源氏九曜紋蒔絵箔箱（フレンツ・ホップ東洋美術館）

Large Box for Writing Implements (Haku-bako)
(Ferenc Hopp Museum of Eastern Asiatic Arts)

修復前　全景
Before restoration, overall view

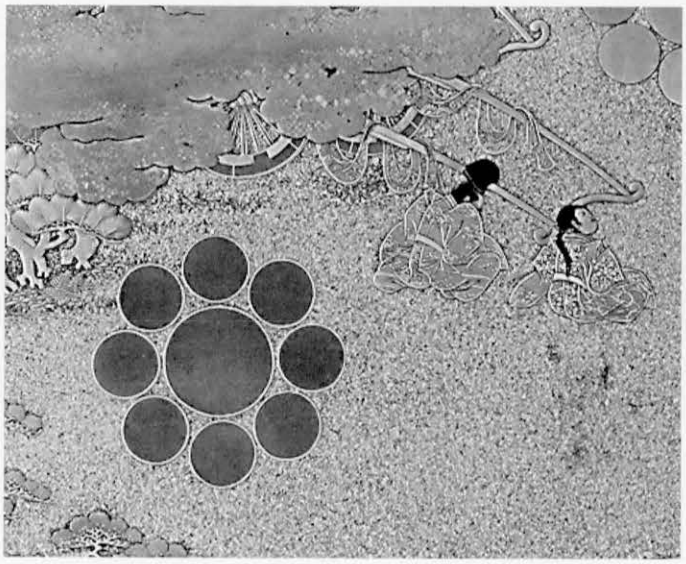
修復後　全景
After restoration, overall view

修復前　蓋上
Before restoration, top of the lid

修復後　蓋上
After restoration, top of the lid

源氏九曜紋蒔絵箔箱

平成 19 年度修復事業



所蔵：フレンツ・ホップ東洋美術館

フレンツ・ホップ東洋美術館所蔵

源氏九曜紋蒔絵箔箱

山下好彦

1．概要

名　　称：源氏九曜紋蒔絵箔箱
所　　蔵：フレンツ・ホップ東洋美術館（ハンガリー）
時　　代：17～18世紀　江戸時代
法　　量：幅38.6cm　奥行30.6cm（金具含む）　高さ25.1cm
　　身合口高さ19.8cm　金具径3.5cm
修復期間：平成19年7月～平成20年3月

2．形状・技法

木製漆塗り、印籠造りの大振りの手箱で、蓋に甲盛りを付ける。身の正面と背面の中央に紐金具をとめる。

素地は桧製と考えられ、柾目材を用いる。蓋甲素地の左右に幅34㎜の端喰みを付けて素地の狂いを止める。蓋蔓や身側板は四隅を留めで接着するが、別材の三角形の補強木材を蓋の口縁部近くと身の中央付近に各1個、合計で8個打つ。厚みを3㎜程度欠き込んだ側板に底板を裏側から落とし込んで接着する。各面に布着せとした地、漆塗りを行う。蓋と身の口縁には下地作った玉縁を付ける。

蒔絵は3種類程度の純度の異なる金と銀粉を用いる。蒔絵技法は梨地に研出蒔絵、平蒔絵、高蒔絵、付描きなど用いる。また、金具、切金、極込みや極付けなど金属板を用いた加飾を多用する。人物の顔の一部には蒔絵の上から黒色漆と透漆で髪を描き、黒色漆と朱漆で表情を描く。

3．損傷状態

本資料は全体的に保存状態が良く、損傷が少ないと思われがちであるが、漆工品としての典型的な傷みが数多く認められた。次に本資料の修復前の損傷状態を列挙する。

・塗膜や蒔絵表面に劣化が認められ、細かい断文が入っていた。
・梨地に変色が認められ、各面によって色合いが若干異なっていた。甲板部分の梨地は損傷や後世修復によって明るくなっていた。
・高蒔絵の際に埃や汚れがたまり、暗褐色になっていた。
・身の背面に茶褐色の付着物が3箇所,正面の金具に下地の付着が認められた。
・左側面下部に水が流れたような跡が認められ、梨地に著しい斑を作り、茶褐色の溜りがあった。
・蓋蔓や甲板に黒色塗料の付着が数箇所認められた。
・蓋の四隅に亀裂が入り、素地が完全に外れていた。
・右側面の蓋蔓に左87㎜右65㎜の亀裂が横方向に入り、素地が若干ずれていた。その亀裂は蓋蔓内側にも及んでいた。
・内側の右側面部分の蓋蔓と甲板素地の接合部に110㎜に及ぶ亀裂が入っていた。

・亀裂の周囲では剥離や剥落が各所に認められた。特に蓋隅の一部では塗膜や下地が剥落し、木地が露出していた。
・各面に擦傷が数多く認められた。擦傷は蓋甲の右側人物周辺に多く、人物の表情が無くなるとともに黒色塗膜や下地が露出していた。
・資料全面に打損が数多く認められ、下地や木地が露出していた。特に、右側面では下部は素地が変形し、中央下部には同じ大きさの凹みが2箇所あった。凹み部分は蒔絵塗膜が内部に折れ曲がり、一部の塗膜が欠失していた。
・高蒔絵の一部に用いられた金銀切金の剥離と剥落が数多く認められた。
・蓋甲板素地の収縮によって橋部分の金具が数箇所剥離していた。この金具の剥離は高蒔絵の下にあることから、金具の下に空隙が出来ていた。
・膠による後世修復が認められ、亀裂の接着や塗膜の剥落止めとして用いられていた。その他、多くの箇所にも膠が付着していた。
・金蒔絵による後世修復が蓋と身の合口や立ち上り部分に認められ、後世修復が本来の蒔絵色に合っていなかった。
・背面の紐金具が打損によって歪み、紐金具内側の金具が欠損していた。
・蒔絵粉の錆化が全面に認められ、銀や青金が変色していた。

4．修復仕様

修復は国内で行われている指定文化財の修復と同様に考え、伝統的修復材料を用い現状保持修復を基本に行った。

蓋四隅の亀裂部分や各面の打損箇所は展示効果を考慮して形状を復元して周囲にある程度色を合わせた。擦傷によって塗膜が露出した部分は復元しない方針とした。後世修復の金蒔絵はそのままとし、後世修復材料の膠は出来うる限り除去した。錆化した蒔絵粉は表面の汚れを取り去ることに留め、色が著しく変わらないように注意した。梨地の斑は漆で周囲にある程度あわせた。

