Altar before treatment—lower wood panel is detacheddue to insuficient ceiling height.

Wood Conservation in Cuba: Treatment of a Chinese Altar in La Habana Vieja

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Introduction

In 1882, the United States Government passed the Chinese Exclusion Act to prevent relatives of Chinese laborers in the western U.S. from joining their relatives. Many Chinese emigrated to other counties, including Cuba, creating a bond between the Chinese-American community of North America, particularly the Chinese-Americans of California, and the Chinese-Cuban community of Havana. Chinese-Cubans still have relatives in California and continue to share cultural and family ties. An important artifact, a Chinese Ancestral Altar, has become a symbol for these ties and connections.

In the 1880s, a group of Chinese families emigrating from the Canton region brought their Ancestral Altar to Cuba and installed it in one of their Association buildings in Havana. The Ancestral Altar is principally dedicated to the Wong, Chiu and Chiang families and today is part of the Chinese-Cuban patrimony. Ms. Connie Young Yu, the historian at the Chinese Historical Society of San Jose, California, helped with art historical research and located an article in an 1883 edition of *Harper's Magazine*[1] dating the Altar to approximately 1882. Although it is in private hands, the Altar is cherished as a Cuban national treasure. The Altar is located on the third floor of the Lung Kong Association in the Chinese Quarter of Old Havana (La Habana Vieja) and is still used in ceremonies by the Chinese-Cuban community. Similar Lung Kong Association ancestral altars are located in association buildings in Kuala Lumpur, Singapore, Toronto, and Vancouver.

In October of 1999, conservator Elisabeth Cornu looked at the Altar during a trip to Havana while attending a Latin American Conservation Conference. The President of the Cuban Lung Kong Association, Mr. Alejandro Chiu Wong, expressed interest in having the Altar restored for the 100th anniversary of the Association in October 2000. After presenting the project to conservator colleagues at the National Center for Conservation, Restoration and Museology in Havana (CENCREM), a multidisciplinary team was assembled to carry out the work. A summary of the project is offered not because it might discuss innovative conservation techniques, but because it describes a unique project carried out in the spirit of international cooperation. Cuban conservators facing tremendous difficulty in obtaining materials, tools and funding have succeeded in carrying out a project in a country which does not have access to resources common in Western countries. A modest project was successful because of the collaboration, resourcefulness and commitment of museum professionals in Cuba and the United States.

The Conservation Team

- Elisabeth Cornu, Head of Objects Conservation Department of the Fine Art Museum of San Francisco, was supervising conservator of the project.
- Dr. Raquel Carreras Rivery, biologist and wood scientist, at CENCREM provided technical supervision and identified woods used in the Altar.
- Aida Rodriguez, Chemist at CENCREM, analyzed samples of varnish and gilded finish, and prepared cleaning solutions and gels.
- Amaurys Mejias Torres, restorer of polychrome sculpture at CENCREM, was a principal on-site project conservator.
- Flavio Alejandro Villalon Yee, a private restorer/conservator of furniture and wooden artifacts in Havana and a collaborator at CENCREM, joined the project as an experienced cabinet-maker and wood conservator.
- Lariza Alvarez Cubela, a restorer/conservator in training at CENCREM, was an on-site project assistant.
- Nilda Ravelo, an attorney in Havana, provided on-site project administration, kept track of supplies and expenses and helped with the smooth flow of the project.
- Ms. Connie Young Yu, Historian at the Chinese Historical Society of San Jose, California.

