

在外日本古美術品保存修復協力事業
The Cooperative Program for the Conservation of
Japanese Art Objects Overseas

源氏物語図屏風
*Episode from
The Tale of Genji*

シンシナティ美術館（アメリカ合衆国）
紙本金地着色 屏風装 6曲1隻

Cincinnati Art Museum, United States of America
Color on paper with gold leaf, six-panel folding screen

No.2012-2

平成 24 年度修復事業
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1. 修復報告

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*東京文化財研究所、**株式会社修護

1.1. 名称等

名称	源氏物語図屏風
制作者	不明
制作年代	江戸時代（17世紀）
所蔵者	シンシナティ美術館（アメリカ合衆国）
品質・形状	紙本金地着色 屏風装（6曲1隻）
本紙繊維	ガンピ

1.2. 工期及び施工者等

工期	平成24年10月3日～平成26年1月30日
施工場所	独立行政法人国立文化財機構 東京文化財研究所 修復アトリエ（紙）
保存修復担当者	東京文化財研究所 加藤雅人、楠京子、山田祐子 株式会社修護 君嶋隆幸、井上さやか

1.3. 修復前の状態（Table 1.1、Table 1.3、Fig. 1.1）

- ・カビ様付着物が確認された（Fig. 1.3 (a)）。
- ・液体による染みがあった（Fig. 1.4 (a)）。
- ・第1、6扇の端および後尾背部分に手ずれによる汚れがあった。
- ・後尾背および第1、6扇の唐紙が変色していた。
- ・経年に伴い、本紙、下張り紙、裏打ち紙の劣化が進んでいた。
- ・本紙に欠失や亀裂、突き傷などの損傷があった（Fig. 1.5 (a)、Fig. 1.6 (a)）。
- ・唐紙（裏張り紙）に亀裂などの損傷があった。
- ・補修紙、肌裏紙、本紙上に補彩および加筆が施されていた（Fig. 1.7 (a)）。
- ・過去の修復において図様の一部が裂の下や折り曲げ部分に隠れていた（Fig. 1.8 (a)）。
- ・絵具の剥離、剥落があった。
- ・蝶番が破損し、断裂している箇所もあった。
- ・飾金具および飾鉤に汚れ、錆が生じていた。

1.4. 修復方針

原状保存、現状維持を基本方針として修復を行うこととした。

- ・蝶番の破損及び裏打ち紙の脆弱化のため、すべての裏打ち紙の取り替えを伴う解体修復を行うこととした。
- ・修復後の表装形態は、修復前と同様の屏風装にすることとした。
- ・裏打ち紙、補修紙、下地骨、下張り紙、龔木、縁裂、唐紙、包袋、保存箱は新調することとした。
- ・飾金具および飾鉤は再使用することとした。
- ・必要に応じて随時材料分析を行うこととした。

- ・修復前の裏打ち紙、表装裂、下地などの旧表装材料は全て別置保存することとした。

1.5. 修復工程

修復材料は Table 1.5 を参照。

- (1) 修復前調査 (Fig. 1.9.1)
写真撮影を行い、修復前の損傷状況の調査と記録を行った (付録 1、付録 2)。
- (2) 埃や付着物の除去
刷毛を用い、埃や付着物を除去した。
- (3) 解体 (Fig. 1.9.2)
屏風装を解体し本紙を下地から取り外した。
- (4) 繊維組成分析
紙継ぎ箇所の本紙裏面より微量の本紙繊維を採取し、C 染色液による繊維同定を行った (付録 3)。
- (5) 水による洗浄 (Fig. 1.9.3)
イオン交換水を用いて水溶性の汚れ等を除去した。洗浄前後の本紙の色を測定し、処置による効果を確認した (付録 4)。
- (6) 剥落止め (Fig. 1.9.4)
膠水溶液 (1~2wt-%) およびフノリ水溶液を用いて絵具の剥落止めを行った。
- (7) 肌裏紙除去 (Fig. 1.9.5)
適度な湿りを与え、本紙の肌裏紙を除去した。
- (8) 補修紙除去
適度な湿りを与え、補修紙を除去した。ただし、本紙の印象に大きく関わる箇所は残すこととした (Fig. A.1.8)。
- (9) 補修 (Fig. 1.9.6)
選定した混合紙をヤシヤと木灰抽出液 (pH10.5) で染色し、本紙欠失箇所に補填した (Fig. A.1.9.1)。
* (1)、(4)の調査結果をもとに、補修紙にはガンピとコウゾの混合紙を用いることとした。
- (10) 裏打ち (1 回目) (Fig. 1.9.7)
楮紙と小麦デンプン糊を用いて裏打ちを行った。
- (11) 補強 (Fig. 1.9.8)
楮紙と小麦デンプン糊で亀裂箇所を裏側から補強した。
- (12) 裏打ち (2 回目) (Fig. 1.9.9)
楮紙と小麦デンプン糊を用いて 2 回目の裏打ちを行った。
- (13) 表装裂地調整
新規表装裂および襲木を選び、表装裂はヤシヤと木灰抽出液 (pH10.5) で古色掛けを行った後、楮紙と小麦デンプン糊で肌裏打ちを行った (付録 5)。
- (14) 補彩 (Fig. 1.9.10)
新旧補修箇所および本紙上の旧補彩箇所に補彩を施した (付録 6、Fig. A.1.9、Fig. A.1.10)。
- (15) 屏風下地作製 (Fig. 1.9.11)
下地骨に楮紙および間合紙を用いて下張りを行い、紙蝶番を付けて屏風下地を作製した (Table 1.5)。
接着剤は小麦デンプン糊を使用した。
- (16) 位置等の修正 (Fig. 1.9.12)
各扇の図様のつながりを確認し、本紙張り込み位置を決定した (付録 7)。

(17) 張り込みおよび裂張り (Fig. 1.9.13、Fig. 1.9.14)

屏風下地に、本紙、小縁、大縁、唐紙、前後尾背紙を張り込んだ。

(18) 襲木取り付け

襲木を取り付けた。

(19) 金具取り付け (Fig. 1.9.15)

洗浄、補修を行った飾金具および飾鋳を取り付けた。

(20) 記録

修復後の記録と写真撮影を行い、修復報告書を作成した (Table 1.2、Table 1.4、Fig. 1.2、Fig. 1.3 (b)、Fig. 1.4 (b)、Fig. 1.5 (b)、Fig. 1.6 (b)、Fig. 1.7 (b)、Fig. 1.8 (b))。

(21) 保存

布袋および保存箱を新調して作品を納入した。

1.6. 修復銘

下張り紙に以下の文言を墨書した。

『シンシナティ美術館所蔵 紙本金地著色 源氏物語図屏風 六曲一隻

独立行政法人国立文化財機構 東京文化財研究所 在外日本古美術品保存修復協力事業(平成二十四・二十五年度) 東京文化財研究所修復アトリエ (紙) に於いて施工 株式会社 修護』

1.7. 特記事項

修復前に残存していた裏打ち紙、表装裂、下地などの旧表装材料、保存箱は別置保存とし、すべて所蔵館に返却した。

1. Restoration Report

Yuko Yamada*, Sayaka Inoue**, Kyoko Kusunoki*, Takayuki Kimishima** and Masato Kato*

* National Research Institute for Cultural Properties, Tokyo, ** SHUGO Co., Ltd.

1.1. Artwork

Title	<i>Episode from The Tale of Genji</i>
Painter	Unknown
Period	17 th century, Edo era
Owner	Cincinnati Art Museum, United States of America
Media and format	Color on paper with gold leaf, six-panel folding screen
Paper for artwork	<i>Gampi (Diplomorpha sikokiana)</i>

1.2. Duration, Place and People in Charge

Duration	3 October 2012 - 30 January 2014
Place	Restoration Studio (Paper) of the National Research Institute for Cultural Properties, Tokyo
People in charge	Masato Kato, Kyoko Kusunoki and Yuko Yamada (National Research Institute for Cultural Properties, Tokyo) Takayuki Kimishima and Sayaka Inoue (SHUGO Co., Ltd.)

1.3. Condition before Restoration (Table 1.1, Table 1.3, Fig. 1.1)

- Mold-like accretions were found (Fig. 1.3 (a)).
- Liquid stains were found (Fig. 1.4 (a)).
- Edges of the first and the sixth panels as well as the hinge covers on the back had become dirty due to handling.
- Color of *karakami*, decorative backing paper of the verso of the panels and back hinge covers of the first and the sixth panels, had changed.
- Deterioration of the artwork, underlining paper and lining paper had progressed with time.
- Losses, cracks and stabbed damages were found on the artwork (Fig. 1.5 (a), Fig. 1.6 (a)).
- Cracks were found on the *karakami*.
- Inpainting had been done on the infill paper, first lining paper and artwork (Fig. 1.7 (a)).
- Parts of the design had been hidden under the mounting fabric or folded to the side of the panel in a past restoration (Fig. 1.8 (a)).
- Paints had become lifted and lost.
- Hinges had become damaged and torn in some places.
- Metal fittings and ornamental metal stubs had become dirty and rusted.

1.4. Restoration Policy

Restoration of the artwork to its status quo ante and the maintenance of the present condition were

to be considered the fundamental concepts of restoration.

- Because of the damage to the hinges and the embrittlement of the lining papers, it was decided to disassemble the screen and replace all the lining paper.
- The mounting format after restoration would be the same as that before restoration, the folding screen format.
- It was decided to prepare new lining paper, infill paper, wooden lattice core, underlining paper, decorative frame, mounting fabric, *karakami*, wrapping cloth and storage box.
- Metal fittings and ornamental metal stubs would be reused.
- Material analysis would be done whenever necessary.
- All previous mounting materials, such as lining paper and mounting fabric, would be preserved and stored separately from artwork.

1.5. Restoration Process

Regarding restoration materials, see Table 1.5.

(1) Investigation before restoration (Fig. 1.9.1)

Photographs were taken and the condition of damage before restoration was documented (Appendix 1, Appendix 2).

(2) Removing dust

Dust was removed by brushes.

(3) Disassembling (Fig. 1.9.2)

The screen was disassembled and the artwork was removed with its linings from the panels.

(4) Fiber furnish analysis

A very small amount of the fiber of paper was taken from the backside of the artwork. The type of the fiber was identified by C-stain (Appendix 3).

(5) Washing with water (Fig. 1.9.3)

Deionized water was used to remove water-soluble dirt. Color of the artwork before and after washing was measured to check the effect of the treatment (Appendix 4).

(6) Consolidation (Fig. 1.9.4)

Aqueous animal glue solutions (1 wt-% and 2 wt-%) and an aqueous seaweed paste solution were used to consolidate the paints.

(7) Removing the first lining paper (Fig. 1.9.5)

The first lining paper of the artwork was removed by applying moderate amount of moisture.

(8) Removing the infill paper

Infill paper was removed by applying moderate amount of moisture. However, some of the infill paper that might significantly affect the impression of the artwork were not removed (Fig. A.1.8).

(9) Infilling (Fig. 1.9.6)

The paper was dyed with *yasha* by adjusting pH to 10.5 with an extraction of Japanese oak ash (Fig. A.1.9).

* Based on the results of (1) and (4), it was decided to use mixed fiber paper (*gampi* and *kozo*) for infilling.

(10) First lining (Fig. 1.9.7)

Kozo paper was pasted to the artwork with wheat starch paste.

(11) Reinforcement (Fig. 1.9.8)

Using wheat starch paste, reinforcement paper strips made of *kozo* paper were applied to cracks on the first lining.

(12) Second lining (Fig. 1.9.9)

Kozo paper was pasted to the artwork with wheat starch paste.

(13) Preparing the mounting fabrics

New mounting fabric and decorative frame were chosen. For antiquing the mounting fabric was dyed with *yasha* by adjusting pH to 10.5 with an extraction of Japanese oak ash. *Kozo* paper was pasted to the fabric with wheat starch paste (Appendix 5).

(14) Inpainting (Fig. 1.9.10)

Infills and parts that had previously been inpainted on the artwork were inpainted (Appendix 6, Fig. A.1.9, Fig. A.1.10).

(15) Making of hinged panels (Fig. 1.9.11)

Kozo paper and *maniai* paper were used for underlining paper of the wooden lattice core. Then paper hinges were attached to construct the panels (Table 1.5). Wheat starch paste was used as adhesive.

(16) Positioning (Fig. 1.9.12)

Connection of the designs on the artwork of each panel was checked to determine the positions at which the artwork with lining paper would be applied to panels (Appendix 7).

(17) Assembling artwork, fabrics, *karakami* and others (Fig. 1.9.13, Fig. 1.9.14)

The artwork with lining paper, narrow and wide border fabrics, *karakami* and front covers and back hinge covers were applied to the hinged panels.

(18) Attaching decorative frames

Decorative frames were attached.

(19) Attaching metal fittings (Fig. 1.9.15)

Metal fittings and ornamental metal stubs that had been cleaned and repaired were attached.

(20) Documentation

Post-restoration records were made and photographs were taken and compiled into a restoration report with data of analysis and examination (Table 1.2, Table 1.4, Fig. 1.2, Fig. 1.3 (b), Fig. 1.4 (b), Fig. 1.5 (b), Fig. 1.6 (b), Fig. 1.7 (b), Fig. 1.8 (b)).

(21) Storing the artwork

A new wrapping cloth and a box were made to store the artwork.

1.6. Inscription regarding Restoration

The following inscription was made in ink on the paper of the hinged panels.