修復前・修復中・修復後を写真に記録し、修復報告書を作製した。資料を安全に保存するため絹の包袈と桐製の保存箱を作製した。

修復作業は東京文化財研究所の修復アトリエ（漆）で行った。

5．修復工程

1)調査記録

初めに本資料の構造技法と損傷状態を詳しく調査し、資料の保存処置として適切な修復工程を考えた。後世修復材料の調査には紫外線ランプ、素地構造の調査にはX線透過写真を用いた。修復前に35㎜ネガフィルムとデジタル写真で全体と損傷部分を記録した。

2)切金の剥落止め

剥離した切金は蒔絵表面から突出し、簡単に触れることで剥落する可能性があることから金具の剥落止めを初めに行った。剥離した金具は鼈甲箆用いて形状を修正した後、粒膠（パールグルー）17%~20%程度の水溶液を少量付けて接着した。余分な膠は完全に拭き取った。剥離した蓋31、身23個の切金の剥落止めを行った。

3)クリーニング

塗膜と蒔絵表面に付着した汚れと後世修復材料を出来うるかぎり除去した。クリーニングに用いる溶剤等が劣化した塗膜に悪影響を及ぼすことがあるから事前に溶剤テストを行った。全体の汚れにはミネラルスピリッツ、キシレンを用い、塗料などの付着物にはメタノール、エタノールを使った。

紅色の付着物はキシレンを含ませたあと篦を用いて崩すように除去した。また、膠の除去には部分的に純水を用いた。特に蓋四隅の膠は純水を含ませた後に針を用いて取り出したが、すでに膠によって剥落止めされた蒔絵塗膜は、崩れることが予想されるためそのままとした。

4)修復検査

修復途中検査のため所蔵館のモニカ・ビンチク氏が東京文化財研究所のアトリエを2回訪問した。1回目（2007/11/2）は修復の進行状況クリーニングの内容について、2回目（2008/1/16）は蒔絵部分の色あわせについての打ち合わせを行った。

5)漆固め

劣化した塗膜と蒔絵を補強するため、透漆を中心に調合した漆を用いて漆固めを行った。初めに漆を溶剤で希釈し、ダミ刷毛で全体に塗布した後、リグロインを用いて完全に拭き取った。このとき高蒔絵の縁や極込み部分に漆が残らないように注意した。漆固めは十分に乾燥させた。

6)塗膜の剥落止め

亀裂や打損部周囲などは塗膜が剥離していた。剥離塗膜は変形した部分があったことから、剥落止めで出来うる限り形状を修正した。右側面中央部の打損箇所は打損によって凹んだ内部に蒔絵塗膜があったことから、そのまま剥落止めをした。剥落止めには溶剤で希釈した麦漆を用い、筆で剥離した塗膜部分に含浸し、木枠とヒゴ、プラスチックシートなどを用いて圧着した。余分な漆は溶剤を用いて完全に拭き取った。

7)亀裂の補強

蓋の四隅には隅の亀裂の他に細かい亀裂が認められるため、素地接着の前に下地と塗膜を補強した。亀裂の補強には薄めに溶剤で希釈した麦漆を用いた。

8)素地接着

外れた蓋甍素地部分の接着を行った。初めに溶剤で希釈した麦漆を含浸、空隙のある部分には竹篦を使って麦漆を差し込み、余分な漆は溶剤で拭き取った。蓋と身の合口部がずれてしまわないようにするため、身に蓋を被せた状態で木枠とヒゴ、ビニールシートを用いて位置を固定した。漆が乾燥しないうちにいったん取り外し、余分な漆を完全に拭き取った。

9)充填と下地調整

塗膜と蒔絵の欠損箇所は刻苧で充填し、漆下地を付けて形状を整えた。

10)塗膜の復元

欠損した漆塗膜部分は漆を用いて簡単に色を合わせた。特に金地と梨地の部分の色合わせには事前に手板を作製し、最も資料に馴染む技法を選択した。色合わせには数種類の細かい金粉と漆を混合した後、欠損部に篦付けした。欠損部の色を調整するため、乾燥後に希釈した漆を含ませて乾燥させた。

11)梨地の色調整

梨地にできた斑や、擦傷によって露出した梨地粉の保護と色を調整した。梨地漆と透漆を調合した漆を溶剤で希釈し、筆で損傷箇所に薄く摺り漆をした。色調整は数回にわたって行った。

12)際錆

切金の際に金色の下地を行い、際剥落を予防した。余分な下地はリグロインで拭き取った。

13)保存箱と包裂の作製

資料に合わせて桐製の保存箱と絹の包裂を作製し、資料の保存環境を整えた。

14)修復後の記録作製

修復前に合わせて修復後の写真撮影を行い、修復記録をまとめて報告書を作成した。

図1　修復前　全景
Fig. 1 Before restoration, overall view

図2　修復後　全景
Fig. 2 After restoration, overall view

図3　蓋甲板　修復前
Fig. 3 Top of the lid, before restoration

図4　蓋甲板　修復後
Fig. 4 Top of the lid, after restoration

図5　右側面　修復前
Fig. 5 Right side, before restoration

図6　右側面　修復後
Fig. 6 Right side, after restoration

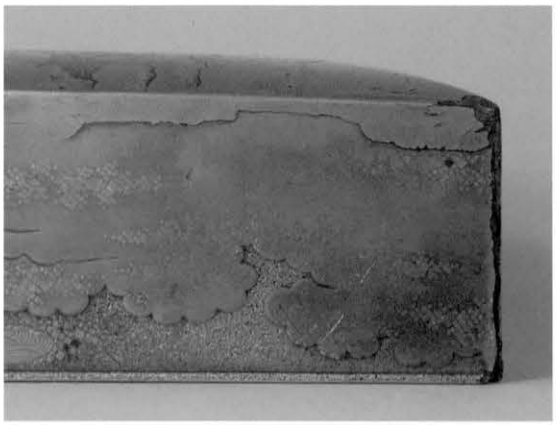


図7　右側面蓋甍の亀裂と塗膜欠損　修復前

Fig. 7 Cracks and missing coating film on the right side board of the lid, before restoration

図8　右側面蓋甍の亀裂と塗膜欠損　修復後

Fig. 8 Cracks and missing coating film on the right side board of the lid, after restoration

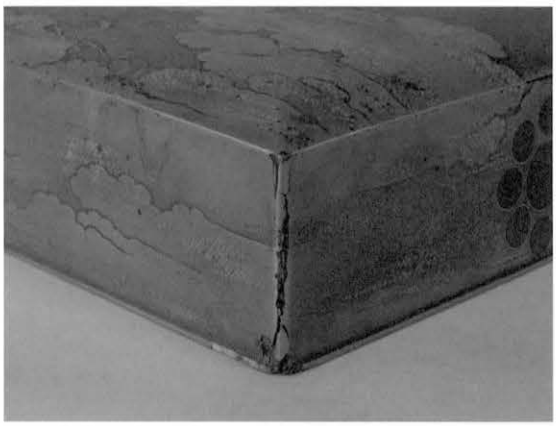


図9　蓋甍正面右隅の亀裂と塗膜欠損　修復前

Fig. 9 Cracks and missing coating film on the right corner of the front side board of the lid, before restoration