Description of the Altar

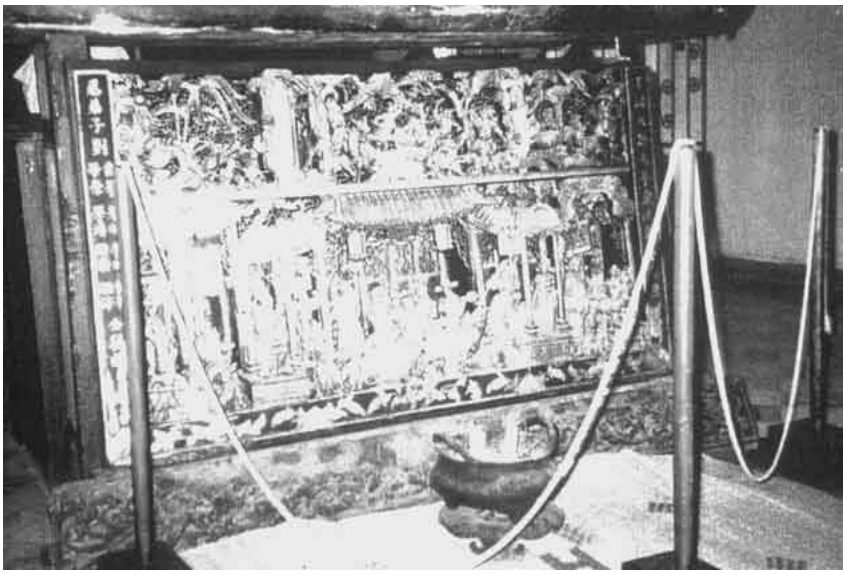
The Altar is an extraordinarily beautifully carved, lacquered and gilded work in wood. It is comprised of two parts: the Altar itself (upper portion) and a supporting table with panel (lower portion). The upper portion consists of a carved frame, a main panel holding a silk portrait of ancestors, and at the top, a sun mirror. The frame surrounding the main panel contains intricate floral sections and connecting branches, mythological animals—dragons, birds, mystical dogs—andthe coats of arms of the Ancestral family.[2] Closer examination reveals that the carved elements were lacquered in a red Chinese lacquer, and that gold leaf was applied over the lacquer. The lower part of the Altar consists of a table intended to display and hold ceremonial objects and articles of worship. Affixed to the front of the table is a carved wood panel, also covered with lacquer and gold leaf, depicting the battle of the gods of the earth and the sea.

Offering in front of upper panel.

The original construction of the Altar was done to allow for easy assembly and disassembly. It is made of mortise and tenon panels. This may have been done to make it easier to ship from Canton to Cuba. Once in Cuba, though, it has been reinforced with nails and screws over the past decades.

Identification of materials used in the Altar

Dr. Carreras took samples of the woods from different parts of the altar and analyzed them in her laboratory at CENCREM using the method of comparative wood anatomy.[3] There was some difficulty in identifying the woods because few reference samples and bibliographical material of Chinese woods were available in Cuba. Follow-up identification carried out at the University of California's Forest Products Lab and at the Getty Conservation Institute by Dr. Carreras has led to the following conclusions:



Lower panel shows carving of the battle of the gods, and an incense burner.

1. The body of the Altar is made of Thuja, a wood prominent in the Canton region of China, and also available in Southeast Asia.

2. The carved panel in front of the table is possibly made of Huang-Hua-Li wood, prominent in China.

3. The table of the Altar and the support for the upper portion are made of a Cuban wood, Sabicu. This wood is not native to China. Therefore, the carved panels must have been brought separately to Cuba, and the support structure made once the Altar was in Cuba.

4. Microscopic samples of the surface layers were taken, embedded in polyester resin and examined with a stereo microscope by Dr. Aida Rodriguez and Elisabeth Cornu. It was determined that the carved wood panels of the Altar had a layer of Chinese red lacquer with a thin layer of gold leaf. In addition, the carvings of the lower panel had a layer of unidentified varnish covering the gold leaf. Some of the gold leaf appeared to contain a certain amount of copper, resulting in greenish corrosion products on the surface, but to date, no successful analysis has been made of the composition of the metal leaf.

State of conservation

The Altar had suffered from lack of care over the past 100 years. The support structures had been weakened by termites, which unless arrested immediately, threatened to collapse the table and eat away a considerable portion of the carved sections of the Altar. Due to its location in a busy part of Old Havana, where windows were

left open to afford some relief from the tremendous heat of the city, dust and soot had collected on the surface of the Altar and formed a thick black layer. A restaurant located on the floor below contributed to the addition of greasy layers from the fumes of Chinese cooking. The Altar has been in continuous use through present day by the community. Ceremonies include burning of incense and lighting of candles, resulting in a darkened deposit of carbon and other materials on the surface. Some carved sections have suffered losses, probably due to handling, insect damage and inappropriate maintenance procedures. There was evidence of previous intervention;many termite channels had been filled with plaster, and some rough repairs had been made with a Cuban wood filler consisting of sawdust and glue. Gilded and lacquered surfaces were obscured entirely in the upper section, whereas on the lower section a previous campaign of cleaning and restoration had resulted in an unidentified varnish layer of a stubborn yellow-green deposit over the gold leaf. Some members of the Association recalled that the Altar had been restored approximately ten years ago. Some of the original gilded layers had been covered with a synthetic varnish with bronze powder. In some areas where the gold leaf had worn off, exposing the original red lacquer, a thin layer of synthetic dark brown paint was present. Many joins of the panels, originally built to be be disassembled, were fixed with nails and screws, causing cracks and degradations of the wood due to the oxidation of the nails.

