THE PRE-COLUMBIAN LACQUER OF WEST MEXICO

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EVIDENCE OF LACQUER TECHNOLOGY DIFFUSION

Lacquer, known in Mexico as *Maque*, in China as *Ch'i-Ch'i*[1], and in Japan as *Urushi*, was a technology well-known in Michoacán, on the west coast of Mexico, at the time of the Spanish invasion. The process of lacquering was practiced for several centuries by pre-Columbian Amerindians in what today are the States of Chiapas, Guerrero, and Michoacán, and perhaps as far north as Sinaloa. The pre-Columbian *Maque* technology in mentioned in the Mendocino Codex, by Fray Bernardino de Sahagún in his *Historia General de las Cosas de la Nueva España* (General History of the Matters of New Spain) and also by Fray Mendieta in his *Crónicas de la Nueva España* (Chronicles of New Spain).

China is regarded as the original home of lacquer. The Chinese recognized the protective qualities of the sap from certain indigenous trees at least three thousand years ago (Casals, 1961:7). From China, it was introduced into Japan, Korea, Southeast Asia and India (Abrams 1984:19; Garner, 1969:16), and, it seems, also to west Mexico. The earliest known example of Chinese lacquer dates from the Shang Dynasty, ca. 1523–1028 B.C., when the middle kingdoms of China began using lacquer on household utensils, furniture, art objects, and to preserve historic records carved on bones and bamboo (Abrams, 1984:20).

The oldest fragments of lacquered objects found in Japan so far occur before the Jomon period, ca. 6th to 3rd centuries B.C. Archaeological excavations have produced artifacts and fragments of lacquered objects dating from the Yayoi period, ca. 250 B.C.–250 A.D. (von Ragué, 1967:4–5). In Japan, lacquer-producing trees became as important as tea-producing plants and as the Mulberry for silkworms and paper-making, (Hayashi, 1983:360). Formal lacquer production in Japan can be defined to occur during the Kofun period, ca. 3rd to 6th century (Casals, 1961:8; von Ragué, 1967:5). With the introduction of Buddhism in the 6th century, lacquer became the medium for religious decoration.

Uruapan in Michoacán is considered the cradle of maque, together with other centers in Chiapas and Guerrero. Maque art flourished there long before European contact. How did the Michoacán people come to know this art? Did they develop it? Was it introduced from Asia? If so, when and how? Maque in Michoacán probably dates from between the 8th and 12th centuries, when a wave of cultural innovations appeared in Michoacán, along with metallurgy and a new ceramic style.

Perhaps it was introduced earlier by the Buddhist monk, Hui Sheng, who in 458 A.D. led a group of monks from the kingdom of Jibin, today called Cachemira, on a voyage to the land of Fusang or Fusangguo, as recorded in the Chinese encyclopedia and other historical documents. *Fusang* is the Chinese word for a tree and describes the saguaro cactus, a plant native to Mexico, and *guo* means "country" or "land." Hui Shen returned to China 41 years later, in 499, and reported his findings to the Xiao kingdom of the Qi state. It was recorded as his personal testimony during the Liang dynasty between 520 and 528 (Vargas, 1990:13–14).

In 1920, the Secretary of the Chinese Legation in Mexico and the artist Gerardo Murillo, better known as Dr. Atl, were convinced that about the year 600 A.D., the Chinese reached the west coast of Mexico to what are now the states of Guerrero, Oaxaca, Michoacán, Jalisco and Nayarit. Dr. Atl published an article titled, "The Chinese were discoverers of our nation" in the newspaper *Excelsior*, on May 22, 1921. He speculated that merchants introduced the lacquer technology (de Paul León, 1922:56; Zuno, 1952:145).

There is a story in Nayarit of a pre-Columbian Asian ship that arrived on their coast and was cordially received by the chief of the Coras. Archaeology in Nayarit has produced artistic ceramic tripod funerary urns in tombs known as *tumbas de Tiro y cámara* (shaft and chamber tombs), dated ca. 1000 to 200 B.C.