『シンシナティ美術館所蔵 紙本金地著色 源氏物語図屏風 六曲一隻

独立行政法人国立文化財機構 東京文化財研究所 在外日本古美術品保存修復協力事業(平成二十四・二十五年度) 東京文化財研究所修復アトリエ (紙) に於いて施工 株式会社 修護』

(English translation of the inscription)

Episode from The Tale of Genji

Six-panel folding screen, color on paper with gold leaf

Cincinnati Art Museum

National Research Institute for Cultural Properties, Tokyo, the National Institutes for Cultural Heritage

The project of the Cooperative Program for the Conservation of Japanese Art Objects Overseas, 2012-2013

Restoration Studio (Paper) of the National Research Institute for Cultural Properties, Tokyo
SHUGO Co., Ltd.

1.7. Note

The previous mounting materials, which had remained before restoration, such as lining paper, mounting fabrics, wooden lattice core and the storage box were preserved separately and returned to the museum.

Table 1.1 寸法 修復前
Dimensions, before restoration

	縦 Height (cm)	横 Width (cm)
本紙 Artwork	105.4	170.2
全体 Artwork with mounting	118.9	183.7
本紙第 1 扇 Artwork on the first panel	105.3	25.1
本紙第 2 扇 Artwork on the second panel	105.4	30.1
本紙第 3 扇 Artwork on the third panel	105.4	30.0
本紙第 4 扇 Artwork on the fourth panel	105.3	30.0
本紙第 5 扇 Artwork on the fifth panel	105.3	30.0
本紙第 6 扇 Artwork on the sixth panel	105.3	25.0

各扇の番号は、向かって右から第 1～6 扇とする

The panels are numbered 1 to 6 from the right to the left from the viewer's perspective

Table 1.2 寸法 修復後
Dimensions, after restoration

	縦 Height (cm)	横 Width (cm)
本紙 Artwork	108.8	175.6
全体 Artwork with mounting	123.0	191.0
本紙第 1 扇 Artwork on the first panel	108.8	25.6
本紙第 2 扇 Artwork on the second panel	108.8	31.1
本紙第 3 扇 Artwork on the third panel	108.8	31.1
本紙第 4 扇 Artwork on the fourth panel	108.8	31.1
本紙第 5 扇 Artwork on the fifth panel	108.8	31.1
本紙第 6 扇 Artwork on the sixth panel	108.8	25.6

Table 1.3 形式・仕様等 修復前
Format and mounting materials, before restoration

形式 Format	屏風装 A folding screen
大縁 Wide border	藍地桃花宝尽文金襴 <i>Kinran</i> (gold brocade) with a design of peach flowers and treasures on an indigo background
小縁 Narrow border	—
龔木 Decorative frame	朱漆目弾塗縁 Frame coated with vermilion <i>urushi</i>
下地骨 Wooden lattice core	木製組子下地 Wooden lattice core
飾金具 Metal fittings	金鍍金魚子地唐草文金物 Gold gilded metal ornaments with arabesque motif on small dots ground
飾鋌 Ornamental metal stubs	金鍍金鋌 Gold gilded stubs
裏張り紙 (唐紙) <i>Karakami</i>	茶地雀型文唐紙 <i>Karakami</i> with a sparrow roundel pattern printed on a brown background
包裂 Wrapping cloth	木綿平織裂 Plain weave cotton fabric
保存箱 Storage box	無酸紙箱 Acid free paper box

Table 1.4 形式・仕様等 修復後
Format and mounting materials, after restoration

形式 Format	屏風装 A folding screen
大縁 Wide border	藍地本願寺緞子 (廣信織物) <i>Donsu</i> (damask) with <i>honganji</i> pattern on an indigo background (made by Hironobu Orimono)
小縁 Narrow border	白茶地東山金襴 (廣信織物) <i>Kinran</i> (gold brocade) with <i>higashiyama</i> pattern with a whitish brown background (made by Hironobu Orimono)
龔木 Decorative frame	朱溜漆塗縁 (山岸美術木工) Frame coated with vermilion <i>urushi</i> and translucent <i>urushi</i> (made by Yamagishi Bijutsu Mokko)
下地骨 Wooden lattice core	杉白太総臍隅留組子下地 (山岸美術木工) Sapwood of Japanese cedar with mitered corners and mortise and tenon joints (made by Yamagishi Bijutsu Mokko)
飾金具 Metal fittings	(再使用) (reused)
飾鋌 Ornamental metal stubs	(再使用) (reused)
裏張り紙 (唐紙) <i>Karakami</i>	茶地雀型文唐紙 (唐長) <i>Karakami</i> with sparrow roundel pattern printed on with mica a brown background (made by Karacho)
包裂 Wrapping cloth	木綿平織裂 Plain weave cotton fabric
保存箱 Storage box	無酸紙箱 (資料保存器材) Acid free paper box (manufactured by Archival Conservation & Enclosures)

Table 1.5 修復材料
Restoration materials

水 Water	イオン交換水 Deionized water
糊 Paste	小麦デンプン (草野食品) Wheat starch (manufactured by Kusano Shokuhin)
膠 Animal glue	牛膠 (粒膠、サンオリエント化学) Cow glue (pellet-type animal glue, manufactured by San Orient Chemical)
フノリ Seaweed paste	マフノリ、フクロフノリ、ハナフノリ (久平、大脇萬蔵商店) <i>Mafunori (Gloiopeltis tenax)</i> , <i>Fukurofunori (Gloiopeltis furcata)</i> , <i>Hanafunori (Gloiopeltis complanata)</i> (Kyuhei, made by Owaki Manzo Shoten)
補修紙 Infill paper	混合紙 4 匁 (ガンピ 70%、コウゾ 30%、成子紙工房) Mixed fiber paper (4 monme, 70 % <i>Gampi (Diplomorpha sikokiana)</i> and 30 % <i>Kozo (Broussonetia kazinoki × Broussonetia papyrifera)</i> , made by Naruko Kami Kobo)
折伏せ Crease reinforcement	楮紙 (美濃紙、長谷川聡) <i>Kozo paper (mino paper, made by Satoshi Hasegawa)</i>
裏打ち紙 (1 回目) First lining paper	楮紙 (美濃紙、鈴木はぎ) <i>Kozo paper (mino paper, made by Hagi Suzuki)</i>
裏打ち紙 (2 回目) Second lining paper	楮紙白土入り (本石州白土入り、溝川商店) <i>Kozo paper with white clay as filler (Honsekishu hakudo-iri, purchased through Mizokawa Shoten)</i>
骨縛り <i>Honeshibari</i>	楮紙 (細川紙 4 匁、吉田商店) <i>Kozo paper (hosokawa paper 4 monme, purchased through Yoshida Shoten)</i>
胴張り <i>Dobari</i>	楮紙 マニラ麻、タルク、カオリン入り (間似合紙、吉田商店) <i>Kozo and Manila hemp paper with talc and kaolin as filler (maniai-gami, purchased through Yoshida Shoten)</i>
下張り紙 Underlining paper	裏掛け <i>Minokake</i> 楮紙 (紫辰殿、吉田商店) <i>Kozo paper (Shishinden, purchased through Yoshida Shoten)</i>
	裏縛り <i>Minoshibari</i> 楮紙 (美濃紙、鈴木はぎ) <i>Kozo paper (mino paper, made by Hagi Suzuki)</i>
	下浮け <i>Shitauke</i> 楮紙 (細川紙 3 匁、吉田商店) <i>Kozo paper (hosokawa paper 3 monme, purchased through Yoshida Shoten)</i>
	上浮け <i>Uwauke</i> 楮紙 (細川紙 3 匁、吉田商店) <i>Kozo paper (hosokawa paper 3 monme, purchased through Yoshida Shoten)</i>
蝶番 Hinges	楮紙 (田村亮二) <i>Kozo paper (made by Ryoji Tamura)</i>
尾背紙 Hinge cover	前尾背; 金箔押紙 (溝川商店) Front side; <i>gampi</i> and <i>mitsumata (Edgeworthia chrysantha)</i> paper with gold leaf (purchased through Mizokawa Shoten) 後尾背; 茶地雀型文唐紙 (唐長) Back side; <i>karakami</i> with sparrow roundel pattern printed on a brown background (made by Karacho)
染料 Dye	ヤシャ (田中直染料店) <i>Yasha (Alnus firma)</i> (purchased through Tanaka Nao Senryoten)
補彩絵具 Inpainting colorants	ガンボージ (放光堂)、日本画用棒絵具 (藍棒・洋紅棒・代赭棒、放光堂) Gamboge (purchased through Hokodo), stick type paints for Japanese painting (synthetic indigo, red, yellowish brown, purchased through Hokodo) タルトラジン (C. I. No. 19140、紅不二化学工業)、ニューコクシン (C. I. No. 16255、紅不二化学工業)、カーマイン (C. I. No. 73015、紅不二化学工業) Tartrazine (C. I. No. 19140, manufactured by Benifuji Kagakukogyo), New Coccine (C. I. No. 16255, manufactured by Benifuji Kagakukogyo), Indigo Carmine (C. I. No. 73015, manufactured by Benifuji Kagakukogyo)



Fig. 1.1 全体 修復前
Artwork, before restoration



Fig. 1.2 全体 修復後
Artwork, after restoration



(a)



(b)

Fig. 1.3 カビ様付着物 (a)修復前 (b)修復後

Mold-like accretions (a) before restoration (b) after restoration



(a)



(b)

Fig. 1.4 液体による染み (a)修復前 (b)修復後

Liquid stains (a) before restoration (b) after restoration



(a)



(b)

Fig. 1.5 亀裂に伴う欠失 (a)修復前 (b)修復後

Losses by cracking (a) before restoration (b) after restoration



(a)



(b)

Fig. 1.6 突き傷 (a)修復前 (b)修復後
Stabbed damage (a) before restoration (b) after restoration



(a)



(b)

Fig. 1.7 補彩、加筆 (a)修復前 (b)修復後
Inpainting (a) before restoration (b) after restoration



(a)



(b)

Fig. 1.8 図様の隠れ (a)修復前 (b)修復後
Hidden design (a) before restoration (b) after restoration



Fig. 1.9.1 調査
Investigation



Fig. 1.9.2 解体
Disassembling



Fig. 1.9.3 水による洗浄
Washing with water



Fig. 1.9.4 剥落止め
Consolidation



Fig. 1.9.5 肌裏紙除去
Removing the first lining paper



Fig. 1.9.6 補修
Infilling



Fig. 1.9.7 裏打ち (1回目)
First lining



Fig. 1.9.8 補強
Reinforcement



Fig. 1.9.9 裏打ち (2回目)
Second lining



Fig. 1.9.10 補彩
Inpainting



Fig. 1.9.11 下張り (蝶番付)
Underlining (attaching hinges)



Fig. 1.9.12 位置等の修正
Positioning



Fig. 1.9.13 本紙張り込み

Applying the artwork with lining to the hinged panel



Fig. 1.9.14 裂張り

Applying the mounting fabric



Fig. 1.9.15 金具取り付け

Attaching the metal fitting

本報告の一部を学会で発表した。

楠京子、山田祐子、加藤雅人、君嶋隆幸、井上さやか「シンシナティ美術館所蔵『源氏物語図屏風』修復事例報告」文化財保存修復学会第37回大会 要旨集 pp.274-275 (2015)

Parts of this report have been presented at the following annual meeting.

Kyoko Kusunoki, Yuko Yamada, Masato Kato, Takayuki Kimishima and Sayaka Inoue.

「シンシナティ美術館所蔵『源氏物語図屏風』修復事例報告」

The 37th Annual Meeting of The Japan Society for Conservation of Cultural Property,

Abstracts in Japanese, pp. 274-275 (2015)

2. 作品解説

東京文化財研究所
江村 知子

『源氏物語』第1巻「桐壺」の一場面、清涼殿での光源氏の元服を描いた作品。六曲屏風の第3、4、5扇上半分に、椅子に坐す桐壺帝と上畳に坐す光源氏、一對の狛犬、儀式に列座する公家衆が表されている。六曲一隻屏風として伝えられているが、第5、6扇に桐壺以外の巻にまつわる図様が描かれていることから、本来は対となる左隻があり、複数の場面を組み合わせた六曲一双屏風であった可能性も考えられる。第5、6扇の上部に桜花の咲く水辺で舟に乗る2人の女性は第24巻「胡蝶」、第6扇中央の朽ちかけた建物は第15巻「蓬生」、第6扇下部の秋草の咲き乱れる柴垣と黒木の鳥居は第10巻「賢木」を連想させるモチーフとも見られるが、いずれも暗示的な描写で、物語の場면을説明的に表すような表現にはなっていない。源氏物語の複数の場면을屏風に描いた作品は17世紀以降、多数制作されているが、各場面を同じくらいの大きさと表現するのが通例で、本作品のように中心となる場面をひととき大きく描き、それ以外の3つの場面を点景のように描き込むのは、類例の少ない表現と言える。

本作品の中心人物である帝と光源氏、公家衆と狛犬などのモチーフは、土佐光信筆「源氏物語画帖」（ハーヴァード大学、アーサー・M・サックラー美術館）や土佐光吉筆「源氏物語手鑑」（和泉市久保惣記念美術館）などの作例とも共通するが、これらの作例の表現では、帝は御簾の奥に座し、その顔貌が隠されている。顔を露わに描かない図様がより時代の先行するものと見られることから、本作品は画帖など小画面の先行作例をふまえて屏風として改変されたものと考えられる。また本作品の構図の特徴として、松や梅の樹木が手前に大きく描かれている点があげられる。松や梅は物語の内容とは無関係であるため、物語絵に景物画的な要素を加えた表現と考えられる。本作品は、絵巻物や画帖などに伝統的に用いられてきた吹抜屋台（建築物の天井や屋根を取り除いて、室内の情景を俯瞰的に描き表す表現方法）から、さらに柱も長押も省略されて表現されている。また第1、2扇には檜皮葺の唐破風のある建物が大きく描かれているが、この建物が何を表しているのか不明である。帝と源氏のいる室内空間とは別の建物であるのか、同じ建物の正面と内部を同じ画面に描いたのか判別できないが、豪壮な屋根、鳳凰の装飾や鬼瓦などの表現から、王朝文化を象徴する宮殿の一部と思われる。柱やその礎石が複雑な構造で描かれているが、下描きからの改変が認められないことから、制作当初からの構図であったと推測できる。

