

保存修復に関わる活動報告 Report of Conservation Activities

今年度の初めより、保存修復室長は国立西洋美術館長、学芸課長ならびに課員7名の意向により、①作品貸し出し点検ならびにクーリエに関わること②展覧会の作品点検に関わること③購入作品の保存状態点検、ならびに鑑定に関わること④版画素描の修復処置に関わること、以上の業務より排除されたため、事務分掌規程に明記されたその責任権限を果たせなかったことを報告しておく。その問題点の一部は「保存修復部門の役割」と題して当館紀要No.7に明らかにしておいた。

前年度末に日本興業銀行から寄贈を受けたタピスリー5点ならびに社団法人糖業協会より寄贈を受けた1点を用いた小企画展の計画があり、2003年初頭に行なう展覧会のために、これらの作品の撮影を行なうこととなった。撮影は作品保存への配慮が思いのほか必要であり、撮影作業を進める中で、展覧会で必要となる保存処置として、作品への仮処置、展示方法の改良と画面の清拭を行なうこととなった。

特に社団法人糖業協会から寄贈を受けた《庭園婦女之図》(後日、正式名を《姉たちに贈り物をするブシュケ》とした)と当館が1977年に購入した《シャンボール城：九月》は痛みが激しく、長期保存を考えると、本格的な保存修復処置を必要とした。これまで6作品は我が国で古いやり方で保存処置を受けており、これらの除去と改良が必要であった。特に《姉たちに贈り物をするブシュケ》には古い生麩糊が用いられ、長期的保存に適しておらず洗浄が必要となった。折からメトロポリタン美術館織物染色保存修復部の梶谷氏より、当該作品の洗浄補助の申し出があり、作品をニューヨークに送付した。洗浄ならびに修復をメトロポリタンのスタッフと織物染色修復家石井美恵氏が担当した。

このことは当館にとって後にも先にも考えられない幸運であり、関係者に心から感謝すべき事であった。その後、無事帰国し、保存修復記録とともに展覧会に展示された。

7点の作品については、これまで本格的な調査が行なわれておらず、染色技法については染色史家の深津裕子氏に調査報告を依頼した。これらの全体の作業は撮影から始まって10カ月を要した。なお展覧会の展示の際、斜台に載せてのみしか展示できなかった《シャンボール城：九月》に関しては次年度に本格的な修復処置を行なう予定である。

彫刻に関してはこれまでの例に倣い、ロダン作《アダム》と《エヴァ》の免震化と修復処置を行なった。2作品の展示場所は98年度に展示された《地獄の門》の両横に用意されており、免震装置は《考える人》に倣い、同型の装置を採用した。台座石は中国で加工され、河口が製品検査を行なった。この2点の作品設置にあたり、先に設置した《考える人》《カレーの市民》彫刻内部に結露が激しく、内部の乾燥状態を形成させるべく対応をとるために、温度湿度の計測を始め、同様に《アダム》《エヴァ》においても自動計測システムを導入した。

例年行なっている、前庭彫刻のメンテナンスについては、昨年より試験的に始めたマイクロクリスタリンワックスの焼き付け保護膜が有

効な成果を収め、本年度も引き続き行なうこととした。

前年度寄贈を受けたピストルフィ彫刻については、本年度より修復処置の試行に入り、当館客員研究員である宮城県美術館主任研究員の藤原徹氏と洗浄試験を行なった。(河口公生)

*美術品貸出業務、展覧会業務及び所蔵作品関係業務等の実施の過程で、保存修復室と他室業務とのあいだで円滑さを欠く事態が生じ、このため、業務運営に一部支障が生じたことは遺憾であった。管理運営上の反省すべき点もあり、現在、改善のために、館をあげて取り組んでいることを付記しておく。(国立西洋美術館長)

2002年度に行なった保存科学室の主要な活動を大別して以下に述べる。

1. タピスリー保存修復処置に関わる科学的調査

2003年の展覧会に向けて保存処置を行なった7点のタピスリーの内、特に本格的な保存修復処置を行なった《姉たちに贈り物をするブシュケ》について、①過去に用いられた接着剤の調査、②今回の処置前後での色彩の測定、③洗浄剤の影響に関する調査、および④輸送中の温度・相対湿度の測定を行なった。

① この作品に過去に接着された中裏地を除去するにあたり、余剰な接着剤の塊がついたごく少量の糸片を端から採取し、接着剤の分析を行なった。それにより、上述のようにデンプン質の接着剤で、タンパク質は含まないことを確認した。

② 色彩の測定は分光色彩計により、洗浄処置前後での表面の一部の計測を行なった。これは洗浄処置により色彩がどのようにに変化するかを記録するという目的とともに、今後当館で収蔵保存していくあいだの状態管理のための初期データを得ることにともなる。洗浄処置により、当館への寄贈までの長年のあいだにたまった汚れが落ち、全体的に明度が上がったことなどが確認できた。また、洗浄処置前に中裏地を除去したことにより、裏面の色彩を一部計測することもできた。裏面は表面に比べて褪色が少なく、より鮮やかな色彩を保っており、得られたデータは作品の制作時に使用された染料に関して貴重な資料となる。

