Manufacturing Techniques and Ancient Production of Gilt Bronze Bell Ornaments

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The Shosoin houses sets of large gilt bronze bell ornaments (South Section 164) possibly used for hanging from Buddhist banner. These bell ornaments are categorized into two groups according to the shape of the cross section of the body: round ones are referred to as No. 1, and diamond-shaped ones as No. 2. The inscriptions on the No. 1 indicate that they were used for the memorial service for the first anniversary of the demise of Emperor Shōmu on May 2, Tenpyō Shōhō 天平勝宝 (AD 757).

This paper studies the manufacturing techniques of these gilt bronze bell ornaments through the detailed examination, and discusses the ancient production of bronze bell ornaments by comparing technical aspects.

The author further sub-categorized the No. 1 group into types A and B according to the structural differences seen on the body, and hypothesized different methods used. It was identified that the preparation methods of the inner molds, as well as the shape of 富穂, the wind-catcher are different between types A and B, indicating that different but closely-related craftsmen were involved for the production. It was also determined that the bell ornaments No. 1 were produced using the same casting techniques as 本舎, Buddhist bells in later period.

With regard to the No. 2 group, the casting technique is found to be the same as 造作, bronze bells from the Yayoi period. Use of chaplets (spacers) to hold the space between the outer and inner molds is evident with some of the objects, and at least two original models could be distinguished among the objects.

Although the bells Nos. 1 and 2 have different technical features and body shapes, the objects also share common decorative details on the body such as plating applied to the exterior surface and coloring with red pigment for the interior surface. Consequently, it can be presumed that a group of craftsmen who produced these bells was possibly identical. At that time, the Tōdaiji Construction Bureau is known to have owned a foundry, and could have assumed the role in producing this type of metalwork for the temple. The manufacturing techniques of the Shosoin gilt bronze bell ornaments may reveal an aspect of the copperware production at the foundry.
Many of the Shosoin Treasures had been stored and preserved in Kara-bitsu (唐櫃 literally means “Chinese-style chest”), a large-sized Japanese cedar chest, since ancient time. Currently, these chests themselves are also registered as the Shosoin Treasure, and under the care and long-term preservation. In total, 206 chests are registered, including 168 Ko-ki (古櫃 ancient chests produced in the Nara and Heian periods, the oldest ones date back to the eighth century), 31 Keicho-ki (慶長櫃, chests from 1603, Keicho era, Early Edo period), 2 Genroku-ki (元祿櫃, chests from 1693, Genroku era, for repaired folding screens), and 5 modern chests prepared in the Meiji period.

This study aims to comprehensively examine, record and compile the inscriptions written on the Kara-bitsu chests preserved in the Shosoin. As Part I, among all the Kara-bitsu, it focuses on the Ko-ki chests. The inscriptions include those directly written in sumi ink on the chests, as well as those on pasted papers and tags originated from later registrations during the Edo and Meiji periods. The inscriptions directly written on the Ko-ki were most likely to be written in the Nara and Heian periods, and are precious documents revealing how the Tōdaiji temple, one of the major temple at that time, had owned and managed their items, and how the Shosoin Repository had functioned back then. The original inscriptions have become unclear due to ageing over time, and notwithstanding their values, little attention has been paid on them to date.

The contents of the original inscriptions can be grouped into mainly two types: numerical marks and contents-related texts. The numerical marks indicate that there were sets of chests to manage. The majority of the original inscriptions are the contents-related texts, which recorded what was contained, how associated and when inspected. For example, inscriptions relating to the funeral of the Emperor Shōmu are seen. Names of the Tōdaiji related halls and buildings, such as Kita-amida-dō 北阿弥陀堂 and the Tōdaiji Construction Bureau are also found, suggesting where these chests had been initially used. This tells the fact that not all the Kara-bitsu and the contained artifacts had necessarily belonged to the Shosoin from the beginning but eventually relocated from different buildings within the temple. Many of the inspection-date related inscriptions are from the Jōwa 承和 era (834–848), during which the Tōdaiji went through reorganization, and carried out more frequent inspections possibly due to changes in the posts of personnel. The inscriptions found on the Kara-bitsu chests may provide additional understandings on the history of Shosoin Treasures and ancient Tōdaiji temple.
Textile Artifacts and Inscriptions relating to *Chō* and *Yō* Taxes of the Shosoin Treasure House,
Part II: Silks
(Plain-weave Textile, Twill Damask, and Paper Tag for Floss Silk)

—Supplementing Junsei Matsushima’s *Compilation of Inscriptions of the Shosoin Treasures*

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This paper follows an earlier article with the same title - Part I: *Asa* (Bast Fibers) Textiles, included in the Bulletin of Office of the Shosoin Treasure House, No. 40 (2018). Part II focuses on the inscriptions related to the *chō* 調 and *yō* 稹 taxes found on silks, such as *ashi-ginu* (織 plain-weave silk fabric), *aya* (綿 twill damask) and *kinu-wata* (綿 floss silk); and again aims to provide a revised version of Junsei Matsushima’s 1978 work, compiled in the Chapter 3 of the *Shosoin Homotsu Meibun Shūsei* (Compilation of Inscriptions of the Shosoin Treasures)*. The majority of the studied pieces are *ashi-ginu* fabrics paid as *chō* tax, and only one example of *aya* fabric is included. There are also some paper tags, which were originally attached to the wrapping of floss silk. As with *asa-nuno* fabrics featured in Part I, a bolt of *ashi-ginu* was also authorized by the government at that time to be equivalent to money, and was widely accepted as a medium of payment. *Buyaku-ryō* 賦役令, the compulsory regulations on tax payments stipulated that a bolt of fabric needed to be inscribed with the name of the tax payer along with the province, district and village in which one lived, as well as the type of tax, quantity, and payment date; and that the inscription should finally be imprinted with the provincial seal. This rule was the same as the case of *asa-nuno* fabrics.

In this paper, the author describes individual cases and inserts additional comments, and at the end, includes a comprehensive table of *chō* and *yō* tax-related inscriptions compiled in both Parts I and II. It is also noted that the chronological distribution of most of these inscriptions falls within the era of *Tenpyō Shōho* 天平勝宝 (749-757), and any exceptions should be examined in each context.