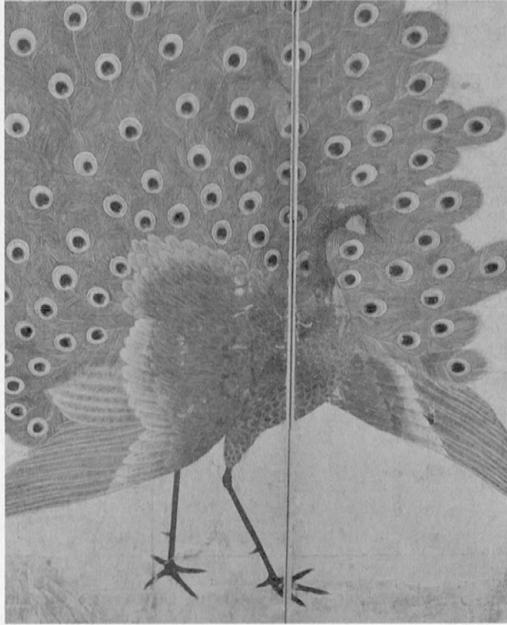

松に孔雀図屏風

平成20年度修復事業



所蔵：グレート・ビクトリア美術館

松に孔雀図屏風

修復報告

株墨仁堂
山口聰太郎

I. 名称等

1. 名称 松に孔雀図屏風
2. 作者 不詳
3. 所有者 グレータービクトリア美術館 (カナダ)
4. 品質・形状 紙本金地著色 屏風装 (6曲1隻)

II. 工期・施工者

1. 工期 平成20年6月～平成21年3月
2. 施工者 株式会社 墨仁堂 (静岡市葵区大岩1-4-4)
代表：山口聰太郎

III. 構造等

1. 形式 修復前後ともに屏風装6曲1隻
2. 寸法 (単位cm)

修理前 本紙：縦 197.2 横 361.5 / 全体：縦 216.2 横 380.5

修理後 本紙：縦 198.2 横 364.4 / 全体：縦 217.4 横 383.6

*表装裂の下に隠れていた天地の絵を出し、厚塗りの絵具を保護するために各扇左右の余白を多めにとったため、修復前よりも修復後の寸法が大きくなった。

3. 表装裂地

修復前

小縁：丹地金欄

縁：萌黄地金欄

襲木：黒漆塗角縁

飾金具：無地隅金具・散鋌

修復後

小縁：丹地牡丹蓮唐草文金

縁：縹紺地牡丹唐草文金欄

襲木：黒漆塗角縁

飾金具：桜文様隅金具・散鋌

4. 使用材料

補修紙：雁皮紙 (兵庫県名塩)

帯：美濃紙 (岐阜県美濃太田製)

染料：矢車 (京都府 中村長商店で購入)

トーンニング用絵具：

藍棒、洋紅、藤黄 (以上、京都府 放光堂で購入)

墨 (奈良県 古梅園で購入)

金 (京都府 原商店で購入)

糊：

小麦粉澱粉（700gを2リットルの水に溶かして強火で20分間焚き、1晩冷ましてから使用。長田産業株式会社製）

布海苔（7グラムを水洗いして塩抜きし、700ccの水を加えて、約15分間溶けるまで加熱。その後2重ガーゼで濾過して、冷却して使用。大韓民国製）

肌裏紙：美濃紙（岐阜県美濃太田製）

増裏紙：美濃紙（岐阜県美濃太田製）

下地骨：総杉白太隅止総ホゾ構造（京都府黒田製）

下貼り

骨縛り：楮紙（福岡県八女）

胴貼り：間合紙（高知県伊野）

蓑掛け：楮紙（福岡県八女）

蓑縛り：楮紙（福岡県八女）

上浮け：石州紙（島根県）

下浮け：石州紙（島根県）

蝶番：黒谷紙

蝶番くるみ：黒谷紙

襲木：蠟色黒漆塗角縁（京都府 黒田製）

裏貼紙：四寸雀型唐紙（茶具引きに墨押、京都府 唐長製）

飾金具：桜文様金具（京都府 石野三郎製）

保存用袋：綿布（無漂白・糊抜き済み）

IV. 修復前の状況（図1～10）

- ・蝶番金具が取り付けられていた。そして、その取り付け方は折り方が逆になっていた。そのため、長期間露出していた第1扇と第6扇は特に傷みが進んでいた。
- ・下地は経年のため、また木材の伸縮によりに歪みが生じていた。そのため、下地四隅はしきみ、本紙表面が波打っていた。
- ・全体に多数の亀裂や大きな破れが見られた。亀裂は応急的に紙の帯や糊差しによって止められており、また破れには大きな金紙が貼られている箇所があった。場所によっては、無理に糊を差して止めたため、その部分が引きつれて表面に波打ちが起き、その相対する表面同士がこすれて、絵具が剥落していた。（図1、3、5）
- ・大きな亀裂部分では、合成接着剤を亀裂から下地内部に入れ込み、表面をビニルテープによって接着していた。
- ・全体的に絵具の剥落、擦れが見られた。特に緑青部分の劣化は激しく、本紙基底料紙も緑青による酸化によって、薄片状に細かく剥離しており、大変危険であった。また松が描かれた部分では、下地絵具の部分で接着強度の劣化が見られ、ところどころで浮き上がりが生じていた。
- ・過去の修理において、補修紙が当てられていた。そこには補彩がされていたが、本紙にまではみ出していた。
- ・樹脂が塗布されているような、てかりが見られた。
- ・全体に汚れを吸着し、黒くくすんでいた。
- ・縁裂の傷みが著しかった。
- ・屏風裏の唐紙に、汚れや破れが見られた。
- ・襲木に傷みが見られた。また、金具が欠失していた。

V. 修復工程概要

1. 調査

- ・修理前の記録のため、写真撮影をした。
- ・本紙の損傷地図を作成した。本紙表面は、様々な傷みや旧修理の跡があったため、それらをわかりやすく地図として表し、その後の除去作業での資料とした。
- ・絵具の発色を記録するため、分光測色計にて計測した。

2. 作業開始前の処置

- ・修理前の目視観察によって確認された、絵具層の浮き上がり、基底料紙からの亀裂や剥離には、応急的に兎膠と布海苔の混合糊を差して接着し、作業中の安全を確保した。

3. クリーニング

- ・表面の煤汚れが著しかった。そのため特に金箔部分を中心に、粉消しゴムを使用して、表面の汚れを除去した。

4. 解体

- ・搬入時にはすでに蝶番は除去済みであった。
- ・襲木を除去した。
- ・本紙を下地から取り外した。
- ・下地から本紙を取り外す際に、本紙と下地の間から、いくつかの破片が見つかった（図1）。傷跡や絵具の様子からなどから、破片が元にあった場所を特定し、その位置に戻した。
- ・本紙裏面に付着した、旧下貼紙をすべて除去した。