The culture known as Ancient Coras (400–900 A.D.) practiced terraced agriculture, and between 900 and 1200, metallurgy was introduced (*Enciclopedia de Mexico,* Vol. 9:671-672). Indeed, a multitude of evidence indicates that a vast net-

[1] The first *ch'i* means *lacquer*, the second, *object*, changing only in the pronunciation (qi: lacquer, paint; qi-qi: lacquer-ware, lacquerwork, bodiless lacquer [*A Chinese-English Dictionary*, Beijing, 1981:531]).

work of Pacific rim merchants traded along the coast of the American continent from Peru to Alaska (Murra, 1991).[2] (Fig. 1, 2)

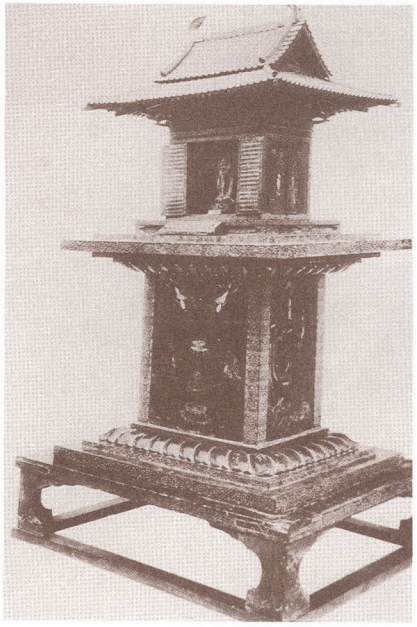

Fig. 1. Japanese Tamamushi shrine, from Nara, ca. 650 A.D.; 2.33 m high; enshrines a Buddha. Colors are taken from the Tamamushi-zushi beetle (*Chrysochroa elegans*); for its blue-green iridescent wings. The inside panels are red, yellow and green lacquer on a black lacquer ground. The design represents the story of the Buddha in a previous incarnation.

The Hindustan term *lac* was applied to the substance produced by the insects on the bark of trees (Bedford, 1969:5), and the word *Laccá*, that in English became *lacquer*, was introduced to the world ca. 1553, by the Portuguese who brought it back from their travels in the Orient (Garner, 1979:19).

Lacquer is resistant to water, acids and heat (Yoshino, 1959:16). Undamaged objects have been found in ancient underground tombs that had been submerged in water for centuries. In 1878, a Japanese vessel, which carried valuable lacquer pieces, sank on its way to a World's Fair. Nearly two years later, the lacquer objects were found unharmed (Bedford, 1969:6–7). However, lacquer is usually applied to perishable materials, such as wood, gourds or leather, which eventually decay and disappear (Abrams, 1984:20).

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[2] Olaf Holm, cit.; Maria Rostworoski, "Mercaderes del valle de Chincha," *Revista Española de Antropologia Americana,* Vol. 5, 1970, Madrid; José Alcina French, et al., "Navegacion precolombina: Evidencias e hipotesis," *Revista Española de Antropologia Americana,* Vol. XVII, pp. 35–73, 1987, Madrid; John V. Murra, *The Economic Organization of the Inka State*[1955], 1980, ch. VII; Olivia Harris, B. Larson, and E. Tandeter, *La participacion indigena en los mercados surandinos*, La Paz, Bolivia, 1987; J. V. Murra, "An Archaeological Re-study of an Andean Ethnohistorical Account," *American Antiquity*,Vol. 28, 1962.

Chinese and Japanese lacquer processes are essentially the same. The lacquer tree—*Urushi-no-ki*, in Japanese (*Kodasha Encycl.*, 1983:36) and *Chí shu* in Chinese (Bedford, 1967:7; *Chinese Dictionary*, 1981:531)—occurs in a wild state and is cultivated in plantations in both countries. The process to extract the resin from the tree is also similar. Lacquer's unique characteristic is its need for a moist and temperate atmosphere in order to dry. Warm dampness converts the sap into a dense mass that hardens as enamel. Density and drying vary with temperature, thickness and humidity (Abrams, 1984:12; Bedford, 1969:6; Garner, 1979:15).

Fig. 2. Similar representations of Asian shrines and Southeast Asian shrines used in Hindu and Buddhist rituals are found (usually in tombs) in pre-Columbian Mesoamerica. made from clay, about 32 cm high. Museum of Anthropology, Mexico City.