Detail —lower panel.

Conservation and restoration treatment

The team established the following conservation/restoration procedure:

a) Compilation of art-historical research and details of the Altar, carried out both in Havana and in California by members of the Chinese community.

b) Documentation of the Altar:microscopic analysis of surfaces and wood, was carried out by Cuban conservators, with help from their North American colleague Elisabeth Cornu. The Altar was documented photographically. It is important to note here is the fact that 35mm film is not easy to find and is costly to develop, that slide film is nearly impossible to purchase, and that camera equipment is quite limited. Digital cameras are not often used, because computers are not common.

c) Immediate pest control treatment by a qualified pest control company. Because removal of the altar to a fumigation site was nearly impossible, the treatment was done in situ by injecting Boracare into the termite tunnels. Although

there were no visible signs of biological activity, the Altar was given a preventive treatment with Boracare against possible active insects. A low toxicity fumigant was selected due to the health requirements of the nearby restaurant and the visitors to the Altar. The chemical was applied to the damaged areas with syringes and brushes, and surface residue was removed with brushes and a vacuum cleaner. An alternative chemical, Xilover, an Italian insecticide in alkyd resin, was rejected for health reasons. Dr. Raquel Carreras, wood scientist at CENCREM, supervised the treatment.

d) Formulation of conservation and restoration treatment by specialists from CENCREM and Elisabeth Cornu. Three Cuban restorers were trained on site by Dr. Raquel Carreras and Elisabeth Cornu and administrative overview was provided by Nilda Ravelo from Havana, Cuba.

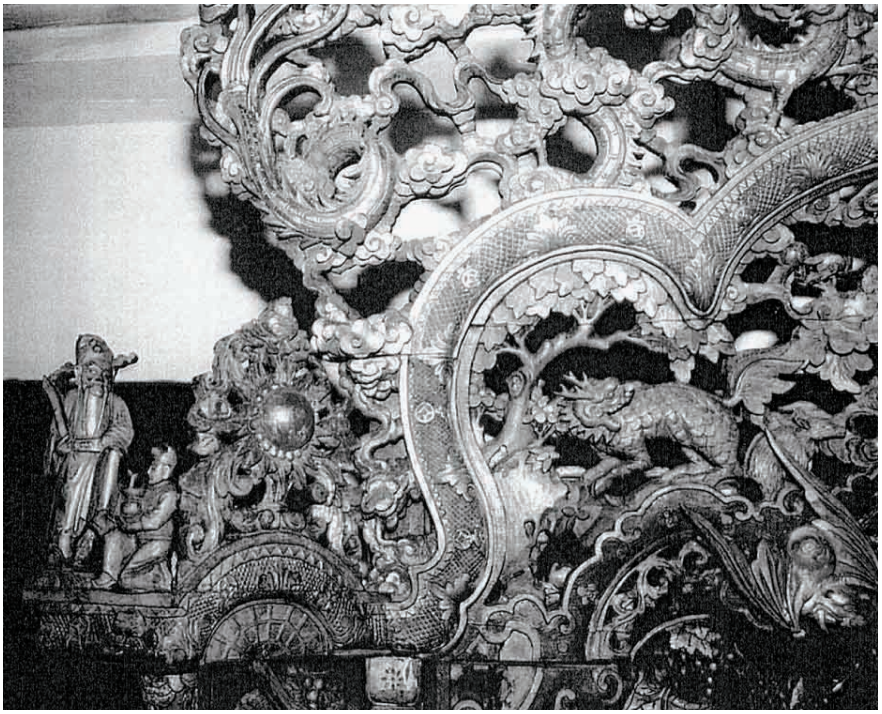
The treatment was as follows:

– Mechanical cleaning, intended to remove dust and residue of earlier termite activity from the surface, was carried out using brushes and a vacuum cleaner.

