Title

Studying and Conserving a Barkcloth from the Musée Cantonal d'Archéologie et d'Histoire, Lausanne, Switzerland

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Abstract

This research note presents a conservation project of a Polynesian barkcloth belonging to the Musée Cantonal d'Archéologie et d'Histoire in Lausanne, Switzerland. The aims of this project were to deepen existing knowledge about the history of this barkcloth using information gathered from available archives, to place it in time using macro- and microscopic observations and analysis of its materials, to place it geographically through a comparison with other barkcloth pieces kept in different museums, and to consolidate and secure the object for future studies or exhibitions.

Keywords: *barkcloth, tapa, conservation, Polynesia, Sāmoa*

Introduction

This research note, first presented at the Pacific Arts Association conference at the Musée du Quai-Branly—Jacques Chirac on September 14, 2022, is based on a section of the author's master's thesis on the conservation of a barkcloth (number MI/1611) stored at the Musée Cantonal d'Archéologie et d'Histoire (MCAH) in Lausanne, Switzerland (Fig. 1a–b).[1] At roughly 163 by 263 centimetres, it is the largest barkcloth in the MCAH's collection of twenty-one barkcloths.[2] The piece's width is identifiable by the unpainted edges, while the lower edge is probably one of the ends of its length, as the grid pattern does not continue (Fig. 1b). Prior to conservation in 2020, it was very damaged (Fig. 1a) and could not be studied or exhibited without risking further damage.

Figure 1a (top, before conservation) and 1b (bottom, following conservation in 2020). Unknown artist(s), barkcloth, possibly from Sāmoa, pre-March 1910. Pounded and painted tree bark, 163 x 263 cm. Musée Cantonal d'Archéologie et d'Histoire, MI/1611. Photographs by Nadine Jacquet (1a) and Nicolas Moret (1b). Courtesy of Musée Cantonal d'Archéologie et d'Histoire and La Haute École Arc Conservation-Restauration

I begin this research note with the history of the object from 1910 to the present, determined mainly from its movement through museums in Lausanne. I then present technical characteristics of the work through visual observations and chemical analysis. Lastly, I give an overview of the different treatments used for the object's conservation.[3] This note demonstrates the MCAH's aims to improve conservation conditions within the museum and increase knowledge about its ethnography collection in order to add to its scientific value. It also contributes to current thinking on the study and conservation of barkcloth.

History of MI/1611 in Lausanne's Museums

I discovered the first known mention of barkcloth MI/1611 in the Archive de la Ville de Lausanne (AVL), in the inventory register of the Musée d'Art Industriel (MAI).[4] We learn from curator Henri Lador's writings that the piece was donated or purchased from a "Mr. Delessert" in March 1910 and was given the inventory number 1903. Unfortunately, because this surname is relatively common in the state of Vaud, I have not been able to find more information about this person. Two interesting things about this first record of the piece are its description as an "Abyssinian carpet" ("*Tapis d'Abyssinie*") and its provenance given as being from "Africa" ("*Afrique*"). A theft-insurance document, dating from around 1910, was also in the AVL.[5] Addressed to the MAI, it lists the insurance price of various objects, among others an "Abyssinian hanging" ("*Tenture d'Abyssinie*"), with reference to the barkcloth. In addition to the change of its description (indicating the lack of knowledge about its function), it is interesting to note that, even as one of the lowest-value objects in the list, the barkcloth is given its own line, which could demonstrate the scientific and/or aesthetic value of this object for the MAI.

In a second MAI inventory register, dating from 1932 and written by then-curator Édith Porret, I found valuable information: the indication of the change of the object's inventory number from 1903 to 1611 (its current number) and dimensions that correspond to the barkcloth.[6] There is the also the first description of its materiality as "wood fibre board, cloth-like—paper used as carpet" ("*Panneau en fibre de bois genre étoffe—papier servant de tapis*").

The Musée Historique de Lausanne owns a photocopy of a 1950s inventory register titled *Catalogue des collections du Musée d'Art Décoratif de la Ville de Lausanne*.[7] This register includes a more detailed description of the barkcloth: "bark fibre panel, *paparyfera broussonetia* [*sic*], hand printed with black-red geom. patterns" ("*Panneau en fibre d'écorce de* paparyfera broussonetia [*sic*]