5. 調査

- ・表面に塗布された樹脂類、合成接着剤、補彩の取り扱いの方針を決定するため、東京文化財研究所の指導のもと、部分的な除去テストを行った。水、エタノール、酢酸エチル、アセトン、テトラヒドロフラン（THF）、ジメチルホルムアミド（DMF）の6種により、それぞれの反応を確認し、各部に応じて使い分けながら、除去していくことを決定した。

6. クリーニング（樹脂類、合成接着剤、旧補彩の除去）

- ・様々な様相の樹脂や合成接着剤が使用されていた。それぞれを上記6種の溶剤にて少しずつ除去した。除去には綿棒や脱脂綿を用いた。厚塗りの接着剤には脱脂綿に溶剤を含浸させて湿布し、溶解させる方法を取った。
- ・本紙裏面広範囲に塗布された接着剤は非常に堅く、また、溶剤を使用して溶解させると染みを作ることが事前テストにおいて判明したため、小刀にて物理的に除去した。
- ・旧補彩は、本紙表面へのはみ出し部分のみを、溶剤を含ませた綿棒にて除去した

7. クリーニング（煤汚れの除去）

- ・準備として、絵具の劣化度合と耐水性の確認テストを事前に行った。その結果、松の部分（緑青）で、下地部分と表層部分の間で剥離が起きていることがわかった。また、表面には合成樹脂類が塗布されていたが、その部分についての吸水性には問題ないとわかった。また、部分テストによって、本紙は強い汚れを吸着していることがわかった。
- ・汚れを積極的に除去するため、画面上から浄水を噴霧して、下に敷いた吸水紙に汚れを吸着させた。

8. 剥落止め

- ・全体の絵具の剥落止めを兎膠水溶液にておこなった。その際には湿りによって、本紙が収縮して絵具層が不安定になるのを防ぐため、常に仮貼りをして固定し、伸縮を最小限に抑えた状態を保ちながら作業をおこなった。ただし、本紙が緊張しすぎないように必ず具合を確かめながら調整をした。
- ・緑青部分の絵具の剥離部分には、剥離部小口から注射器にて、布海苔と兎膠の混合液を注入し、上

から重りをのせて圧着させて固定した。

9. 肌裏除去

- ・本紙基底料紙は緑青による酸化劣化によって、黒変し細かく薄片化していた。また、全体的にも劣化は進行し、裏打紙と本紙基底料紙との境目がわかりにくくなっていた。
- ・より安全に肌裏除去作業を進めるため、少しずつ除去作業を行うことができ、かつ表面の絵具を保護することができる乾式肌上法を選択することとした。
- ・化繊紙と布海苔を用いて、本紙の表打ちを行い表面の保護をした。少量の水を裏打紙に少しずつ与えて糊の接着を弱め、肌裏紙を繊維状にほぐしながら除去した。

10. 旧補絹の除去

- ・旧補紙はすべて取り替える方針とし、少量の水分を裏面より与えて、本紙と補修紙との接着力を緩ませて、少しずつ除去した。

11. 補紙 (図6)

- ・本紙の繊維分析を行って、組成を特定した。
- ・繊維分析の結果に基づき、補修紙として矢車で染めて水洗いした雁皮紙を用意した。
- ・本紙の欠損箇所と同型に補修紙を整形し、重なり部分を必要最小限になるようにして、本紙裏面から新糊（小麦粉澱粉糊、水：澱粉 = 1 : 1、PH 6 ~ 7）で添付した。

12. 亀裂の補修 (図2、4)

- ・亀裂部分は、絵がきれいに繋がるよう細心の注意を払った。裏面から細い美濃紙の帯を当てて補強し、肌裏打ち後、もう1枚美濃紙の帯を当てた。

13. 肌裏打

- ・新しい肌裏紙には無染めの美濃紙を使用した。
- ・糊は新糊（小麦粉澱粉糊、水：澱粉 = 5 : 3、PH 6 ~ 7）を使用した。

14. 増裏打

- ・厚みを整えて、強度を増すため、2度目の裏打（増裏打）をした。紙は無染の美濃紙を使用した。
- ・糊は新糊（小麦粉澱粉糊、水：澱粉 = 5 : 3、PH 6 ~ 7）を使用した。

15. 新緑裂など

- ・所蔵館ならびに東京文化財研究所の担当者と相談し、新たな表具裂、襲木、飾金具、唐紙を決定した。

16. 下地

- ・新下地は、杉白太、総ホゾ、隅トメ構造のものを新調した。大きい屏風であるため、組子のいくつかに力子を入れて、強度を持たせた。また、厚塗りの絵であることから、下地の返りは多めにとった。
- ・緑打の振動によって絵具が剥落しないよう、通常の折れ合い構造ではなく、トッコによって緑を取り付ける構造を選択した。
- ・下地には6工程8層の下貼をおこなった。
 - ・屏風が大きく、重量も大きいことから、蝶番に使用する紙は通常よりも厚いものを選択した。
 - ・絵具が厚塗りであり、本紙の厚みも通常より厚いため、蝶番のゆとりも多めにとった。
 - ・これまでは、奥尾背部分での擦れによる絵具の剥落が著しかったため、新調する下地では、左右の余白を多めにとり、絵具の保護をすることにした。

17. トーニング

- ・新たに補紙をした部分に、控えめなトーニングを行った。

18. 仕上げ

- ・下地に本紙と縁裂を貼り込んだ。
- ・縁打ちをして、飾り金具を取り付けた。
- ・尾背を貼り込んだ。
- ・無漂白の木綿にて保存袋を製作した。

VI. 特記事項

1. 樹脂類、接着剤、セロハンテープなどの除去について

東京文化財研究所の指示により、下記6種の溶液を用いて、本紙表面に付着した樹脂類、接着剤、セロハンテープの除去テストを行った。

a. 使用した溶剤

- 浄水
- エタノール
- 酢酸エチル
- アセトン
- テトラヒドロフラン (THF)
- ジメチルホルムアミド (DMF)

b. 除去方法

- ・綿棒に溶剤を含ませて、軽く押し当てて転がすように除去した。
- ・接着力が強い場合には、綿に溶剤を含ませて湿布し、緩ませた状態で除去した。
- ・それぞれの場所にあう溶剤を選び出し、除去を進めた。記録のため、場所毎に使用した溶剤の種類を書き留めた。
- ・また、溶剤の反応が見られず、除去が難しかったものは、小刀にて薄く削り取りながら除去した。

c. 結果

- ・ほぼ大部分の本紙表面に付着した樹脂類、接着剤、セロハンテープは除去することができた。
- ・溶剤や小刀を使用してもなお除去が難しい部分については、そのまま残した。