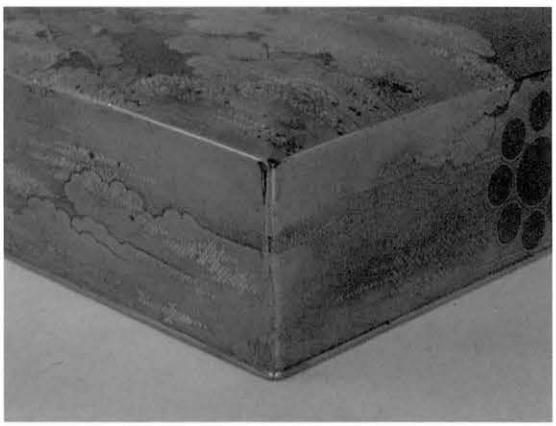


図10　蓋甍正面右隅の亀裂と塗膜欠損　修復後

Fig. 10 Cracks and missing coating film on the right corner of the front side board of the lid, after restoration

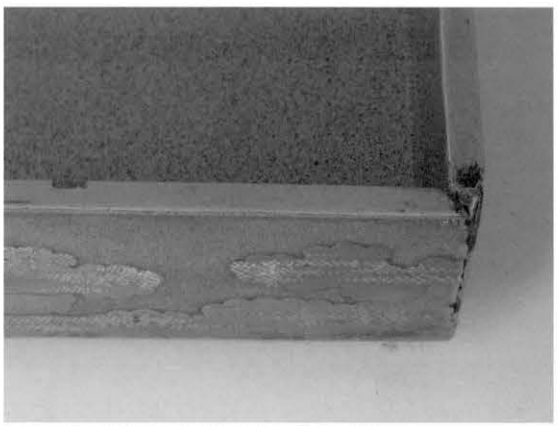


図11　蓋口縁部分の亀裂と塗膜欠損　修復前

Fig. 11 Cracks and missing coating film on the rim of the lid, before restoration

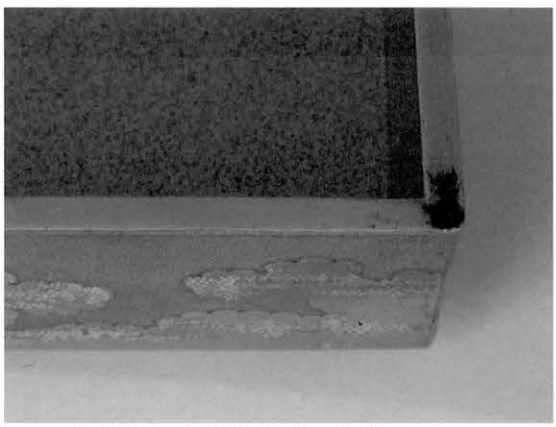


図12　蓋口縁部分の亀裂と塗膜欠損　修復後

Fig. 12 Cracks and missing coating film on the rim of the lid, after restoration

図 13　蓋内側の亀裂と梨地の欠損　修復前

Fig. 13 Cracks and missing *nashiji* on the inner side of the lid, before restoration

図 14　蓋内側の亀裂と梨地の欠損　修復後

Fig. 14 Cracks and missing *nashiji* on the inner side of the lid, after restoration

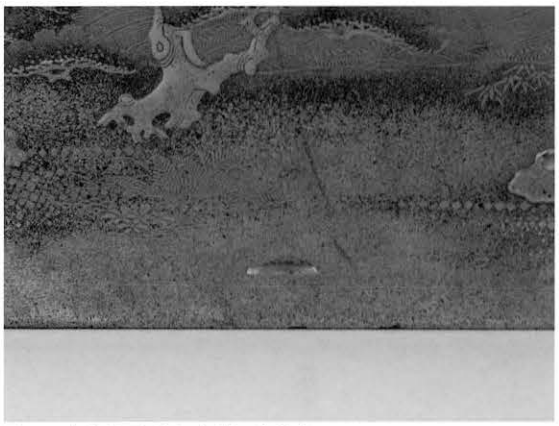


図 15　身右側面下部の打損　修復前

Fig. 15 Dent on the lower part of the right side of the body, before restoration

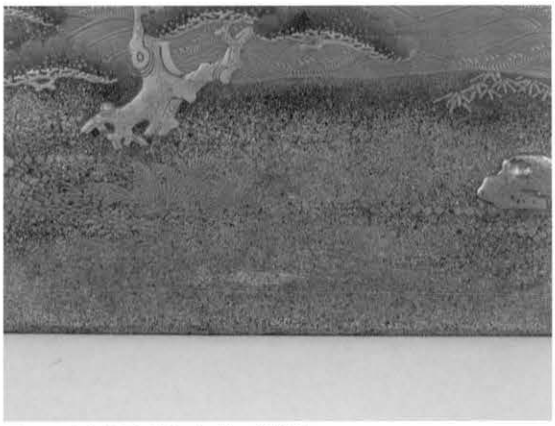


図 16　身右側面下部の打損　修復後

Fig. 16 Dent on the lower part of the right side of the body, after restoration

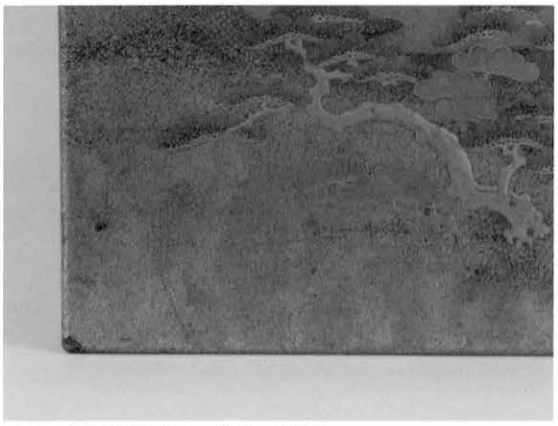


図 17　身右側面下部の梨地斑　修復前

Fig. 17 Spots on the *nashiji* on the lower part of the right side of the body, before restoration

図 18　身右側面下部の梨地斑　修復後

Fig. 18 Spots on the *nashiji* on the lower part of the right side of the body, after restoration