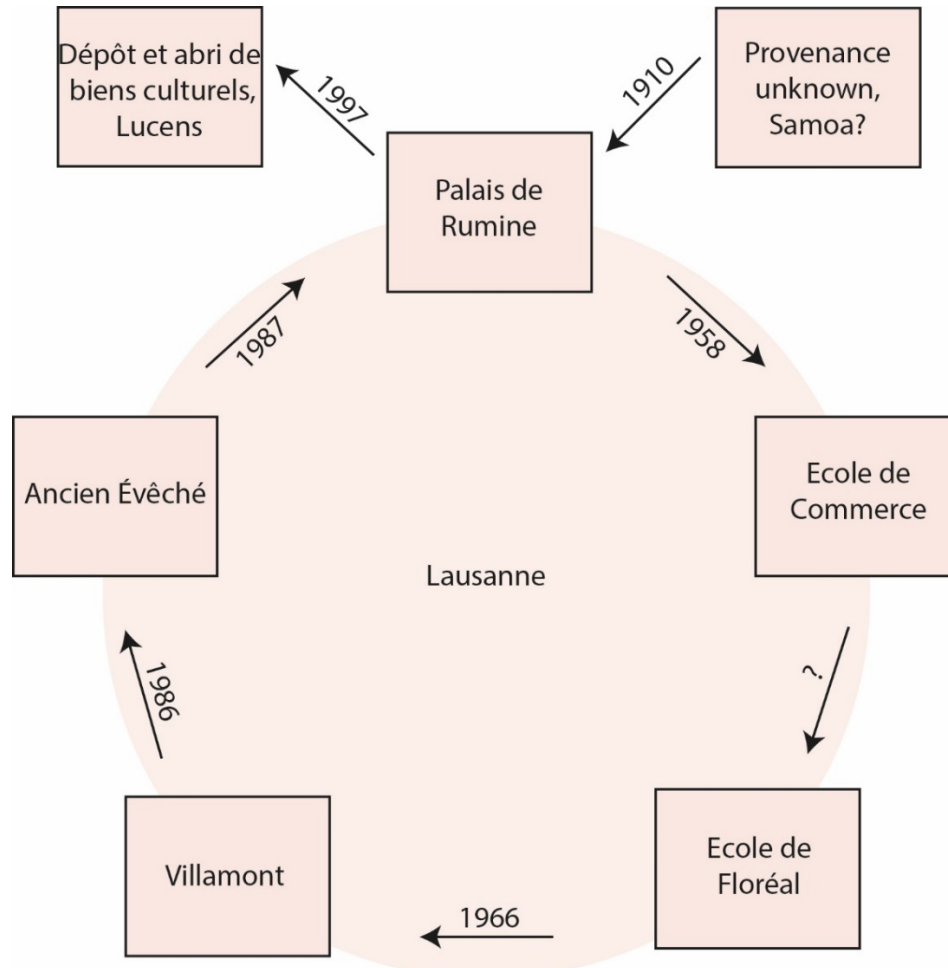*imprimé main de motifs géom. noir-rouge"*), but the piece is still attributed to be-ing from Abyssinia.

Figure 2. Diagram of the movements of barkcloth MI/1611 within Lausanne, 1910 to the present. Courtesy of Nicolas Moret and Musée Cantonal d'Archéologie et d'Histoire

Thanks to the previously mentioned documents and other works on the subject, I have been able to trace the movement of the barkcloth within Lausanne's museums (Fig. 2 and Table 1).[8] To date, I have not found any information about its origin and how it arrived in Lausanne. In March 1910, it entered the Musée d'Art Industriel in the brand-new Palais de Rumine.[9] The museum closed in 1958 due to lack of visitors, and the barkcloth was then stored with the rest of the collection in the attic of the École du Commerce, then later at the École de Floréal until 1966. Pierre Pauli, the curator at the Musée des Arts Décoratifs in the

1950s,[10] brought this collection to the museum's Villamont building, but in 1986 he decided to keep only the regional Swiss and Western European pieces of decorative arts. He gave the rest of the collection to the Musée de l'Ancien Évêché (now the Musée Historique de Lausanne). The following year, that museum divided up the collection and retained only the local historic pieces; the ethnographic collections were returned to the MCAH in the Palais de Rumine.

Date	Institution	Place
Prior to 1910	unknown	unknown
1910–1946	Musée d'Art Industriel	Palais de Rumine
1946–1952	Musée d'Art Industriel et Décoratif	
1952–1958	Musée d'Art Décoratif	
1958–1966	École de Commerce	École de Commerce
	École de Floréal	École de Floréal
1966–1986	Musée des Arts Décoratifs	Villamont
1986–1987	Musée de l'Ancien-Évêché	Ancien-Évêché
1987–1997	Musée Cantonal d'Archéologie et	Palais de Rumine
1997–present	d'Histoire	Dépôt et Abri de Biens Culturels, Lucens

Table 1. Summary of the Movements of Barkcloth MI/1611 within Lausanne Museums, 1910 to the Present. Courtesy of Nicolas Moret and Musée Cantonal d'Archéologie et d'Histoire

In 1997, a new storehouse, the Dépôt et Abri de Biens Culturels, opened in a former underground experimental nuclear power plant located next to the village of Lucens.[11] Most of the MCAH's collections, including barkcloth MI/1611 and other ethnographic objects, were moved to this location. Following the arrival of the current director, Dr. Lionel Pernet, the ethnographic collection attracted more interest, and objects within it became the subject of numerous studies.[12]

Techniques in the Manufacture of Barkcloth

Barkcloth is made from strips of the inner layer of tree bark that have been stretched through repeated pounding with a beater on an anvil, both of which are probably made of wood. Other techniques such as soaking the bark strips to relax the fibres or sun-drying them are sometimes involved in the process but proof

that MI/1611 underwent either of these processes could not be determined during this study.[13] In the case of MI/1611, the base layer is made with three or four layers of barkcloth pasted together, giving an area density of approximately 130 g/m^2 (Fig. 3).[14] Each layer is very thin; the final thickness is less than one millimetre. No beater marks are noticeable on barkcloth MI/1611 and there are no patterns on the reverse, which indicates that a rubbing board was not used (Fig. 4).[15] Fourier transform infrared spectroscopy (FTIR) analysis of the base layer found traces of curcumin, indicating that it may have been dyed with turmeric.[16]