さて本作品の修理過程において、屏風装から解体した本紙について1扇ずつ透過赤外線撮影を行った。この撮影は本作品の過去の修理箇所の状態を明確に識別し、適切に修理を進めるために行ったものであるが、透過赤外線画像によって本作品の制作過程の一端を知ることができた。現在の絵画表面の下層には別の下描き線が認識でき、図様の変更があったことが確認された。建物や樹木などの大きなモチーフ、また中心人物である帝と光源氏については、大きな変更はないが、公家衆の位置などは修正されている。第4扇中央で長柄鉚子を持った公家のすぐ左隣には、完成画とは異なる人物の下描きが存在している（Fig. 2.1）。下描きから本画になる段階で、一歩前に位置が修正され、それに伴って三方の位置も右寄りに修正され、向きが変更されたと見られる。その左下の畳に坐す公家の膝前には、提下（ひさげ）が描かれている。長柄鉚子、三方、提下はあたかも雛人形の三人官女の持物のようでもある。「桐壺」の作例において、これらの調度品が描かれている例は見出されていないが、本作品においては祝祭的な要素を盛り込むための表現と考えておきたい。もっとも大きな修正点としては、狛犬の位置があげられる。下描きの段階では、一段高い帝の両脇に一對の狛犬の輪郭線が描かれ、しかも口を開けた阿形が向かって左側、吽形が向かって右側と、完成画の位置とは逆になっていることが、透過赤外線画像から確

認できる (Fig. 2.2)。先述のように、「桐壺」の小画面作品にも狛犬は描き込まれるモチーフであり、小画面作品から屏風の大画面に改変する際の試行錯誤の痕跡と考えることができる。

また、第 5、6 扇の上部の水辺は、現在では青みがかった黒色に見えるが、制作当初はもう少し明るい青色の水面であったと推測される。肉眼でも波の線描が一部確認できるが、透過赤外線画像を見ると、細かい波の線描が水面全体に描かれていることが確認できる (Fig. 2.3)。桜花・水辺・舟に乗る女性は下描きの段階からの構成要素と考えられる。

なお本作品は美術館の記録により、明治 30 年 (1897) にシンシナティの資産家ジョセフ・トーマスがアーネスト・フェノロサ (1853-1908) の勧めによって日本で購入したもので、後に彼の孫によってシンシナティ美術館に寄贈されたという。購入にあたり、フェノロサは本作品の筆者を千代光久 (土佐光信の娘で、狩野元信の妻になったと伝えられる人物) と比定したとされるが、千代の画業や基準作例が不明のため、現段階では本作品の作者を特定することは難しい。本作品は、源氏絵が小画面の表現を応用しながら大画面の作品へ改変・発展していくことを示す、17 世紀の源氏物語図屏風の一作例と言える。

2. Description of the Artwork

Tomoko Emura

National Research Institute for Cultural Properties, Tokyo

The scene depicted on this folding screen is that celebrating the coming of age of Hikaru Genji from Chapter 1 “Kiritsubo” (The Paulownia Pavilion) of *The Tale of Genji*. Emperor Kiritsubo seated on a chair, Hikaru Genji on a *tatami* mat, a pair of guardian dog statues and a group of the nobles attending the ceremony are depicted on the upper half of the third, the fourth and the fifth panels of this six-panel folding screen. Since motifs related to the chapters of the story other than that of first one are found on the fifth and sixth panels, there is a possibility that this artwork was the right screen of a pair of folding screens in which multiple scenes were depicted although a six-panel folding screen, the form in which it has been passed down as a six-panel folding screen. The two ladies on a boat by a water side with blossoming cherry trees depicted on the upper part of the fifth and sixth panels remind one of Chapter 24 “Kocho” (Butterflies) while the crumbled building in the center of the sixth panel reminds one of Chapter 15 “Yomogiu” (A Waste of Weed) and the brushwood fence with blossoming autumn flowers and the *tori*, gate, of black wood of Chapter 10 “Sakaki” (The Green Branch). But these motifs are all implied descriptions and do not express the story exactly. Many folding screens with multiple scenes from *The Tale of Genji* have been made since the 17th century, but it was usual to express each scene in about the same size. It can be said that it is rare to depict the main scene larger than the other three like this folding screen.

Although motifs in this artwork, such as those of the emperor and Hikaru Genji, nobles and the guardian dog statues, are also found in works like Tosa Mitsunobu’s *The Tale of Genji Album* (Genji monogatari gajo) in the collection of Harvard Art Museum/Arthur M. Sackler Museum and Tosa Mitsuyoshi’s *Illustrated Tale of Genji* (Genji monogatari tekagami) in the collection of Kuboso Memorial Museum of Arts, Izumi, Osaka Prefecture, in these artworks the emperor is seated behind a bamboo blind and the complexion of his face is hidden. Since the design in which the face is not directly depicted is said to have preceded, it is assumed that this artwork was modified as a folding screen based on previous examples as those found in albums and small paintings. Another characteristic of the composition of this artwork is that the pine trees and Japanese apricot trees are depicted toward the front and in large size. Since these plants are not associated with the content of the story, it is thought that this is the expression to add a factor of a landscape with seasonal subjects to this illustrated tale. In this artwork, the traditional technique of *fukinuki-yatai* (a technique in which the ceiling and roof of a building is not depicted so as to show the interior comprehensively) used in illustrated scrolls and albums is further expanded, and the pillars and the beams between the pillars are also not drawn. Although a large building with *karahafu*, a cusped gable, is depicted on the first and second panels, it is not clear what this building is. It cannot be determined whether this building is not the one in which the emperor and Hikaru Genji are or whether the front of a building and its interior are depicted on the same scene.

Nonetheless the expression of the magnificent roof, phoenix decoration and roof ornament (*onigawara*) suggest that it is a part of a palace that symbolized the culture of the dynastic age. The pillars and their foundation stones are quite complex in structure, but since there is no indication of any changes having been made to the draft drawing, it is assumed that the structure was original.

In the process of restoration, transmission image photographs with infrared of the artwork paper of each dismantled panel were taken so as to clearly identify the condition of parts restored in the past in order to conduct appropriate restoration. However, at the same time it was possible to learn about the process by which the artwork was produced. Lines of a draft drawing were confirmed on the lower layer of the painting, indicating that there had been a change in the design. There was not much significant change with regard to large motifs like those of buildings and trees or that of the main characters like the emperor and Hikaru Genji, but the position of the nobles and the other points had been modified. For example, to the immediate left of the noble holding a ceremonial long-handled *sake* server (*nagae-choshi*) at the center of the fourth panel is a draft drawing of a person different from the one found on the finished painting (Fig. 2.1). It seems that this person was moved a step forward when producing the final painting from the draft and that the position of the small wooden stand was moved to the right and its direction changed. Furthermore, in front of the knee of the noble sitting on the *tatami* to the lower left is a *sake* decanter with a handle (*hisage*). The *sake* server, wooden stand and decanter are, as it were, the personal properties of the three court ladies of a *hina* doll set. No other example of a painting based on this scene can be found in which these pieces of furniture are depicted. It may be possible to consider that they are used to express a festive atmosphere. Finally, the largest change is found in the position of the guardian dog statues. In the draft drawing, the outline of a pair of guardian dogs are found on both sides of the emperor who stands at a place higher than anyone else. Moreover, the dog with its mouth open is to the left while the one with the closed mouth is to the right. As observed from the infrared image, the dogs are in the opposite position to each other in the finished work (Fig. 2.2). Guardian dog statues are the motif found in smaller paintings depicting a scene from “Kiritsubo”, as has been mentioned earlier, and the change in the position may be considered evidence of trial and error that was encountered when changing from a smaller painting to a large folding screen.

Another point to note is seen in the color of the water’s edge; now it appears to be bluish black but it is assumed to have been a slightly lighter blue at the time the painting was made. Although lines of the waves can be observed in parts with the naked eye, infrared image shows that fine lines of the waves are found over the entire surface of the water (Fig. 2.3). The flowers of the cherry trees, water’s edge, and the ladies on the boat are thought to have been since the drawing was done.

According to documents of the Museum, this artwork was bought in 1897 by Joseph Thomas, a man of means from Cincinnati, at the recommendation of Ernest Fenollosa and later donated to the Cincinnati Art Museum by Thomas’s grandchild. It is said that at the time of the purchase Fenollosa attributed the artwork to Chiyo Mitsuhsa, daughter of Tosa Mitsunobu who is thought to become the wife of Kano Motonobu. However, it is difficult to identify the artist at this point

since nothing is known about her paintings and there are no standard works to refer to. This artwork may be said to be an example of a 17th century folding screens based on *The Tale of Genji* that shows the changes and development of paintings on *The Tale of Genji* on small paintings to a work of a much larger size.

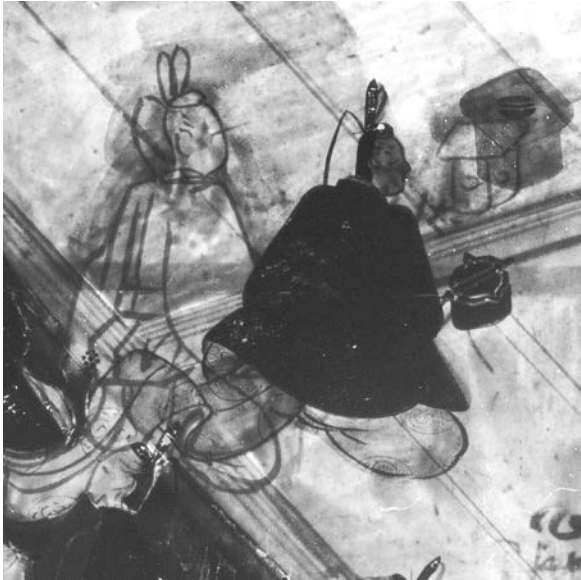


Fig. 2.1 第4扇部分 近赤外線写真 (透過光)
Part of fourth panel, near infrared photographs,
(transmitted light)

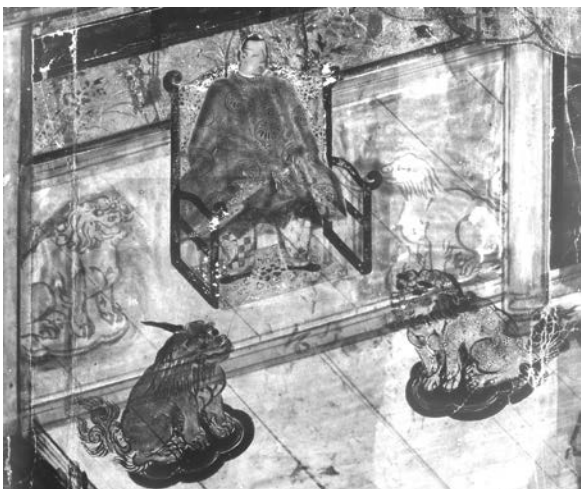


Fig. 2.2 第4扇部分 近赤外線写真 (透過光)
Part of fourth panel, near infrared photographs,
(transmitted light)



Fig. 2.3 第6扇部分 近赤外線写真 (透過光)
Part of sixth panel, near infrared photographs,
(transmitted lighting)

付録 Appendices

東京文化財研究所 山田 祐子、楠 京子、藤澤 明、加藤 雅人
Yuko Yamada, Kyoko Kusunoki, Akira Fujisawa and Masato Kato
National Research Institute for Cultural Properties, Tokyo

