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REVIEW ARTICLE

CONSERVATION AND INHERITANCE PATH OF ROCK ART UNDER THE SHIFT OF CULTURAL PROTECTION

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ABSTRACT

By looking back at the history of the conservation and inheritance of rock art in China, the article sorts out the limitations and deficiencies at the present stage and believes that the two different ideas between conservation and inheritance can be integrated. From the perspective of "holism", we can actively explore the new dynamic integration mode and path integrating conservation and inheritance rather than pure static protection, so as to enhance the survivability of the existing rock art conservation and inheritance system in China and realize the turn under cultural protection.

KEYWORDS

Rock Art, Conservation and Inheritance, Paths

Rock art refers to various images that ancestors consciously made on rocks through carving or painting. They are mostly distributed in mountains, hills, and inaccessible places. Its discovery has provided a lot of valuable historical information and visual materials for current cultural research. It is a cross-cultural and diachronic global cultural memory. Currently, existing research shows that rock art is distributed in 162 countries and regions around the world. Data published by UNESCO also shows that rock art accounts for a very high proportion of primitive art. Therefore, both in terms of its wide distribution range and its huge size, these two characteristics determine the importance of rock art itself.

1. DUAL BACKGROUND OF ROCK ART PROTECTION

Rock art, as the earliest chapter written in the history of human art, has run through the entire history of mankind. After more than a hundred years of development in the West, it has now become an independent discipline. Since 1979, many rock art sites and ruins around the world have been included in the World Heritage List, indicating that the UNESCO World Heritage Committee recognizes the comprehensive value of rock art.

Although rock art is carved or painted on hard rocks, it does not last forever and is a non-renewable cultural resource. Besides the unavoidable effects of natural causes, the consequences of frequent human-induced damage are even more serious. The conservation of rock

art is undoubtedly the focus that many parties pay attention to. Among them, Mr. Emmanuel Anati, a famous Italian prehistoric artist who has long been committed to the investigation, reproduction and research of rock art, compiled a complete set of excavations, cleaning, and recording with his team based on many years of extensive field investigations¹. This method has a great influence on and establishes the foundation for the future protection of rock art. The rock drawings in Valcamonica in Italy that he devoted himself to were one of the rock art sites first included in the World Cultural Heritage List. (Figure 1: Rock Drawings in Valcamonica, Italy)

Although all rock art sites face dual threats from nature and humans, due to the large differences in the protection of rock art between countries, the degree of protection is also uneven, and the protection effects are also different. Some are even under no protection. If we talk about an outstanding example of rock art conservation, the rock art of Chauvet Cave in France must be the best choice. Robert G. Bednarik et al. (2015) once highly praised "So far, there is no rock art research project in the world that can compare with the Chauvet Cave Research Project in terms of attention, research capabilities, and management authority." The great thing is that this conservation project has achieved multi-disciplinary cooperation and exchanges, adopted multiple methods and approaches to study rock paintings, and promoted the scientific development of conservation. (Figure 2: Chauvet Cave Paintings in France) In addition, in order to facilitate visitors to appreciate these great prehistoric arts at close range and in an almost real environment, some European countries

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Figure 1: Rock Drawings in Valcamonica, Italy



Figure 2: Chauvet Cave Paintings in France

have used original site restoration technology to completely copy the cave paintings and even the cave itself and build it near the original site, achieving the effect of equal emphasis on openness and protection, such as the cave paintings of Altamira in Spain.

In 2007, the famous Australian scholar Robert G. Bednarik published the book *Rock Art Science: The Scientific Study of Palaeoart*, in which he elaborated on the conservation of rock art. The content that needs to be implemented is specified to a series of measures such as fighting against interest groups to protect precious rock art heritage resources, recording and archiving rock art data in detail, establishing pedestrian trails and observation decks, creating authoritative academic journals, etc., and actively carry out the measures in Australia. It has gradually become the paradigm that all parties follow. (Figure 3: *Rock Art Science*)

In addition, with the development and maturity of digital technology, its application fields have gradually expanded to the research and protection of rock art. For example, as the world's largest digital archive of rock art, the South African Rock Art Digital Archive includes historical documents, photos, rubbings, copying and slides, and other huge data. (Zhu, 2020) Ningxia Rock Art Multimedia Resource Library built in 2016 is China's first comprehensive rock art multimedia database. (Wu, 2023) Both of them achieve the permanent retention of various data on rock art through digital storage technology, and are open to the public.