Figure 3. Superposition of three layers of barkcloth MI/1611, non-pasted on the edges. Photograph by Nicolas Moret. Courtesy of Musée Cantonal d'Archéologie et d'Histoire and La Haute École Arc Conservation-Restauration
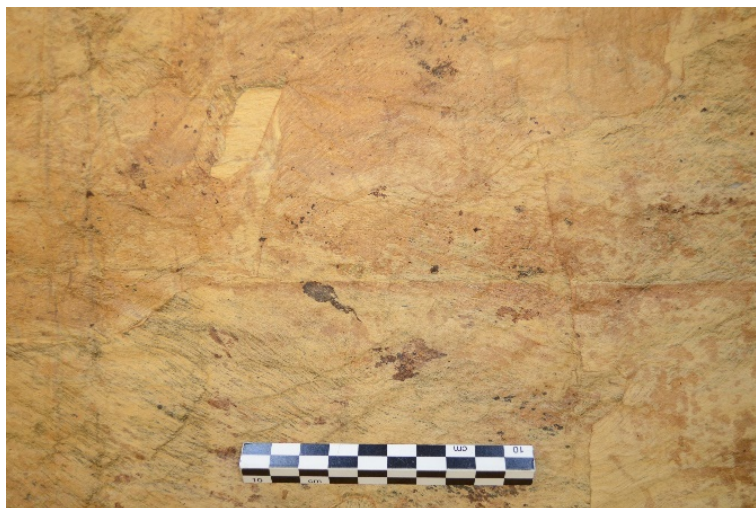

Figure 4. The back of barkcloth MI/1611 with the layers of beaten cloth visible, but showing no rubbed patterns or beater marks. Photograph by Nicolas Moret. Courtesy of Musée Cantonal d'Archéologie et d'Histoire and La Haute École Arc Conservation-Restauration

The pattern of barkcloth MI/1611 includes a hand-drawn red grid, inside which large red diamonds, alternating between vertical and horizontal orientation, are arranged. Each of these diamonds contains between one and three smaller concentric black diamond shapes, with the "two diamonds" variant appearing in eighty-one of the ninety-six diamonds (Fig. 5). The squares enclosing the diamonds are filled with thin black lines; smaller obliques emerge from some of the long lines, and each square has a unique design (Fig. 6).
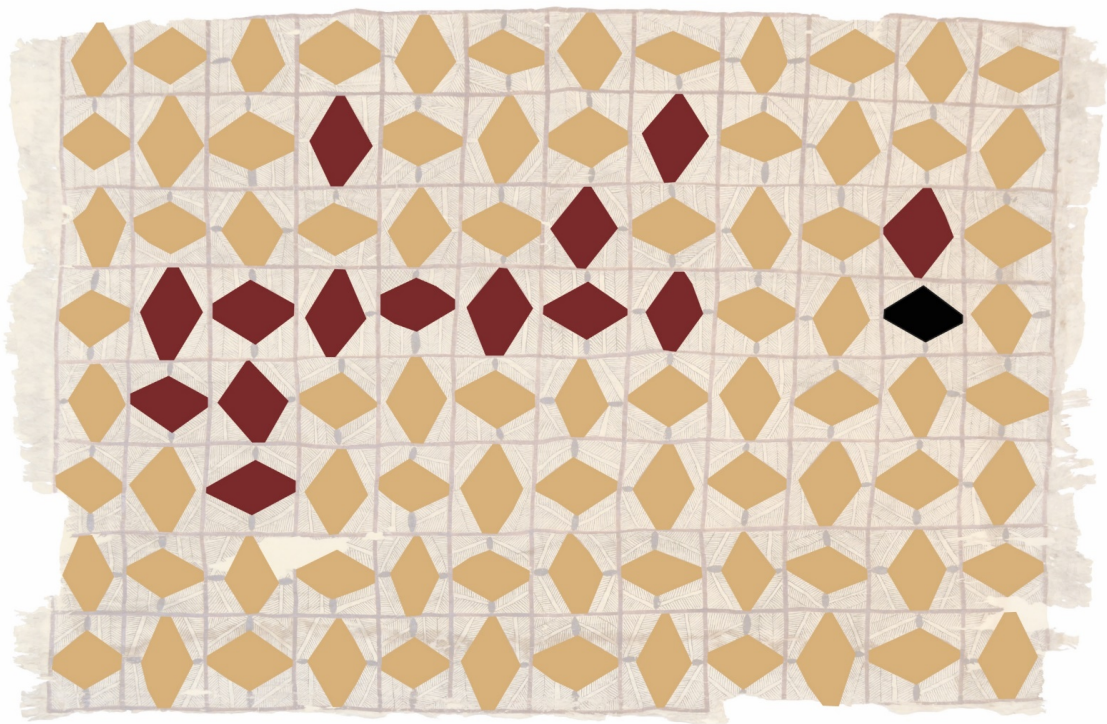

Figure 5. Layout of the different types of diamonds (top) and number of diamonds of each type (bottom) on barkcloth MI/1611. Photograph and drawing by Nicolas Moret. Courtesy of Musée Cantonal d'Archéologie et d'Histoire and La Haute École Arc Conservation-Restauration

Figure 6. Examples of the unique line patterns surrounding barkcloth MI/1611's diamond motifs. Photograph by Nicolas Moret. Courtesy of Musée Cantonal d'Archéologie et d'Histoire and La Haute École Arc Conservation-Restauration

To create the bold stripes of the grid and the diamonds, the maker(s) of barkcloth MI/1611 made a preliminary drawing using a matte red-pigmented substance before coating it with red or black glossy paint (Fig. 7). The maker(s) filled in the blanks with thin black lines as a second step, as these occasionally cover the bold stripes. In cross-section samples, a top layer made of vegetal gum can be seen (Fig. 8). FTIR analysis identified the red pigment as red ochre. Unfortunately, the black pigment remains unidentified but is likely a carbon-based substance such as soot.[17] The pasted inner bark layers, the colours and pigments used, the glossy layers over large lines, and the intricate diamonds in a grid pattern are all typical of barkcloth from Western Polynesia, especially Sāmoa.[18]
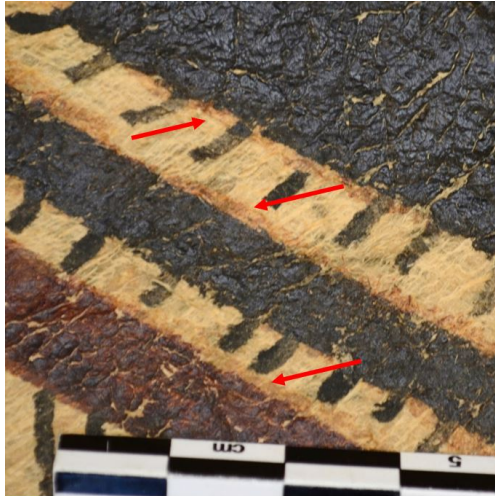
| Preliminary drawing in light red | Filling at the end |