2. 裏面の接着剤の除去 (図7~10)

- ・大きく破れた部分の裏側には、接着剤が厚く塗り込められていた。
- ・観察からは、表から、亀裂の内側に向かって接着剤を注入したと思われる。
- ・かなりの広範囲に接着剤は及んでいた。
- ・テストの結果、有機溶剤で接着力を緩めると、その湿りによって本紙にしみができることがわかったため、小刀にて除去する方法をとることにした。
- ・また、テストの結果、水分が加わることによっても、接着剤の周囲で汚れが溶け出し、染みを作ることがわかったため、まず、すべての接着剤を除去してから、全体の煤だしなどのクリーニングを行なうこととした。

3. 繊維分析 (宍倉ペーパーラボ、図11、12)

- ・水の吸収は遅い。繊維が短く細く、繊維膠着が強いので完全分散は困難。
- ・強く酸化劣化した雁皮が使われ、全て繊維が0.2ミリ以下に劣化短小し、塗布したと思われるドーサが酸で膠着しているので、単繊維化が特に難しい。
- ・C染色液写真で黄色の細かい異物は米粉の変色した物と思われる、紫色の雁皮特有の非繊維細胞も見られる。

4. 破片の発見 (図13~15)

- ・下地から本紙を取り外す際に、本紙と下地の間から、いくつかの破片が見つかった。傷跡や絵具

の様子などから、破片が元あった場所を特定し、その位置に戻した。

5. 本紙の汚れ

- ・本紙は非常に強い汚れを吸着し、全体が煤けていた。そのため、本紙下に吸水紙を敷いて、上から浄水を噴霧し、汚れを下に吸着させる方法で、クリーニングをした。その結果、全体に明るくなり、色彩もはっきりとした。修復前後の色味の違いがどの程度あったのか、分光測色計にて計測し、その比較を記録した。



図1 修復前 テープで補修された亀裂箇所
Fig. 1 Before treatment Cracked areas mended with tape



図2 修復後
Fig. 2 After treatment

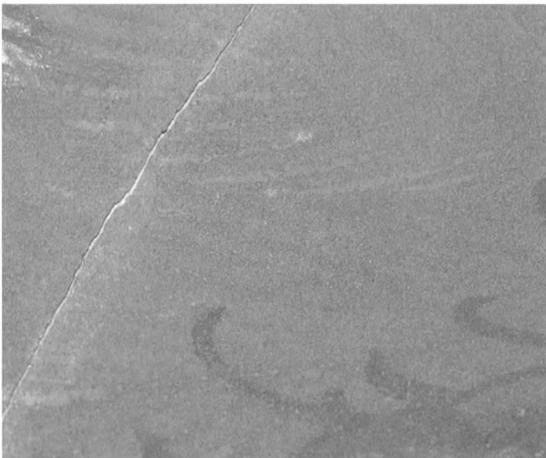


図3 修復前 本紙の亀裂
Fig. 3 Before treatment Cracks in the painting

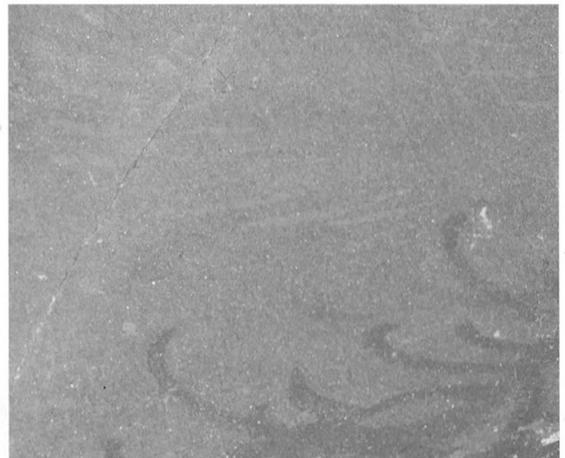


図4 修復後
Fig. 4 After treatment



図5 修復前 大きな補修紙が当てられた箇所
Fig. 5 Before treatment Area in which a large piece of mending paper had been applied

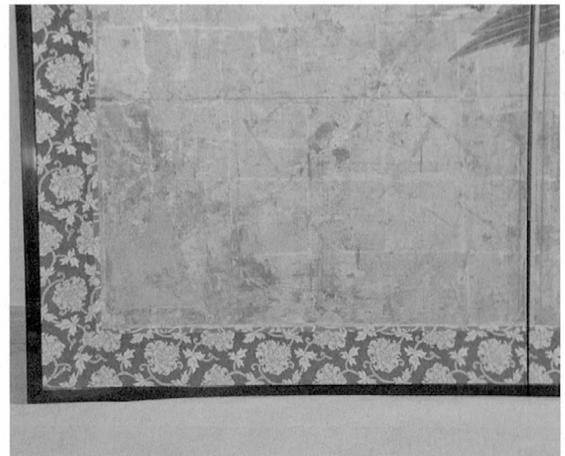


図6 修復後
Fig. 6 After treatment

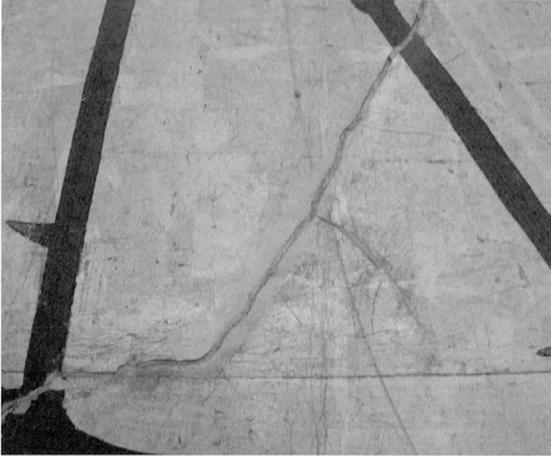


図7 修復前
Fig. 7 Before treatment

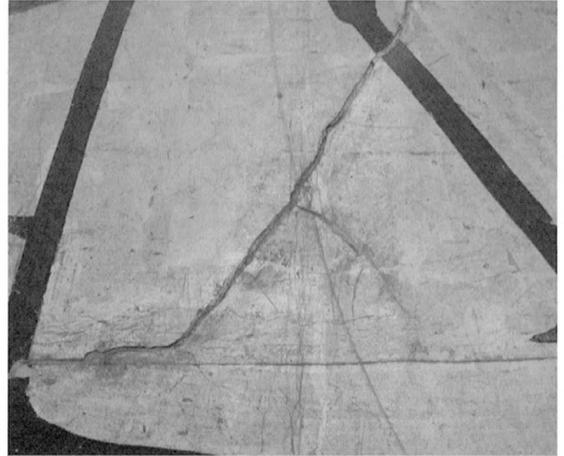


図8 修復後 (エタノールで樹脂類を除去)
Fig. 8 After treatment (Resins were removed with ethanol)