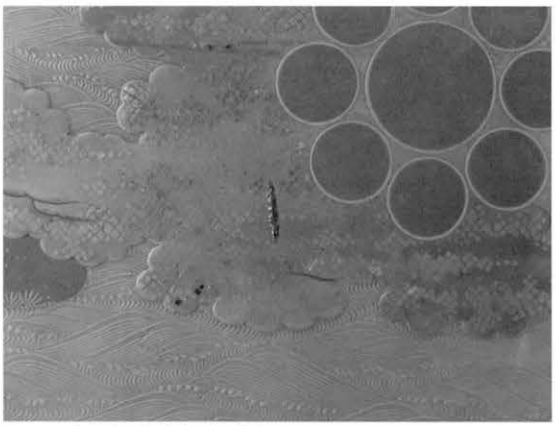


図 19　身正面の付着物　修復前

Fig. 19 Coating material on the front of the lid, before restoration

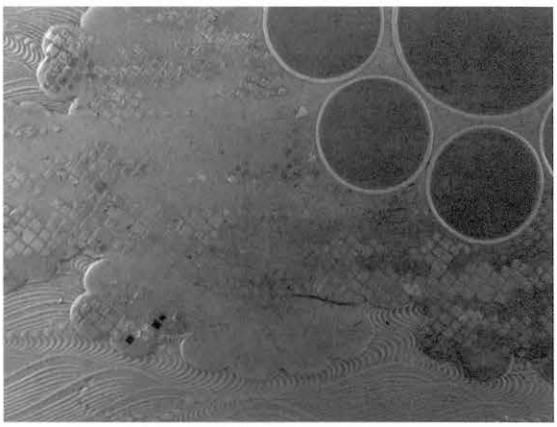


図 20　身正面の付着物　修復後

Fig. 20 Coating material on the front of the lid, after restoration

図 21　蓋甲板人物周辺の損傷　修復前

Fig. 21 Damage around the figure on the top board of the lid, before restoration

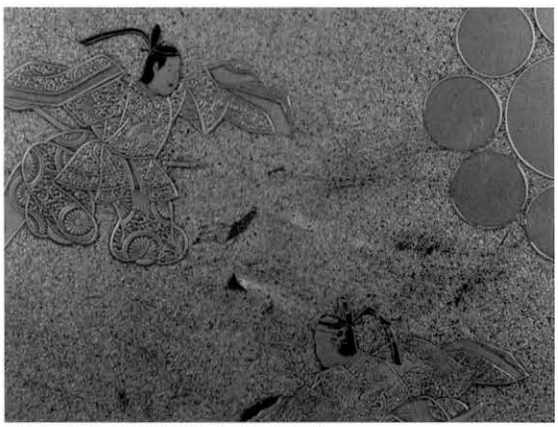


図 22　蓋甲板人物周辺の損傷　修復後

Fig. 22 Damage around the figure on the top board of the lid, after restoration

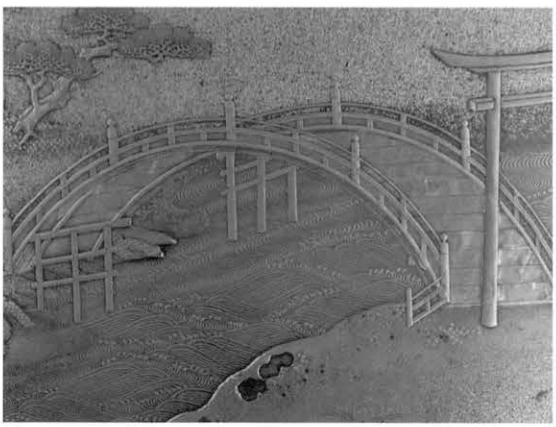


図 23　蓋甲板金具の剥離　修復前

Fig. 23 Lifted *kanagai* on the top board of the lid, before restoration

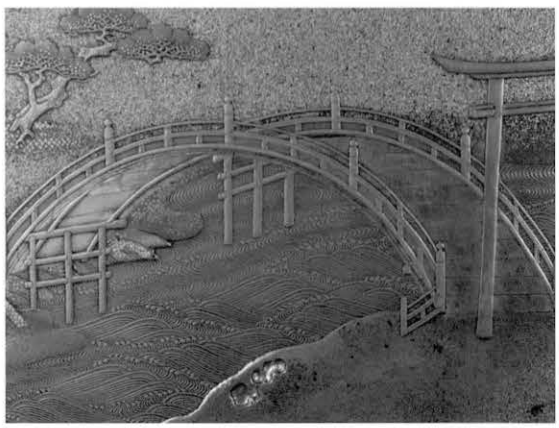


図 24　蓋甲板金具の剥離　修復後

Fig. 24 Lifted *kanagai* on the top board of the lid, after restoration

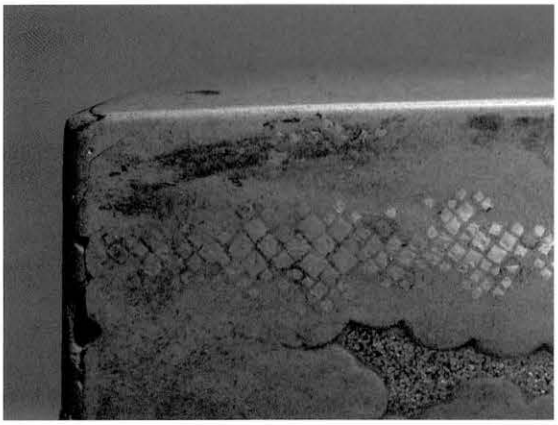


図 25　黒色塗料の付着　修復前

Fig. 25 Black coating material, before restoration

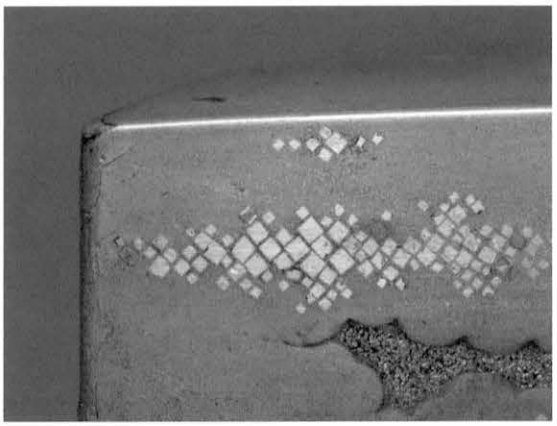


図 26　黒色塗料の付着　修復後

Fig.26 Black coating material, after restoration

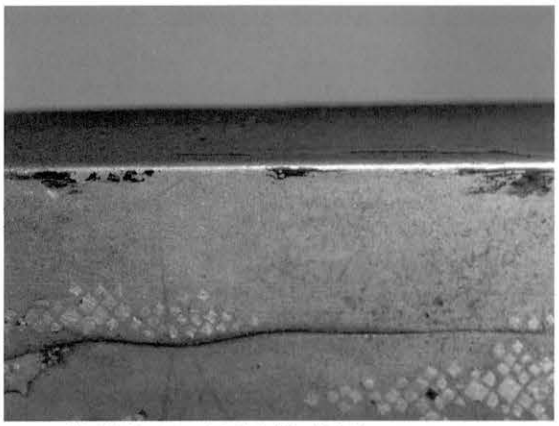


図 27　背面蓋甥の汚れと塗膜欠損　修復前

Fig. 27 Stains and missing coating material on the back side board of the lid, before restoration