Figure 7. Visual indications of the sequences of pattern creation in barkcloth MI/1611. Photograph by Nicolas Moret. Courtesy of Musée Cantonal d'Archéologie et d'Histoire and La Haute École Arc Conservation-Restauration
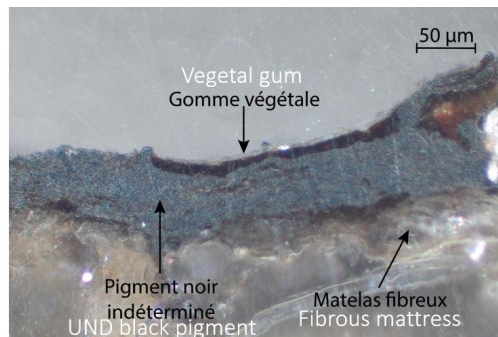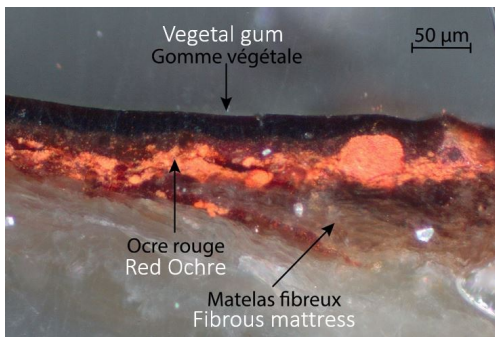

Figure 8. Cross-sections of the red (left) and black (right) pigment samples of barkcloth MI/1611. Photographs by Nicolas Moret. Courtesy of Musée Cantonal d'Archéologie et d'Histoire and La Haute École Arc Conservation-Restauration

Conservation Treatment of MI/1611

Prior to its conservation treatments, barkcloth MI/1611 was rolled around a small cardboard tube (Fig. 9). It was very fragile due to years of mishandling, poor packaging, poor conservation, and improper mounting; these resulted in tears, gaps, folds, dust, and stains. Because it was very damaged, especially in the lower part (Fig. 10), it was risky to unroll it entirely, as it could easily be further damaged; thus, it was unsuitable for study or exhibition. The following section describes the main alterations and conservation treatments conducted on barkcloth MI/1611 by the author in 2020.[19]

Figure 9. The packaging of barkcloth MI/1611 before conservation treatments. Photograph by Nicolas Moret. Courtesy of Musée Cantonal d'Archéologie et d'Histoire and La Haute École Arc Conservation-Restauration
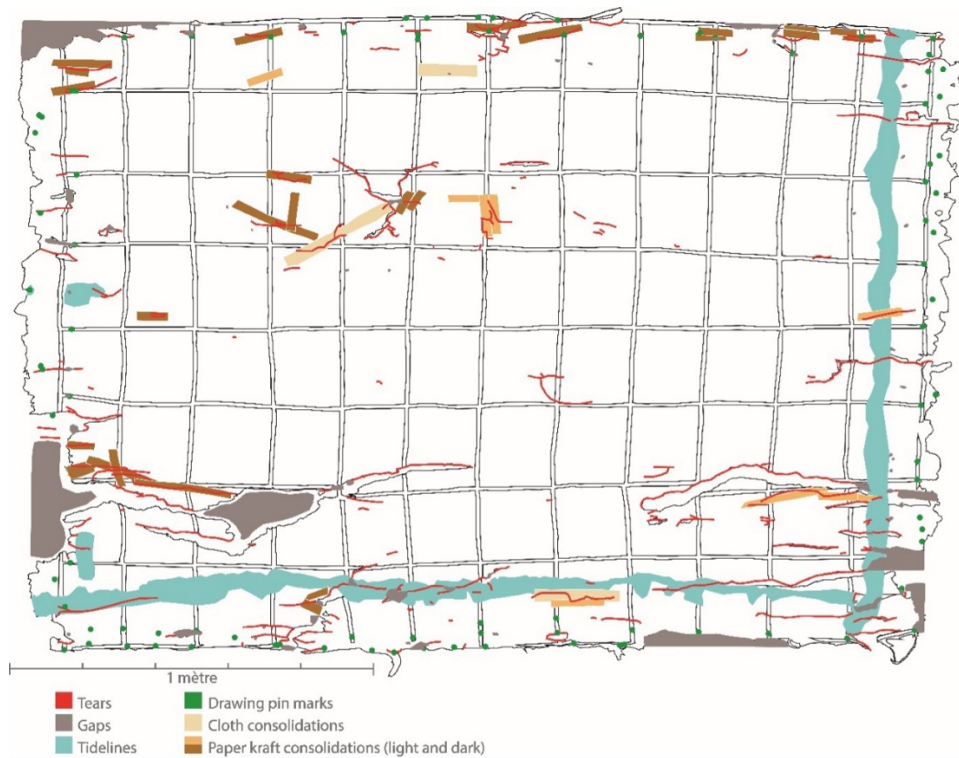

Figure 10. Mapping of the damage appearing on both sides of barkcloth MI/1611 before conservation treatments. Drawing by Nicolas Moret. Courtesy of Musée Cantonal d'Archéologie et d'Histoire and La Haute École Arc Conservation-Restauration

Prior to conservation, the barkcloth had approximately 180 tears, ranging from one to seventy centimetres in length; when added together, they totalled more than sixteen metres. Most of the tears were in the direction of the fibres and were often related to the way the piece had been folded. I consolidated these tears using Japanese paper of different weights, pasted with a mixture of tapioca and wheat starch that had been tinted with acrylic paint to resemble the background colour.[20] I flattened the folds with a cold steam-producing ultrasonic nebuliser and then dried them between blotting paper, using weights.