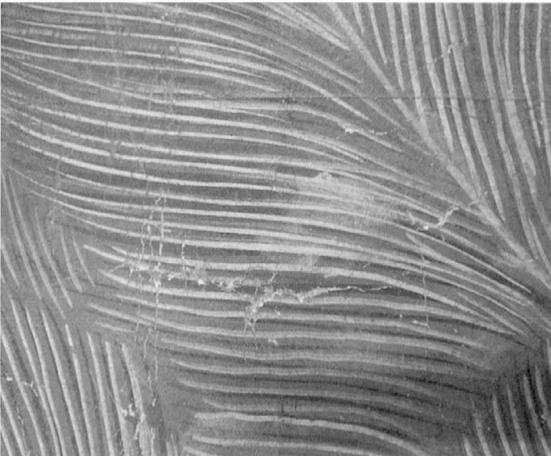


図9 修復前
Fig. 9 Before treatment

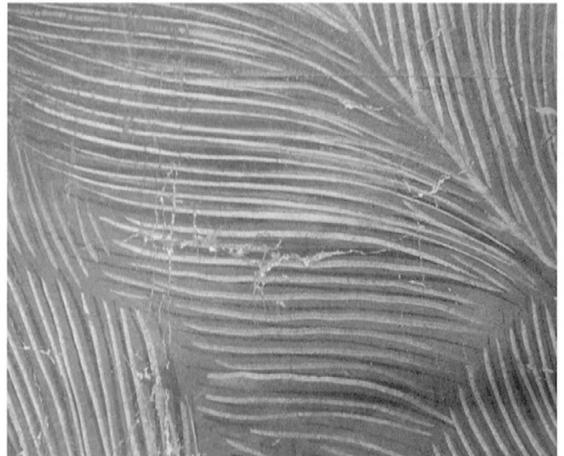


図10 修復後 (DMFで樹脂類を除去)
Fig. 10 After treatment (Resins were removed with DMF)

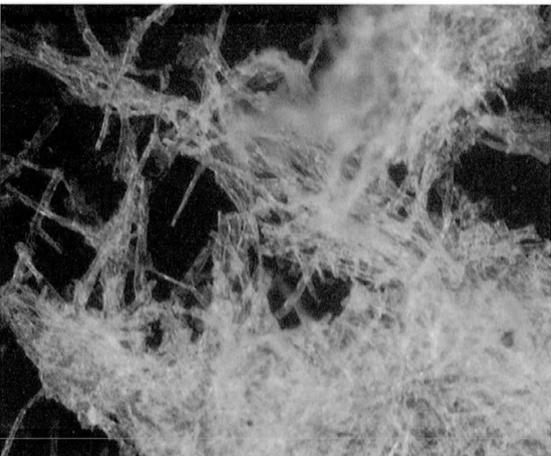


図11 本紙繊維 顕微鏡写真
Fig. 11 Fiber of the painting photomicrograph

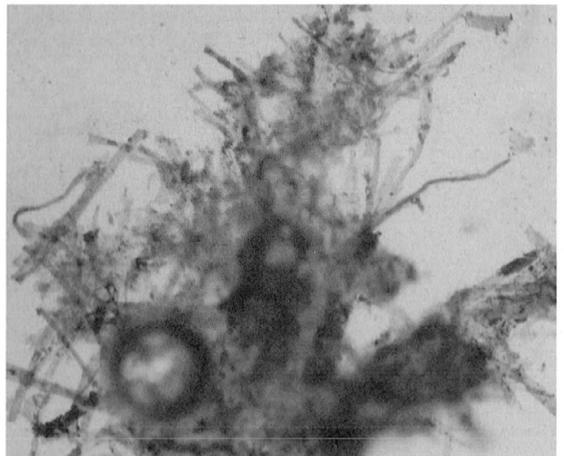


図12 本紙繊維 (C染色液染め) 顕微鏡写真
Fig. 12 Fiber of the painting (dyed with C-stain solution)
photomicrograph



図13 解体時に見つかった本紙片

Fig. 13 Fragments of the painting found during disassembly

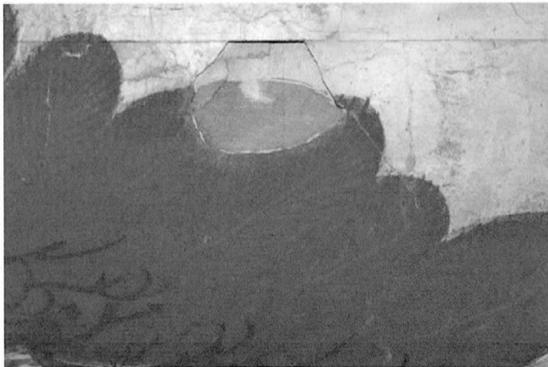


図14 修復前 本紙が欠落し、裏打紙に直接補彩がなされていた
Fig. 14 Before treatment An area which a piece of the painting was missing. Inpainting had been applied directly onto the lining paper.



図15 修復後 紙片を本来の位置に戻した
Fig. 15 After treatment The missing fragment was returned to its original location

Peacocks under a Pine Tree

Treatment Report

Bokunindo Co., Ltd
Sotaro Yamaguchi

I . Description and title of object

- | | |
|---------------------|--|
| 1. Title | Peacocks under a Pine Tree |
| 2. Artist | Unknown |
| 3. Collection | Art Gallery of Greater Victoria, Canada |
| 4. Format and media | A six paneled screen, colors and gold on paper |

II . Treatment period, conservator, etc.