付録 1. 記録

Appendix 1. Documentation

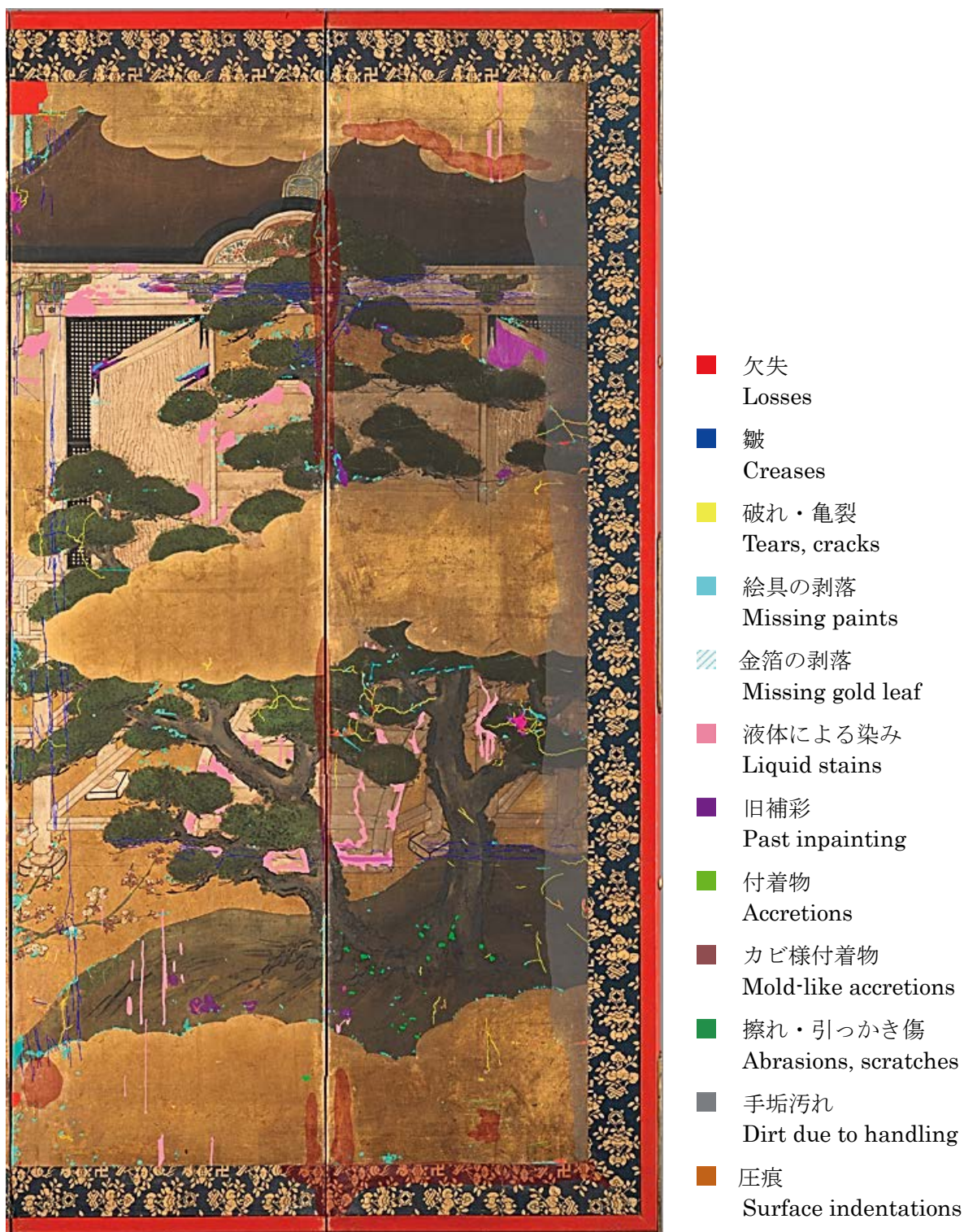


Fig. A.1.1 修復前損傷図面 (第2扇、第1扇)
Mapping of damages before restoration
(second panel and first panel)



- 欠失
Losses
- 皺
Creases
- 破れ・亀裂
Tears, cracks
- 絵具の剥落
Missing paints
- 金箔の剥落
Missing gold leaf
- 液体による染み
Liquid stains
- 旧補彩
Past inpainting
- 付着物
Accretions
- カビ様付着物
Mold-like accretions
- 擦れ・引っかき傷
Abrasions, scratches
- 手垢汚れ
Dirt due to handling
- 圧痕
Surface indentations

Fig. A.1.2 修復前損傷図面 (第4扇、第3扇)
Mapping of damages before restoration
(fourth panel and third panel)

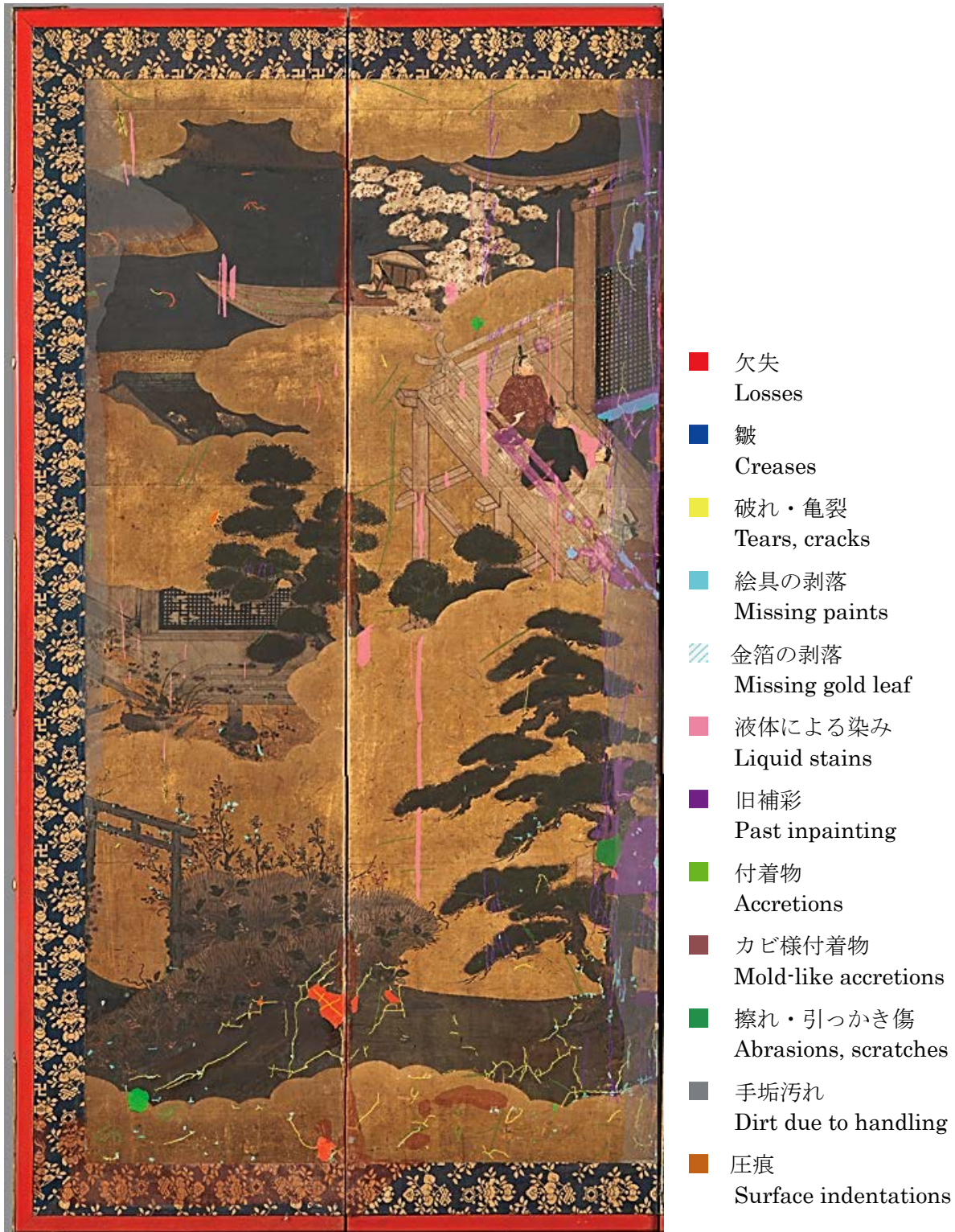


Fig. A.1.3 修復前損傷図面 (第6扇、第5扇)

Mapping of damages before restoration
(sixth panel and fifth panel)



Fig. A.1.4 顕微鏡撮影箇所

The points that micrographs were taken

使用機器；デジタルマイクロスコープ（シャトルピクス P-400R、ニコンインステック）

ピクセル数；1600×1200

画像フォーマット；JPEG

Apparatus; Digital microscope (Shuttle Pix P-400R, Nikon Instech)

Image size; 1600 × 1200

Image format; JPEG

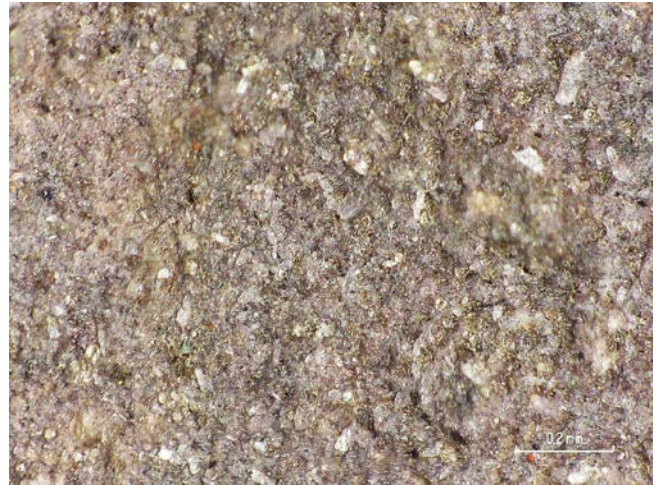
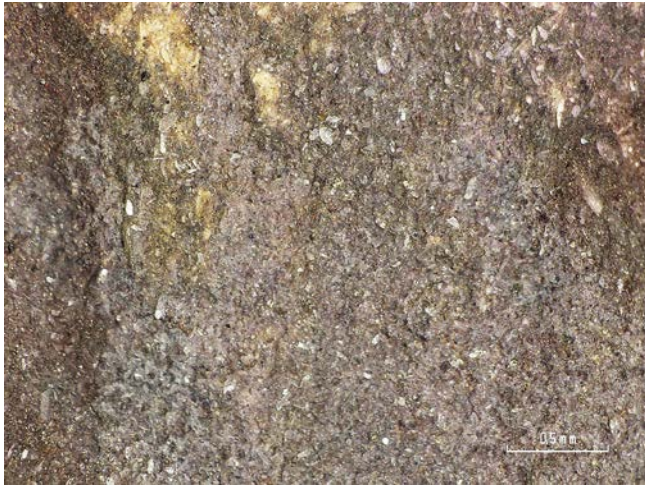


Fig. A.1.4 (1) 本紙上に施された補彩
Pigment inpainted on the artwork

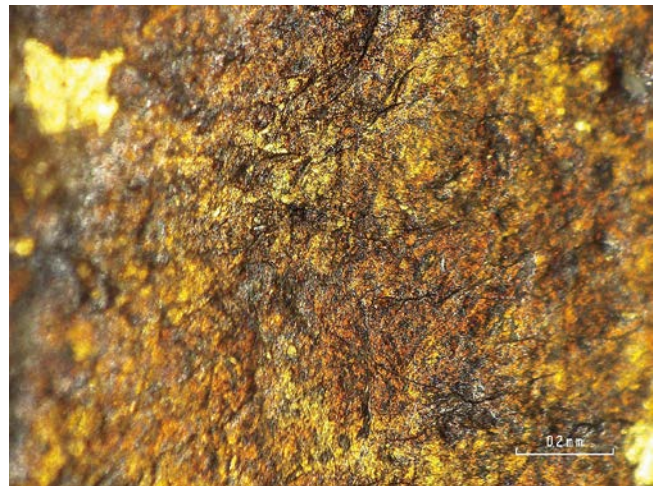
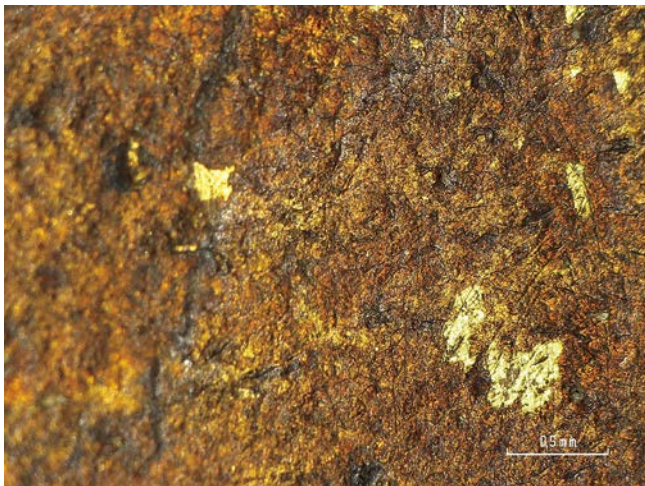


Fig. A.1.4 (2) 金箔部分の手垢汚れ
Dirt on the gold leaf due to handling

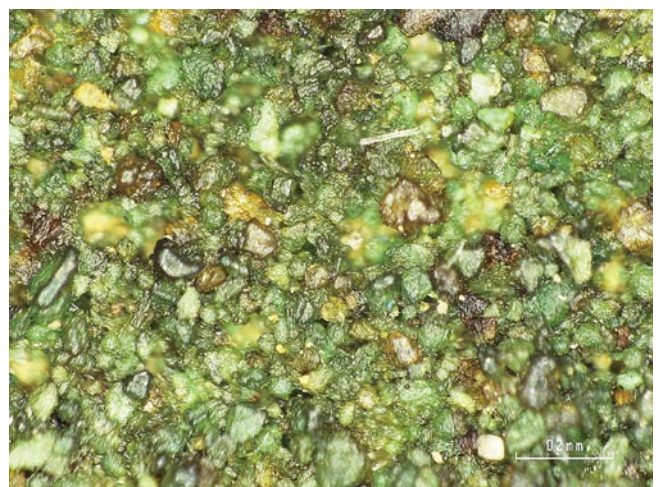


Fig. A.1.4 (3) 松の葉の絵具
Pigment of the pine leaves

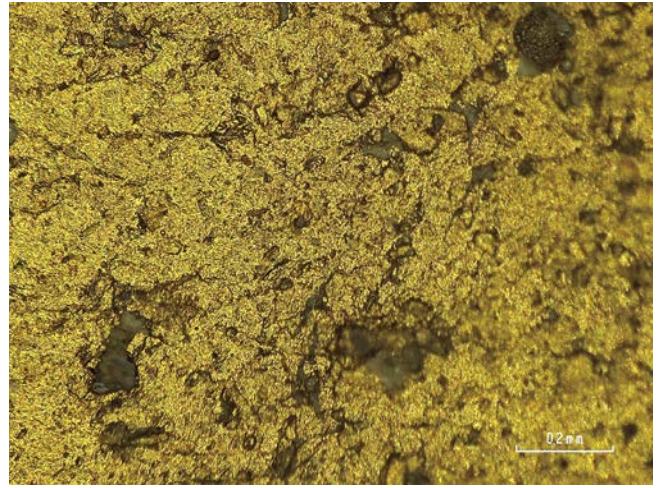
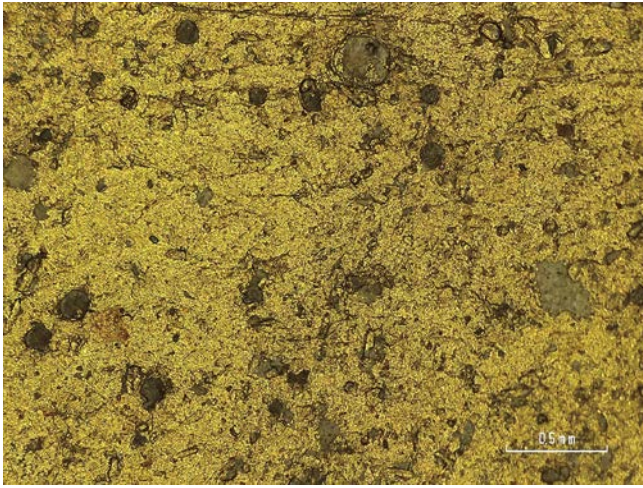


