

Art restoration, protection and education in China -Murals, materials study in humid areas in South China

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Abstract. This paper introduces the museum development history and cultural heritage education in China. The number of museums and precious collections increases tremendously, the professionals specially trained to perform Art administration, repair and restoration are next to non-existence. Facing the challenge of well-qualified teaching and researching staff, China Academy of Art (CAA) in Hangzhou China strived to offer graduate and undergraduate programs in Art Administration, Art Education and Art Appreciation in 2015. The efforts are expected to train students in an interdisciplinary approach so that they will be equipped with art knowledge, scientific techniques and practical skills. It also discusses an interesting recent studies and findings performed by the professor and his students. This paper describes special historical materials of southern Murals in China, and analyzes the traditional materials, production techniques and artistic characteristic of these Murals. The plan is to rebuild an old wall with murals as a laboratory for future studies in CAA.

1. Museums and Cultural Heritage Education

1.1. Museum and Collection

China is an ancient cultural country with 5,000 years of civilization. In the treasure house of Chinese heritage, a rich and colorful cultural heritage has been left behind, including a large number of tangible cultural heritage such as ancient ruins, tombs, architecture, books, artifacts, gardens, literature, paintings, sculptures and arts and crafts. They are not only China's treasures, but also the most precious legacy of all humanity. In recent years, more and more museums, art repair and protection education has also received more and more attention.

Chinese Modern Museum was founded in the second half of the 19th century. In 1868, French priest Pierre Heude first established the Xujiahui Museum in Shanghai, mainly collecting specimens of plants. Subsequently, the British, Japanese, Americans, Russians and other successively in Shanghai, Jinan, Chengdu, Lushun, Harbin and other places to build museums. The first public museum founded by the Chinese themselves was Nantong Museum built by Zhang Jian in 1905.

Social changes in 1911 promoted the activity of science, culture and education in China and started a number of museums in Beijing, Tianjin, Taiyuan, Nanchang, Shenyang, Kaifeng, Nanjing, Lanzhou, Hangzhou and Guangzhou. In 1925, the Forbidden City of China changed to the National Palace Museum with nearly 1 million items. At present, there are 15 museums with over 100,000 pieces, such



as Tianjin Natural History Museum and Nanjing Museum. 20 to 30 years of the 20th century, the Chinese Museum had had a more significant period of development. On the eve of the Anti-Japanese War in 1936, there were 77 museums, 56 art galleries and 98 antiquities stores. The Japanese invasion of China in 1937 severely damaged the Chinese museum. From the early 1950s to the late 1950s, the number of Chinese museums soared from 24 to 480, forming another significant period of development in the history of Chinese museums. The "Cultural Revolution" started in the mid-1960s caused a large number of Chinese museums to be closed, the collections of cultural relics and specimens to be seriously damaged, and the museum project suffered huge losses. Since the 1980s, the development of Chinese museums has accelerated significantly. By the end of 2008, there were 2,970 museums in the country, including 2,161 state-owned museums, 490 state-owned museums and 386 private museums, 8 times those in 1978 and 138 times those in 1949. Chinese Museum collection of more than 2000 million pieces.

Forbidden City repair department also admitted that with the current restoration staff to repair the existing artifacts at the Forbidden City at least a hundred years to be more. According to the scale and other conditions, Chinese museums are divided into four levels, namely, state pavilion, provincial (autonomous region and municipality) level pavilion, prefectural (city) level pavilion and county (district) level pavilion, and are managed by the relevant departments at different levels. March 23, 1982 Chinese Museums Association Chinese Museums Association (CMA) to create. From January 2008 onwards, 1,447 museums across the country have been gradually liberalized. As of the end of 2009, the museum received 820 million visitors in two years.

The national museum not only develops rapidly in quantity but also continuously improves the quality and standard of museums. However, the overall professionalism of museums is relatively limited, which is far behind that of developed countries. Many large and medium-sized museums are mostly under-researched, and their ability to interpret and interpret collections needs to be improved urgently. Some small-scale museums lack hardware and the environment for preserving and displaying collections is grim. Many private museums have weak public awareness, lack of professional awareness in museums and relative social functions limited. There are many problems related to the training of professionals.