1. Treatment period June 2008 – March 2009
2. Treatment undertaken by Bokunindo Co., Ltd. (1-4-4 Oiwa, Aoi-ku, Shizuoka-city)
Director: Sotaro Yamaguchi

III . Structure of the cultural property

1. Format A six paneled screen, both before and after treatment
2. Dimensions (cm)

Before treatment	Painting : Height 197.2 Width 361.5
	Including the frame : Height 216.2 Width 380.5
After treatment	Mounting : Height 198.2 Width 364.4
	Including the frame : Height 217.4 Width 383.6

*The dimensions of the screen after the treatment are greater since portions of the painting at the top and bottom that had been hidden by the border fabric were uncovered and extra marginal spaces were added at the left and right sides of each panel as a way to protect the thickly layered paint.

3. Mounting fabric

Before treatment

Inner border: gold brocade with a reddish brown background

Border: gold brocade with a yellow-green background

Frame: black lacquered frame

Metal ornaments: plain corner metal fittings and studs

After treatment

Inner border: gold brocade with peony, lotus and arabesque pattern with a reddish brown background

Border: gold brocade with peony and arabesque pattern on light indigo background

Frame: black lacquered frames

Metal ornaments: corner metal fittings with cherry blossom motif, and studs

4. Materials used

Mending paper: *gampi* paper (Produced in Najio, Hyogo Prefecture)

Reinforcement strips: *Mino* paper (Made by Ota; Mino, Gifu Prefecture)

Dye: *yasha* (Purchased from Nakamura-cho Shoten, Kyoto Prefecture)

Pigments used for toning:

aibou (indigo sticks), *youkou* (carmine), *touou* (gamboge) (Purchased from Hōkōdō, Kyoto Prefecture)

sumi ink (Purchased from Kobaien, Nara Prefecture)

gold (Purchased from Hara Shōten, Kyoto Prefecture)

Paste:

Wheat starch paste (700g of wheat starch paste dissolved in 2 liters of water, cooked over high heat for 20 minutes, and cooled overnight before use. Made by Nagata Sangyo, Corp.)

Seaweed paste (Salt is removed from 7g of seaweed by rinsing with water. 700cc of water is added and cooked for 15 minutes until the seaweed is dissolved. The liquid is then filtered through a double layer of gauze and cooled. Made in South Korea)

First lining: *Mino* paper (Made by Ota; Mino, Gifu Prefecture)

Subsidiary lining: *Mino* paper (Made by Ota; Mino, Gifu Prefecture)

Wooden core structure: white cedar constructed with mitered corners and tenon/mortise joints (Made by Kuroda, Kyoto Prefecture)

Underlining papers:

Honeshibari: *kāzo* paper (Yame, Fukuoka Prefecture)

Doubari: *maniai* paper (Ino, Kochi Prefecture)

Minokake: *kāzo* paper (Yame, Fukuoka Prefecture)

Minoshibari: *kāzo* paper (Yame, Fukuoka Prefecture)

Uwauke: *Sekishu* paper (Shimane Prefecture)

Shitauke: *Sekishu* paper (Shimane Prefecture)

Hinges: *Kurotani* paper

Hinge cover: *Kurotani* paper

Frame: *Rou-iro* black lacquered frames (Made by Kuroda, Kyoto Prefecture)

Decorative backing paper: *Karakami* paper with 4-sun (12.12cm) *suzumegata* (sparrow roundel pattern) printed with sumi ink on brown paper (Made by Karachō, Kyoto Prefecture)

Metal ornaments: Cherry blossom patterned metal fittings (Made by Saburō Ishino, Kyoto Prefecture)

Storage bag: Cotton (unbleached, starch removed)

IV. Condition before treatment

- Metal hinges were set on the screen. The way in which they were attached was incorrect and made the screens

fold the wrong way. This caused damages to the screen, particularly on the first and sixth panels which were exposed for a long period of time.

- The wooden core structure was warped due to expanding and shrinking of the wood as well as aging. This caused the four corners of the frame to buckle, and the surface of the painting to ripple.
- Many cracks and large tears were found throughout the artwork. The cracks were temporarily fixed with paper reinforcement strips and adhesive inserted into these areas. Some of the torn areas were pasted over with large pieces of gold paper. The injection of adhesive in some areas was done carelessly. This caused the paper to pull, creating ripples on the surrounding surface, which were rubbing against the surface of the opposite panel, causing pigments to flake.
- Areas of large tears were treated with synthetic glue injected through the tears onto the inside of the wooden core structure and covered by attaching adhesive tape to the front surface. (Fig. 1,3,5)
- Pigments were flaking and rubbing off throughout the entire painting. The deterioration was especially severe in areas painted in malachite green pigment. The support paper was also critically damaged due to the oxidation of the malachite green pigment which caused the paper to chip off in small flakes. In some of the areas in which pine needles are depicted, the adhesiveness of the base paint had weakened and become separated from the surface in some areas.
- Mending paper had been attached onto the painting during the past restorations. Inpainting was applied onto the mending papers and was extending into the surrounding areas.
- The surface appeared glossy, as if resin had been applied.
- Grime was found throughout the artwork, causing a darkening appearance.
- The border fabric was severely damaged.
- Grime and tears were found on the *karakami* on the reverse side of the *byobu*.
- The frame was damaged, and the metal fittings were missing.

V. Outline of treatment process

1. Pre-treatment examination

- Photographs were taken and the pre-treatment condition was documented.
- A diagram mapping the damaged areas on the painting was drawn up. Various forms of damages and traces of past restorations found on the surface of the painting were indicated on a map in an easy-to-see manner. The map was used as reference during the subsequent work of remedying such areas.
- The colors of the pigments on the painting were measured using a spectroscopic colorimeter and recorded.

2. Pre-treatment procedure

- Pigments that had lifted, cracked, or flaked off of the support paper were temporarily fixed by applying a mixture of rabbit skin glue and seaweed paste to ensure their stability during the treatment.

3. Cleaning

- The surface of the painting was severely soiled by soot. The surface grime was removed using eraser powder with a particular focus on the gold leaf areas.

4. Disassembly

- The hinges had already been removed when the screen was delivered.
- The frames were removed.
- The painting was detached from the wooden core structure.
- In the process of removing the painting from the wooden core structure, several fragments of the painting were

found in between the painting and the core structure (Fig. 1). Upon determining their original locations based on the traces left on the painting and the condition of the pigments, the fragments were reattached to those locations.

- All the old underlining papers attached to the reverse side of the painting were removed.

5. Examination

- In order to decide on what method(s) to use to remove the resin, synthetic adhesive and inpainting applied onto the front surface, a partial removal test was conducted under the guidance of the National Research Institute for Cultural Properties, Tokyo. After testing the reactions of six substances, which were water, ethanol, ethyl acetate, acetone, tetrahydrofuran (THF), and dimethylformamide (DMF), in each location, the most suitable substance for each removal was determined.