Before applying lacquer in the traditional way, the surface is prepared by carefully filling all cracks with a mixture of rice flour and *Seshime*. *Seshime* is the resin extracted from the young branches of the *Rhus verniciflua* tree (Casals, 1961:13) and, to give it the proper consistency, is mixed with rice-paste or with the dust from the decayed wood of the *keyaki* or *shii* (*S. cuspidata*) tree or with volcanic ash; this compound is called *Kokuso* (Casals, 1961:12). The object is then sanded until completely smooth (Abrams, 1984:36; Yoshino, 1959:31-33). Another coat of seshime lacquer is applied to fill in all the pores, followed by a coat of fine clay mixed with lacquer. From ten to one hundred coats of this mixture are necessary before the decoration process begins, and some styles may require as many as 300 applications. Each coat is applied with a very fine brush made of human hair. Each layer must be completely dry and the object polished before the next coat is applied. Drying may take from 2 days to 6 months, depending on the climate, lacquer thickness, type of decoration, and material on which the lacquer is applied. Polishing is done with a whetstone, using powdered vegetable carbons or burned deer-horn powder applied with a soft cotton cloth slightly moistened with vegetable oil and rubbed on the object with the thumb and palm of the hand. The above process may be repeated as many as 60 or 70 times to achieve

the desired effect (Abrams, 1984:85; Casals, 1961:14; Yoshino, 1959:31).

Decorative Styles

Chinese and Japanese lacquer application techniques fall into several categories: inlaying, carving, dry lacquer, incising, painting, gold and silver decorations (such as *Makie*), and bodiless lacquer that began in the 18th century in China. Each category is subdivided into many styles, creating over one hundred varieties.

The earliest Japanese and Chinese lacquer usually combined red and black. Gradually other colors and decoration styles developed using inlays of mother-of-pearl and other sea-shells, pearls, woods, ivory, jade, turquoise and other semi-precious stones, gold and silver powder sprayed over wet lacquer or applied in sheets and threads.

The exact time of carved lacquer (*tiao ch'i* in Chinese) cannot be precisely dated. It originated in China, probably in the late T'ang dynasty some 1,200 years ago. The process begins by applying several layers of thin colorless lacquer and as many more of different colors. The design is outlined and carved to expose the desired color underneath, and is burnished and polished between each color exposed. The best known as uniquely Chinese is *t'i hong*, red or Peking lacquer. All the lacquer applications are cinnabar red and carved to expose the red background which is carved with a different design (Abrams, 1984:36; Bedford, 1969:10).

Incised lacquer dates back, probably, to the late Sung dynasty (960–1279) (Bedford, 1969:28). With a sharp pointed instrument, a very fine line is incised into the several coats of lacquer; the incised line is filled with lacquer of a contrasting color, silver foil, or gold dust.

The *Makie* process, that in Japanese literally means *sprinkled picture*, is a specific style of lacquering (Abrams, 1984:73; von Ragué, 1967:5; Yoshino, 1959:33). It began in the Heian period (710–1185 A.D.), and continued through the Kamakura period (1185–1333 A.D.) when it reached the highest point of refinement and popularity (*Makie* became representative of Japanese lacquer) (Abrams, 1984: 76–81; von Rague, 1967:5; Yonemura, 1979:361). The original *Makie* consisted of applying gold or silver dust on a wet coat of lacquer, polishing it after it dried, and repeating the process as many times as desired, sometimes substituting or adding colored powders (Abrams, 1984:77; Yoshino, 1959:33–37). (Fig. 3)

Most of the different types of *Makie* use gold, of which the best known is *Hira-makie* (flat makie). Silver and/or gold is sprinkled on a design drawn on wet lacquer and after it dries, the surface is rubbed with absorbent cotton moist with lacquer; it is then burnished with ashes. *Togidashi-makie* (burnished makie) is a gold and silver design covered with layers of usually black lacquer, and burnished until the design appears on the surface. In *Takamakie* (relief makie, as its name indicates), the design, which is modeled by applying layers of charcoal powder, stands out from the surface; after lacquering, the design is scoured and polished with cotton moistened with lacquer. Other *Makie* styles consist of applying numerous layers of lacquer over gold and/or silver dust or thin sheets; the surface is then burnished with whetstone and scoured with ashes. All these styles were fundamental, very distinctive Japanese techniques (Abrams, 1984:76-81; von Rague, 1967: 5; Yoshino, 1959:33-38).