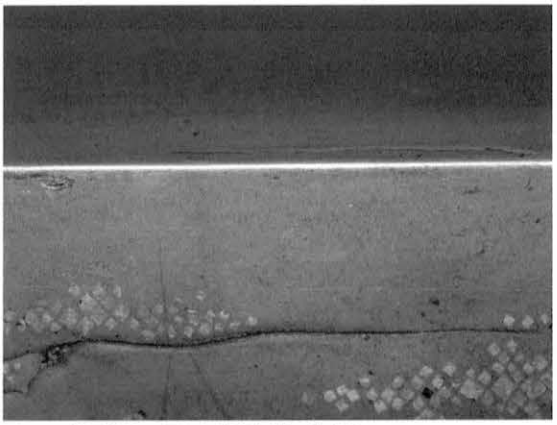


図 28　背面蓋甥の汚れと塗膜欠損　修復後

Fig. 28 Stains and missing coating material on the back side board of the lid, after restoration

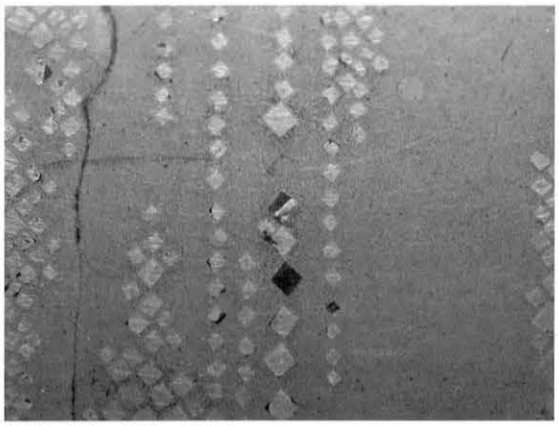


図 29　切金の剥離　修復前

Fig. 29 Lifted *kirikane*, before restoration

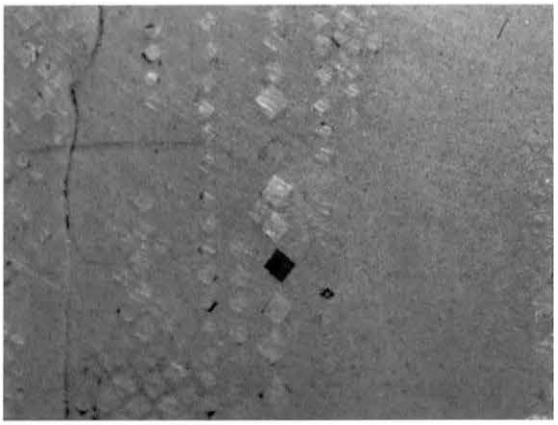


図 30　切金の剥離　修復後

Fig. 30 Lifted *kirikane*, after restoration

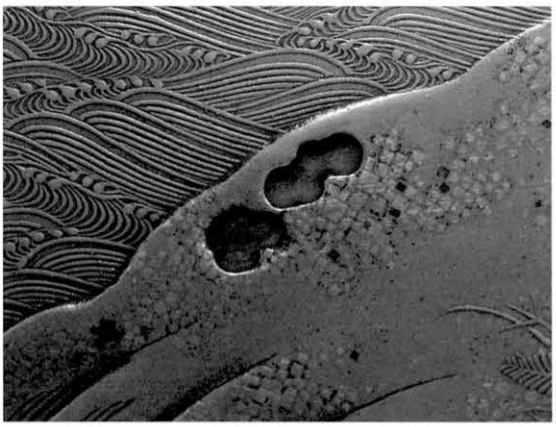


図 31　極込みの埃と汚れ　修復前

Fig. 31 Dust and stains on *kimekomi*, before restoration

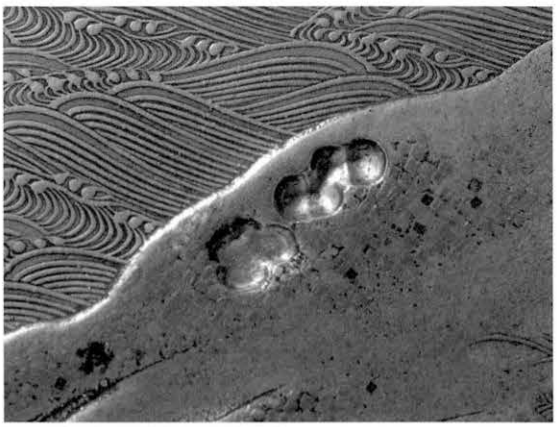


図 32　極込みの埃と汚れ　修復後

Fig. 32 Dust and stains on *kimekomi*, after restoration

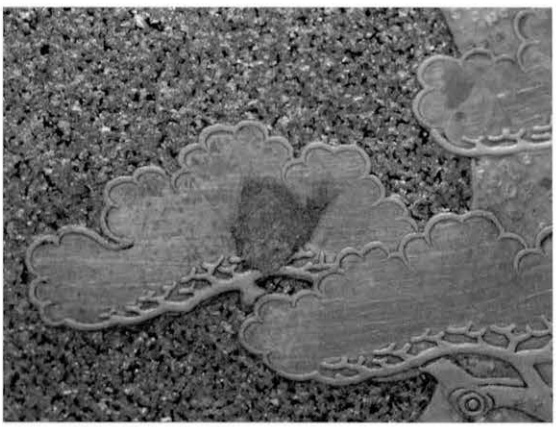


図 33　下地の付着　修復前

Fig. 33 Foundation on the *kanagai*, before restoration

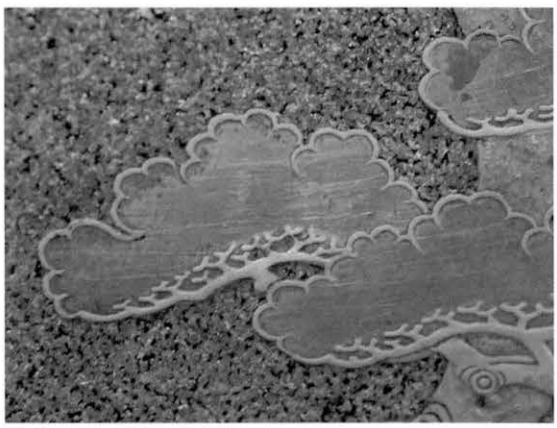


図 34　下地の付着　修復後

Fig. 34 Foundation on the *kanagai*, after restoration

図 35　剥離した切金の剥落止め　修復中

Fig. 35 Preventing *kirikane* from further lifting, during restoration

図 36　付着物の除去　修復中

Fig. 36 Removing the coating material that had become attached, during restoration