6. Cleaning (removal of resin, synthetic adhesive and old inpainting)

- Various types of resin and synthetic adhesive had been applied. They were removed a little at a time using solvents of the above six substances. Cotton-tipped swabs and absorbent cotton were used for the removal. For areas with a heavy layer of adhesive, pieces of absorbent cotton soaked in solvent were laid down and allowed to saturate and dissolve the adhesive.
- The adhesive found throughout the reverse side of the painting was extremely hard, and the pre-treatment testing determined that to try to dissolve it with a solvent would create a stain. Therefore, the adhesive was removed using a knife.
- Regarding the old inpainting, only the portions that had extended beyond the mending papers and onto the surface of the painting was removed with a cotton swab soaked in solvent.

7. Cleaning (removal of soot)

- As a preparatory step before cleaning, the pigments' degree of deterioration and resistance to water were tested. The results found that the surface layer of pigment had separated from the base layer in the areas of pine needles (malachite green). While synthetic resin had been applied onto the surface of the painting, it did not affect the absorbency of these areas. Further, a partial testing found that the painting was severely soiled.
- To effectively clean away the soot, purified water was sprayed onto the surface and allowed to seep through and be absorbed by a blotter paper placed underneath.

8. Consolidation of the paint layer

- The entire paint layer was consolidated using rabbit skin glue solution. To prevent the moisture added in the process from causing the painting to shrink and the paint layer to become destabilized, the painting was stretched on a *karibari* throughout the process as a way to keep any form of expansion or contraction to a minimum. The condition of the painting was checked and adjusted constantly to make sure it did not become over-taught.
- To treat the areas painted in malachite green in which the pigment had lifted, a mixture of seaweed glue and rabbit glue skin was injected with a syringe from the opening of the lifted areas, which were then covered and pressed down with a weight to allow them to set.

9. Removal of the first lining

- The base paper of the painting had darkened and split into thin strips due to oxidation caused by the malachite green pigment. Moreover, because of the overall deterioration of the painting, the boundary between the lining and the support paper of the painting had become difficult to determine.
- To ensure safe removal of the first lining, the "dry" *hadaage* method was selected to be used. This method allows the lining to be removed a little at a time while protecting the pigments on the surface.

- A temporary facing made of synthetic paper was applied with seaweed paste to protect the front surface of the painting. The first lining was removed by applying small amounts of water at a time to weakening the adhesiveness of the glue and loosening the fiber of the paper.
10. Removal of the old mending paper
 - The decision was made to remove all of the old mending paper. The mending paper was removed a little at a time by applying small amounts of water from the reverse side to weaken the adhesion between the painting and the mending papers.
 11. Mending paper (Fig. 6)
 - The fiber of the support paper of the painting was analyzed to determine its material.
 - Based on the findings of the analysis, *gampi* paper dyed in *yasha* and rinsed in water was prepared to be used as mending paper.
 - The mending paper was cut to match the shapes of the missing areas in the painting with as little amount of overlap as possible. These pieces were pasted on from the reverse side of the painting using a wheat starch paste (water/starch ratio: 1:1, pH 6-7).
 12. Mending of cracks (Fig. 2,4)
 - To mend the cracked areas of the painting, great care was taken to make sure the images were perfectly aligned. Narrow strips of Mino paper were applied from the reverse side to fortify the cracked areas. After the application of the first lining, another round of Mino paper strips were attached to the same areas.
 13. First lining
 - Unstained *Mino* paper was applied as the new first lining.
 - For adhesive, wheat starch paste (water/starch ratio: 5:3, pH 6-7) was used.
 14. Subsidiary lining
 - To adjust the thickness and increase strength, a second layer of lining (subsidiary lining) was applied. For this, too, unstained *Mino* paper was used.
 - For adhesive, wheat starch paste (water/starch ratio: 5:3, pH 6-7) was used.
 15. New border fabric, etc.
 - Upon consultation with the Art Gallery of Greater Victoria and National Research Institute for Cultural Properties, Tokyo, new mounting fabric, frame, metal ornaments and *karakami* paper were selected:
 16. Wooden core structure
 - For the new wooden core structure of white cedar constructed with mitred corners and tenon and mortise joints was newly prepared. Because the screen is large, *chikarako* (thicker wood) was inserted into some of the *kumiko* (grid structure) to heighten their durability. Because the paint is applied in heavy layers, the structure was made slightly thicker than usual.
 - To prevent the pigments from flaking off due to vibration caused during assembly the frames, the decision was made to employ the *tokko* (wooden tenon and mortise joint) rather than the conventional double-pointed metal nail in attaching the frames.
 - Eight layers of under-lining involving six processes were applied onto the core structure.
 - Because the structure is large and heavy, paper that is thicker than what is normally used was selected for the hinges.
 - Because the pigments on the painting are applied in heavy layers and the painting itself is thicker than usual, margin was left for the hinges.
 - Because on the old structure, a great amount of pigments around the inner portion of the hinges was flaking off

due to abrasion, the new core structure was designed to include greater marginal spaces on both the left and right sides as a way to protect the pigments.

17. Toning

- Areas in which new mending papers were applied were toned slightly.

18. Finishing

- The painting and the new mounting fabrics were attached to the wooden core structure.
- The frames were attached, after which metal ornaments were attached.
- The hinges were attached.
- A storage bag was made with a unbleached cotton material.

VI. Notes

1. Removal of resins, adhesive agent, adhesive tape, etc.

Under the direction of National Research Institute for Cultural Properties, Tokyo, a trail removal of the resin, adhesive agent and adhesive tape found on the surface of the painting was conducted using solvents containing the following six substances.

a. Solvents used:

- Purified water
- Ethanol
- Ethyl acetate
- Acetone
- Tetrahydrofuran (THF)
- Dimethylformamide (DMF)

b. Removal method

- Removal was done by pressing and rolling a cotton-tipped swab soaked in a solvent against the necessary area.
- For areas in which the adhesion was strong, an absorbent cotton soaked in a solvent was placed over them to loosen the adhesion.
- Each removal was done by selecting the most suitable solvent for that particular area. The type of solvent used for each area was recorded for future reference.
- Substances that did not react to the solvents and were therefore difficult to remove were scraped off in thin layers with a knife.

c. Results

- Almost all of the resins, adhesive agents and adhesive tape found throughout the front surface of the painting were successfully removed.
- The areas with substances that could not be removed with solvents nor a knife were left as is.