Fig. A.1.4 (4) 金箔部分
Gold leaf background

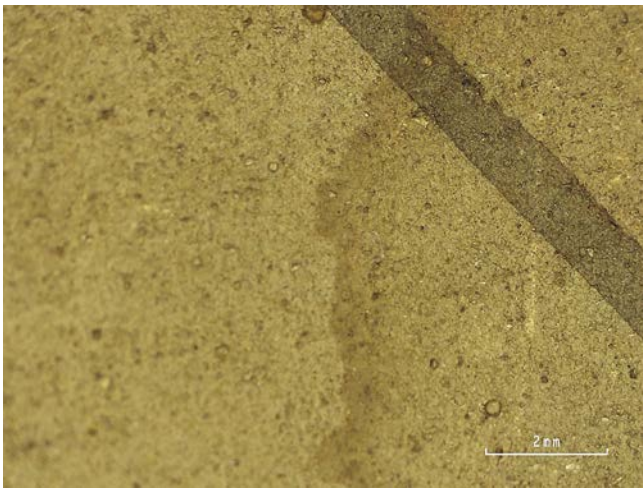


Fig. A.1.4 (5) 液体による染み
A liquid stain

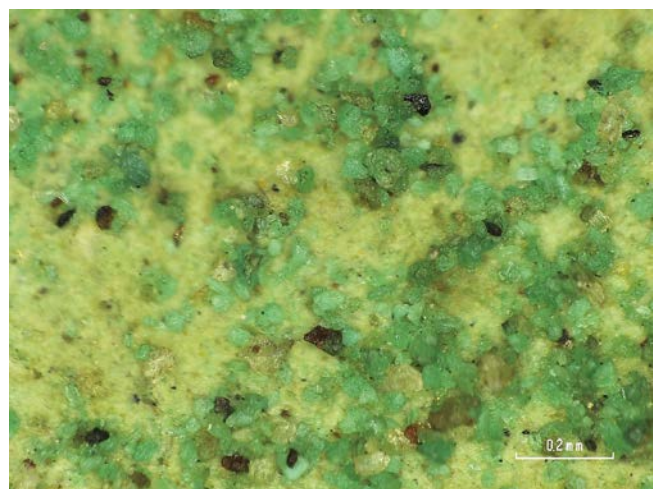
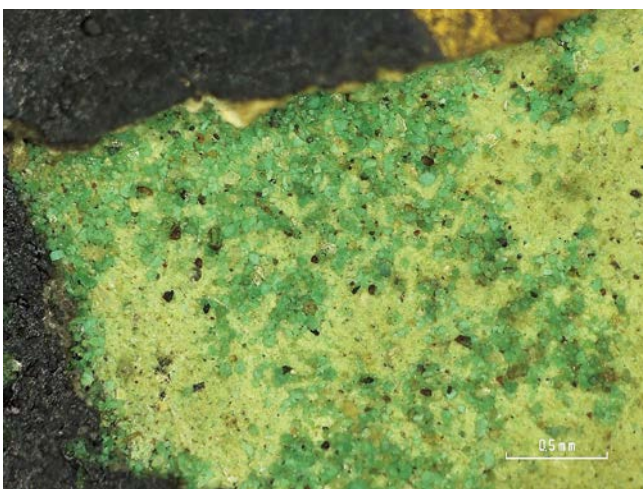


Fig. A.1.4 (6) 人物着衣の下地露出部分
Loss of pigment of the garment

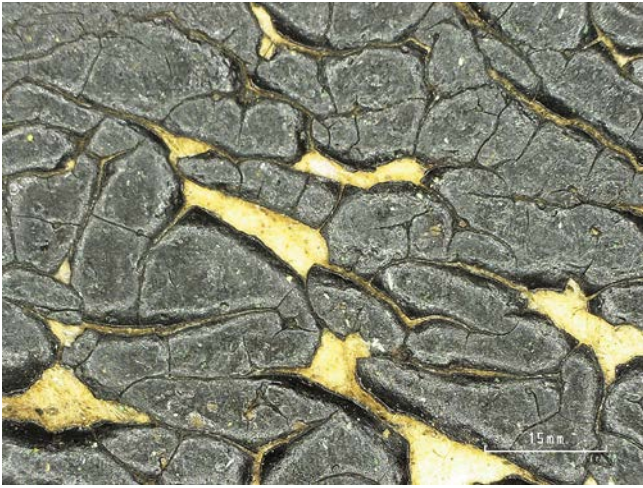


Fig. A.1.4 (7) 人物着衣の絵具
Paint of the garment



Fig. A.1.4 (8) 池の絵具
Paint of the pond



Fig. A.1.4 (9) 表装裂上のカビ様付着物
Mold-like accretions on the mounting fabric



Fig. A.1.5 本紙の紙継ぎ箇所
Parts where paper substrates were joined

本紙は縦に4枚の紙が継がれ、合計24枚の紙が使用されていた。

Four sheets of paper had been joined vertically to make the artwork in a panel; a total of 24 sheets had been used in this screen.

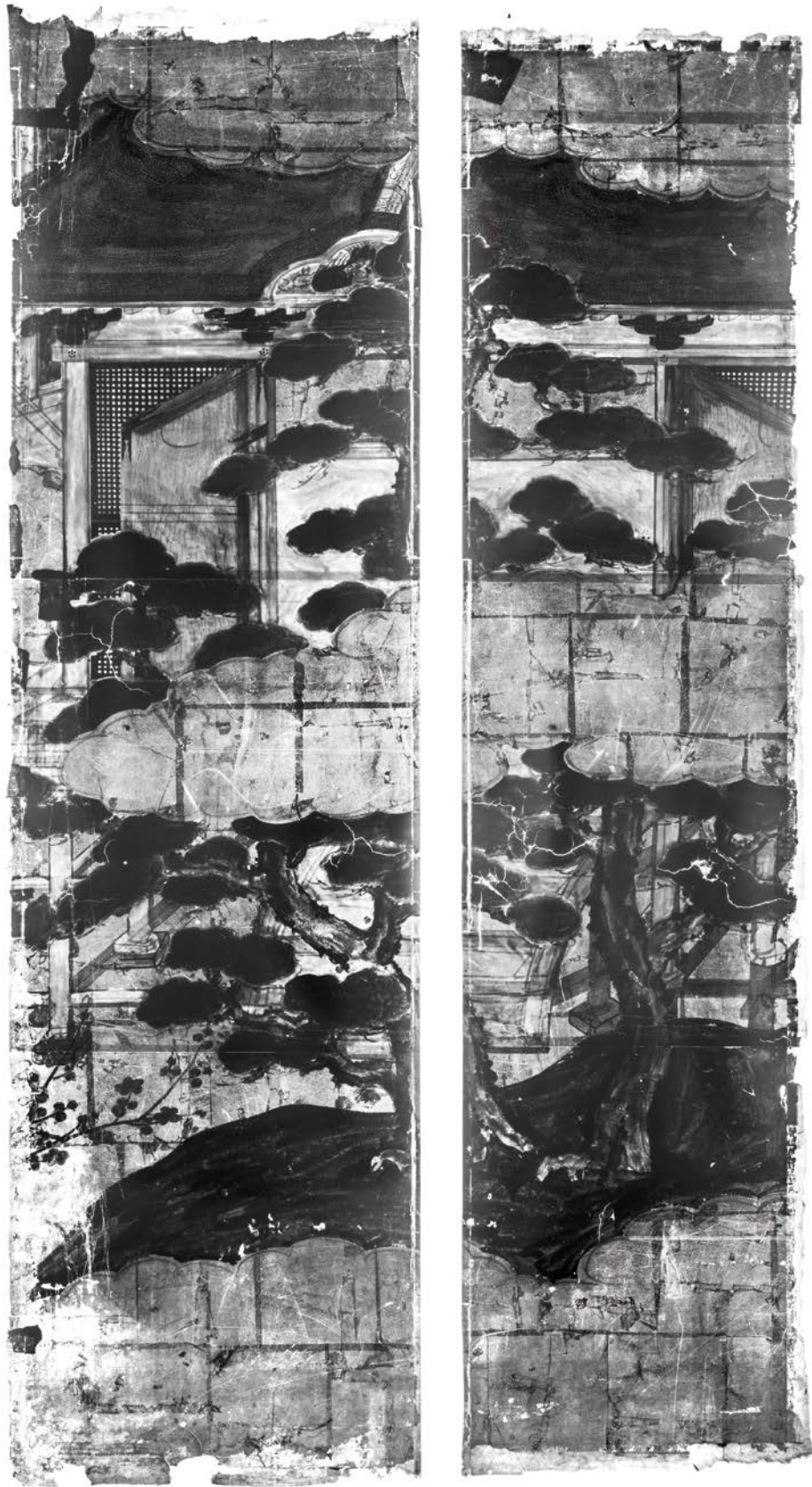


Fig. A.1.6.1 近赤外線写真 (透過光) (第2扇、第1扇)
Near-infrared photographs (transmitted light) (second panel and first panel)