Sixty-eight gaps of various sizes were spread across the barkcloth. The losses were approximately the area of an A3 paper sheet or 2.7% of the cloth's surface. I filled gaps with two layers of Japanese paper, to better match the thickness of the barkcloth, and the same starch mixture used with the tear consolidation. The museum decided that, because the barkcloth can be studied in its current state of conservation and it will not be exhibited soon, there is no need to reproduce the missing patterns in any way. Because conservation treatments evolve over time, particularly in terms of aesthetic interventions, work on reproducing the missing patterns could be done in the future.

Two long and dark brown "tidelines"—marks created by a liquid on a substrate containing soluble and coloured particles—appeared on two sides of the barkcloth (see Figs. 1a and 10). The horizontal tideline was likely the result of water damage that occurred when the barkcloth was stored in an attic. Whenever this tideline was discovered, the barkcloth was simply turned a quarter-turn to dry. This resulted in more water damage, which produced the vertical tideline. The same thing happened a second time. I faded these tidelines by using multiple applications of agar gel, which dissolves and absorbs water-soluble compounds simultaneously (Fig. 11). It was impossible to remove the tidelines completely, but they are less visible now and the pH is less acidic.

The linearity of both tidelines suggests that they occurred while the barkcloth was framed. A note on the side of the page from the *Catalogue des collections du Musée d'Art Décoratif de la Ville de Lausanne* confirms that the barkcloth was "mounted on a wooden frame" ("*monté sur un cadre en bois*"); this would have been done prior to the 1950s, based on the estimated date of the catalogue.[21] As well as indicating that the object was probably on display for a time, this reference to a frame correlates with other observations I made during the conservation of the object: there are two wear-lines on the bottom resulting from friction actions. In addition, between seventy to ninety drawing-pin holes are visible all around the barkcloth's edges, some of them with round rusting marks.

From this evidence, the mounting system that was used when the barkcloth was framed can be extrapolated (Fig. 12).
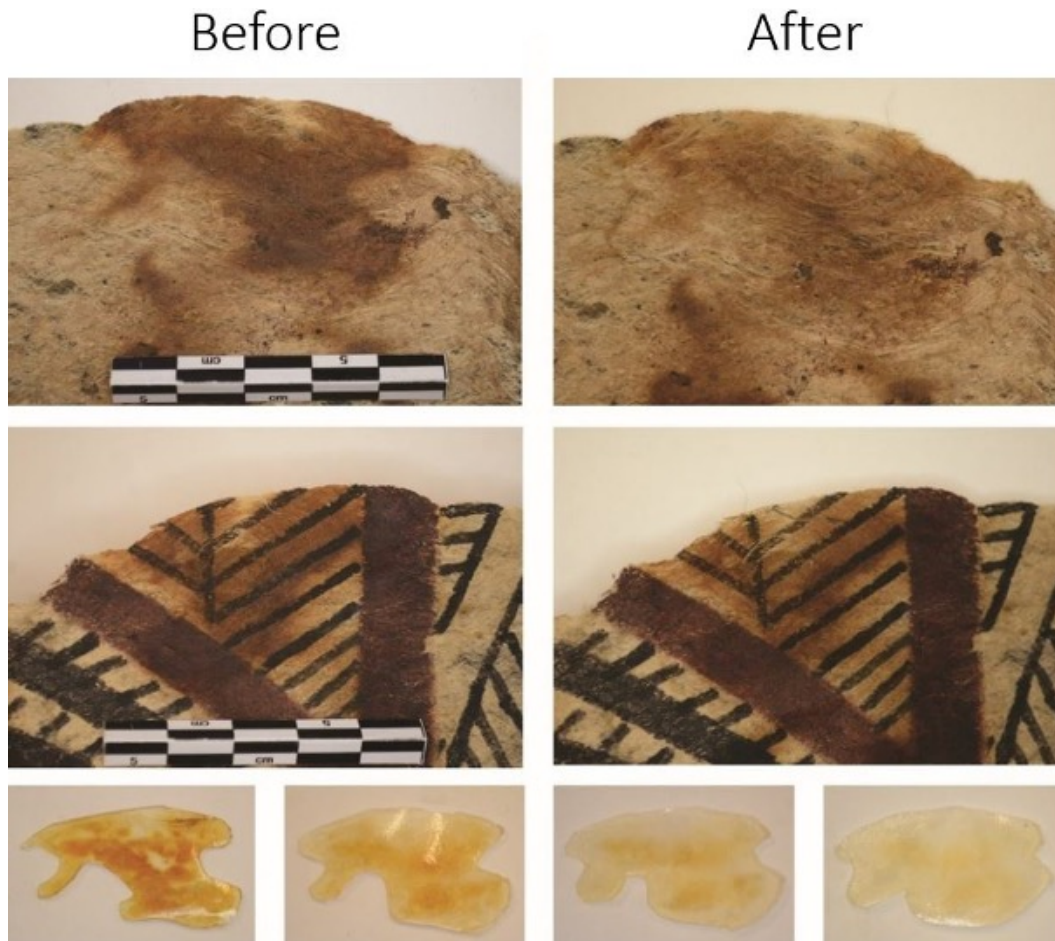