2. Removal of adhesive agents on the reverse side (Fig. 7-10)

- A thick layer of adhesive agent was found applied on the reverse side of the areas with large tears.
- Based on observation, the adhesive agent is presumed to have been injected from the front side toward the inside of the tear.
- The adhesive agent covered quite a large area.
- The test results showed that when the adhesive agent is loosened using an organic solvent, the moisture of the solvent created stains on the painting. As such, the decision was made to remove the adhesive agent with a

knife.

- The test also found that adding water also caused the grime around the adhesive agent to dissolve and stain. Therefore, the decision was made to carry out the cleaning processes (e.g., overall removal of soot) after removing all of the adhesive agents.

3. Paper fiber analysis (Shishikura Paper Lab, Fig. 11, 12)

- Water absorption is slow. Because the fiber is short, thin, and bound to each other very tightly, complete fiber dispersion would be difficult.
- The paper being used is a severely oxidized *gampi*. All of the fiber has deteriorated and shortened to under 0.2 mm. The *dosa* (alum/animal gelatin sizing), presumably applied in the past, has agglutinated due to the acid. For these reasons, it would be particularly difficult to defibrate.
- The small extraneous yellow particles found in a C-stain solution photograph is presumed to be discolored rice powder. Violet colored non-fibrous cells characteristic of *gampi* paper were also found.

4. Discovery of broken fragments (Fig. 13-15)

- When removing the painting from the wooden core structure, several fragments of the painting were found in between the painting and the core structure. The original locations of the fragments were determined based on traces on the painting and characteristics of the pigments, and the found fragments were returned to these locations.

5. Grime on the painting

- A great deal of grime had been attached to the painting and soot covered the entire surface. To remedy this, the painting was cleaned by spraying purified water onto the front surface to let the grime seep through the painting and be absorbed by a blotting paper placed underneath. As a result of the cleaning, the painting brightened and the colors became clearer. The difference in the tone of the colors compared to before the treatment was determined using a spectroscopic colorimeter and recorded.

Translated by Amy McCaleb (Urban Connections), edited by OKA Yasuhiro and Regina Belard

作品解説

東京文化財研究所
江村知子

縦2メートル近い金地の大画面に、松と雌雄の孔雀が描かれた六曲一隻屏風。松と孔雀はともに不老長寿や高潔、富貴の象徴として数多く絵画化された伝統的な画題である。画面の左半分に大きく尾羽を上げて偉容を誇示する雄の孔雀が描かれ、それと対峙して松の木の下にうづくまる雌の孔雀が表される。雌の孔雀の足下にはタンポポ、スマレ、スギナなど春の可憐な草花が表され、松の周りには赤いコウシンバラが彩りを添える。雌雄とも孔雀の羽は一枚ごとにグラデーションをつけて立体的に彩色され、金泥の細線で羽毛が装飾的に描写されている。雄の尾羽根は金泥線と墨線を交互に引き重ねて表されており、躍動する生命感を描出している。雌雄の孔雀が向かい合う姿で絵画化されることは、天文18年（1549）に制作されたとされる狩野元信筆「四季花鳥図屏風」（白鶴美術館蔵）や16世紀後半の制作と見られる狩野宗秀筆「四季花鳥図屏風」（大阪市立美術館蔵）などに先例が認められる。本図では雄が嘴を閉じて、雌が嘴を開いて表されており、両者の呼応関係が表されている。

金雲と金地の地面の隙間からは、深い青色の水面が広がっており、現在では見づらくなっているが、波紋の線描が確認できる。また画面右上隅には松の幹と枝がわずかに姿を見せ、この絵画空間がさらに上や左方向に広がっていることが示されている。松の根が地表に露出した状態で、古木であることが表され、上方にいくに従って幹を細く表して空間の広がりを描出している。本図の松の描写は、18世紀後半桃山時代に狩野永徳が確立させた巨木による空間構成からは時代が降り、画面構図が潇洒に整理された様式を示している。本図の松葉の描写については、寛永8年（1631）制作とされる狩野山雪筆「松図襖絵」（桂春院方丈障壁画）と様式的に近いが、本図のやや硬直した松の枝振りや、樹皮や点苔の描写には様式化が進んでいることが指摘できる。17世紀後半の制作と見られる狩野永納「春夏花鳥図屏風」（サントリー美術館蔵）に、一對の鳥の傍らにタンポポとスマレが本図と同様の取り合わせで描写されていることなども考慮すると、本作品の制作年代は17世紀後半と推定できる。また画面左下隅には朱文円内壺型印と見られる印影が確認できるが、修復以前にはこの部分は下地まで陥没するほどの大きな損傷があった。今回の修理によって絵画表面は安全な状態に回復できたが印文までは判読できず、本図の筆者は不明と言わざるを得ない。

なお所蔵館の記録によると本図は、二条城旧蔵の狩野山楽による六曲一双屏風として、山中商会を通じてフランク・ロイド・ライトが収蔵していたものと伝えられるが、現在は一隻屏風として収蔵されており、片隻については不明である。本図には第二扇、第五扇、第六扇のほぼ中央に縦方向に紙継ぎの痕跡が認められることから当初の形態から改変されていることが考えられ、17世紀後半の金地屏風としては異様に大きい。二条城のような巨大建築や西本願寺などの大寺院には、高さが2メートルを超すような襖絵も存在するが、本図には引き手蹟は確認できない。あるいは当初、床貼付として描かれたものが屏風に改められた可能性が考えられるが、床貼付であったとすると縦の紙継ぎの位置についての理由が不明となり、現段階では当初の画面形態は定かではない。以上のように制作背景は定かではないものの、本図はスケールの大きな金碧花鳥画として近世初期障屏風の余韻をとどめる一方、孔雀の羽の透明感のある繊細な表現や、草花の可憐な描写に、17世紀絵画としての洗練された様式を示す作例として位置づけられよう。

Peacocks under a Pine Tree

Description of Artwork

Tomoko Emura

National Research Institute for Cultural Properties, Tokyo

A pine tree and male and female peafowls are depicted on a gold background on a nearly two-meter tall six-paneled screen. Both pine trees and peafowls are classic motifs often used to symbolize perpetual youth, longevity, nobility, and wealth. On the left side of the screen is a peacock unfurling his magnificent fan, flaunting his gallantry. Facing him is a peahen crouching under the pine tree. By the side of the peahen grow delicate flowers such as dandelion, violet, and horsetail, while around the pine tree are red Chinese rose blossoms. Each feather on both peafowls is depicted realistically using gradational colors, and drawn decoratively with fine gold lines. The tail feathers of the peacock are painted alternately in gold and black lines, creating a sense of dynamic vitality. The image of male and female peafowls facing each other is found in earlier works such as *Birds and Flowers of the Four Seasons* (Hakutsuru Fine Art Museum) presumably painted by Kano Motonobu in 1549, and *Birds and Flowers of the Four Seasons* (Osaka Municipal Museum of Art) by Kano Soshu believed to have been created in the late 16th century. In this artwork, the beak of the male is closed while that of the female is open, showing that the two are calling and responding.