The production time of Chinese rock art spans more than 20,000 years with a spatial distribution of 5,000 kilometers. It is a cultural resource with distinctive cultural traditions, prominent regional characteristics, and full of world significance. Although modern scientific research originated from Mr. Huang Zhongqin's investigation of the Xianzitan rock art in Fujian in 1915, it was not until the 1990s that systematic research on rock art gradually received attention. The academic community is keen on regional macro-research. Emerging issues such as resource transformation and protection are ignored. At that time, the international academic community had completely zero understanding of Chinese rock art. It was not until a letter from Mr. Chen Zhaofu in 1985 that this mutual isolation was broken.

1.1 Formation and Development of The Concept of Safety in Rock Art Protection

In the late 20th century, especially with the advent of the era of globalization characterized by world integration, rock art entered a stage of interdisciplinary and diversified development in a global context. On the one hand, scientific and technological protection has become increasingly important, and international cooperation has gradually deepened. For example, the Chinese Rock Art Microerosion Dating Project was carried out in Ningxia, Jiangsu, and Henan provinces in China from 2014 to 2017. For the first time, the project provides archaeological dating verification for famous domestic rock art sites

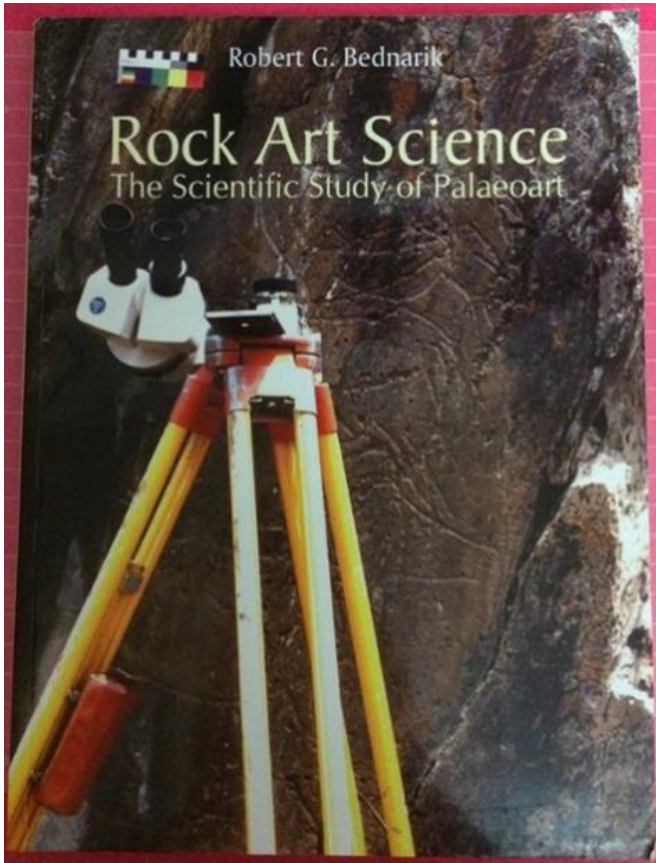


Figure 3: Rock Art Science



Figure 4: Chinese Rock Art Microerosion Dating Project

such as Rock Art of Helan Mountains and General Cliff Rock Art. (Figure 4: Chinese Rock Art Microerosion Dating Project) On the other hand, the number of related artistic creations and rock art-type cultural and creative products has increased sharply, and special museums and



Figure 5: Yinchuan World Rock Art Museum



Figure 6: Huashan Rock Art in Guangxi was under restoration



Figure 7: Protection Regulations on Helan Mountain Rock Art in Yinchuan

heritage parks have also opened. The public has gradually had a deep awareness of rock art. (Figure 5: Yinchuan World Rock Art Museum)

After entering the 21st century, the rapid development of science and technology has given rise to more new technologies and methods, which have been increasingly applied to the field of rock art. The protection of rock art has also shown a relatively obvious cultural shift. Take the Huashan Rock Art in Guangxi as an example, due to the long-term effects of weathering and peeling, rock wall cracking, pigment fading and other factors, it appears the accumulated dangerous rock mass, fissures, dissolution, weathering, flaking and other diseases. The Huashan