Figure 11. Barkcloth MI/1611's tidelines (top) were reduced with four applications of agar gel (bottom). Photographs by Nicolas Moret. Courtesy of Musée Cantonal d'Archéologie et d'Histoire and La Haute École Arc Conservation-Restauration

Prior to its restoration in 2020, thirty-eight previously done consolidation repairs were still present on the back of the barkcloth. Unfortunately, there is no record of who made these consolidations or when they were done. Most of them were made with kraft paper glued to the barkcloth with animal gelatin, while some were made with textile pieces affixed to the barkcloth with PVC-based adhesive (Fig. 13). These remnants of repair demonstrate the care given to the object since it entered the museum. I removed the old consolidations by using cold steam to soften the animal gelatin and using only a scalpel for those fixed with a PVC-based adhesive.[22]
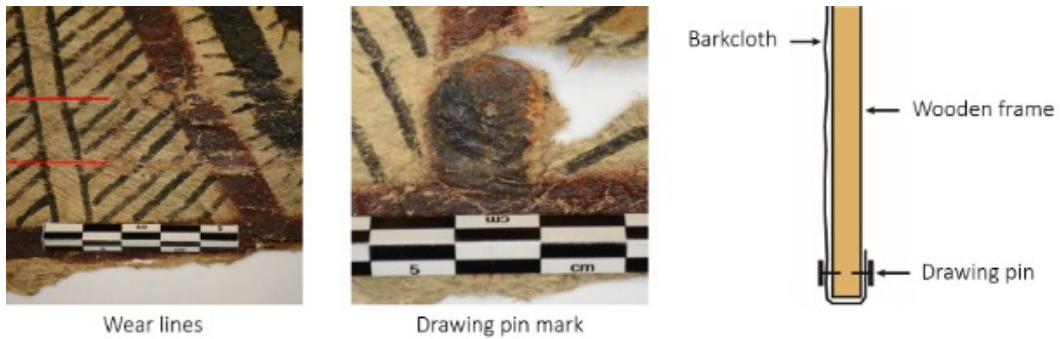
Figure 12. Evidence of the mounting system used for barkcloth MI/1611 and an extrapolation of its construction. Photographs and drawing by Nicolas Moret. Courtesy of Musée Cantonal d'Archéologie et d'Histoire and La Haute École Arc Conservation-Restauration
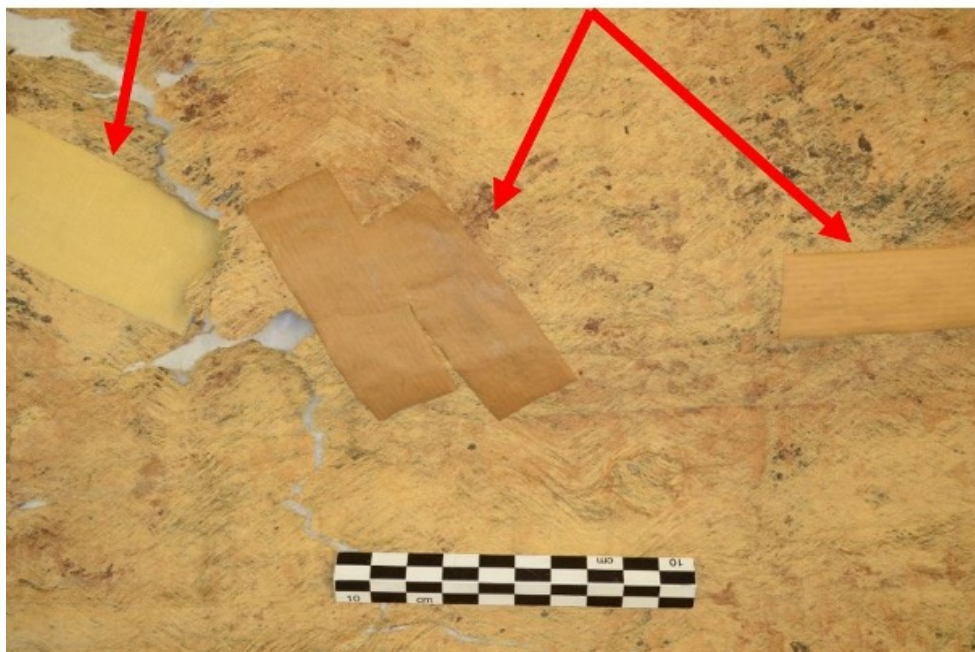

Figure 13. Different types of existing consolidations on the back of barkcloth MI/1611. Photograph by Nicolas Moret. Courtesy of Musée Cantonal d'Archéologie et d'Histoire and La Haute École Arc Conservation-Restauration

As a final step in the conservation of barkcloth MI/1611, I built it a new rolled packaging, made out of a large synthetic tube covered with cotton, for its storage. Before being rolled around the tube, the barkcloth was placed on a sheet of polyethylene non-woven fabric (Tyvek®).

Conclusion

Thanks to records of the movements of barkcloth MI/1611 through different collections, it is possible to better understand the histories of the museums in Lausanne and their interconnections. The MAI inventory catalogue allows us to know exactly when the barkcloth entered the public collection: in March 1910. No information has been found about its previous history and its "Abyssinian" provenance, which indicates that it was probably poorly or erroneously documented at the beginning.