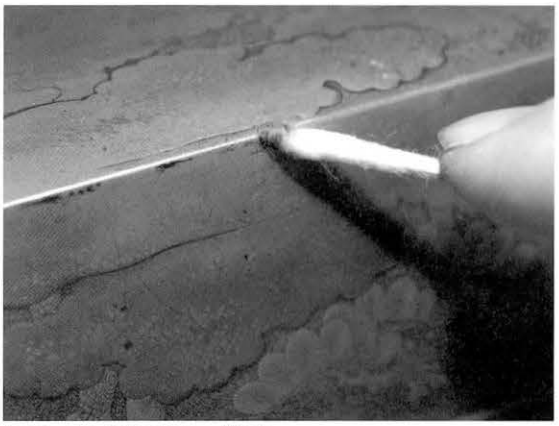


図 37　黒色塗料の除去　修復中

Fig. 37 Removing black coating material, during restoration

図 38　綿布によるクリーニング　修復中

Fig. 38 Cleaning with a cotton cloth, during restoration

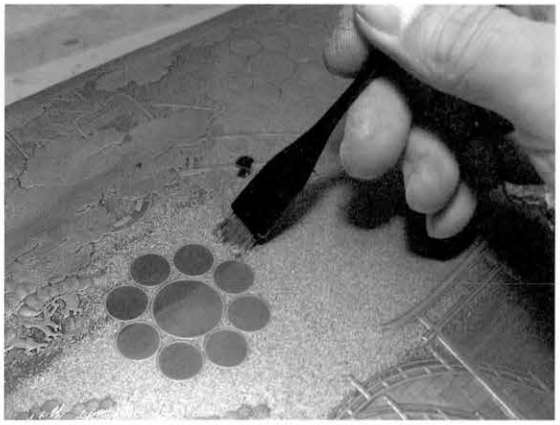


図 39　漆固め　修復中

Fig. 39 Consolidation, during restoration

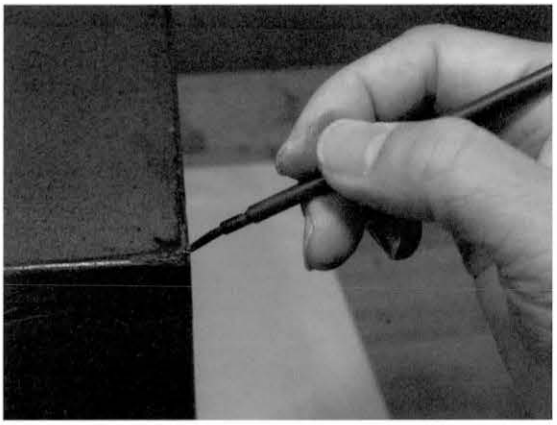


図 40　亀裂の補強　修復中

Fig. 40 Reinforcement of a crack, during restoration

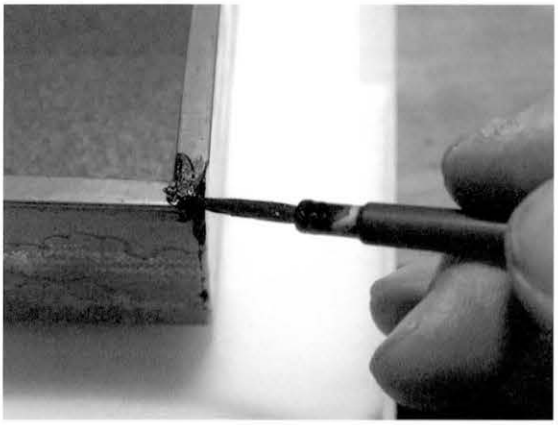


図 41　麦漆の含浸と亀裂の接着　修復中

Fig. 41 Impregnating *mugiurushi* and adhering a crack, during restoration

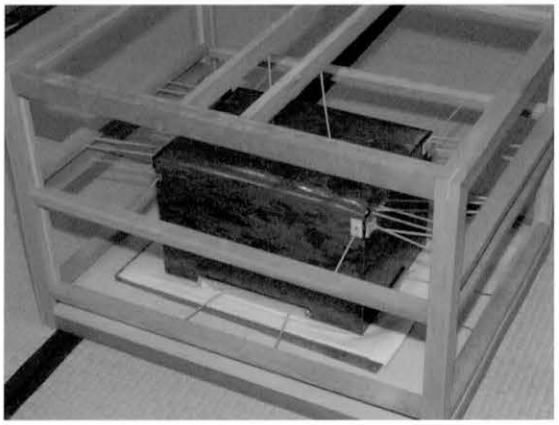


図 42　木枠とヒゴによる亀裂の接着　修復中

Fig. 42 Adhering a crack with a wooden frame and bamboo sticks, during restoration

図 43　木枠とヒゴによる亀裂の接着　修復中

Fig. 43 Adhering a crack with a wooden frame and bamboo sticks, during restoration

図 44　欠損部の充填　修復中

Fig. 44 Filling in a missing area, during restoration

図 45　金貝の剥落止め　修復中

Fig. 45 Preventing *kanagai* from lifting, during restoration

図 46　金貝の剥落止め　修復中

Fig. 46 Preventing *kanagai* from lifting, during restoration

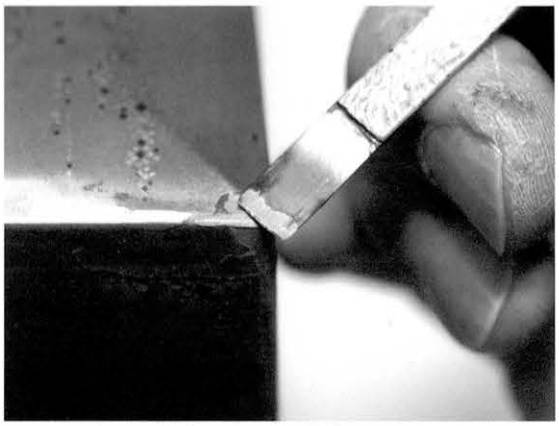


図 47　下地による欠損部の色調整　修復中

Fig. 47 Adjusting the color of a missing area with foundation material, during restoration