③ 今回の洗浄処置がメトロポリタン美術館で行なわれる際には、日程が非常に限られていた。そこで、洗浄方法を決定する上での参考とするため、事前に当館で洗浄剤の影響を調査した。上述のデンプン質の接着剤が部分的に作品にひどく染み込んでいたため、酵素を用いた洗浄の可能性も考慮していたが、調査の結果、酵素を用いる処置では一部の染料が若干溶け出す可能性があることが確認され、酵素は用いないこととなった。

④ 洗浄処置のためのニューヨークへの輸送において、タピスリーを急激な環境の変化にさらすと、歪みや変形などが起こるおそれがあるため、外気の影響を受けにくい構造の輸送箱を用いるとともに、データロガーを用いて輸送中の温度・相対湿度を記録した。

これにより大きな環境変化にさらさずに輸送できたことを確認した。

2. 館内の空気汚染物質調査

昨年度、本館展示室に区画扉を設置したのに続き、今年度は新館展示室への外気の影響および空調負荷を低減させ、温度・相対湿度をより安定にするために、各室を風除扉により区分けする工事が行なわれた。来館者の便も考慮して扉は透明強化ガラスの片開き自動ドアとスイングドアの組み合わせとした。この設置工事に伴い、新館に展示されていた作品の一時撤去と、施工後の室内空気汚染物質に関する調査を行なった。

また展示室の清掃に用いる水性ワックスから美術品に影響を与える可能性があるアンモニアが若干生じている懸念があったため、東京文化財研究所の佐野千絵氏の協力を得て、成分の比較調査と、ワックス塗布後の時間経過に伴う空気質の変化を調査した。その結果、塗布直後は若干アンモニアが放散されるが、放散量はさほど多くなく、適正な換気を行えば問題はないことが確認された。

3. その他

今年度より客員研究員の石橋財団、石井亨氏とともに、美術品の輸送時における振動の調査を開始した。また、保存修復処置を行なう絵画作品の透過X線写真撮影を行なった。(塚田全彦)

Starting at the beginning of fiscal year 2002, through the decision made by the director of the NMWA, the head of the Curatorial department and its 7 staff members, the head of the Conservation Department has been excluded from the following duties: 1) inspection of works on outgoing loans and their courier duties, 2) inspection of works for exhibitions, 3) condition reports on and connoisseurship of works for purchase by the museum, and conservation and restoration work on the prints and drawings in the NMWA collection. As a result of these changes, the responsibilities, authorities, and official division of duties were not carried out. I clarified one aspect of this problem in an article entitled "The Role of Conservation Departments in Art Museums: Current Issues" in the *NMWA Annual Journal* No. 7.

Six tapestries donated to the NMWA in fiscal year 2001, one from the Sugar Industry Association, Inc., and five from The Industrial Bank of Japan, were scheduled for a small-scale exhibition at the beginning of fiscal 2003. Photography of these works was carried out in preparation for the exhibition. During the photography work it became apparent that more attention to the state of the works was necessary than had been expected. As photography work continued, the conservation work necessary for the works to be put on display was carried out. This work included temporary measures on the works themselves, improvement of display measures on the works and surface cleaning.

The *Women in a Garden* tapestry (later given its proper name, *Psyche Presenting Gifts to her Sisters* [from the *History of Psyche* series]) and *Le Château de Chambord: Le Mois de Septembre* (from the series *Les Maisons Royales*), donated to the museum in 1977, were in particularly bad condition. It was decided that full-scale conservation work would be needed on these works for their long-term preservation. The six newly donated works had been treated in Japan in the past with now outdated conservation methods, and thus it was necessary to remove such repairs and improve the damage done by them. In particular, conservation work using raw wheat paste was carried out in the past on

the *Psyche Gives Presents to her Sisters* tapestry. Since such paste is not suitable for long-term preservation, the paste had to be washed out of the tapestry. A request for assistance with the necessary cleaning of this work had been made to Nobuko Kajitani of the Textiles Conservation Department of the Metropolitan Museum of Art, New York, and the tapestry was sent to New York for this work. Cleaning and conservation work on the tapestry were carried out by the MMA staff and Mie Ishii, textile conservator.

This assistance was a real blessing for the NMWA and heartfelt thanks are deserved by all those involved in this project. The tapestry returned safely to Japan. Records of the conservation work done on the tapestry were displayed during the tapestry exhibition.

The seven tapestries included in the exhibition had not previously been subject to full scholarly research, and Yuko Fukazu was asked to make a research report on the dyeing techniques used in the work. These various conservation projects took a total of ten months from the time that photography work began on the tapestries. Full-scale conservation work is scheduled to begin in the following fiscal year on the *Le Château de Chambord* tapestry, whose fragile condition meant that it could only be displayed on a slanting support, rather than fully suspended, during the exhibition.

