

Ornamentation Technique on the sheath of the *Kara-tachi* Sword with Gilded Silver Fittings and Inlay

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This study focuses on the ornamentation technique used on the sheath of the *Kara-tachi* sword with gilded silver fittings and inlay (金銀鈿莊唐大刀), which is one of the many diverse techniques observed in the Shosoin lacquer works.

An observation of the patterns on the sheath of the sword reveals that the gold dust used has a mixture of large and small particle sizes ranging from 0.1 to 1.1 mm. Since the various sized gold dust is arranged randomly, it is assumed that the gold dust was all applied at the same time, instead of being sprinkled with a sieve (i.e. using a *funzutsu* [粉筒], which is a pipe for sprinkling *maki-e* [蒔絵] powder) and afterwards buffed and finished with relatively large-sized gold dust remaining exposed, unlike the buffed *maki-e* technique of today that buffs up the lacquered surface evenly.

To shed light on the technique that was used, the pattern on the sheath was recreated based on the above observation. The most important factor for the process was how to reproduce the *maki-e* powder. The gold dust used is assumed to have been filings, but some say it could have been alluvial gold. The author carried out a comparative investigation between the gold filings and alluvial gold and concluded that the configuration of the gold dust used showed it was clearly filings. Based on this result, filings were used for the reproduced powder.

The key point in recreating the filings was what tool to employ for creating the gold dust. A new file was produced, using the file that existed in the Shosoin Treasures as a reference. X-ray fluorescence analysis on the sheath of the *Kara-tachi* sword showed that the gold dust contained 94% gold, 5% silver, and 1% copper. Thus, gold having the same content as the *Kara-tachi* sword was prepared and employed for recreation. After a series of trial and error experiments using these tools and materials, gold dust of similar quality as was used for the existing treasure was recreated for use in the sheath pattern reproduction work. The results of the reproduction work revealed that application of gold dust without using a *funzutsu* results in randomly arranged gold dust of mixed particle sizes within the line patterns.

The technique used for the sheath of *Kara-tachi* sword is one of the buffed *maki-e* techniques, as has been pointed out in the past. However, it should be pointed out that the term “*maki-e*” does not appear in the literature of the Nara period. The reason for it is assumed that the *maki-e* technique was still being developed and had not been properly established during that period. It is also believed that when the *funzutsu* was developed, artisans started to “*maku*” (「蒔く」, meaning “to sprinkle”) using the tool, resulting in the naming of the technique as “*maki-e*.”

Shosoin Textiles Dyed with Safflower Red

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Safflower red is a well-known traditional natural dye with a beautiful red hue. Ancient Japanese historic sources, such as the Shosoin documents and the *Engishiki*, describe the use of safflower red as a dyestuff. Safflower red easily fades and loses its vivid red color from exposure to light and oxygen, and for this reason it was previously difficult to confirm the existence of safflower red in the 1250 year old Shosoin textiles. However, the progress of scientific instrumental analytical techniques and noninvasive methods such as excitation-emission matrix fluorescence and visible reflectance spectrometry, recently led to the identification of safflower red in the Shosoin textiles. Safflower red has been found in the following textiles: the gowns of hemp cloth with tie-dyed design, the red under garment, the embroidered shoes, the red carpet inside the hall of the Great Buddha at the Todaiji temple, and the banners. Most of the textiles dyed with safflower red were made from plant cellulosic fibers such as hemp or ramie. This result indicates that safflower red was used not as a specific dye, but as a practical dye during the 8th century in Japan. Some of the textiles with safflower red were overdyed with *kihada* yellow (Amur cork tree). This first report is a summary of the textiles dyed with safflower red over 1250 years ago.

Report on the Reference Materials Related to the Shosoin Treasures: Reproductions of Metal Works and Swords and Knives in the Collection of the Tokyo National Museum

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This report follows a previous report on the reproductions wood and lacquer works in the collection of the Tokyo National Museum published in Volume 31 of the Bulletin of Office of the Shosoin Treasure House. The current report focuses on the reproductions metal works and swords and knives in the Shosoin Treasures possessed by the museum. The content presents new insights gained through surveys, in their order of appearance in the “Catalogue of Collections of the Tokyo National Museum: Metal Works, Swords and Knives, Ceramics, Lacquerwares and Textiles” (Tokyo National Museum, 1954).

An overview of the previous survey results reveals that some of the reproductions created in the Meiji Period, including the wood and lacquer works listed in the past report, are of the same provenance. First, a series of reproductions created between 1875 and 1886 are cited. It is pointed out that they are closely tied to surveys on the Shosoin Treasures conducted in 1872 and 1875, and also related to preparation for display at a number of expositions held in and outside Japan in that period. During surveys of the Shosoin Treasures, including the so-called *Jinshin Chosa* (壬申調査) of 1872, rubbed copies and painted miniatures based on those copies were produced. Many of the reproductions of this period are observed to have been produced based on those copies and miniatures.

The group of reproductions cited next are items that were purchased in 1928 from an antique collector, Kyujiro Tamai (玉井久次郎). This group of reproductions consists of a variety of articles, including those displayed by Nara Exposition Company (奈良博覧会社) in the early half of the Meiji Period, as well as items produced by a craftsmen group called *Onko-Sha* (温古社) which did work after Nara Exposition Company, and those related to *Shosoin Gyobutsu Seirigakari* (正倉院御物整理掛: the office in charge of the Shosoin Treasures at the the Ministry of the Imperial Household, hereinafter referred to as the *Seirigakari*). It should be noted that while the items produced by *Onko-Sha* are of high quality and demonstrate skilled craftsmanship, not all of them are considered satisfactory when it comes to the question of accuracy in copying the exact details of the Shosoin Treasures.

The final group of reproductions cited are those related to the aforementioned *Seirigakari*, which was established at the Ministry of the Imperial Household and in service between 1892 and 1904. While repairing the treasures, the *Seirigakari* attempted to copy the originals to study the shapes and techniques. During that period, Mafumi Inou (稲生真履) and others who were involved in the *Seirigakari* projects created reproductions as part of their studies on damaged or partially lost items. The Imperial Household Agency transferred management of some of the swords and knives reproductions cited here, which are also included in this group.