Materially and technologically, it is very interesting to see improvements in the description of the barkcloth over time. Observations made prior to its conservation treatments allow us to bring the object closer to its true origin, which seems to be Western Polynesia and more likely Sāmoa.

The conservation treatments I conducted on the barkcloth give it better structural resistance, allowing the object to be safely studied in the future. If needed for an exhibition, the pattern over the now-filled gaps could be completed by following current ethical guidelines about aesthetic interventions. Source communities could be consulted regarding their point of view on how the design should be reconstructed. Also, if the new consolidations prove to be not suitable, they are easily removed, thanks to the starch mixes used.

This object now has an increased scientific value as it is better documented. New research could be undertaken to clarify the geographical origin of this barkcloth, in particular through a more in-depth study of its design motifs. Research into the identity and life of its donor, Mr. Delessert, would also be of interest in determining the object's path to the museum. With regard to the conservation of the object, it would be worthwhile to follow the evolution of conservation practices in terms of whether or not motifs are restored to the large gaps in Polynesian barkcloth. In addition, monitoring the progress of the conservation treatments carried out in 2020 will enable us to assess their compatibility with the medium over a long term.

Nicolas Moret is a conservator at the Musée Cantonal d'Archéologie et d'Histoire (MCAH) in Lausanne. He completed a bachelor's degree in preventive conservation and a master's degree in conservation-restoration of archaeological and ethnographic objects at the Haute École-Arc in Neuchâtel, Switzerland. His bachelor's thesis focused on the conditioning of South American hammocks conserved at the Musée d'Histoire de Berne. His master's thesis was on the conservation-restoration

of barkcloth MI/1611 and on a report on the state of conservation of the barkcloth collection of the MCAH.

Notes

[1] Nicolas Moret, "Les *tapa* du Musée cantonal d'archéologie et d'histoire de Lausanne: Conservation-restauration du spécimen MI/1611 et projet de conservation-restauration pour la collection" (master's thesis, Haute-École ARC, Neuchâtel, 2020), https://sonar.ch/hesso/documents/313426. This conservation thesis was carried out in the MCAH conservation laboratory under the supervision of David Cuendet (chief conservator) and Karen Vallée (conservator). Mentoring was provided by Claire Musso (independent conservator from the Paris area, France).

[2] The other pieces of barkcloth at the MCAH, mainly from Oceania but also from Africa, are presented in the author's master's thesis; see Moret, "Les *tapa*," 2020. Some inventory numbers contain several pieces or cut pieces. Further information about the MCAH's ethnographic collection can be found in Claire Brizon, "Voyageurs, naturalistes et militaires. Des collectes dans les îles du Pacifique et de l'océan Indien aux réserves du Musée cantonal d'archéologie et d'histoire à Lausanne," *PatrimoineS. Collections cantonales vaudoises* HS1 (Lausanne: Musée cantonal d'archéologie et d'histoire, 2019), http://theexotic.ch/wp-content/uploads/2019/01/Patrimoines_HS1-MCAH-WEB.pdf; Claire Brizon, Claude Leuba, and Lionel Pernet, "Musée Cantonal d'Archéologie et d'Histoire, Lausanne," in *Collecting in the South Sea: The Voyage of Bruni d'Entrecasteaux 1791–1794*, ed. Bronwen Douglas, Fanny Wonu Veys, and Billie Lythberg (Leiden: Sidestone Press, 2018), 175–83, http://theexotic.ch/wp-content/uploads/2018/12/12BrizonEtAl2018Ch12MCAHLausanne.pdf; and *Comptoir ethnographique sous la responsabilité de Nicole Froidevaux et Alain Monnier* (Lausanne: Musée cantonal d'archéologie et d'histoire, 1997), https://www.mcah.ch/fileadmin/groups/2/Publications_MCAH/PDF_Documents_du_Musee/1997_-_Comptoir_ethnographique.pdf.

[3] For in-depth details, see Moret, "Les *tapa*," 2020, and Nicolas Moret, "Barkcloth conservation at the Musée cantonal d'archéologie et d'histoire in Lausanne (CH); Managing a Master's thesis with the Covid-19 pandemic," *ICOM-CC Objects from Indigenous and World Cultures: Conservation Newsletter* 6 (June 2022): 8–16, https://www.icom-cc.org/en/newsletters/objects-from-indigenous-and-world-cultures-newsletter-6_june-2022.

[4] Archives de la Ville de Lausanne (AVL): 328/8086, envelope no. 5: "Registre d'entrée des collections du musée, août 1909–14 mai 1931, Nos 1800–3168," one document. The MAI was opened in 1909 with the artistic and ethnographic objects of the Musée Industriel, which had been created in 1862 by Théophile Gaudin thanks to the patronage of Catherine de Rumine. The aim of this predecessor institution was to assemble a collection documenting the main materials used by

man, as well as their transformation, for the benefit of young people and workers. AVL: 328/8086, envelope no. 1: "Plan général de la collection industrielle de Lausanne" with Charles-Théophile Gaudin et Gabriel de Rumine's preface, Lausanne, 1861, 16 p. (two copies of the same document, one without the title page).

[5] AVL: 329/8087, envelope no. 6: "Copie de l'évaluation approximative des collections du musée, remise à la compagnie d'assurance sur la vie et contre l'incendie, L'Union, à Lausanne (montant Fr. 70'000.-)," around 1910, one document. The given average date is assumed by the AVL. In all cases, the document cannot be older than March 1910, the date when barkcloth MI/1611 entered the collection, or younger than 1946, when the MAI was re-named Musée d'Art Industriel et Décoratif.