– Chemical cleaning. Mechanical cleaning techniques were not able to fully remove the dirt, soot and grease from the gilded and pigmented surfaces of the Altar. A solvent mixture (ethyl and benzyl alcohol and acetone)in Carbopol 934 was found to be the most effective. This was applied carefully and the treated areas were cleaned of all remnants of the solvent gel with mineral spirits. Over a period of several months the decorative elements of the Altar were successfully cleaned. In the other parts of the Altar a different cleaning technique was applied:synthetic enzymatic solutions and solutions including mild detergents in mineral spirits successfully removed less stubborn surface dirt.

Cleaning process—Amaurys Mexias Torres and Alejandro Villalon Yee at work.

– Consolidation and surface integration. Once the cleaning was completed, a layer of Paraloid B-72 at 3% was applied to the gilded and lacquered surface for protection and a consolidant of the gilded surface. Because of the Altar's earlier spectacular appearance and the necessity to preserve it for ceremonies, it was decided to reapply 22K gold leaf to selected areas including vertical and horizontal bands, the coat of arms and the upper sun. Because glue size would most certainly produce mold eventually, the gold leaf was applied over the



Detail during treatment.

B-72 layer with an oil mordant. In the carved upper panels, a microcrystalline wax was applied to facilitate future maintenance of the Altar.

– Restoration of structural damages. The support table in the lower section was the most structurally damaged element. Wood loss from termite activity had affected its stability and caused the collapse of some of the joins. The table supporting the heavy ceremonial objects was in danger of breaking apart. It was decided to replace the structure of the table which had originally been fabricated in Cuba, and so Alejandro Villalon Yee built an exact reconstruction. The mortise and tenons joins were restored and all elements of the table could now once more be easily assembled, thereby recovering the original portable function of the Altar.

– Loss Compensation. Where decorative elements of the moldings showed losses of wood due to attack of insects, the team tried not to intervene or merely carried out minimal intervention. Less visible areas were not treated. Those parts which were visible but difficult to access received tinted Japanese tissue paper strips applied to the areas of loss. Visible parts which were to come into contact with people's hands—mostly support elements—were filled with a Cuban wood filler-substance consisting of calcium carbonate, sawdust, pigment and polyvinyl acetate adhesive. The restored areas were then toned to match the color of the original wood.

– Future preventive care and maintenance. The people responsible for taking care of the Altar were instructed how to clean the room and the Altar, especially which products must not be used. Metallic nets were installed on the open windows as protection against insects. Conservators from CENCREM will visit the Altar ever four to six months to carry out a surface cleaning and inspect for possible damage.

Conclusions

The restoration and conservation treatment could be carried out only because of the close cooperation between the Lung Kong Association and conservators in Cuba and the United States. With this restoration, the Altar was returned to its former splendor, and an important cultural monument of Havana will be kept for future generations.

Notes and References

1. *Harper's New Monthly Magazine*, Vol. 66, No. 396, May 1883, San Francisco by William Henry Bishop: "The temple and theatre of the Chinese emigrant are always the same. I found here the same sense I had already witnessed at Havana at the beginning of a long journey. The temple, economically set up in some rear upper room, abounds in gaudy dangling signs, and is little frequented."

2. When early Chinese immigrants came to Cuba, they formed associations and extended membership to families who bore similar surnames:The main families belonging to the Lung Kong Association in Havana carry the names of Wong, Chiu, and Chiang.

3. *Como Conocer la Estructura de la Madera—Manual teorico-practico*, by Dr. Raquel Carreras Rivery, 1997, published by Direccion General de Patrimonio Artistico, Generalitat Valenciana, Conselleria de Cultura, Educacion I Ciencia, Spain.

4. "Anatomia de la madera de 157 especies forestuales que crecen en Cuba y sus usos tecnologicos, historicos y culturales," Vol. 9.

5. *Sciences Economiques, Tervuren*, Bel-5. Sciences Economiques, Tervuren, Bel-5. Sciences Economiquesgium, Vol. 1.

6. "Solvents and Sensibility," three articles by Sharon Blank and Chris Stavroudis, in the *WAAC Newsletter: Association of Art Conservation*, May 1989, Vol. 11, No. 2: "Part I: No Teas-ing;" "Part II: Teas-Busters;" "Part III: What the Butler Did or, Some Tips on Formulations."

Main altar panel after treatment.