Figure 8: Helan Mountain Rock Art Scenic Area



Figure 9: “Traditional Crafts + Rock Art” Training

Rock Art Protection and Maintenance Project is hosted by the Chinese Academy of Cultural Heritage and involves the collaboration and participation of experts from geological karstology, geological surveying, environmental science, cultural relics protection, chemistry, engineering and other disciplines (Figure 6: Huashan Rock Art in Guangxi was under restoration). It lasted for 5 years and ended in 2015. This project has been implemented in three phases, with the area of 8,000 square meters of rock paintings reinforced and restored, and the overall restoration effect is good. Ningxia has also launched the “Technological Protection of Rock Art from Weathering” project, which has implemented rescue protection for some severely weathered rock paintings and alleviated problems such as falling off, cracks, looseness, and moss erosion of rock paintings. In response to the frequent flash floods in summers, the “Helan Mountain Rock Art Carrier Slope Debris Flow and Dangerous Rock Mass Rescue and Reinforcement Project” was implemented in 2019, aiming to reduce the damage caused by flood erosion in the rock painting distribution area.

After a large number of rock art protection projects and a number of digital protection special projects, China has made great progress in both conservation concepts and technology, and has gradually established an evaluation system that is compatible with it. In addition, cultural relics protection personnel have gradually realized the importance of the natural environment surrounding rock art for comprehensive protection during conservation practices, and have also carried out relevant surveys and monitoring of rock art and its natural environment to achieve all-round protection of authenticity and originality of rock art.

First of all, regulations and plans for the protection of rock art have been

promulgated and announced, to improve legal protection methods and give full play to the legal protection. Protection Regulation on Helan Mountain Rock Art in Yinchuan, which came into effect on September 1, 2003, is also the first local regulation on the protection of rock art issued in China and has great practical significance. (Figure 7: Protection Regulations on Helan Mountain Rock Art in Yinchuan) Others such as “Protection Regulations on Yinshan Rock Art in Bayan Nur” and “Protection Regulations on Heishan Rock Art in Jiayuguan” have also been released one after another. The promulgation of these protection regulations has gradually made the protection of rock art ruled by laws, marking that the legal system for the protection of rock art heritage in China is further strengthened and becomes increasingly orderly. After more than ten years of implementation, in the face of emerging practical problems, such as unclear rights and responsibilities, single protection means, and backward accountability regulations, these previously promulgated protection regulations and plans also need to be revised in a timely manner.

Secondly, the scope of utilization of rock art resources is actively expanded. With the development of global “heritage resources”, Helan Mountain Rock Art Scenic Area (Figure 8: Helan Mountain Rock Art Scenic Area) and Huashan Scenic Area in Nanning, Guangxi have also been developed as a whole. Currently, both are AAAA national tourist attractions and are also national key cultural relics protection units. In July 2016, the Zuojiang Huashan Rock Art Cultural Landscape was inscribed on the World Heritage List, achieving a breakthrough in rock art cultural heritage in China.

In 2019, the Department of Intangible Cultural Heritage of the Ministry of

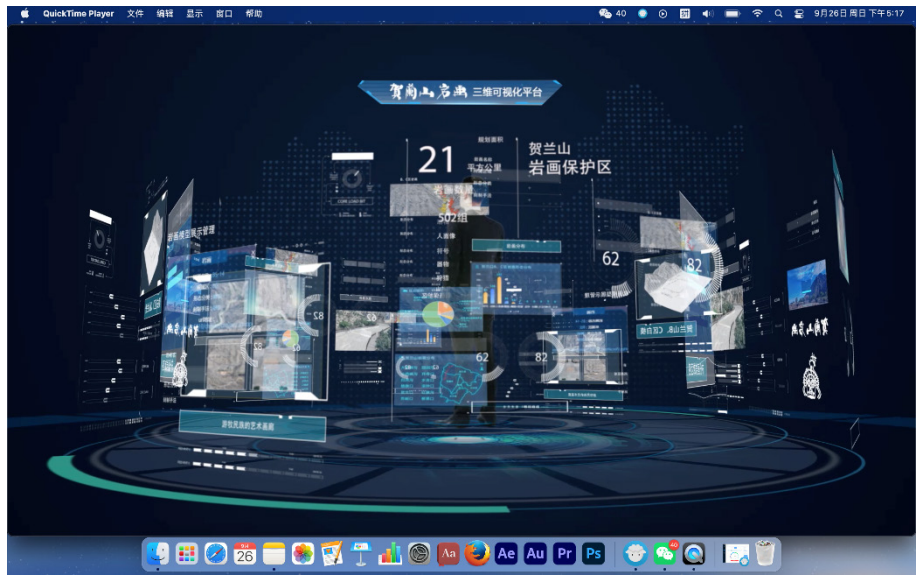


Figure 10: Regional Surveying and Ontology Digital Preservation Project on Helan Mountain Rock Art