[6] AVL: 328/8086, envelope no. 6: "Catalogue des objets des collections du musée, à savoir objets anciennement acquis, récoltés et les autres, cotés au fur et à mesure de leur entrée, avec en regard les résultats d'un récolement des collections et l'attribution de nouvelles cotes, la désignation des objets, leur provenance, donateurs, achat et prix (concerne les Nos 1 à 2600)," [1932]–1959, one document.

[7] Musée Historique de Lausanne, "Catalogue des collections du Musée d'art décoratif de la Ville de Lausanne," n.d. [photocopy]. The original catalogue has not been found.

[8] Isaline Deléderray, "Une princesse russe, un précepteur et leurs successeurs au service d'une idée nouvelle au XIXe siècle; Le Musée industriel de Lausanne (1856 à 1909)" (master's thesis, University of Neuchâtel, 2011), https://www.peristyle.ch/publication/8498-une-princesse-russe-un-precepteur-et-leurs-successeurs-au-service-dune-idee; Catherine Kulling, "Le Musée industriel de Lausanne: une idée originale et ses avatars," *Mémoire vive: pages d'histoire lausannoise* 4 (1995): 17–33; Catherine Kulling, *Musée historique de Lausanne; Les collections du Musée industriel; Catalogue* (Lausanne: Musée historique de Lausanne, 2014).

[9] The museum changed its name twice—becoming the Musée d'Art Industriel et Décoratif in 1946 and the Musée d'Art Décoratif in 1952—corresponding to shifting interests in its collections.

[10] Now the MUDAC (Museum of Contemporary Design and Applied Arts).

[11] The PAA (Pacific Arts Association) visited the Dépôt et Abri de Biens Culturels in 2017 during its meeting at the Musée d'Ethnographie de Genève. The power plant closed in 1969 after a nuclear accident and the state decided to reallocate it as a cultural goods storage for different institutions.

[12] Claire Brizon, "De la collecte à l'usage: Les artefacts du cabinet de l'Académie de Lausanne au 18e siècle," *Colligo* 1, no. 1 (2018): 57–67, https://perma.cc/P5LG-KZS3; Claire Brizon, "Collections coloniales? L'implication de la Suisse dans le processus d'expansion coloniale européen au siècle des Lumières," *TSANTSA* 24 (May 2019): 24–38, http://theexotic.ch/wp-content/uploads/2020/05/Tsantsa-collection-coloniales-2.pdf; Claire Brizon, Pierre Crotti, Vincent Fontana, and Claire Huguenin, "Musée cantonal d'archéologie et d'histoire," *PatrimoineS. Collections cantonales vaudoises* 3 (2018): 68–81,

https://mcah.ch/fileadmin/groups/2/Publications_MCAH/Patrimoines/Patri-moines3_WEB.pdf; Lionel Pernet, "Musée cantonal d'archéologie et d'histoire," *PatrimoineS. Collections cantonales vaudoises* 2 (2017): 22–31, https://mcah.ch/fileadmin/groups/2/Publications_MCAH/Patrimoines/Patri-moines2-WEB.pdf; Lionel Pernet, Jérôme Bullinger, Pierre Crotti, and Claire Hu-guenin, "Histoire des collections," in *Révéler les invisibles. Collections du Musée cantonal d'archéologie et d'histoire, Lausanne 1852–2015*, ed. Lionel Pernet (Gol-lion, Switzerland: Infolio, 2017), 18–21.

[13] Simon Kooijman, *Tapa in Polynesia*, Bernice P. Bishop Museum Bulletin 234 (Honolulu: Bishop Museum Press, 1972), 415–33; Mary J. Pritchard, *Siapo: Bark Cloth Art of Samoa* (Pago Pago: American Samoa Council on Culture, Arts and Hu-manities, 1984), 22–31.

[14] The type of paste used could not be identified but it is probably a kind of starch or a plant mucilage. It was not possible within the scope of this study to precisely identify the fibres that make up the barkcloth, but the main plants used in the making of barkcloth were *Broussonetia sp.*, *Artocarpus sp.*, and *Ficus sp.* Kooijman, *Tapa in Polynesia*, 1.

[15] Rubbing boards are flat objects, often quadrangular, with motifs in relief (carved wood or assembled plant materials). They are placed under the barkcloth and a colouring substance is rubbed on the barkcloth to reveal the patterns underneath.

[16] Moret, "Les *tapa*," 55, 204.

[17] Moret, "Les *tapa*," 56, 200.

[18] See "Samoa Islands," in *Tapa: De l'écorce à l'étoffe, art millénaire d'Océanie de l'Asie du Sud-Est à la Polynésie orientale*, (Paris: Somogy Editions d'Art, 2017), 248–71, https://issuu.com/baranes/docs/tapa_2017__extrait_; Kooijman, *Tapa in Polynesia*, 210–48, 415–56; or Pritchard, *Siapo*. The closest example I have found in a museum collection to date is barkcloth number 99-15-70/53903 at the Peabody Museum of Archaeology and Ethnology, Harvard University. Purchased in 1899, it has a grid with concentric red and black diamonds inside each square, but it has also a rubbing-block pattern on the back which is missing on barkcloth number MI/1611. See https://collections.peabody.harvard.edu/objects/details/87062?ctx=2b05212ac88e5fca026c19d91e257a5311abd282&idx=369.

[19] This section is only an overview of the conservation treatments described in Moret, "Les *tapa*," 2022.

[20] I chose Japanese paper and a mix of tapioca and wheat starch after numerous tests, but mainly because of their stability over time, their ease of removal, and their proximity with the materials used to make barkcloth. Moret, "Les *tapa*," 112–3.

[21] Musée Historique de Lausanne, "Catalogue des collections."

[22] They are now stored with the object.