

BRAIDING TECHNIQUES FOR THE BRAIDS STORED IN THE SHOSOIN
WITH REPORT ON THE EXPERIMENTATION
IN RECONSTRUCTION OF ANCIENT SQUARE BRAIDS
USING THE ARCHAIC JAPANESE BRAIDING TECHNIQUE, *KUTE-UCHI*

Masako Kinoshita

This treatise presents the methodological basis and evidence that the silk braids stored in the Shosoin, the Imperial Treasure Repository, were constructed using the *kute-uchi* loop-manipulation (l-m) braiding technique, rather than using the “Traditional Braiding” techniques that use a stand and bobbins and work with free-end elements, as previously thought. Actual braiding procedures with illustrations also are given. Presented also, with a comparison image of a square braid from the Shosoin, are enlarged images of two square braids made by the author using *kute-uchi*. They represent works resulting from experimentation into practical details of the technique by the *kute-uchi* Braiding Technique Research Group, of which the present author is the leader.

There are 238 square braids among the 354 braids stored in the Shosoin since the 8th century that have been examined. They have been found to have a marked idiosyncrasy with regard to square braids expected from the standpoint of the Japanese “Traditional Braiding” technique that works with free-end elements, according to “SHOSOIN NO KUMIHIMO = BRAIDS IN THE SHOSO-IN,” published in 1973.

This characteristic would be expected if *kute-uchi* were the technique used to make the Shosoin square braids. The other braids in Shosoin also can be reconstructed using *kute-uchi*.

The two images of square braids made using the practical details of *kute-uchi* experimentally arrived by the Research Group resulted in the pieces that remarkably resemble the characteristic appearances of the Shosoin braids.

SHELL ARTIFACTS AND SHELLS HANDED
DOWN IN THE SHOSAIN
— FOCUSING ON THE GREAT GREEN TURBAN —

Naoko Kinoshita

Through observation of shell products handed over in the Shosoin, this paper looks into the attitudes of the 8th century aristocracy towards the manufacturing of shell artifacts and how the manufacturing of mother-of-pearl inlays was actually started.

Two major material quality surveys have been carried out on the Shosoin shell artifacts, which shed light on most of the species and names of the shells used. It was revealed that many Great Green Turbans were used for materials of the mother-of-pearl inlays transported by ship. Great Green Turbans are large tropical snails featuring splendid pearl layers. Based on the results of these surveys, this paper carries out observation from a humane studies point of view. The observations were made visually, with the cooperation of a conchologist regarding species identification.

The following 60 treasures classified into 4 types were observed:

- Thirty-eight Great Green Turban artifacts further classified into 3 sub-types (7 fragments from an ornamental belt (*obi*) decorated with shells, 25 half-circle *ketsu* rings made of shells and 6 shell rings)
- 1 Great Green Turban shell
- 1 *Biwa* lute with back made of *kaede* stained with *sappan* juice and decorated with mother-of-pearl inlay
- 20 *Akoya* Pearl Oyster spoons

As a result, the following insights were gained:

1. It is highly likely that in the early 8th century, the pieces of shell used as decorations for the Emperor's ornamental belt were made of imported material, Great Green Turbans and their families, i.e. *Turbo* (*Marmarostoma*) spp. The reason for using Great Green Turbans was that they were treated as precious materials in Tang China, and using such materials was significant in itself. The *obi* seems to have been designed by copying the ornamental belt decorated with white stone in China, adorned with purposefully selected non-pearl layer shell parts. During the same period, other types of accessories were also produced using Great Green Turbans and black lip pearl oysters featuring beautiful pearl layers, but they were not designed to enhance the aesthetic qualities of the shells. It seems that the pearly luster was not popular among the aristocracy of the time.
2. The "Eye Opening Ceremony" of the Great Buddha (*daibutsu kaigen e*) held in the late 8th century gave rise to the domestic production of mother-of-pearl inlay artifacts as a result of full-blown training on the thick shell mother-of-pearl inlay techniques of Tang. Combined with the mother-of-pearl inlay techniques, the characteristics of pearl layers of Great Green Turbans were then brought into effect for the first time. This shift also served as a proactive motivation to use Great Green Turbans in Japan in those times.
3. Great Green Turban shells used in the imperial capitals of Japan in the late 8th century were imported from Tang, together with the special values attached to the material and the mother-of-pearl inlay tech-

niques. It is unlikely that Great Green Turbans were imported from the *Ryukyu* Islands during this period

4. The Great Green Turbans imported to the ancient imperial capitals of Japan can be categorized into those mainly imported in the 8th century and those imported in the mid 9th century onwards. The former were most probably brought from Tang China, while the latter were likely from the Ryukyu Islands. The only Great Green Turban shell piece found in the South Section of Shosoin must have been from the 8th century when the materials were regarded as particularly precious.

THE SHELL-BASED CALCIUM CARBONATE PIGMENTS USED ON THE SHOSOIN *GIGAKU* MASKS

Masakazu Naruse

Diverse types of white pigments have been found through the studies of pigments used on the Shosoin Treasures, one of which is a calcium carbonate pigment. It is detected on 26 treasures, all but one of which are *Gigaku* masks.

In the scientific studies of calcium carbonate pigments used on the Shosoin Treasures, only the X-ray diffraction method (XRD) had been previously employed for identification of pigments but scanning electron microscope (SEM) was introduced to observe the particles of pigments which had dropped from objects.

It then became clear that many of the calcium carbonate pigments were made of shell, as judged from the particle structure, and they are now termed “*kaigara gofun*”.

It was also confirmed that the shell-based pigments are categorized into at least two types based on the raw materials.

One is probably made of only oyster shells based on the fact that only calcite has been detected by XRD and that foliated structure of ostracum was observed by SEM.

The other is made of several varieties of shells because both calcite and aragonite were detected by XRD and nacreous structure, complex crossed lamellar layers structure and other structures in addition to foliated structure were observed as the ostracum by SEM.

The former variety was used for the W3 type of wooden *Gigaku* masks, categorized by the author while the latter was used for the D3 type of dry lacquer *Gigaku* masks categorized in the same way.

It has been said that the beginning of the use of shell-based pigments in Japan is in the Muromachi era or later, but these studies have proved that the beginning goes back to the Nara era.

INTRODUCING REFERENCE MATERIALS FOR THE SHOSOIN
TREASURES—WOOD AND LACQUER WORKS
IN THE POSSESSION OF THE TOKYO NATIONAL MUSEUM

Akihiko Nishikawa

The Tokyo National Museum (TNM) possesses a large number of copies and reproductions of the Shosoin Treasures produced between the early Meiji and early Showa periods, as well as official documents related to the items. The office of the Shosoin Treasure House has been undertaking a survey of these materials, as they serve as important information for understanding the Shosoin Treasures.

Focusing on the reproductions of wood and lacquer works of the Shosoin Treasures possessed by the TNM, this paper describes the items and reports on the findings of survey, in the order of the list found in the “Catalogue of the Tokyo National Museum Collection (Metal Artifacts, Arms and Armor, Ceramics, Lacquer Ware and Textiles)” (1954, the Tokyo National Museum).