3. Jewelry type: This set of designs includes necklaces, earrings and bracelets.





### Transcript of interviews with experts

This interview questionnaire will collect experts' opinions on the design of this set of jewelry products. Through interview exchanges, the researchers collected data on the following three questions:

Expert	Expert appraisal		
	Styles and Patterns	Material selection	craftsmanship in the creative process
Prof.Rinbun (design expert)	The design style is modern, and the design pattern has unity and overall harmony.	In addition to the use of metal materials, this set of design works is designed with rope, which is very diverse.	The design concept is very original, and the color of the design is selected to convey the characteristics of Hexi rock art archers, which is very storytelling.
Prof.Ding (culture expert:aXiaosheng Ding)	The cultural theme is prominent, and the style is obvious.	The material is in line with the design concept and application.	It is a professional work that meets the purpose of production and can be promoted.
Prof.Wang (education expert:Haozhen Wang)	The cool color is uniform, but the shape is slightly average, the visual subject is weaker, and the vine staggering can be more delicate, so that the visual center will be more prominent.	The materials are diverse, and the visual perception is very good.	Professional works that meet the purpose of production can be put into production.

(Note: The interviews were recorded using "online + offline" communication notes and audio recordings)

### Expert evaluation ranking table for jewelry

This evaluation ranking table will sort the design works of character rock art jewelry according to the A-E level based on expert opinions, and collect information from experts on jewelry product evaluation for the design and research of Hexi rock art jewelry tourism souvenirs. Researchers will invite experts to conduct a comprehensive






ranking based on the style of the evaluation ranking table, taking into account product patterns, styles, materials, design, creativity, and other aspects.

(Note: This evaluation ranking table is divided into two parts, including a summary table of works and an evaluation ranking table)

Part 1: Summary Table of Figure Rock Art Jewelry Products

Part 2: Evaluation and Sorting. Experts are requested to conduct a comprehensive evaluation and sorting of character rock art jewelry products according to the A-E rating order.

Part 1 : Summary Table of Figure Rock Art Jewelry Products

Name	Figure-1	Figure-2	Figure-3	Figure-4	Figure-5
Design - drawing					

Part 2: Evaluation sorting table

Rank sequence	Product name
A	Figure-2
B	Figure-5
C	Figure-1
D	Figure-3
E	Figure-4

## CHAPTER 5

### CONCLUSIONS SUGGESTED AND DISCUSSION

#### 1. Conclusion :

This paper aims to inherit and promote the cultural heritage of Hexi region by applying Hexi rock art elements to the design and development of jewelry and souvenirs. Through qualitative and quantitative analysis, the application of Hexi rock art elements in jewelry and souvenirs was studied in depth. It is found that the application of Hexi rock art elements in jewelry and souvenirs has high feasibility and market potential. Specifically, the use of Hexi rock art elements makes jewelry souvenirs have unique artistic value and collection value, which is of positive significance for promoting the development of regional cultural industry.

According to the preliminary research, ten sets of jewelry souvenirs were designed and developed, including five sets of animal image jewelry products, five sets of human image jewelry products, and one set of optimal solutions for people and animals were obtained (Figure 124).

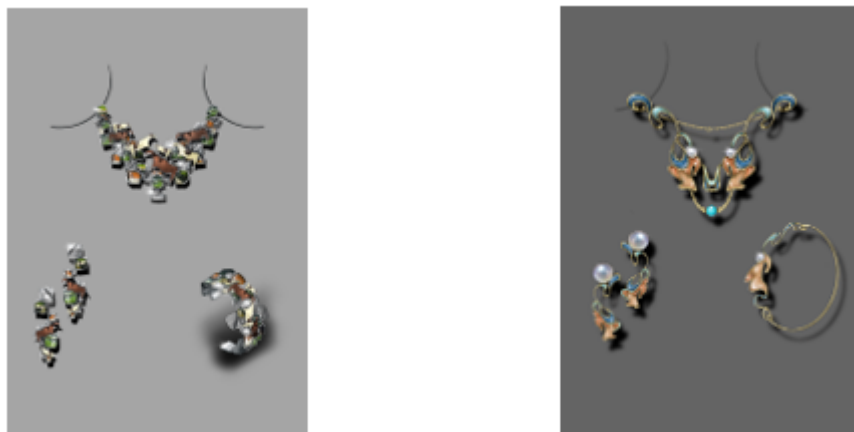


FIGURE 124

While the application of Hexi rock art elements in jewelry and souvenirs has considerable potential, there are still some issues that require attention in practical operations. Primarily, in the extraction and recreation of Hexi rock art elements, it is

essential to fully respect the cultural connotations and spiritual value of the original works, and to avoid excessive commercialization and abuse. Secondly, in the process of designing and developing jewelry and souvenirs, it is essential to consider market demand and consumer psychology in order to meet the diverse needs of consumers. The incorporation of Hexi rock art elements into jewelry and souvenirs not only preserves and promotes regional cultural heritage but also contributes to the growth of cultural and creative industries.

The difference between this research and other related papers is the unique perspective and rich practical experience on which this paper is based. First of all, from the perspective of practical operation, this paper discusses how to integrate Hexi rock art elements into the design and development of jewelry and souvenirs. Through the in-depth analysis of the characteristics, artistic style and symbolic meaning of Hexi rock paintings, it provides a rich source of inspiration for researchers. At the same time, the research also pays attention to market demand and consumer psychology, and provides targeted design suggestions for researchers.