Data as of June 23



45296 views on Douyin



4261 views on Video

Total 49557 views

Figure 11: New Communication Media

Culture and Tourism held training courses such as “Traditional Crafts + Rock Art” in Ningxia and Guangxi (Hu, 2022). It attracted many intangible cultural inheritors from both places to participate in the construction and symbiosis of rock art inheritance and innovate the form and function of rock art in the new era. The related departments have rectified the disorderly development of rock painting resources, and taken multiple measures to accelerate the integration and transformation of training results into the market, achieving good results. (Figure 9: “Traditional Crafts + Rock Art” Training)

Third, digital technology is used to conduct multi-dimensional space protection and cultural inheritance research on rock art resources. From 2013 to the present, the Anthropology Museum of Guangxi has collected digital information four times. On this basis, it has developed and constructed the display platform of “Zuojiang Huashan Rock Painting Cultural Landscape” and the “Guangxi Rock Art” (Hu, 2022), which

realizes the leap from the collection of primary rock art data to the digitization of results. In addition, the “Regional Surveying and Ontology Digital Preservation Project on Helan Mountain Rock Art “ launched by the Helan Mountain Rock Art Management Office in Yinchuan in 2018 focuses on both management and protection, and its results have also served as a good example for surrounding areas. (Figure 10: Regional Surveying and Ontology Digital Preservation Project on Helan Mountain Rock Art) For example, the “Ontology Digital Preservation and Protection Application Project on Zhuozhishan Rock Art Group in Inner Mongolia”, “3D Data Management and Visualization System Construction Phase II of Mandela Mountain Rock Art Group in Alxa Right Banner, Inner Mongolia” and the “Digital Preservation and Protection Application Construction Project on the Zhuozhishan Rock Art Group in Etuoke Banner, Ordos City, Inner Mongolia” are all completed in 2022. The 2022 “Digital Protection of Ningxia Rock Art (Phase I)” project has also been approved. Recently, a digital image database of Gansu rock

art was finished by the Cultural Relics Digital Research Institute of the Dunhuang Academy, which took more than a year, providing basic data support for the future research, protection, inheritance and utilization of Gansu rock art.

Fourth, digital communication media has become an important way to realize the creative transformation of rock art resources. Taking Ningxia's activities during the "Cultural and Natural Heritage Day" in 2022 as an example, the short video of rock art planned by the Ningxia Rock Art Research Center was watched 50,000 times in just three days through new media platforms, Douyin, WeChat public accounts and other platforms. The publicity effect is remarkable. (Figure 11: New Communication Media) In addition, some folk stories and legends related to Guangxi Huashan Rock Art, as well as scenes of sacrifice, dance and other scenes that frequently appear in rock art, have also spawned a series of films, animations, and large-scale live-action musicals, such as "The Legend of Maguai Festival", "Bu Luo Tuo", "Huashan", etc (Wu, 2023). After careful creation and arrangement, it was well received after the release.

1.2 Limitations and Shortcomings of the Rock Art Protection and Inheritance System

Undoubtedly, precious but fragile rock art have a series of values such as historical value, cultural value, and artistic value. According to the Third National Cultural Relics Census, there are currently 1,226 rock painting sites in China, including 17 national key cultural relics protection units. Although the rock art in each region have distinctive characteristics, only the Zuojiang Huashan Rock Art Cultural Landscape has been included in the World Heritage List, which indicates that China's current protection and inheritance system cannot match the rich rock art resources and cannot exert its maximum effect.

At present, comprehensive research on the protection of rock art in China, as well as the activation and derivative development of rock art resources are still lagging behind. It is because new theories and methods are not updated timely and the theories are not extracted from practices. In addition, many relevant successful and mature achievements are not absorbed, and to a certain extent, more focus is put on protection rather than inheritance. Therefore, the current problem that needs to be solved is how to use advanced digital technology to carry out the rescue and protection of endangered rock art. After retaining the original data, we can consider digging into its connotation and extracting the spiritual tender and cultural essence of Chinese civilization. Furthermore, we can rely on new media technology for multi-angle and all-round communication, re-endow it with new vitality and modern expression, achieve two-way integration and positive interaction between protection and inheritance, and achieve all-round protection that takes into account the safety of rock art resources and ecosystems.