1.2. Program and academic education

Cultural relics protection technology is a comprehensive professional knowledge, including the production of cultural relics, protection and prevention and control related to science and technology, material properties, operating techniques and various survey and testing. The professional is a combination of science and technology, science and technology infiltration, modern science and technology and humanities science combination of emerging edge discipline. In 1989 in colleges and universities began to establish cultural heritage conservation technology Preservation Techniques of Cultural Relics undergraduate. At present, there are 23 institutions in the country that set specialties related to the protection of cultural relics. The main course for the major of cultural relic protection is chemistry. Therefore, major science students are enrolled. Such as Peking University, Jilin University, Northwestern University, and other colleges and universities in recent years, there are several professional courses opened in this area, but because of China's institutional reform with the recent shortage of less than 2% of graduates accepted and digestion. After 2007, the appraisal and restoration of cultural relics (code: 660113) was canceled. The professional training of arts colleges is different from the professional goals of University. Its goal is to cultivate high-level technical and practical talents with a certain degree of cultural and artistic accomplishment, mastery of cultural relics identification and restoration of knowledge and skills. Professional core competence is to cultivate the skills and skills of rehabilitation and rehabilitation of the cultural relics with the basic knowledge and ability of cultural relics appraisal. Professional Core Courses: Ancient Chinese Foundation, Ancient Chinese History, Modern and Contemporary Chinese History, Ancient World History, Modern and Contemporary World History, A Brief History of World Archeology, Museology, General Archeology, Aesthetics, Chinese Art History, Introduction to Cultural Relics, Fine Arts Archeology, the world's ancient art, ancient

Chinese architecture, Chinese painting, sculpture, ceramics, Chinese four treasures, Chinese seal, Chinese coins, cultural relics identification, cultural relics, painting and calligraphy identification training, Four treasures and seal identification training.

The art of Chinese cultural relics protection has a long history. In the Tang Dynasty (618-907), there was a record of the wedges being placed on the crooked ancient building beams. According to Huang Hu-fu's Record of Famous Masters in Yizhou, Chengdu had migrated three Wall murals, after 200 years is still intact.

On the statue, murals, paintings and other ancillary works of art can not be free to repair. Most of the destroyed painting and calligraphy use the traditional method of exposing and framing; the protection of the framed and framed art of calligraphy and painting is quite mature to the Tang Dynasty. "Paint sticky stones, sticky for wood" is a long-standing tradition of restoration of stone artefacts and wood artefacts. With the progress of science and technology later, polymer materials, physical detection technology has gradually been introduced to the work of cultural relics protection. Silk screen ancient silk fumigation available sterilization; fragile textiles available mesh reinforcement or traditional mounting method of reinforcement; ceramic fracture with shellac or epoxy resin and other polymer materials bonding. Chinese painting mounting technology is basically the master apprentice mode, the general situation to go through 5-10 years of study before it is possible to independently host art repair, for example, the quality of paste production directly affects the mounting quality. To handcraft training, did not form a complete theoretical system. The academic education has not been closely linked with the practical application.

Professionals can not keep up with the development of art galleries. The collection department is a department set up by most art galleries. The collections are the foundation of the museum. However, the preservation and restoration department is unusual. Even if the capital equipment is complete, but professionals are difficult to hire. In order to break the bottleneck of craftsmen, in 2015, the Forbidden City and Beijing International Vocational Education School jointly opened the first professional restoration and protection of cultural relics. The first batch of 20 people, so far, the profession enrolls 35 students. On August 31, 2016, a two month training program for the first national art collection protection and restoration was conducted by the Chinese Ministry of Culture and the National Art Fund, sponsored by the National Art Museum of China. The number of new art students in Chinese universities is 530,000 each year, with 2 million students enrolled. There are less than 300 art students specializing in the protection and restoration of artwork.

The China Academy of Art is the first Academy of fine art in China and exists since 90 years. The Academy was founded in 1928. and has more than 10000 students now studies are organized in 10 colleges of Academy. With altogether 84 degrees (art, design, architecture, art management, art history and art restoration)

The college of Art Management and Education was established in 2015. it's the first institute focus on Art restoration, protection and Art Management in China. And includes 3 Departments: Art Management, Appreciation and Restoration also Art Education.

The Department of Art Management has as main teaching content in art administration, art communication and art economy, and as well The Department Appreciation and restoration focus of Material Research, Art Studies, Theory Studies. Main teaching method is theory and practice combination that the appreciation and collection, protection and restoration of room ware, traditional calligraphy and painting in China, both practical foundation and theoretical accomplishment. Aimed to a high level of professional and practical teaching and practicing the academic concept applied project. Currently 2015 China Academy of Art in Art Management and Education College has 340 students, of whom 72 graduate students and undergraduates in the Department of Art Kam learning. In addition, Beijing and Shanghai Institute of Fine Arts also set up such professional courses, but this highly practical college education focuses on theory, less opportunities, even to have the opportunity to participate in the specific restoration work, but also to trainee the Lord. It is hard to cultivate and train outstanding students without great opportunities to participate in the rehabilitation. The purpose of the training process is not very clear, post-graduate job is not clear. The education of oil painting restoration and

protection is almost blank in China. Currently only the Shanghai Institute of Visual Art opened a painting repair professional. Weak teachers is a very real problem.