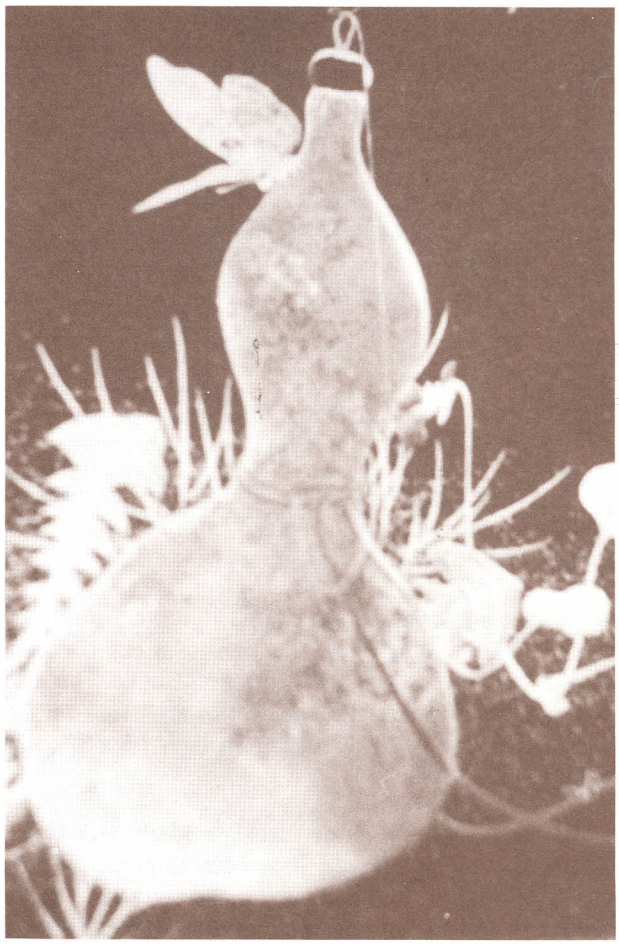

Fig. 3. Japanese gourd in the Makie style, gold dust on black lacquer.

Lacquer Ware

The Chinese and Japanese applied lacquer to armor, helmets, sword-cases, leather vests and shields. Armors for soldiers and their horses were lacquered layers of hide that made them practically impenetrable by swords or arrows (Abrams, 1948:21; Casals, 1961:8). With the introduction of Buddhism, altars, walls, and religious symbols were lacquered. Also lacquered were cups, handles, plates, and other household utensils, and all sort of objects made of wood, bamboo, hemp (*Soku*), paper, metal and earthenware. During the Kofun period (ca. 250–552), lacquer was

used extensively on furniture, doors, screens, and even entire rooms. Emperor Yomei (586–587) issued an order that taxes should be paid with raw lacquer. Many families who had land planted *urushi-no-ki* trees to produce the necessary lac to pay their taxes (Yonemura, 1979:361; Yoshino, 1959:63).

MAQUE TECHNOLOGY IN MEXICO

Asian and Mexican lacquers have been compared with a great deal of debate, one argument being that Mexican maque cannot be considered the same as Asian lacquer since the sap of the lac *Rhus verniciflua* tree is not used. Nevertheless—although Asia and Mexico use different substances—the technology, process of application and results are the same. Both lac and aje harden on the object to which they are applied, water-proof it, are impervious to acids and heat, and facilitate the same types of decoration, and even similar designs are found in both cultures. (Fig. 4, 5)

Fig. 4. Chinese black lacquer bronze mirror of the Tang dynasty, 618–906, with gold and silver inlays of cranes (symbol of longevity), birds, butterflies, plants and delicate scrolls, 15.9 cm wide. Freer Gallery of Art, Washington, D.C.

Fig. 5. Eighteenth century Michoacán wood tray with maque decorations of stylized cranes, flowers and borders; an early style similar to the Chinese bronze mirror, Fig. 4.

If the term *Maque* originates from the word *Makie* (sprinkled picture), then, *Maque*, the name for the lacquer process in west Mexico, is of Japanese origin, and it applies to the full range of processes and styles used in west Mexico. It is used in the same way as the term "*China*" is used to denote all porcelain serving dishes.

Materials and Process

Maque is a semi-liquid paste—formed with a mixture of animal and vegetable oils, and natural refined clays—used, as lacquer is, to waterproof and decorate the surfaces of various types of objects.

The principal ingredient (animal) is the grease extracted from the aje insect (*Coccus laccá*, or *Coccus-axin*). These aje insects were purposely propagated by the P'urhépecha[3] people of Michoacán, who are today known as Tarascos, a name given them by the Spanish.