From the space in between the gold clouds and gold land shows through a deep blue surface of water. Lines showing ripples on the water can be seen, although they have faded extremely. At the upper right corner of the screen is a glimpse of the trunk and branch of a pine tree, signifying that the space of this painting stretches even further upward and to the right. The roots of the pine tree are exposed through the surface of the ground, showing that it is a tree of significant age. Showing its trunk tapering toward the tip creates a sense of space around it opening up. Times had passed since the composition containing a very large tree was popularized by Kano Eitoku during the Momoyama Period in the late 16th century, and the format seen in this painting is now organized in a more refined, elegant manner. While the style in which the pine needles are rendered in this painting is similar to that of *Pine Trees* (Keishun-in, Myoshinji Temple) by Kano Sansetsu believed to have been painted in 1631, this painting can be considered more stylized in its manner of painting, characterized by such points as the slight rigidity of the branches, the rendering style of the tree bark and the moss painted in dots. Taking into account the fact that Kano Einō's *Birds and Flowers of Spring and Summer* (Suntory Museum of Art) believed to have been painted in the late 17th century also has a pair of birds next to which dandelions and violets bloom, one can presume that this screen was also painted around the same time. Also, a remnant of what is believed to be a round shaped *shubun*-style seal (a seal in which the characters are engraved in the positive so that the letters appear in the color of the vermilion ink) is found at the bottom left corner. However, this area was terribly damaged by a hole that reached as far as the core structure. Although the surface was successfully recovered to a stabilized condition during this treatment process, the seal has remained undecipherable. As such, the painter of this artwork remains unknown.

According to the records at the Art Gallery of Greater Victoria, this artwork was formerly part of a pair of the Nijo Castle peacock screens by Kano Sanraku, which was later acquired by Frank Lloyd Wright through Yamanaka & Co. However, it is now stored as a single screen, and the whereabouts of the other screen is unknown. Remnants of papers joined vertically are found at the center of the second, fifth, and sixth panels, which indicate that the format of the piece has been changed from what it was in the original. For a gold-decorated folding screen of the late 17th

century, this artwork is an extraordinarily large. While sliding doors of over two meters in height can be found in some massive structures and temples such as the Nijo Castle and Nishi Hongwanji Temple, this artwork does not have any remnants of a door pull. It is possible that this artwork originally designed for a *toko-haritsuke* (painting on the wall of an alcove) was later made into a screen. However, if this were the case, no explanation can be made for the vertical paper joints found on some of the panels. Therefore, at present, the original format of this artwork remains unknown.

In this way, the background regarding the making of this artwork is still uncertain. However, the piece can be positioned as a large-scale bird and flower painting on a gold screen that hints of *shoheiga* (sliding door, screen and partition paintings) style of the early modern period, while at the same time, the subtle expression of the pellucid peafowl feathers and delicate expressions of the flowering plants is considered as an example of a sophisticated painting style of the 17th century art.

Translated by Amy McCaleb (Urban Connections)



(1)-1 修復前 Before treatment

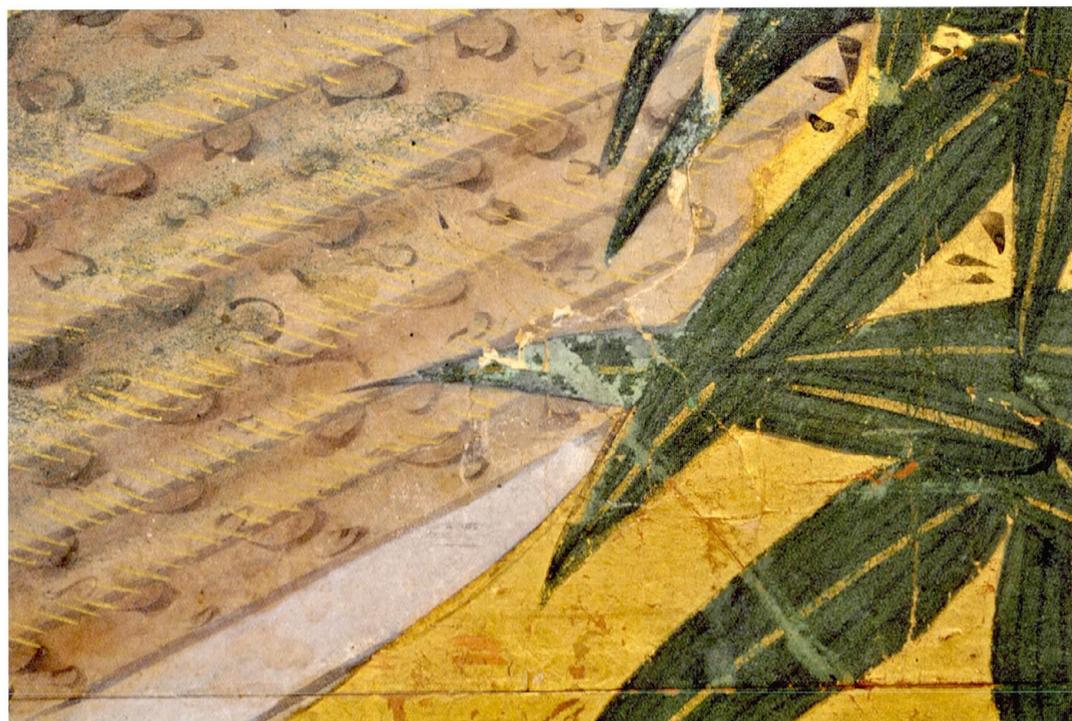


(1)-2 修復後 After treatment

- 1 松に孔雀図 (グレートビクトリア美術館)
Peafowls under a Pine Tree Art Gallery of Greater Victoria, Canada



(2)-1 修復前 (部分) 突き傷
Before treatment (Detail) : A puncture



(2)-2 修復後 (同上)
After treatment (Detail of the same area)



(3)-1 修復前 (部分)
Before treatment (Detail)



(3)-2 修復後 (同左)
After treatment (Detail of the same area)



(4)-1 修復前 (部分)
Before treatment (Detail)



(4)-2 修復後 (同左)
After treatment (Detail of the same area)



(5)-1 修復前 (部分)
Before treatment (Detail)



(5)-2 修復後 (同左)
After treatment (Detail of the same area)