2. Study and research on mural technology and protection in humid areas in southern China

China has a vast territory that from northern to southern and from western to eastern about 5000 kilometers, the climate, soil and vegetation are very different. In winter between north and south is 50 degrees Celsius with difference Temperature. The climate in northern is dry, From Jin, Tang, Song, Yuan, Ming, Qing dynasties, like Cave mural in Dunhuang, Kizur xinjiang region, temples Mural in Yonglegong, Jincheng in Shanxi, or Beijing and other places more (Annual average humidity 43-50). but in south area like province Zhejiang Fujian, Hubei, Hunan Sichuan the climate is hot and humid (Annual average humidity 77-80). This paper researches on special historical materials of southern Murals in China and analyzes the traditional materials production techniques and artistic characteristic (eg such like one of the future projects or a professional level will be the rebuilding of an old wall with murals as a laboratory for future studies.

At present, the research and protection of traditional murals in China are mostly concentrated in the northern areas mainly based on Dunhuang. Due to the prevailing stereotypes in the south that "there is a paucity of remnants of the climate due to damp weather, it has seriously lagged the relevant research." For a long time, many well-made and historically high value traditional murals in the humid southern areas have not received the attention and attention they deserve. They are located in Longquan, Jinhua, Quzhou, Tonglu, Sichuan, Chengdu, Xinjin, Guanghan, The traditional murals in the wet areas of the south are notoriously inadequate, under-researched and poorly preserved.

There are a large number of frescoes in Zhejiang Province, and there are 94 frescoes of the Qing Dynasty in the Palace of the King of Jinhua with an area of 294 square meters. The murals reflect the high standard of ink and wash murals in wet southern areas. , Pines crane (Songhe) , cats and butterflies, cypress deer, bee monkeys, watchtower barracks, tower pavilions, landscape flowers and seasons fishing chart, mountain mining fireworks, etc., its style is different from the northern murals fine detainery, with South Sect murals The typical characteristics of art and heritage value is higher.

In addition, the survey found that Lin Yueqing ancestral hall in Yueqing, Lei Gong Temple Yongjia, Yongjia Green House Taiyin Gong, Yongjia Jingzhou Taiyin Gong, Ninghai Yu ancestral hall, Hu ancestral hall, Pan's ancestral hall, Lee's ancestral hall, Jiangshan Mao's ancestral hall, Wenchang Palace, Shengzhou Wang ancestral hall, bamboo ancestral temple, New Town Temple 13 ancient buildings have 253 color murals, with a total area of about 583.8 square meters.

Some murals in the open air of the Ming and Qing dynasties are still clear after years of hard work. Anhui shexian Shengzeng An Temple mural is the painting by master Huang Zhu, created in the Ming Dynasty Wanli years (1573 -1620). The murals are also works of ink drawings, the outline of the brushwork is more bold and full of passion, character and clothing outline to a fine level of the Ming Dynasty called first-class level. Sichuan Pengxi Bao Fan Temple murals open character and outline the color are extremely refined, is a typical style of the Ming Dynasty, although the era and style is different, but both in terms of sophistication and cultural value comparable to the Yuan Dynasty in Paradise in Shanxi mural.

The hot and humid weather in southern China, the southern mural protection does exist problems, resulting in improper protection measures. Mural easily damp moldy, picture peeling, the picture is damaged. There is a lack of aesthetic appreciation in the repair, lack of understanding of the traditional materials and techniques, and inadequate research on the artistic style, tool materials and painting techniques, resulting in improper patch full color.

According to the present situation, the art management and education institute of China Academy of Art has made important achievements in the in-depth study of Professor He Shiyang and his team in the Department of Art and Design.

The research team first conducted its work on materials and workmanship, conducting research from mural supports, poles and layers. South traditional building wall rammed earth wall or brick wall, black brick firewood tunnel kiln, the temperature 1000 to 1100 degrees firing more than 20 days, and then

boring, carburizing, etc., about 30 days to go out of the kiln. Bricks are brighter than red bricks and better in firmness. Winter temperatures are low, easy to crack red brick, brick will not. Sichuan is also useful bamboo as the skeleton, and on the glutinous rice paste, brown silk pounded mud and lime, paper fiber, bamboo (bamboo fiber), hemp rope. black brick structure for the wall mainly in the vicinity of Zhejiang Province, Zhejiang Province, the brick wall of the ancient method of construction, the surface to the ancient law approved the lime wall for painting; the southern coast of the ancient method of building brick walls, the surface of the ancient method of scratch Oysters shell gray wall for painting; South Fujian and Guangdong area to ancient law rammed earth wall rammed, smooth polished wall for painting; Sichuan area to bamboo structure, painted brown silk pounded mud and lime walls for painting

Southern wall murals aesthetic, follow the Tang Dynasty Wu Daozi, Li Gong-lin in the Song Dynasty heavy line sketching a light stroke with a pulse of painting techniques to strengthen the use of pen to mention, pay attention to the performance of line drawing brushwork, color simple and simple, with mural "South Sect "aesthetic characteristics

China needs a lot of research and work on art protection, and the protection and restoration of traditional materials and methods are fundamental to education in this area. At the same time, the application of modern science and technology and new materials is also necessary, and more cross-disciplinary and intercultural Cooperation and exchange.

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