Aje insects must be gathered alive during the rainy season and, still alive, dropped into boiling water. (Insects dead before boiling are not useful.) The aje is boiled until it releases a hard, waxy substance. When the water cools, the wax floats to the surface, is collected, washed, and is reheated to remove any water residues and to liquefy it for easy straining. When cooled, it is shaped like bars of butter and stored wrapped in corn husks (Sepúlveda, 1978:43; Zuno, 1952:40).

Traditionally, insects were collected in May and June, wrapped in corn husks along with some tassels for their nourishment, and stored in a safe place where other insects would not disturb them. In November and December, the husks were opened inside loose-weave cotton bags, which were attached to selected trees (Sepúlveda, 1978:43; Zuno, 1952:152) such as cherry, acacia (*spondias*), pine-nut (*Jathropha curcas*) and amate, and in enphobiacea plants (*Aleurites laccifera triloba*) (Jett, 1993:33). The insects crawled out of the bags to find a place to lodge on the woody crevices of the tree-bark, and were harvested the following year (Sepúlveda, 1978:43; Zuno, 1952:152).

The second ingredient (vegetable) is *Chía* oil, extracted from the seeds of a native sage plant, *Salvia chian* (*imptis-spicata*), an annual of the *labiada* family native to Mexico. The Aztecs cultivated the plant for its medicinal properties, to prepare a refreshing beverage, and to extract its oil. *Chía* oil has a high glycerin content that quickly absorbs oxygen from the air, and forms an elastic hard sur-

[3] P'urhépecha—the people who migrated to Michoacán, called Tarascos by the Spaniards at the time of their invasion of Mexico, and known as such today. However, modern Tarascos prefer to be called *P'urhépecha*. Their ethnic name is not known. Linguist Mary LeCron Foster analyzed *P'urhépecha* as meaning *wanderers,* or *those who are transplanted*; *p'oré* means *to visit* with the suffix *-pe* meaning *interaction,* or *change*; *-cha* is the plural suffix. (In Gilberti's *Diccionary*, "Purhepecha" means "peasants.")

face with drying properties; it serves to thin the aje mixture. *Chía* oil is the base for maque in Chiapas and Guerrero where there is no *aje* (de Paul León, 1922:23; Sepúlveda, 1978:44).

The *Chía* oil is extracted by slowly roasting the seeds on a flat metal or clay dish on a low fire until they are uniformly light brown, or the seeds begin to pop open. When cool, the seeds are ground in a hand-mill or on a stone pestle. Hot water is added to the fine flour to form a mushy paste, which, when cool, is kneaded for about an hour or until the oil begins to drip. The paste is wrapped in a cloth and twisted to wring out the oil. Finally, the oil is boiled to preserve it until it is needed (Sepúlveda, 1978:62).

The third ingredient (mineral)—fine dolomite powder—is added to the *aje* and *chía* oil to give it the necessary consistency. Dolomite—called *Tepútzuta i*n P'urhépecha —or other similar mineral clays are used as colorants and to give body to the maque mixture.

Maque process in Michoacán follows the Chinese and Japanese prototype. Amerindians seem to have reinterpreted the technology and adapted it to regional climatic conditions and materials. Preparation of the surface is identical as in China and Japan—that is, any cracks are filled with a mixture called *Nimácata* (equivalent to Japanese *Kokuso*), a mixture of dolomite powder and *Chía* oil (Zuno, 1952:153). The object is sanded until completely smooth; as many coasts of *nimácata* are applied as necessary. The object is dried and sanded between applications until all pores are filled and all imperfections eliminated (Sepúlveda, 1978). The earliest technique used in Michoacán was similar to Japanese *makie*—that is, powdered colored clays were sprayed onto wet *nimácata.* It was then polished with a whetstone, and scoured with ashes of burned animal bones or from burned olote (corn cob). Other than the makie style, techniques included incising (termed *rayado* or *embutido*) and encrustation.

Colors

Colors initially used in pre-Hispanic Michoacán were red and black as in early Chinese and Japanese lacquer ware. Black was obtained from the fine powder of burned animal bones or from burned corn cob. (Fig. 6) Other colors, such as blue, yellow and green, were later introduced. Colors are also extracted from plants and insects. Vermilion was achieved by combining sulfur and cinnabar.

Magenta, purple and scarlet were extracted from *cochineal* eggs (Sepúlveda, 1978:44). To extract the color from *cochineal*, the insects are cooked in vapor and dried in the sun before being ground to a fine powder. The purpura and red colors obtained from the *cochineal* were associated with fire and the sun, and were considered to possess magic and spiritual values (Fernández, Ortíz, Torrens, 1989: 7; Jett, 1993:33).