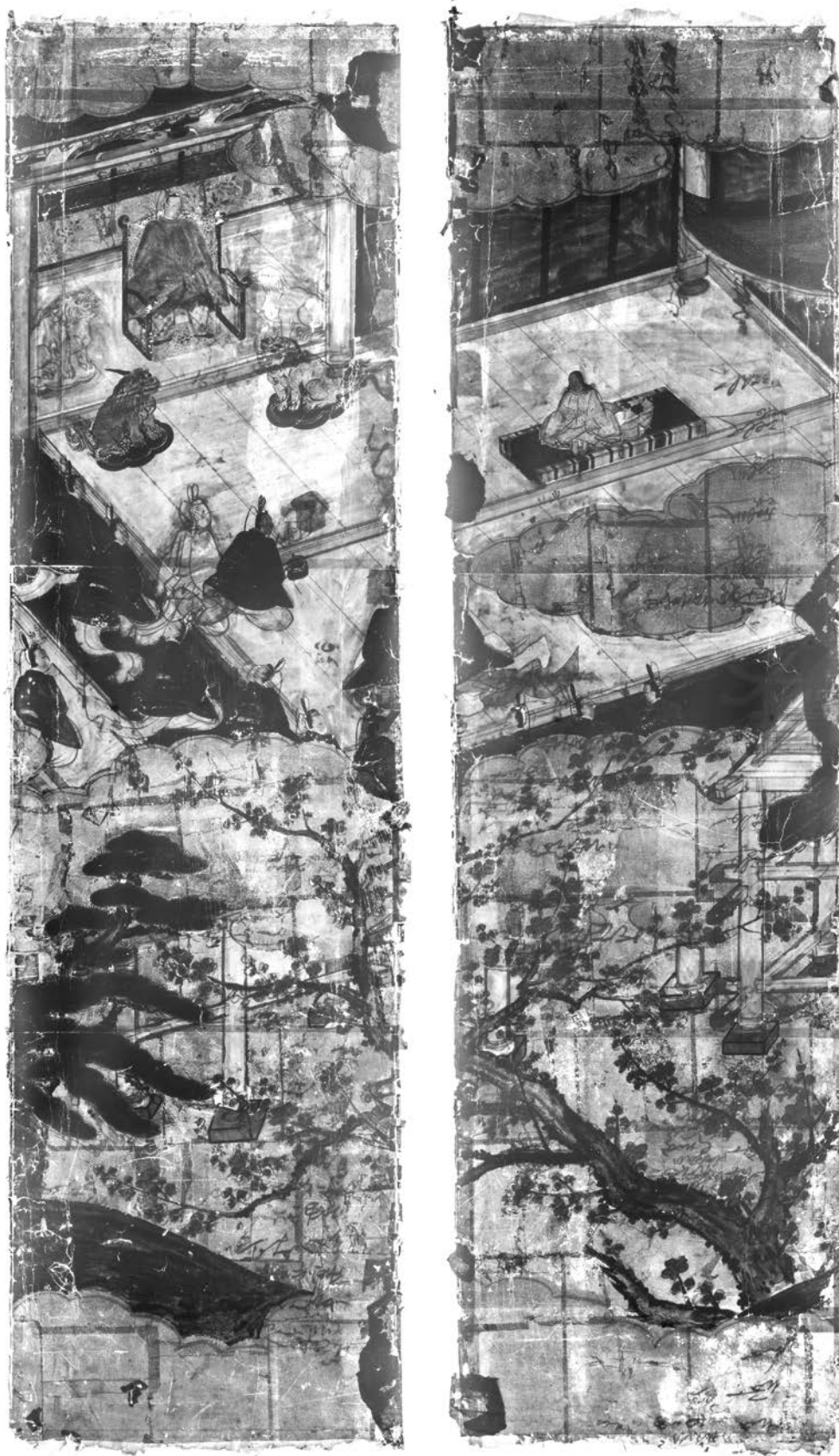
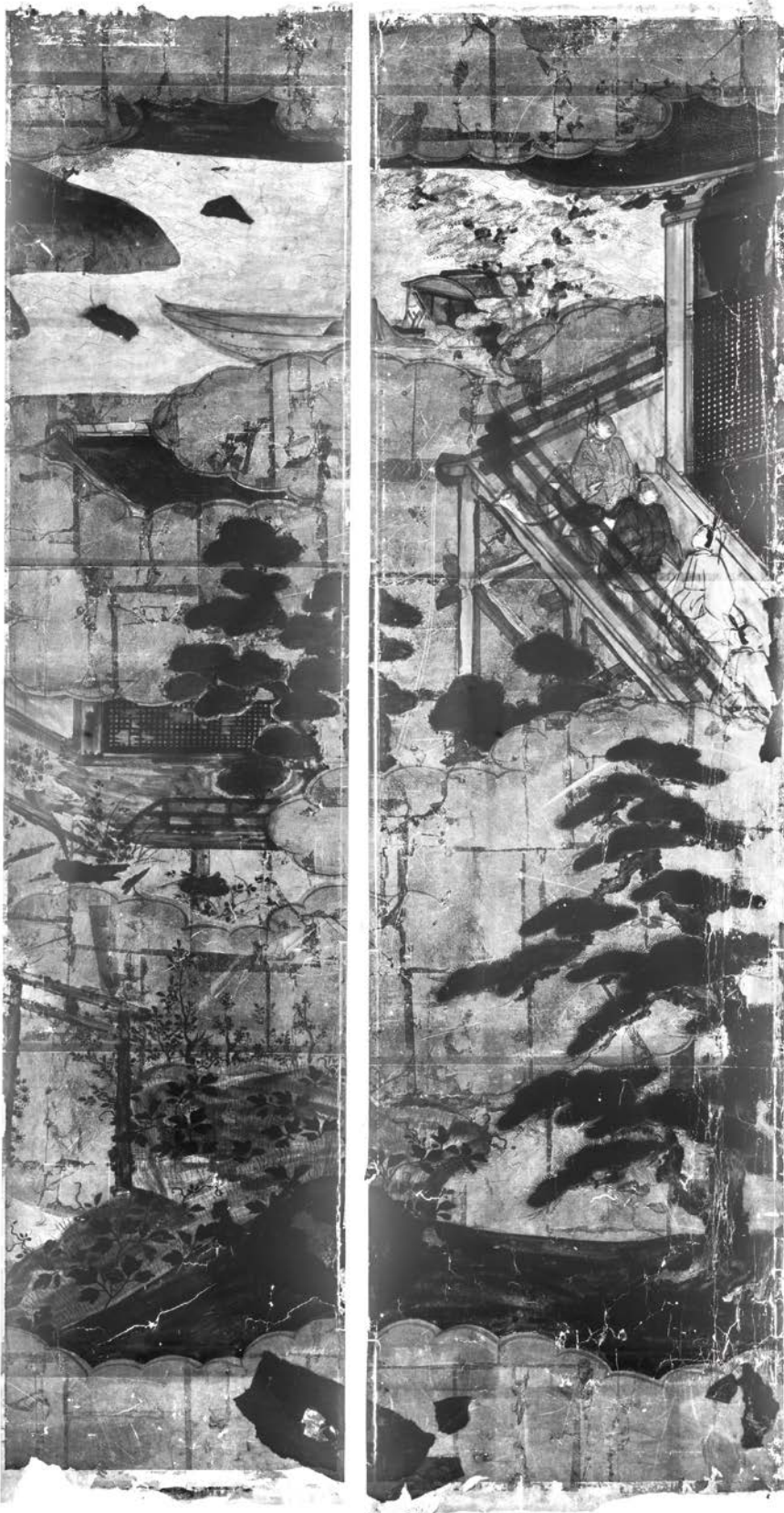


Fig. A.1.6.2 近赤外線写真 (透過光) (第4扇、第3扇)
Near-infrared photographs (transmitted light) (fourth panel and third panel)



イメージセンサー
フルフレーム CCD (モノクローム
E7、メガビジョン)
感度領域 ; 800-1100 nm
ピクセル数 ; 6132×8176
画像フォーマット ; Tiff

Image sensor
Full Frame CCD (Monochrome
E7, Mega Vision)
Sensitivity; 800-1100 nm
Image size; 6132×8176
Image format; Tiff

Fig. A.1.6.3 近赤外線写真 (透過光) (第6扇、第5扇)
Near-infrared photographs (transmitted light) (sixth panel and fifth panel)



Fig. A.1.7.1 肌裏紙除去後 裏面 (第1扇、第2扇)
Back side of the artwork after removal of the previous first lining paper
(first piece and second piece)



Fig. A.1.7.2 肌裏紙除去後 裏面 (第3扇、第4扇)
Back side of the artwork after removal of the previous first lining paper
(third piece and fourth piece)



ピクセル数 ; 714×2748
画像フォーマット ; JPEG
Image size; 714×2748
Image format; JPEG

Fig. A.1.7.3 肌裏紙除去後 裏面 (第5扇、第6扇)
Back side of the artwork after removal of the previous first lining
paper (fifth piece and sixth piece)



Fig. A.1.8 旧補修紙を残した箇所
Parts where the previous infill paper was left



Fig. A.1.9 補修と補彩を施した箇所
Places infilled and inpainted



Fig. A.1.10 水溶性色材を用いて補彩した箇所
Past inpainted parts with water-soluble colorants

付録 2. 蛍光 X 線分析

Appendix 2. X-ray Fluorescence Analysis

測定者；藤澤明

分析装置；携帯型蛍光 X 線分析装置

241Am 密封環状放射線源 (AMRB8774、AET technology)

小型 X 線検出器 (XR-100CR-0.5-BE-S、AMPTEX)

小型マルチチャンネルアナライザ (MCA8000A、AMPTEX)

プリアンプ (PX2CR、AMPTEX)

パーソナルコンピュータ

測定時間；500 秒

装置ヘッド～試料間距離；約 5mm

測定径；約 10mm ϕ

測定箇所；Fig. A.2.1 参照

Measurer; Akira Fujisawa

Analyzer; A portable x-ray fluorescence analyzer consisting of:

a 241Am sealing circular radiation source (AMRB8774, AET technology),

an X-ray detector (XR-100CR-0.5-BE-S, AMPTEX),

a multichannel analyzer (MCA8000A, AMPTEX),

a preamplifier (PX2CR, AMPTEX),

and a personal computer.

Measuring time; 500 seconds

Distance between the apparatus and the artwork; approximately 5 mm

Measuring area; approximately 10 mm ϕ

Measuring points; refer to Fig. A.2.1



Fig. A.2.1 測定箇所 (第 6 扇～第 3 扇)
 Measuring points (sixth panel to third panel)

★: 検出器由来のピーク

The peak derived from detector

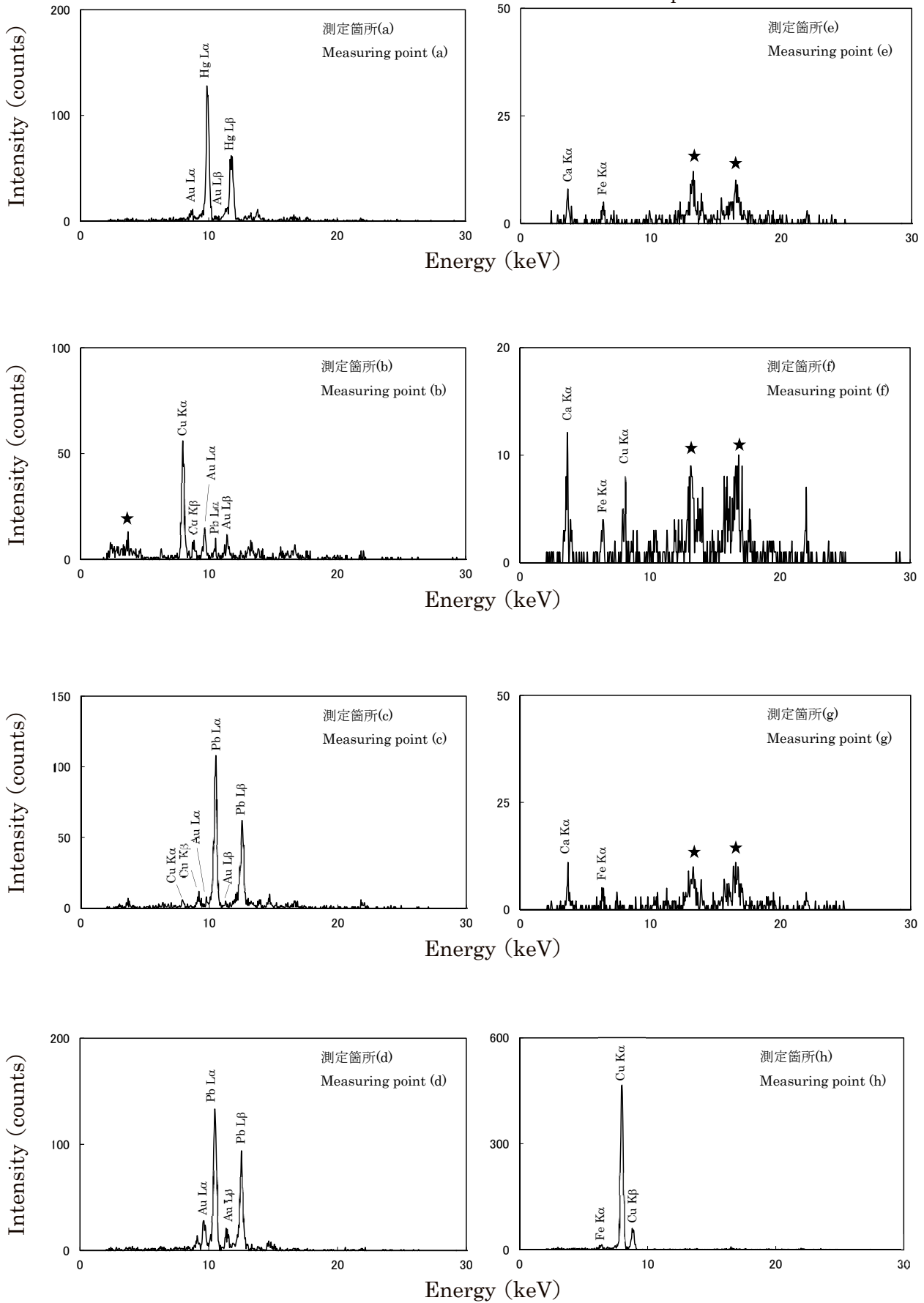


Fig. A.2.2 蛍光 X 線スペクトル (a)~(h)

X-ray spectra (a)-(h)

★: 検出器由来のピーク

The peak derived from detector

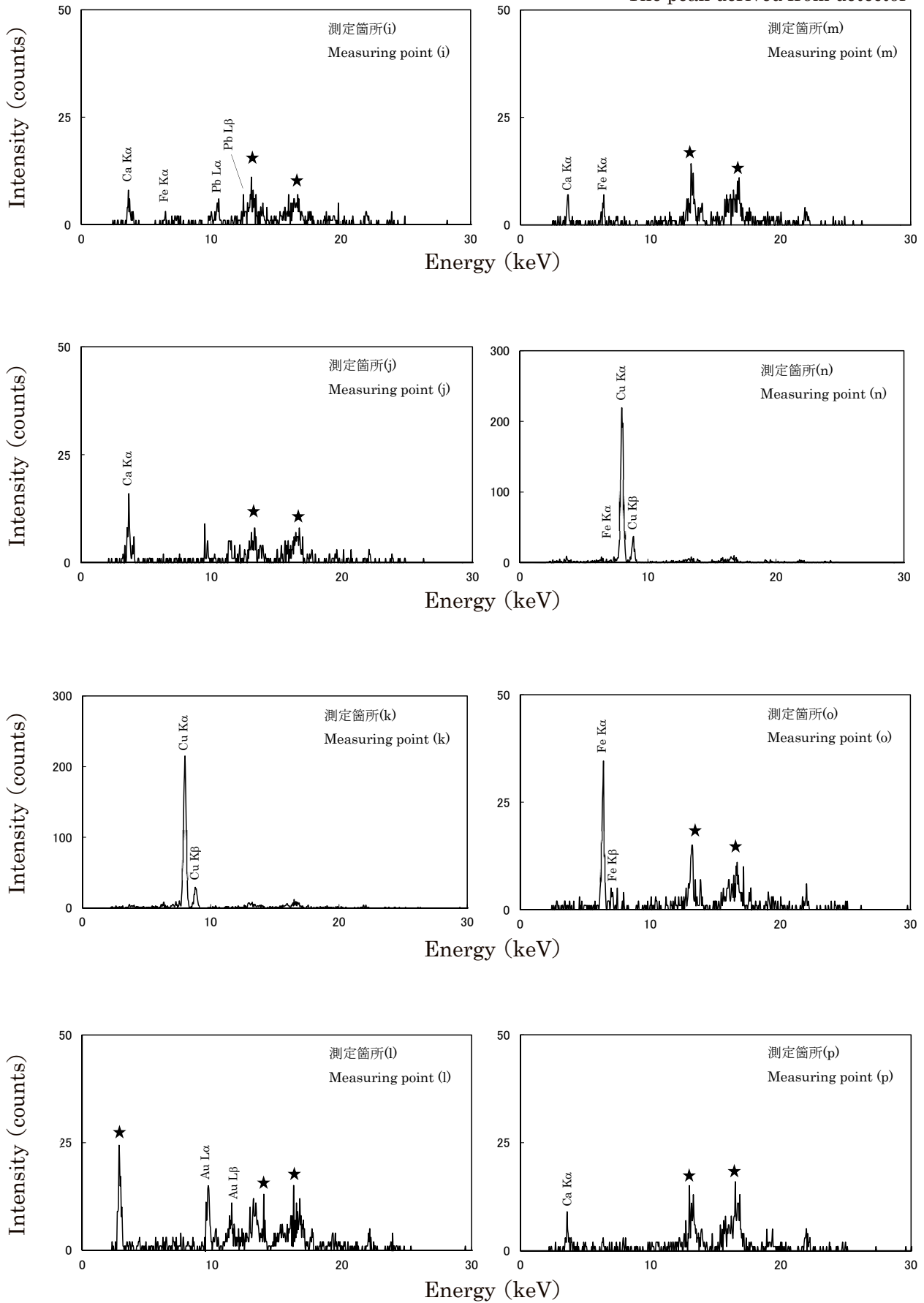


Fig. A.2.3 蛍光 X 線スペクトル (i)～(p)