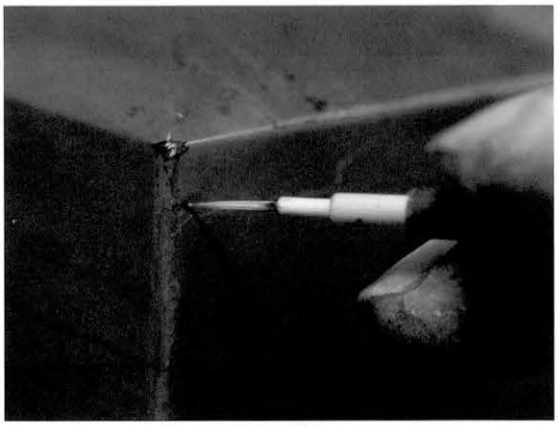


図 48　漆による欠損部の色調整　修復中

Fig. 48 Adjusting the color of a missing area with urushi, during restoration

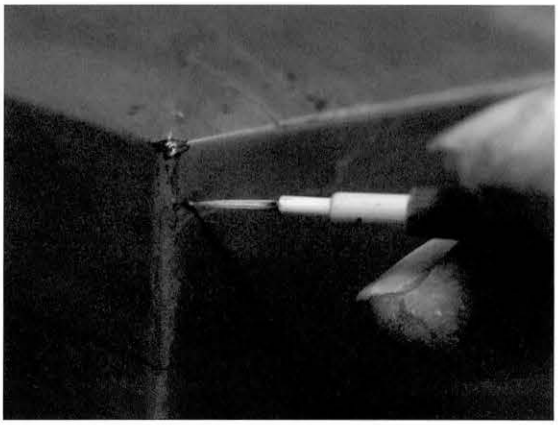


図 49　梨地粉の保護と色調整　修復中

Fig. 49 Protecting *nashiji* powder and adjusting color, during restoration

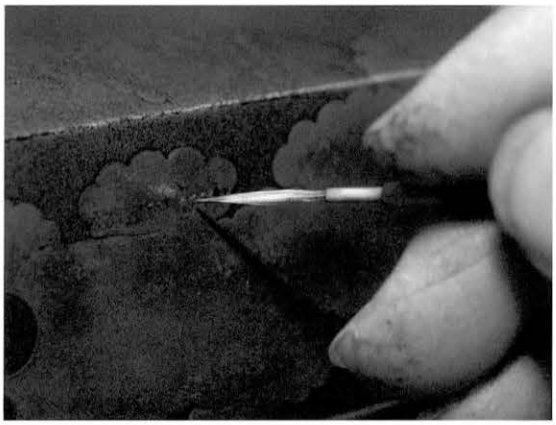


図 50　際錆　修復中

Fig. 50 *Kiwasabi*, during restoration

On the Restoration of *Large Box for Writing Implements* (*Haku-bako*)

Yoshihiko Yamashita

Name of the object: *Large Box for Writing Implements (Haku-bako)*
Collection: Ferenc Hopp Museum of Eastern Asiatic Arts (Hungary)
Period of manufacture: 17th – 18th centuries, Edo period
Dimensions: Width 38.6cm Depth 30.6cm (including metal fittings) Height 25.1cm
Height of the part of the body that fits into the lid 19.8cm Diameter of the metal fitting 3.5mm
Duration of restoration: July 2007 – March 2008

1. Structure

This is a large *inro*-style box made of wood and coated with urushi. The top of the lid is slightly raised. On the front and back of the body at the middle are metal fittings through which a cord is passed .

The substrate is thought to be made of cypress wood cut in edge grain. Pieces of a 34-mm wide board placed at the left and right ends of the substrate of the lid top prevent the substrate from becoming distorted. The four corners of the side boards of the lid and the side boards of the body are joined with the cut ends of wood formed into 45°each, but a triangular piece of reinforcement wood each is placed near the edge of the lid and the middle of the body, a total of 8 places. The bottom board is fitted into the side boards, the lower portion of which has been shaved. Each face is covered with hemp cloth (*nunokise*) and foundation, and coated with urushi. The astragal of the lid and the body is made with foundation material.

Gold and silver powder of about three different degrees of purity are used for the *makie*. *Makie* techniques employed include *nashiji*, *togidashi makie*, *hiramakie*, *takamakie* and *tsukegaki*. Decorations using metal plates, such as *kanagai*, *kirikane*, *kimekomi* and *kimetsuke* are also used in abundance. Hair on the heads of some of the figures are depicted by using black urushi and translucent urushi over the *makie*; their facial expressions are depicted with black urushi and vermilion urushi.

2. Conditions of damage

Although at first sight the box seems not to have been damaged much since it was preserved in a good condition, actually much damage typical of urushi objects was found. Following is a list of damages noticed prior to restoration.

- The coating film and the surface of *makie* decoration had deteriorated and there were many microcracks.
- The color of *nashiji* had changed and the color tone of each side was slightly different. The *nashiji* on the top board of the lid had been damaged and restored in the past so that it was brighter than the rest.
- Dust and dirt had collected on the edges of the *takamakie*, making it dark.
- There were three brownish substances on the back of the body; foundation material was also found on

the metal fitting at the front.

- A trace of a streak of water was found on the lower portion of the left side. Water had caused considerable spotting on the deteriorated *nashiji*.
- Spots of black coating material were found on the side boards and top board of the lid.
- There were cracks on the four corners of the lid and the substrate had completely become disjointed at two.
- There was a crack running horizontally 87 mm to the left and 65 mm to the right on the right side of the side board of the lid, and the substrate had become slightly distorted. This crack extended into the inside of the side board of the lid.
- At the right side of the inner side of the lid, there was a crack 110 mm long on the joint of the substrate of the side board and the top board.
- Lifting and detachment were observed at different places around the cracks. At some of the corners of the lid, especially, the coating film and the foundation had been lost and the substrate was exposed.
- There was much abrasion on all the sides of the box. There was much particularly around the figure on the right of the lid top. This caused a loss of the expression on the figure's face, and the black coating film and the foundation were exposed.
- There were many dents and the foundation and substrate were exposed. The substrate had become distorted especially on the lower right side, and there were two large dents of the same size on the lower middle portion. The coating film with *makie* on these dents was bent inward, and a part of the coating film had been lost.
- Much gold and silver *kirikane* applied on the *takamakie* had become lifted and detached.
- *Kanagai* on the bridge had become lifted at several places due to the shrinkage of the substrate of the top board of the lid. Because the lifting of *kanagai* had happened below the *takamakie*, there was a gap below the *kanagai*.
- Animal glue used in a previous restoration was found. It was used to adhere cracks and to prevent the coating film from becoming detached. Animal glue was found on other places as well.
- Gold *makie* applied in a previous restoration was found on the lid and the around the part of the body that fits into the lid of the body. But the color was not in harmony with the original color of *makie*.
- The metal fitting for the cord on the back had become distorted because it had hit against something. Part of the metal inside had been lost.
- Corrosion of the *makie* powder was observed over the entire object, and the silver and *aokin* (alloy of silver and gold) had changed color.