Yellow was extracted by boiling a piece of *zacapele* wood; the resulting tincture was mixed with clays of other colors for different color combinations. Sahagún wrote in his chronicles that dry, finely ground colorants in red, scarlet, ocher, and green, and also a yellow paste called Tzictli obtained in creeks near Tula, were sold in the market at Tlatelolco (then, near Mexico City) and were used to color maque.

Fig. 6. Contemporary black lacquer mask, 42 cm long, with striking Asian features. Uruapan, Michoacán.

Blue (añil), or indigo, was obtained from a plant. Blue from natural colorants is difficult to produce in maque or lacquer. Properties in lac and aje affect colors and therefore the use of color is limited. The Japanese obtained a variety of color shades by adding lead oxide (litharge) to the oil obtained from seeds of the *Perilla frutescens Brit.*; the mixture was boiled before adding the pigment, and then added to the lacquer. The same results were achieved in maque by adding alum (Sepúlveda, 1978; Yunemura, 1959:30).

Decorative Maque Techniques

Rayado (incising) is a traditional technique used in Maque centers in today's states of Michoacán, Guerrero and Chiapas. Early Mexican techniques of applying colors and decorations were the same as in China and Japan. The design is carved using the point of a sharp cactus needle inserted into a turkey quill or some other large bird (in the fashion of an ancient ink writing pen). The soft plume of the feather is used to brush off the excess clay or maque that is carved off (Sepúlveda, 1978). The fine incised lines are filled with contrasting colored maque—one color at a time—drying, scouring and polishing after each application. (Fig. 7, following page)

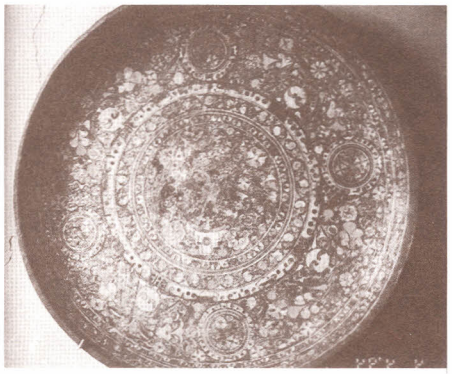

Fig. 7. One of the oldest surviving wood trays (jícara) of the group known as the Peribanas, 74 cm in diameter, early 18th century. Museum of Popular Cultures, Patzcuaro, Michoacán.

Carving in Michoacán is somewhat different that in Chinese carved lacquer. Each part of the design of the same color—such as a flower's petals—is carved from the several coats of maque, and the cavities filled with the desired color—one color at a time, drying, scouring and polishing after each. The process is an early style in Michoacán, used first in ceramics that has been termed *pseudo-cloisonné*, an ancient Chinese traditional technique of filling design cavities with various materials, including enamels on a metal base. (Fig. 8)

Fig. 8. Dance of the Old Men, contemporary wood tray in traditional maque, 79 cm in diameter. Patzcuaro, Michoacán.

Incrustado (inlaying) in maque ware used turquoise stones, and perhaps coral, mother-of-pearl, and gold, copper or silver. No samples of maque ware have survived to indicate that other materials were used in encrustation, but that technique has existed for centuries in west Mexico.

Sculpting in Michoacán with dry lacquer, a process which originated in China during the Han dynasty (206 B.C.–221 A.D.), is similar to the Japanese process which dates from the Nara period (710–784). In the latter, a rough form was made in clay, sun-dried, and covered with a paste composed of seshime and dry crushed tree bark, fibers, leaves, and slime from decomposed leaves (Abrams, 1984:73; Bedford, 1969:15), then covered with numerous layers of seshime interlined with strips of fabric—hemp, silk, linen—or paper. Once the frame was formed and dried, the base material was removed, and the sculpture lacquered and decorated. In the Michoacán process, the sculpture was formed from the pulp of the corn plant's stem, mixed with a glue extracted from the bulb of a native orchid and the slimy juice of the *nopal* (cactus). Several layers of nimácata and base coats of maque were applied, then decorated with colored maque or painted (El Quehacer de un Pueblo, 1990:163). (Fig. 9)