X-ray spectra (i)-(p)

★: 検出器由来のピーク

The peak derived from detector

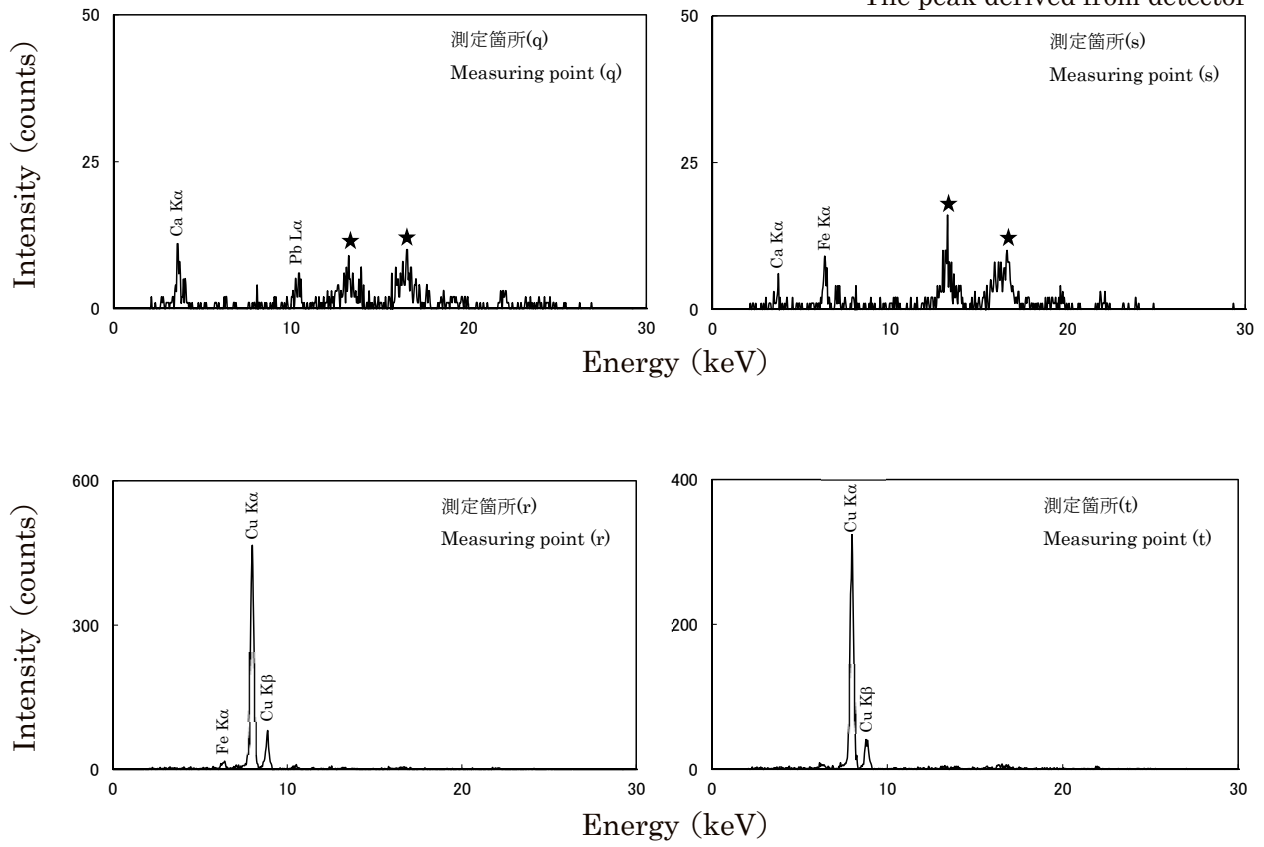


Fig. A.2.4 蛍光 X 線スペクトル (q)~(t)

X-ray spectra (q)-(t)

Table A.2 検出された元素および推測される絵具

The detected elements and inferred colorant materials			
測定箇所 Measuring point	色 Color	検出された元素 Detected elements	推測される絵具 Inferred materials
(a)	赤、金 Red and gold	Hg, Au	水銀朱、金泥 Vermillion, gold pigment
(b)	緑、金 Green and gold	Cu, Au, Pb	緑青、金泥、鉛丹（下塗り） Malachite, gold pigment, lead pigment (for under-paints)
(c)	金、黒線、緑 Gold and black line, green	Pb, Au, Cu	金泥、緑青、鉛丹（下塗り） Gold pigment, malachite, lead pigment (for under-paints)
(d)	金、赤 Gold bordered with red	Pb, Au	金泥、鉛丹 Gold pigment, lead pigment
(e)	薄茶 Whitish brown	Ca, Fe	胡粉、弁柄もしくは黄土 Calcium carbonate (<i>gofun</i>), earth color
(f)	ピンク Pink	Ca, Fe, Cu	胡粉、弁柄 Calcium carbonate (<i>gofun</i>), earth color
(g)	黒 Black	Ca, Fe	胡粉、墨（？） Calcium carbonate (<i>gofun</i>), Chinese ink?
(h)	緑 Green	Cu, Fe	緑青、弁柄 Malachite, earth color
(i)	白 White	Ca, Fe, Pb	胡粉、弁柄、鉛白 Calcium carbonate (<i>gofun</i>), earth color, lead pigment
(j)	白 White	Ca	胡粉 Calcium carbonate (<i>gofun</i>)
(k)	茶、薄緑 Light green on brown	Cu	緑青 Malachite
(l)	金 Gold	Au	金箔 Gold leaf
(m)	薄茶 Whitish brown	Ca, Fe	胡粉、弁柄 Calcium carbonate (<i>gofun</i>), earth color
(n)	薄緑 Light green	Cu, Fe	緑青、弁柄 Malachite, earth color
(o)	茶 Brown	Fe	弁柄 Earth color
(p)	黒 Black	Ca	胡粉、青色染料？ Calcium carbonate (<i>gofun</i>), blue dye?
(q)	白 White	Ca, Pb	胡粉、鉛白 Calcium carbonate (<i>gofun</i>), lead white
(r)	緑 Green	Cu, Fe	緑青、弁柄 Malachite, earth color
(s)	薄茶 Whitish brown	Fe, Ca	胡粉、弁柄 Calcium carbonate (<i>gofun</i>), earth color
(t)	濃茶、薄緑 Dark brown and pale green	Cu	緑青 Malachite

付録 3. 繊維組成分析

Appendix 3. Fiber Furnish Analysis

試験方法；JIS P8120 を参考に C 染色液を用いて繊維を染色し、顕微鏡による観察を行った。

観察者；山田祐子

使用機器；顕微鏡（SZX12、オリンパス）、デジタルカメラ（DP20-5、オリンパス）

ピクセル数；1600×1200

画像フォーマット；JPEG

分析の結果、本紙にはガンピ繊維が用いられていることがわかった。

Analysis method; The fibers were dyed by C stain and observed with a microscope. Japanese Industrial Standard P8120 (cf. ISO9184-4).

Observer; Yuko Yamada

Apparatus; Microscope (SZX12, Olympus) equipped with a digital camera (DP20-5, Olympus)

Image size; 1600×1200

Image format; JPEG

As a result of analysis, it was found that *gampi* fibers had been used.

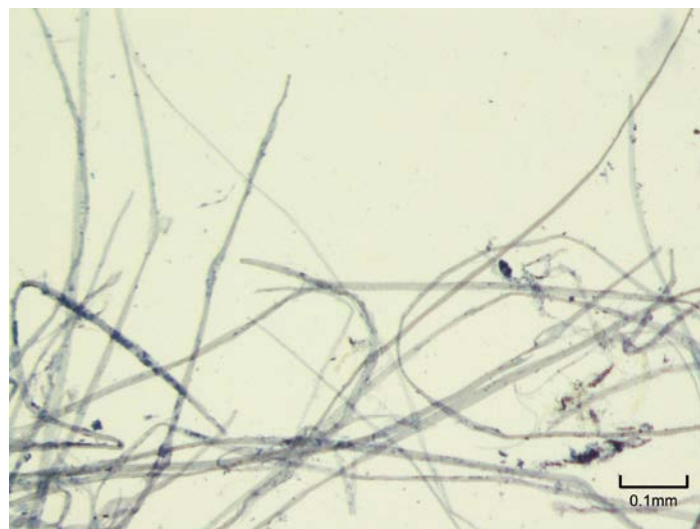


Fig. A.3 本紙繊維
Fibers of the artwork

付録 4. 測色

Appendix 4. Color Measurement

水による洗浄前後に本紙の測色を行った。

Color of the artwork was measured before and after washing with water.

測定者 ; 楠京子、山田祐子

測定装置 ; 分光測色計 (CM-2600d、コニカミノルタ)

測定条件 ; 光源 D65

観察視野角 10°

測定径 8mm φ

測定箇所 ; Fig. A.4.1、Fig. A.4.2 参照

Measurer; Kyoko Kusunoki, Yuko Yamada

Apparatus; Portable spectrophotometer (CM-2600d, Konica-Minolta)

Measurement conditions; D65 (illuminant)

10° (observer condition)

8 mm φ (measurement area)

Measurement points; refer to Fig. A.4.1, Fig. A.4.2

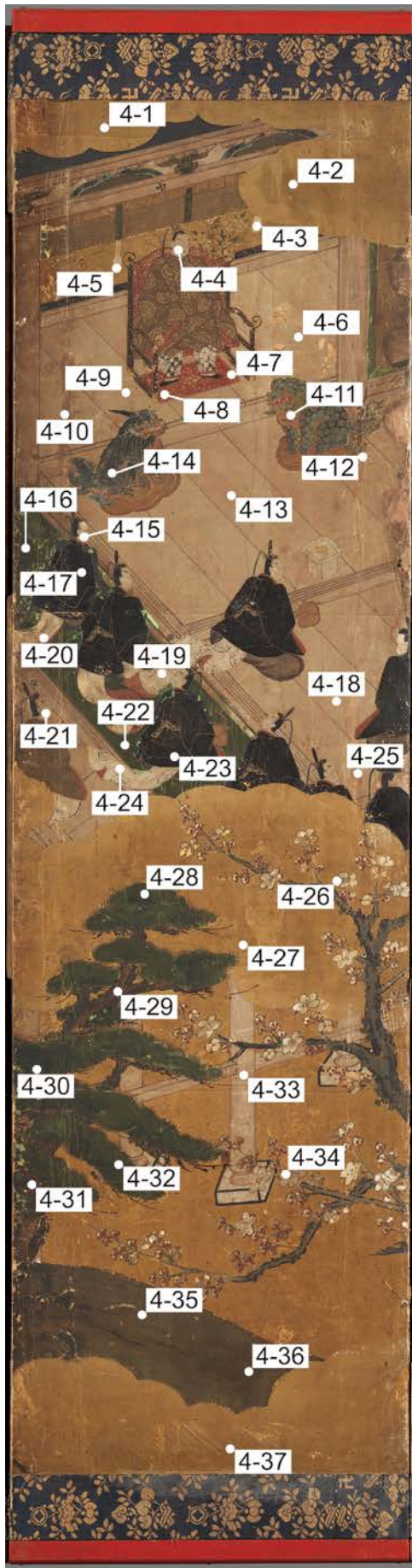


Fig. A.4.1 測定箇所 (第4扇)
Measuring points (fourth panel)



Fig. A.4.2 測定箇所 (第6扇)
Measuring points (sixth panel)

Table A.4.1 本紙 L*a*b* (第4扇) 正反射光を含まない値 (SCE)
 L*a*b* of the artwork (fourth panel), specular component excluded (SCE)