Secondly, the research of this project is based on actual design cases, and the design products cover various types such as necklaces, earrings, bracelets, bracelets, etc., showing the possibility of rich application of Hexi rock art elements in jewelry and souvenirs. Through interviews with experts and related workers, the characteristics and advantages and disadvantages of the ten sets of products were compared and analyzed from the perspectives of style and pattern, material application and creative process, which provided a useful reference for follow-up research.

In addition, the research also discussed the status and role of Hexi rock art jewelry and souvenirs in the tourism and cultural industry. It is pointed out that Hexi rock art jewelry souvenirs not only help to enhance the taste and value of local tourism souvenirs, but also promote the development of related industries and inject new vitality into the local economy. This point of view provides new ideas for local governments and enterprises, and helps to promote the cultural and tourism development of rock art resources in Hexi.

In short, from a practical point of view, this paper comprehensively discusses the application methods and strategies of Hexi rock art in jewelry and souvenir design. The findings of this research not only serve as a valuable reference for those engaged in related design research but also provide insights that can inform the cultural and tourism development of rock art resources in Hexi. By exploring the artistic value and market potential of Hexi rock paintings in depth, this paper aims to reinvigorate the local cultural tourism industry.

## **2. Suggestion:**

As a unique cultural heritage of China, Hexi rock art has its artistic value and historical value that cannot be ignored. The application of Hexi rock art elements to jewelry design and development will not only help to inherit and promote this valuable cultural heritage, but also inject new vitality into the jewelry industry. Here are some suggestions to guide the use of Hexi petroglyph elements in jewelry design development:

### **2.1 In-depth study of the characteristics of Hexi rock art art**

In order to ensure the authenticity of the jewelry design, the designers must first conduct an in-depth study of the artistic characteristics of Hexi rock paintings. This includes the shape, color, texture, symbols and other aspects of the petroglyphs, so that the characteristics of Hexi petroglyphs can be fully reflected in the design process.

### **2.2 Refining petroglyph elements**

On the basis of studying the characteristics of Hexi rock art art, designers need to refine representative elements. These elements can include animals, hunting scenes, natural landscapes, etc., and the key is to ensure that the petroglyph elements in the jewelry design have high recognition and artistic value.

### **2.3 Innovative jewelry design concepts**

When applying Hexi rock art elements to jewelry design, designers should dare to innovate and break the framework of traditional jewelry design. For example, petroglyph elements can be combined with modern jewelry design styles to create unique jewelry products.

#### 2.4 Pay attention to the quality of jewelry making

In the jewelry design process, designers should pay attention to the craftsmanship quality of jewelry making. The exquisite technique is used to perfectly present the elements of Hexi rock paintings on the jewelry, making it a work of art.

#### 2.5 Cross-border cooperation

In order to better promote Hexi rock art jewelry, cross-border cooperation can be carried out, such as working with tourism, cultural and creative industries and other related enterprises to jointly create Hexi rock art theme jewelry products. This will help to increase the visibility and market competitiveness of jewelry design.

In short, the application of Hexi rock art elements to jewelry design and development will not only help inherit and promote this valuable cultural heritage, but also bring new development opportunities to the jewelry industry. Researchers should deeply study the artistic characteristics of Hexi rock paintings, innovate design concepts, pay attention to process quality, and create brand effect to promote the development of Hexi rock art jewelry design.

### 3. Limitations:

Hexi rock art is a precious cultural heritage of our country, carrying rich historical information and national cultural connotation. In the process of using Hexi rock art elements in the design and development of jewelry souvenirs, there are some limitations, which affect the full play of Hexi rock art elements in jewelry and souvenir design.

First of all, the cultural connotation and artistic value of Hexi rock art have not been fully explored. Although some designers have realized the value of Hexi rock paintings, the application of rock art elements in most design works is still on the surface, and their inherent cultural connotation and artistic value have not been truly explored. This makes the design of the work lack depth and it is difficult to reflect the unique charm of Hexi rock paintings.

Secondly, the expression of Hexi rock art elements in the design of jewelry and souvenirs is single. At present, when most designers use Hexi rock art elements, they

are often limited to copying them directly into jewelry design, lacking innovation and change. This single form of expression is easy to make the design works fall into a pattern, and it is impossible to show the diversity and richness of Hexi rock paintings.

Thirdly, there are difficulties in the integration of Hexi rock art elements with jewelry souvenir design. Due to the historical background, regional characteristics and aesthetic concepts of Hexi rock paintings, cultural differences and aesthetic concepts may be encountered when applying them to jewelry design. How to retain the characteristics of Hexi rock paintings while integrating them with modern jewelry design has become a major challenge.

In addition, marketing and product positioning are also a major limitation in the design and development of jewelry souvenirs using Hexi rock art elements. Due to the relative niche of Hexi rock paintings, consumers' awareness and acceptance of them are limited. Therefore, designers need to put in more effort when promoting and positioning such products to broaden market channels and improve the visibility and influence of products.

To sum up, there are certain limitations in the design and development of jewelry souvenirs using Hexi rock art elements. In order to overcome these limitations, designers need to start from many aspects, such as excavating the cultural connotation and artistic value of Hexi rock paintings, enriching the forms of expression, integrating design and jewelry aesthetics, and strengthening market promotion, so as to give full play to the unique charm of Hexi rock art elements in jewelry souvenir design.

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