

Exploring the Conservation and Restoration of Rock Carvings in Taishan

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Abstract

As an important part of Taishan culture, Taishan stone inscriptions have an important position in carrying the cultural contents of Taishan. This paper takes Taishan rock carvings as the research object, analyzes in detail the significance of religious value, cultural value and educational value of Taishan rock carvings, finds through investigation that there are mainly problems from both natural and man-made aspects of Taishan rock carvings, and proposes targeted protection and restoration measures such as improving management level, man-made protection, technical protection, playing government functions and raising public awareness, aiming to broaden the protection and The aim is to broaden the way of protecting and restoring the stone carvings in Taishan. It is hoped that this paper will provide a reference for the conservation and restoration of similar stone relics in China.

Keywords

Rock Carvings in Taishan; Conservation; Restoration.

1. Introduction

The main scenic area of Mount Tai is from Dai Temple to the top of Mount Tai, and there are stone carvings all around the winding climbing path, especially the nearly 300 monuments in the temple of Dongyue Shenfu, which is a collection of essence. For example, the original engraving of "Diamond Sutra" in the cliff carving of Northern Qi Dynasty, with 2,799 words of scripture, only 1,069 words remain, and 1,730 words have been eroded.[1]

According to the damage data in the article of Tai'an Municipal People's Government on "Damage and Gain of Taishan Rock Carvings", Taishan rock carvings have suffered different degrees of damage under the influence of natural and man-made factors, and some of them are irreparably and permanently damaged. However, as a carrier of Taishan culture, Taishan stone carvings have high artistic and historical values and are a major part of the humanistic landscape of Taishan.[2] Therefore, the protection and restoration of Taishan stone carvings is urgent.

2. The Culture of Taishan Rock Carvings

The stone carvings on Mount Tai have religious value. Therefore, there are many Taoist temples on Mount Tai, and the stone inscriptions on Mount Tai show the prosperity of Taoism in ancient China, for example, the inscriptions "Song Shengyuanguan Edict Disc Tablet" and "Jinro Zhuang Creation of the Buddhist Temple", both of which have strong religious color.[3]

Taishan stone inscriptions have cultural value. The cultural value of Taishan can be roughly divided into two parts: the faith of the kings and the faith of the common people, and the faith of the kings in successive generations in the "Dongyue Emperor", and the faith of the common people in the "Bi Xia Yuanjun", which is the "Taishan grandmother" in Shandong. The common

people believe in "Bixia Yuanjun", or "Tai Shan Granny" as the Shandong people call her. In 2018, General Secretary Xi Jinping proposed the "spirit of mountain workers", which once again highlights the cultural value of Mount Tai in the context of the new era.[4]

Taishan stone carvings have educational value. The calligraphic art works in Taishan rock carvings are majestic and leisurely, which are indispensable for calligraphy enthusiasts to practice and for the ideological education of future generations.

Taishan rock carvings have economic value. Under the economic system of the new era, with the help of artistic design and other means, the development of a series of cultural and creative products of Taishan rock carvings has gained the favor of young people, and at the same time promoted the culture of Taishan rock carvings, realizing the wisdom achievements to economic value.

3. Analysis of the Current Situation and Reasons for the Conservation and Restoration of Rock Carvings in Taishan

3.1. Overview of Damage to the Stone Carvings in Taishan

As a branch of stone cultural relics, Taishan stone carvings are widely distributed and have a large geographical span, so it is not easy to carry out unified protection and management, and it is more difficult to protect and restore them. In the past historical period had been protected or centralized storage, but due to the impact of natural and man-made factors, some of the stone carving relics remaining today are broken and fragmented.[5]

3.2. Restoration Status

The current protection mechanism of stone inscriptions in Taishan is still lacking, treating the value of stone inscriptions attitude, protection and restoration resources allocation is not the same; secondly, the protection means is single, mostly to stone inscriptions text gilding and red as the main chemical protection method, treating the content of large stone inscriptions collection and collation is incomplete; management level still needs to be improved, Taishan scenic area is mostly crowded at night as the main force, near the main stone inscriptions signs are not clear, electronic eye arrangement The layout still has defects.

3.3. Analysis of the Causes of Damage to the Rock Carvings in Taishan

3.3.1. External Causes

Mount Tai is affected by the natural geographical environment, the seasonal solar radiation warming is not the same, in the temperature change or periodic temperature change is very likely to lead to uneven temperature changes inside and outside the rock, causing uneven expansion and contraction.[6]

Sulfur dioxide, carbon dioxide and nitrogen oxides emitted from factories and traffic vehicles in Tai'an area are dissolved into acid rain when encountering rainwater, which will interact with the rock carvings and cause the surface of Taishan rock carvings to be damaged and blurred.

After the founding of the People's Republic of China, the planting activities to increase the greening rate of the vegetation in Mount Tai caused some of the native vegetation to be destroyed, resulting in the fragility of the soil and water conservation in Mount Tai compared with the original situation.