Following the examples of earlier projects of this type, seismic isolation and conservation work was carried out during this fiscal year on Rodin's *Adam* and *Eve* sculptures. Display space for these two works was prepared on either side of *The Gates of Hell*, a large-scale work installed during the 1998 fiscal year. Seismic isolation work on the *Adam* and *Eve* sculptures was based on that used on *The Thinker*, and similar seismic isolation devices were fitted for these two works. The stone bases for these two sculptures were made in China and Kawaguchi went on a product survey trip to China in this regard. Severe moisture condensation problems had developed on the interior surfaces of the previously installed *Thinker* and *Burghers of Calais*, and in the end all four sculptures were fitted with automatic measuring devices to record the temperature and humidity within each of the sculptures. As conducted each year, maintenance work was carried out on the sculptures in the forecourt, and since effective results were gained from the protective layer of microcrystalline wax burned onto the sculptures as an experiment in fiscal year 2001, this work was continued in this fiscal 2002.

Regarding the Bistolfi works donated to the NMWA in fiscal year 2001, trial work on the conservation of these sculptures began in the present fiscal year, and cleaning experiments were conducted by Toru Fujiwara, Guest Researcher at the NMWA and Chief Researcher at the Miyagi Prefectural Museum of Art. (Kimio Kawaguchi)

The following presents an overview of major activities of the Conservation Science Section during fiscal 2002.

1. Scientific Survey related to the Conservation of Tapestries

As part of the conservation work done on seven tapestries prior to their exhibition in 2003, and in particular on the *Psyche Presenting Gifts to her Sisters* tapestry which underwent full-scale conservation work during this process, the Conservation Science Section carried out 1) a survey of adhesives used in the past on the tapestry, 2) measurement of color before and after the current conservation work, 3) a survey regarding the effects of cleaning agents, and 4) measurement of the temperature and relative humidity during transport of the tapestry.

1) First in regards to the question of adhesives, as part of the removal of the inner backing layer a very small thread sample with an attached lump of residue adhesive was removed and the adhesive analyzed. This analysis confirmed that it was a starchy adhesive that did not include any protein matter.

2) Color analysis was conducted using a spectrophotometer. These color measurements were from a small area of the surface before and after cleaning and restoration work. The aim of this process was both to

record any changes in color that occurred during the cleaning process, and to collect the basic data regarding the state of the object prior to ongoing condition management during future storage and handling in the museum. The cleaning process removed dirt which had accumulated over many years prior to its donation to the museum, and as a result of the cleaning, the tapestry is visibly lighter overall. In addition, the removal of the inner backing material before cleaning allowed us to measure color on an area of the back of the tapestry. Fading of colors was less apparent on the back of the tapestry than on the front surface. Data gathered in that assessment is very important for the study of dyestuffs used in the creation of the tapestry.

- 3) The time allotted for the cleaning process carried out at the Metropolitan Museum of Art, New York was extremely limited. Thus the NMWA staff conducted tests on the effects of cleaning materials in Tokyo prior to shipping the tapestry to New York in order to provide reference materials for the MMA staff as they determined which cleaning materials to use on the tapestry. Because the starchy adhesive mentioned above had quite seriously stained sections of the tapestry, the use of enzyme cleaning methods was considered. However, survey results indicated that there was a possibility that the use of such methods might result in bleeding of some dyes, and it was thus determined that enzymes would not be used.
- 4) It was recognized that changes in environment would occur when the tapestry was transported to New York for cleaning, and that such changes could cause warping and other deformation of the tapestry. This meant that a special transport crate that would lessen the influence of the fluctuation of the external environment had to be constructed for the work. A data logger was placed in the crate to record the temperature and relative humidity inside the crate during transport. These measures allowed conservation staff to confirm that the tapestry was shipped without major environmental condition changes.

2. Survey of Indoor Air Pollution within the NMWA Structures

Continuing from the installation of space dividers within NMWA galleries of the Main Building during fiscal year 2001, this year work was carried out to place windbreak doors in each gallery of the New Wing. The function of the windbreak doors is to lessen the influence of the changes of the external atmosphere on the galleries, to lessen the burden on the air conditioning system, and to provide a stable range of temperature and relative humidity in each room. Visitors' access to each room was also taken into consideration in this work. Each door consists of a pair of transparent reinforced glass doors, one that opens automatically and one that functions on a swing basis. As part of this construction work, the works displayed in the New Wing were briefly removed from exhibition, and testing of internal air pollution levels was conducted after the construction work was completed.

Since water-based wax used in cleaning the galleries might release a small amount of ammonia gasses which would have some effect on the art works displayed in those galleries, a comparative study of cleaning materials and their chemical composition, and the changes in air quality that occurred at set times after the application of the wax, were conducted with the cooperation of Chie Sano of the Tokyo National Research Institute for Cultural Properties. The results of these tests revealed that a small amount of ammonia was released into the air directly after the wax was applied, but since the amounts released were not remarkable, it was determined that the use of such wax was acceptable as long as proper ventilation methods were used during the application of the wax.

3. Miscellaneous

Starting with this fiscal year, surveys of vibrations that occur during the transportation of art works were conducted with Guest Researcher Toru Ishii of the Ishibashi Foundation. Further, X-ray radiography images were taken of paintings during conservation work on those paintings.

(Masahiko Tsukada)