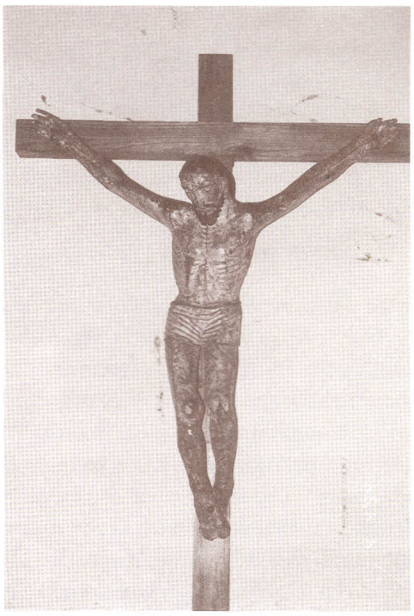

Fig. 9. Eighteenth century Christ, traditional maque applied over the figure made from a mixture of pulp from the stem of the corn plant and glue made from the bulb of a native orchid, about 3 m high. Museum of Popular Cultures, Patzcuaro, Michoacán.

Painting designs on maque ware—*Urusi-e* in Japanese and *hua ch'i* in Chinese—began in China around the time of the Han dynasty (206 B.C.–221 A.D.). There are two types of painting: painting *with* lacquer, in which the design is painted on a lacquer background with colored lacquer, and painting *on* lacquer with oils, using oil paint over a surface treated with several layers of lacquer, with additional layers of lacquer over the painted design (Bedford, 1969:15–16). Michoacán painting style differs only (perhaps a trend of recent years) in that the painted design is not covered with additional coats of maque. (Fig. 10, following page)

Michoacán's maque designs were simple natural themes taken from flora and fauna—frogs, deer, birds, flowers, and scrolls. At first the variety of objects decorated with maque was not extensive: wood objects, hard-shell gourds (*Legenaria ciseraria*) and various hard-shell fruits of the calabash family (*Cucurbita maxima*) (Sepúlveda, 1978:4).

Fig. 10. Contemporary black maque gourd, decorated with gold, 28 cm high, 63 cm in circumference. Patzcuaro, Michoacán.

Uses of Maque Ware

La Relación de las ceremonias y ritos y poblacíon y gobierno de los indios de la provincia de Mechuacan, a historic document of the P'urhépecha mentions that the high priest and the P'urhépecha chief, Tariákuri, carried a lacquered gourd as a symbol of the elite nobility.[4] A person appointed to a high position received a lacquered gourd as symbol of authority. The custom of P'urhépecha society was to pay tribute to their lords with seeds and grain contained in lacquered gourds and calabash bowls (*jícaras*). Documented in the chronicles, *Relaciones Geográficas del Siglo XVI* (Geographical Relations of the 16th Century), is that the P'urhépecha people of Michoacán made canoes of hollowed tree trunks, which were lacquered to water-proof them (Sepúlveda, 1978:8). After the Spanish conquest the type of objects decorated with maque expanded to pulpits, altars, furniture, mirrors, statues of saints, and many other ornamental and household items.

A FINAL NOTE

Lacquer technology is not the only Asian cultural similarity found in west Mexico. There is an extensive pre-Columbian cultural complex in Mexico, and at various points along the Pacific coast of the American continent where we find extraordinary Asian similarities that must be recognized as evidence of early contacts, whether by accident, commerce or migration.

In Michoacán, maque was a controlled craft supervised and directed by an appointed person called the *uráni-atári* (*La Relación*, 1541), while in Japan the term *urúshibe* was used to describe lacquer-ware craftsmen (Casals, 1961:7; von Ragué, 1967:5). Similarities in vocabulary should be noted: Mexican/Japanese *maque/makie*, *uráni—urúshibe —Uruapan* (the last the name of the principal town that has produced maque ware long before the Spanish invasion of Mexico), and of *Ch'i—Ch'i* (the Chinese word for lacquer) to *chía* oil. Traces of linguistic roots in other words in the P'urhépecha language are Japanese.

If the Japanese *makie*, sprinkled lacquer style, dates from the Heian period (794–1185), the first maque technique used in Michoacán (where the name was adopted to describe the technology) indicates Japanese contact with Mexico about the 8th century. The introduction of Chinese carving and incising styles may also have been introduced by the Japanese who adopted the lacquer technology from China. Whether *lacquer, maque, ch'i-ch'i,* or *urushi*, the technology made a trans-Pacific, pre-Columbian journey, along with many other cultural traits, beliefs and technologies that were reinterpreted and adapted to their cultural needs by the people of Michoacán.