3. Restoration specification

Traditional restoration materials were used and the maintenance of the present condition was prioritized, since it was considered that this restoration should be conducted in the same way as would be done for the restoration of designated cultural properties in Japan.

The shape of the parts on the four corners of the lid where there were cracks and that of the parts that had been dented were reproduced and the color of these restored parts were matched with their surroundings to some degree, taking into consideration the effect they would have when the box would be exhibited. It was decided that the parts where the coating film had become exposed due to abrasion would not be reproduced. Gold *makie* dating to a past restoration was left as it is, but the animal glue used

in a previous restoration was removed as much as possible. The treatment of the corroded *makie* powder was limited to removing the soiling from the surface, and care was taken so as not to change the color significantly. Spotting on the *nashiji* was matched with the surroundings by using urushi.

Photographs were taken of the box before, during and after restoration for documentation. A restoration report was compiled. A silk wrapping cloth and a paulownia storage box were made in order to preserve the box safely. Restoration work was conducted at Studio 1 of the National Research Institute for Cultural Properties, Tokyo.

4. Restoration process

1. Investigation and documentation

   The structure and the condition of damage of the box were investigated in detail. Restoration process appropriate for the conservation of the box was considered. UV lamp was used to investigate the materials used in a previous restoration; radiography was used to examine the structure of the substrate. Photographs using a 5-mm negative film as well as a digital camera were taken of the entire object and the damaged parts before starting restoration work.

2. Preventing the loss of *kirikane* and *kanagai*

   Kirikane and *kanagai* that had become lifted protruded from the *makie* surface and there was a possibility of its becoming detached and lost with a simple contact. So the first step in the restoration was to treat the *kirikane* and *kanagai* so that they would not be lost. The shape of the lifted *kirikane* was corrected with a spatula made of tortoise shell. Then a small amount of animal glue solution, pellet type animal glue diluted to 17–20%, was used to adhere the *kirikane* and *kanagai*. Excess animal glue was completely wiped off. The number of *kirikane* thus treated totaled 31 on the lid and 23 on the body.

3. Cleaning

   Soiling and restoration material used previously that had become attached to the coating film and the *makie* surface were removed as much as possible. Since solvents used for cleaning might have an adverse effect on the coating film, they were tested before use. Mineral spirits and xylene were used for the overall soiling while methanol and ethanol were used to remove unwanted coating material. To remove the red substance, xylene was applied and then a spatula was used. Purified water was used in part to remove animal glue. Animal glue on the four corners of the lid, in particular, was removed by applying purified water first and then using a needle to rake it out. However, it was decided to leave the *makie* coating film, which had already been treated to prevent detachment, untreated since there was risk of its becoming further damaged.

4. Inspection of restoration work

   Monika Bincsik of the Ferenc Hopp Museum of Eastern Asiatic Art visited the restoration studio of the National Research Institute for Cultural Properties, Tokyo twice in order to inspect the restoration work. On her first visit (2007/11/2) a discussion was held on the progress of restoration and cleaning; on her second visit (2008/1/16) discussion was held on matching the color of the *makie* decoration.

5. Consolidation

   In order to reinforce the deteriorated coating film and *makie*, consolidation was done using translucent urushi that had been adjusted appropriately. First urushi was diluted with a solvent and coated over the entire object with a *dami* brush having soft, thin hair. It was then completely wiped off with ligroin. Care was taken in this process so that urushi would not remain on the edge of *takamakie* or the

kimekomi. Urushi for *urushigatame* (consolidation) was hardened sufficiently.

6. Preventing the loss of the coating film
   Coating film around the cracks and dents had become lifted. Since some of the lifted coating film had become distorted, the shape was corrected as much as possible by preventing detachment. As the *makie* coating film on the dented portion at the center of the right side had been bent inward, it was treated to prevent loss. *Mugiurushi* diluted with a solvent was impregnated into the lifted coating film with a brush. A wooden frame, bamboo sticks and polyvinyl chloride sheet were used for press-stabilization. Excess urushi was wiped off completely with a solvent.
7. Reinforcing the cracks
   Since there were small cracks on the four corners of the lid in addition to cracks along the edges, the foundation and the coating film were reinforced before adhering the substrate. *Mugiurushi* diluted thinly with a solvent was used to reinforce the cracks.
8. Adhering the substrate
   The joints of the substrate of the side boards of the lid had become disjointed. In order to adhere them, *mugiurushi* diluted with a solvent was first impregnated. A bamboo spatula was used to insert *mugiurushi* into the gaps and excess urushi was wiped off with a solvent. In order to make sure that the lid and the very top part of the body would meet, the lid was placed on the body and stabilized by using a wooden frame, bamboo sticks and polyvinyl chloride sheet. These were removed temporarily before the urushi hardened and excess urushi was completely wiped off.
9. Filling and adjusting the foundation
   Kokuso was used to fill the missing coating film and *makie*. Urushi foundation was used to adjust the shape.
10. Reproducing the coating film
    Color of the parts where the urushi coating film had been lost was matched. In order to match the color of the gold ground and *nashiji* portion, a sample board was made first and a technique that would best suit the box was selected. Gold powder of different fineness was mixed with urushi to match the color. This was then applied with a spatula. In order to adjust the color of the missing areas, diluted urushi was applied again and hardened.
11. Adjusting the color of *nashiji*
    Spotting on the *nashiji* and the *nashiji* powder that had become exposed by abrasion were protected and the color was adjusted. A mixture of *nashiji* urushi and translucent urushi was diluted with a solvent and rubbed in thinly to the damaged parts with a brush. Color adjustment was done in several steps.
12. *Kiwasabi*
    Gold foundation was applied to the edges of *kirikane* to prevent them from becoming detached. Excess foundation was wiped off with ligroin.
13. Making a storage box and a wrapping cloth
    A paulownia storage box and a silk wrapping cloth were made and the conservation environment was adjusted.
14. Compiling a record after restoration
    Photographs were taken of the box after restoration, Records of restoration were summarized and a report was compiled.