2. EXPLORING THE PATH OF PROTECTION AND INHERITANCE OF ROCK ART UNDER THE SHIFT OF CULTURAL PROTECTION

With the adoption of the Convention Concerning the Protection of the World Cultural and Natural Heritage in 1972, the concept of world heritage as a "fusion of culture and nature" in the human living environment has gradually been accepted by people. Since then, the direction and development trend of World Heritage strategies has been changing.

In early January 2022, the article "Nature-Culture Keywords" published by the International Council on Monuments and Sites emphasized the "keyword families" and highlighted the three keywords that connect culture and the foundation of natural heritage protection: bioculture, resilience and traditional knowledge, which embodies an updating and changing "living" view of heritage. It is worth noting that the principles of focus on protection, giving first place to rescue, reasonable utilization, and strengthening management have been followed in the work concerning cultural relics protection. At the National Cultural Relics Conference held in July 2022, it was revised to the principles of the cultural relics in the new era of "giving first place to protection, strengthening management, exploring value, effective utilization, and making cultural relics come alive". Specifically, "focus on protection," is

changed to "giving first place to protection", which further emphasizes the importance of protection. changes "reasonable utilization" is changed to "effective utilization", achieving utility maximization and reducing ineffective use. The content of "making cultural relics come alive" is also added to explore the diversification of cultural relics protection measures. These provide fundamental guidelines for future cultural relics protection and inheritance work.

In the same way, as a category of cultural heritage and a type of stone carving cultural relics, with the change of academic perspective and the transformation of research paradigm, the protection and inheritance of rock art should also keep pace with the times.

In fact, to a certain extent, the essence of information accumulation on rock art conservation theories and principles is also a dynamic, constantly developing and changing process. As we all know, rock art is a product of the environment, which is reflected in the fact that it is not only an object of historical significance (the scenes and events reflected in the composition carved on the rock surface) and the place of production (a sacred place deliberately chosen by the maker), but it also has the ability to evoke the collective memory and complex emotion (unique perception and individual feeling that is either alone or combined with the surrounding environment). Therefore, from this point of view, rock art is actually a comprehensive cultural heritage with both material and intangible characteristics. Professor Deng Qiyao (2015) once suggested that in the recording process, attention should be paid to the spatial presentation of the rock art field (including the nature, culture, associated culture, supernatural and psychology brought by the related culture where the rock art is located). Dr. Fan Chen also advocated that the research should introduce field theory (protecting the integrity between the customs, religious rituals, original texts, and original environment of ethnic groups living near rock art sites for generations), which is also in line with the scope of research on surface phenomena in geography. Associate Professor Wan Xiang (2020) believes that the study of rock art itself contains geographical ideas at different levels, and has been fully applied in the formulation of rock art field survey standards, image description and comprehensive interpretation.

In view of this, we can try to integrate the two different categories of "protection and inheritance" in China's rock art, and conduct deep integration research from the perspective of holism in order to achieve the synergistic and superposition effect of "1+1>2". By analyzing the current practical problems in the protection and inheritance of rock art in China, we sort out the factors that hinder development and summarize them. Based on their value and protection status, development trends, pressures and risks, we determine differentiated protection principles and inheritance methods to achieve the goal of coordinated integration of active protection and effective utilization. It also compares the pros and cons of relevant protection methods and inheritance methods currently implemented in other countries, and explores whether it has the feasibility and growth potential of application in China, thereby improving the sustainability of China's current rock art protection and inheritance system.

First of all, under the global development trend of "heritage resourceization", we can explore how China's rock art can carry out interdisciplinary and cross-field cooperation in the future under the background of multidisciplinary integration, focus on value characteristics and protection needs, and form an integration paradigm of protection and inheritance based on "method + concept". Secondly, from a global perspective, we can explore the feasibility of relevant mature concepts at home and abroad, scientific and technological means, and activation and utilization methods to provide theoretical support and implementation paths for optimizing the protection and inheritance system of rock art in China.

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ANNOTATION

1. The Camunian Center of Prehistoric Studies was founded by Professor Emmanuel Anati in 1964. The process of copying rock art at the center can be found in Yang Chao's article "A Preliminary Discussion on the Recording Methods of Rock Art".

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