[4] *La Relación de las ceremonias y ritos y poblacíon y gobierno de los indios de la provincia de Mechuacan*, 1541; 143 pages, 44 illustrations; narrated to Spanish monks Fr. Martín de la Coruña and Fr. Gerónimo de Alcalá by the P'urhépecha elders of the council of Tzintzuntzan, the capital of the Province of Michoacán at the time of the conquest. The original is in the Museum and Library of the Escorial in Madrid, Spain, and a copy of the original is in the Library of Congress in Washington, D.C., in Editor Peter Force's collection of papers.

BIBLIOGRAPHY

Abrams, Harry N. *Lacquer: An International History and Illustrated Survey*. New York: Harry N. Abrams, Inc., 1984.

Bedford, John. *Chinese and Japanese Lacquer*. New York: Walker & Co.,1969.

Beijing Conservatory of Foreign Language, English Department. *A Chinese-English Dictionary*. Beijing: Commercial Affairs Book Press, 1981.

Casals, U. A. *Japanese Art Lacquers*. Sophia University, Tokyo, 1961.

de Paul León. *Los Esmaltes de Uruapan,* Ed. of Manuscript dated in 1922, Morelia, Innovación, Mexico, 1984.

El Quehacer de un Pueblo. *Casa de Las Artesanías*. Morelia: Impresos Gráfica Lira, 1990.

Fernández, E., J. C. Ortíz, O.Torrens. *Purpura*. Chiapas: Instituto Chiapeneco de Cultura, 1989

Garner, Sir Harry. *Chinese Lacquer*. London/Boston: Faber & Faber, 1979.

Hayashi, Yasaka "Lacquer Tree," *Kodansha Encyclopedia of Japan*, Vol. 4, 1983, p. 360.

La Relación de las Ceremonias y ritos y población y gobierno do los indios de la provincia de Mechuacan, 1541.

Murra, John V. Paper presented at the Quincentenary Symposium. *Seeds of Industry,* Smithsonian Institution, Mexico, 1990.

Ragué, Beatrix von. *A History of Japanese Lacquerwork*. Toronto/Buffalo, University of Toronto Press, 1967.

Sepúlveda, Maria Teresa. *Maque*. Instituto Nacional de Antropología e Historia, SEP, Sección de Etnografía, 1978.

Sahagún, Bernardino. *Historia General de las Cosas de la Nueva España* (*General History of the Things of New Spain*), 4th ed. Editorial Purrua, S.A, 1544/1979.

Yonemura, Ann. "Japanese Lacquer," *Kodansha Encyclopedia of Japan*, Vol. 4, 1979, p. 361.

Yoshino, Tomio. *Japanese Lacquer Ware*. Tokyo: Japan Travel Bureau/Toppan Printing Co, 1959.

Zuno, José Guadalupe. "Las llamadas lacas Michoacanas de Uruapan no proceden de las Orientales,"*Cuadernos Americanos*, 11 (3), 1952, pp. 145–165.

SPRING 1996 MEETING BRIEFS

FRIDAY EVENING—

Jim Whittall & Sue Carlson presented a discussion of the Johannes Hertz article on the Newport Tower, published by the Copenhagen National Museum. Both commentators found the report to be unscholarly and unconvincing. Particularly ludicrous was the carbon-14 dating of the mortar which ranged from 1410 A.D. to 1970 A.D.

Doug Schwartz narrated his own video that showed the astronomical alignments of significant chambers found in Ireland and in Putnam County, New York. His video included computer modeling and the actual solstice events.

SATURDAY MORNING—

Colgate Gilbert presented an overview of the Research Committee's recent work using slides, while discussing the goals and philosophy of future research projects.

SATURDAY AFTERNOON—

Ted Timreck, in his fine slide presentation, reminded us once again of the value of our sites and the need to continue recording and protecting them.

Carl Johannessen a-maized his audience with his comprehensive research and photography of sunflowers and maize depicted on statuary in India. He presents impressive evidence for early diffusion of plant material from America to the Indian sub-continent.

Mike Sockelexis brought his Native American heritage into his presentation of the stories behind and symbolism of Maine petroglyphs, focusing on the spiritual meaning and significance of the Kennebec River rock carvings at Embden, Maine.

SATURDAY EVENING—

David Wagner's fine illustrations vividly portrayed Native American tribal life showing fishing techniques and the widespread use of stone fish weirs.