No.	クリーニング前 Before cleaning			クリーニング後 After cleaning		
	L*	a*	b*	L*	a*	b*
4-1	46.92	7.91	25.74	47.42	7.96	26.87
4-2	49.96	7.69	27.49	49.89	7.67	27.38
4-3	55.59	3.9	16.97	59.48	3.29	14.19
4-4	49.35	4.01	15.67	51.08	3.62	14.81
4-5	52.01	3.57	16.12	54.08	3.31	15.03
4-6	47.22	5.33	18.54	50.72	4.55	16.56
4-7	31.66	18.21	11.95	32.09	19.12	11.37
4-8	31.3	18.92	11.6	31.76	19.44	11.11
4-9	40.82	6.94	17.3	43.40	6.28	17.68
4-10	34.33	7.67	13.94	47.94	3.07	11.94
4-11	38.54	11.34	15.13	37.72	12.39	16.92
4-12	41.4	6.18	17.08	44.14	5.5	16.37
4-13	45.15	6.59	17.42	46.85	6.31	16.77
4-14	27.13	0.66	2.63	26.85	0.70	3.32
4-15	47.94	4.3	16.7	51.70	3.44	14.50
4-16	24.28	-0.05	6.55	22.75	-0.15	7.32
4-17	24.1	0.18	0.7	22.51	0.10	0.57
4-18	47.63	5.63	17.74	50.33	5.05	16.07
4-19	50.96	3.86	16.58	54.05	3.22	15.02
4-20	46.85	5.14	18.27	48.43	4.49	17.43
4-21	44.55	4.55	16.24	47.03	4.05	15.54
4-22	24.19	-0.82	7.75	22.39	-0.99	8.28
4-23	24.36	0.44	1.63	23.13	0.37	1.16
4-24	55.67	3.18	16.37	56.90	3.24	15.99
4-25	43.52	7.89	19.59	46.66	7.07	18.67
4-26	54.41	3.86	20.82	62.53	2.01	14.39
4-27	56.11	8.5	34.6	56.41	8.37	34.94
4-28	23.61	0.12	6.2	21.83	-0.31	6.96
4-29	26.1	4.47	6.67	26.11	5.69	9.25
4-30	21.83	-0.8	3.28	23.51	-0.90	3.00
4-31	24.35	4.16	5.87	23.96	4.84	7.10
4-32	23.96	-0.66	7.28	22.68	-0.87	8.70
4-33	47.86	5.33	17.43	49.63	4.76	16.94
4-34	47.46	4.54	17.77	56.27	3.15	14.41
4-35	30.7	2.83	9.93	30.23	3.19	12.33
4-36	28.48	3.06	6.93	27.67	3.38	8.44
4-37	48.61	8.45	28.4	49.06	8.40	28.86

Table A.4.2 本紙L*a*b* (第6扇) 正反射光を含まない値 (SCE)
 L*a*b* of the artwork (sixth panel), specular component excluded (SCE)

No.	クリーニング前 Before cleaning			クリーニング後 After cleaning		
	L*	a*	b*	L*	a*	b*
6-1	58.59	7.49	32.77	57.74	7.54	32.76
6-2	61.91	7.68	34.14	61.89	7.71	34.49
6-3	43.55	7.52	22.97	43.96	7.67	22.91
6-4	23.58	1.56	2.42	23.33	2.14	3.64
6-5	23	1.54	2.07	22.86	1.96	2.81
6-6	23.67	0.1	1.43	24.64	0.05	0.79
6-7	43.12	7.41	23.38	44.11	7.36	22.92
6-8	38.14	3.85	14.15	41.41	3.46	13.04
6-9	40.06	3.71	14.46	42.26	3.44	13.52
6-10	22.84	2.1	2.93	23.19	1.84	2.69
6-11	23.01	2.3	4.11	23.39	2.83	5.62
6-12	22.08	-0.12	1.09	21.58	-0.24	0.63
6-13	28.2	8.53	8.63	27.55	9.51	9.42
6-14	35.92	5.31	13.59	37.32	5.23	14.51
6-15	35.52	4.95	13.34	37.23	4.62	13.89
6-16	54.47	8.3	31.49	53.89	8.40	32.55
6-17	21.67	-0.14	1.04	21.86	-0.31	0.68
6-18	29.43	0.3	5.52	30.12	0.35	5.84
6-19	22.65	0.27	2.79	23.42	-0.27	4.29
6-20	36.24	10.15	21.04	36.57	10.08	22.40
6-21	18.93	1.72	2.72	16.40	2.39	3.79
6-22	19.17	1.92	3.11	18.66	2.36	3.44
6-23	42.69	8.21	23.79	42.44	8.23	24.20
6-24	17.78	0.38	3.88	15.76	0.40	4.62
6-25	56.67	8.82	32.92	56.30	8.91	33.75
6-26	18.05	0.12	4.44	16.97	0.02	5.74
6-27	18.23	0.15	4.66	17.47	0.07	4.78
6-28	22.77	0.05	0.25	21.70	0.12	0.43
6-29	17.27	0.51	2.69	15.15	1.13	4.34
6-30	22.74	0.11	0.35	21.91	0.36	0.80
6-31	37.35	3.36	11.93	39.16	3.20	11.89
6-32	36.24	3.7	12.03	38.62	3.44	12.02
6-33	35.32	8.76	18.77	34.22	8.97	19.66
6-34	22.22	1.94	3.28	21.69	2.41	5.35
6-35	37.22	9.86	21.43	35.25	9.81	21.44
6-36	43.44	8.88	25.73	43.84	9.06	27.12
6-37	48.58	10.1	30.86	50.26	9.95	31.89
6-38	25.79	1.06	3.52	26.57	1.14	3.99

6-39	30.26	8.31	11.23	29.26	9.13	12.21
6-40	27.24	1.17	4.64	27.25	1.15	4.92
6-41	31.01	6.32	13.92	30.23	6.77	15.33
6-42	33.97	4.49	9.97	37.86	4.56	11.31
6-43	31.01	4.29	8.35	31.64	4.60	9.85
6-44	19.65	0.2	4.14	20.23	0.26	5.66
6-45	26.41	3.45	5.12	26.17	4.12	6.99
6-46	23.18	1.94	3.11	20.95	2.67	4.92
6-47	20.7	0.72	4.59	20.51	0.66	5.39
6-48	31.3	5.3	9.53	33.35	5.53	10.64
6-49	20.39	1.36	4.65	18.10	1.89	6.43
6-50	39.72	7.71	20.74	38.32	7.95	20.89
6-51	31.76	11.68	16.35	30.97	12.35	17.31
6-52	39.19	7.36	19.83	39.26	7.48	20.29

付録 5. 新規裂および襲木の検討

Appendix 5. Discussion about New Fabric and Decorative Frame

裂および襲木を選ぶにあたって、画像上で完成イメージ図を作成し検討した (Fig. A.5.2~Fig. A.5.8)。その結果、取り合わせ 2 (Fig. A.5.3) を選択した。

In choosing fabric and frame, possible images of the screen after restoration were considered (Fig. A.5.2 - Fig. A.5.8). As a result, combination no. 2 (Fig. A.5.3) was selected.



Fig. A.5.1 修復前
Before restoration



Fig. A.5.2 取り合わせ 1
Combination 1



Fig. A.5.3 取り合わせ 2
Combination 2



Fig. A.5.4 取り合わせ 3
Combination 3



Fig. A.5.5 取り合わせ 4
Combination 4



Fig. A.5.6 取り合わせ 5
Combination 5



Fig. A.5.7 取り合わせ 6
Combination 6



Fig. A.5.8 取り合わせ 7
Combination 7

付録 6. 旧補彩部分の色調調整

A.6.1. 目的

本作品には過去の修復時に施された補彩および加筆が確認できた。それらは、肌裏紙に施された補彩、補修紙に施された補彩、本紙に施された補彩に大別できた。

これらの補彩には、水に溶解しにくい白色顔料と水に溶解しやすい色材が併用されていた。そのうち水溶性の色材は修復工程で使用する水により移動し、本紙を汚すことが予想されたため、水を用いたクリーニングを行い汚れとともに除去することとした。ただし、洗浄後に白色顔料のみが残留した箇所については、白色顔料の除去、あるいは次回修復時に除去が可能な色材を用いた色調調整を行う必要があったため、下記のような実験を行い検討した。

A.6.2. 本紙上の旧補彩絵具除去試験

A.6.2.1. 実験方法

付録 2 の結果から、残留した旧補彩絵具のうちの白色顔料の主成分は炭酸カルシウムであることを確認した。この白色顔料を除去するために、物理的に取り除く方法、および化学的に溶解する方法について実験を行った。実験では、今回の修復中に本紙から取り除いた旧補修紙上の絵具を用いた。

白色顔料を物理的に取り除く方法では、針やピンセットを用いた除去を試みた。化学的な溶解には、水洗後に残留した場合であっても揮発することから、塩酸および酢酸を使用した。それぞれ pH1.5～pH2.5 の水溶液に調整し、塗布した後、白色顔料が溶解した水溶液を拭き取った。溶解処置後は、イオン交換水を塗布し拭き取る作業を数回繰り返した。

A.6.2.2. 結果と考察

いずれの方法も安全かつ完全に除去することは不可能であった。

A.6.3. 除去可能な色材の検討

数種類の色材を検討した結果、旧補彩箇所の色調調整には水溶性色材 **Tartorazine** (C. I. No. 19140)、**New Coccine** (C. I. No. 16255)、**Indigo Carmine** (C. I. No. 73015) を混色して用いることとした (Fig. A.1.9、Fig. A.1.10)。

詳細は投稿準備中である (「除去可能な色材とその使用条件の検討」山田祐子、加藤雅人、楠京子)。

また、本報告の一部は学会で発表した。

山田祐子、加藤雅人、楠京子、井上さやか「文化財として使用する除去可能な色材の検討」文化財保存修復学会第 36 回大会 要旨集 pp.138-139 (2014)

Appendix 6. Adjusting the color tone of the past inpainted parts

A.6.1. Purpose

Inpainting that had been applied in a past restoration was observed on the artwork: namely, on the first lining paper, infill paper and artwork.

Both white pigment that could not be dissolved easily in water and colorants that could be dissolved easily in water had been used for inpainting. Of these, since it was feared that the water-soluble colorants might move with water that would be used in the process of restoration and cause the artwork to become dirty, it was decided to remove them together with dirt in the process of cleaning with water. With regard to parts where the white pigment remained after cleaning, it became necessary either to remove the white pigment or to adjust the tone of colors with colorants that can be removed at the time of the next restoration. Therefore the following tests were conducted for deliberation.

A.6.2. Test to remove past inpainting paints from the artwork

A.6.2.1. Method

From the result of elemental analysis (Appendix 2), the main component of the white pigment used in a past inpainting that had remained was confirmed to be calcium carbonate. In order to remove this white pigment, two methods were tried: physical method and chemical method. Past inpainting on the past infill paper was used for the tests.

Physically, a needle or a pair of tweezers was used. Chemically, hydrochloric acid and acetic acid were used to dissolve the white pigment, since they will evaporate even if they remain after washing with water. Aqueous hydrochloric acid (pH 1.5 - pH 2.5) or aqueous acetic acid (pH 1.5 - pH 2.5) was applied: once the white pigment had been dissolved, the solution was wiped off. After the treatment, deionized water was applied and wiped off several times.

A.6.2.2. Result

It was not possible to remove the white pigment safely and completely with either of the methods.

A.6.3. Removal of colorants

After testing several kinds of colorants, it was decided to use a combination of water-soluble colorants Tartorazine (C. I. No. 19140), New Coccine (C. I. No. 16255) and Indigo Carmine (C. I. No. 73015) to adjust the color tone of the past inpainted parts (Fig. A.1.9, Fig. A.1.10).

Detailed report is being prepared for publication (“除去可能な色材とその使用条件の検討”
Yuko Yamada, Masato Kato, Kyoko Kusunoki).

Parts of this report have been presented at the following annual meeting.

「文化財として使用する除去可能な色材の検討」

Yuko Yamada, Masato Kato, Kyoko Kusunoki and Sayaka Inoue.

The 36th Conference of The Japan Society for Conservation of cultural Property,
Abstracts in Japanese, pp. 138-139 (2014)

付録 7. 位置等の修正

Appendix 7. Positioning

過去の修復において、描画の上に表装裂が施されたり、下地側面に折り曲げられて隠れていた部分があった (Fig. A.7.1)。今回の修復では、縁裂の付け廻し位置や側面の折り曲げ位置を変更することで、描画部分を最大限に出し、各扇の絵のつながりを改善した。

修復後の本紙寸法決定にあたって、画像上で修復後イメージ図を作成し検討した (Fig. A.7.2~Fig. A.7.5)。その結果、候補 4 (Fig. A.7.5) の寸法で仕上げることにした。

In a past restoration, there were places on which the mounting fabric had been applied over the drawing or where the edge of the painting had been folded to the sides of the panel, causing these parts to become hidden (Fig. A.7.1). In the present restoration, the position of the border fabrics and that of the foldings were modified to maximize the area of the drawing that could be seen and to improve the continuation of the drawing of each panel.

In determining the size of the artwork after restoration, possible digital images of the artwork were made (Fig. A.7.2 - Fig. A.7.5). After deliberation, it was decided to finish the artwork to the size of possibility 4 (Fig. A.7.5).



Fig. A.7.1 裂の下および折り曲げ部分に隠れていた箇所
Parts hidden under the mounting fabric or folded to the sides



Fig. A.7.2 候補 1 縦横ともに修復前の寸法
 Possibility 1, exactly the same as before restoration



Fig. A.7.3 候補 2 縦 ; 最大寸法、横 ; 修復前の寸法
 Possibility 2, height; maximum measurement, width; same as before restoration



Fig. A.7.4 候補3 縦；修復前の寸法、横；最大寸法
Possibility 3, height; same as before restoration, width; maximum measurement



Fig. A.7.5 候補4 縦横ともに最大寸法
Possibility 4, maximum measurement for both height and width

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