3.3.2. Human Causes

First of all, the stone carvings of Taishan are mostly shown in the open air, and the slight damage caused by the touching, scratching and camera shooting of tourists have caused damage to the stone carvings of Taishan. Secondly, employing some experts who do not have the professional skills to carry out the restoration work will easily fail to achieve the purpose of protection and

restoration, and may even cause secondary damage to the stone carvings. Thirdly, because of the high collection value of Taian stone carvings, so some unscrupulous people steal and sell the stone carvings of Taishan that are not found by the cultural relics protection units at high prices, which leads to the destruction of Taishan environment and the loss of culture. Finally, due to some historical reasons, such as the recent "Four Olds" and "Cultural Revolution", many Taishan rock carvings were knocked down and destroyed, and suffered irreversible damage.

4. The Path of Conservation and Restoration of Stone Carvings in Taishan

4.1. Improve the Management Level

In accordance with the content and requirements of the Cultural Relics Law, equip the rock carvings of Taishan with full-time management personnel, clarify their work authority and management scope, establish a strict 24-hour day and night duty, and do a good job of duty inspection combined with full coverage of electronic eyes to ensure the protection and safety of important rock carvings.

At the same time, we should strengthen the popularization of Taishan cultural knowledge, organize professional skills training for management personnel according to the off-season period of Taishan scenic area, and take the combination of field study and theoretical research to enhance the staff's recognition of Taishan rock carving culture in order to achieve scientific protection.

4.2. The Way of Human Protection

The use of covering house, rain hitch and other equipment, the implementation of outdoor stone cultural relics centralized protection. For example, the 48 important inscriptions collected by Taishan Scenic Area in the past few years are taken to be centrally managed and stored in the Dai Temple Gallery.[7] Secondly, in the area of important stone inscriptions, the construction of isolation dam, cut off the water wash, while building a sightseeing bridge, guide visitors to the bridge to watch. In the large and not easy to move the stone inscriptions near the use of grouting, digging side ditches and water culverts and other methods to cut off the water source or make the water level drop, to play a considerable protective effect.

4.3. Technical Protection

4.3.1. Stone Modification

Stone modification refers to the reinforcement of fragile stone carvings, its role is to increase the cohesion of stone carvings to prevent collapse, spalling and weathering. The key to stone modification is to recognize the characteristics of stone carvings and use appropriate materials and impregnation methods for restoration, commonly used materials such as polyvinyl acetate, acrylic monomer infiltration and trimethylene resin.

4.3.2. Bonding Restoration

For the stone relics that are broken and disconnected, epoxy resin can be used for bonding and restoration. Because of the complex situation of the bonding object, there are movable and immovable, field and indoor, dry and wet, hard and loose, therefore, according to the different bonded objects and different bonding requirements, choose different bonding materials, formulations and processes.[8]

4.3.3. Anti-weathering and Weathering Management

Weathering refers to the damage of Taishan rock carvings caused by its own stone structure and unavoidable external environmental damage, [9]so to solve the weathering problem, we have to start from both changing the rock structure and preventing external damage.

Commonly used anti-weathering materials include, silicone water repellent 850#, 851#, DC-772 (USA), PS materials, Chinese white jade anti-weathering materials and composite materials.

The protection principle of the above materials is mainly divided into two kinds, one is to play a reinforcing role by spraying on the surface of Taishan rock carvings, and the other is to improve the strength and weathering resistance of the rock itself with strong permeability. In the actual use of the above materials have their own advantages and disadvantages, so in the prevention of weathering and weathering management of the Taishan rock carvings should be based on the existing situation of the rock carvings for specific analysis.

4.4. Play Government Functions

First of all, the government should further improve the corresponding laws and regulations, to achieve a clear separation of powers and responsibilities, for the criminal acts of destruction of cultural relics should be severely punished, increase accountability, there are laws to follow.[10] Secondly, the problem of insufficient funds for the protection of cultural relics should be increased attention, increase the investment, and broaden the sources of funding channels, and cooperation with relevant units, in short, good economic support to provide protection for the protection of Taishan rock carvings.

4.5. Establishing the Awareness of Mass Protection

The damage to the stone carvings of Taishan is mainly caused by man-made reasons, and many people lack of understanding of the culture of stone carvings, so they lack attention to the protection of the stone carvings of Taishan. This requires the relevant departments to increase publicity and make good use of the network media to enhance public awareness and stimulate public consciousness of the protection of cultural relics of Taishan rock carvings, so as to reduce the damage caused by human factors to Taishan rock carvings.

5. Conclusion

The richness of Taishan rock carvings is very rare in many stone carving cultures, and the value and significance they have are self-evident. Therefore, the protection and restoration of Taishan stone carvings should be paid attention by the world. In this paper, after analyzing the value status of the stone carvings in Taishan, through analyzing the causes of damage to the stone carvings in Taishan, I systematically put forward targeted suggestions such as strengthening the quality level of the professional team for the protection and restoration of the stone carvings in Taishan, enhancing the technical material means to broaden the protection path of the stone carvings in Taishan, and calling on the government and the public to strengthen the awareness of the protection of the stone carvings in Taishan. Therefore, I hope to provide some measures and methods to provide better preservation and continuity value for its development environment through this article.

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