

IN 2016, THE CORNELL UNIVERSITY LIBRARY'S (CUL) CONSERVATION LAB TREATED A COLLECTION OF BARKCLOTH FROM THE CORNELL COSTUME AND TEXTILE COLLECTION (CCTC) IN PREPARATION FOR DIGITIZATION. THE BARKCLOTH COLLECTION CONSISTED OF 12 PIECES OF VARYING DIMENSION AND CONDITION, WITH ORIGINS THROUGHOUT POLYNESIA.

APPROACH TO CONSERVATION TREATMENT WAS GUIDED BY:

FAMILIARITY OF RAW MATERIAL—To anticipate how the barkcloth will react in treatment, over time, and in different environmental conditions

AWARENESS OF HISTORIC AND CULTURAL SIGNIFICANCE—To recognize past and present value

KNOWLEDGE OF MANUFACTURING PROCESSES—To explain observable characteristics, identify qualities of historic and artifactual significance, possibly suggest a place of origin

CONSULTATION WITH LITERATURE AND COLLEAGUES—To identify treatment practices, offer options, and inform decisions

OBJECTIVE OF DIGITIZATION—To create a complete visual record of the barkcloth collection, and to add the collection to the CCTC's online database

OBJECTIVE OF CONSERVATION TREATMENT—To improve condition concerns impeding quality of image capture and safe handling, and to provide a long-term storage solution

IMPACT OF DIGITIZATION INITIATIVE—Expansion of the CCTC online catalog, improved condition of the barkcloth, updated storage solutions, improved access for use in instruction and research

LESS OF YOU, MORE OF MY ANCESTORS

Conservation Treatment and Digitization of Polynesian Barkcloth

THE CAUSES OF DETERIORATION

ARE ROOTED IN THE BARKCLOTH'S HISTORY EXTENDING FROM THE TIME OF MANUFACTURE AND PROCESSES INVOLVED TO USE AS FUNCTIONAL OBJECTS AND ENVIRONMENTAL CONDITIONS OF PREVIOUS STORAGE.

The dyes, pigments, resins, gums, paints, and oils used to decorate and finish the barkcloth can become faded and brittle over time. As a result, the media begins to flake. Consequently, the cloth below the colored area also becomes brittle and stiff—breaking, tearing along folds, or separating along the grain—all leading to loss.

(SHOWN TO THE LEFT: TIGHTLY FOLDED AND BRITTLE BARKCLOTH RESULTING IN DEEP CREASES AND UNDULATIONS)



SURFACE CLEANING: (TOP) TRADITIONAL CLEANING METHODS (A SPONGE OR BRUSH DIRECTLY APPLIED TO THE SURFACE) PROVED TOO ABRASIVE FOR THE MORE FRAGILE AREAS. SURFACE SOIL WAS REDUCED PRIOR TO HUMIDIFICATION BY VACUUMING WITH A NILFISK HEPA VACUUM THROUGH A SCREEN.

HUMIDIFICATION: (BOTTOM) FELTED GORE-TEX (SPRAYED WITH FILTERED WATER) WAS USED TO RELAX AND RESHAPE THE PIECES OF BARKCLOTH. THE OVERSIZED CLOTH SHOWN ABOVE WAS HUMIDIFIED IN SECTIONS—HALF OF THE ITEM PLACED BETWEEN THE GORE-TEX, THE OTHER HALF KEPT ROLLED ON A TUBE.



THE HUMIDIFIED HALF WAS THEN DRIED BETWEEN BLOTTERS AND UNDER LIGHT WEIGHT. ONCE DRY, THE PROCESS WAS REPEATED FOR THE OTHER HALF.

STABILIZATION: (ABOVE LEFT) A VERTICAL TEAR EXTENDING NEARLY THE FULL LENGTH (2.3 METERS) OF THE CLOTH. THE DYE LAYER SURROUNDING THIS TEAR WAS EXTREMELY BRITTLE AND FLAKING. THE CLOTH ON EITHER SIDE OF THE TEAR WAS BRITTLE, SHREDDED AND MANGLED. (ABOVE RIGHT) TEMPORARY, REVERSIBLE BRIDGE MENDES WERE PLACED ON THE RECTO TO HOLD THE CLOTH IN POSITION AND ENSURE PROPER ALIGNMENT BEFORE MENDING ON THE VERSO.



A TONED JAPANESE TISSUE APPLIED WITH WHEAT STARCH PASTE WAS USED TO STABILIZE TEARS AND AREAS OF LOSS. WHEAT STARCH PASTE HAS THE DESIRED QUALITIES OF REVERSIBILITY AND STRENGTH. IT IS ALSO MOST SIMILAR TO THE PLANT BASED ADHESIVES, IF ANY, THAT WERE USED IN THE MANUFACTURE OF BARKCLOTH. SIMILARLY, JAPANESE TISSUE IS MADE FROM THE PAPER MULBERRY, AS WAS MUCH OF THE BARKCLOTH FOUND THROUGHOUT POLYNESIA. ITS LONG FIBERS OFFER STRENGTH AND A SYMPATHETIC TEXTURE TO THE CLOTH. (TOP) RECTO, BEFORE AND AFTER TREATMENT. (BOTTOM) VERSO, BEFORE AND AFTER TREATMENT.

TREATMENT

PROVIDING THE APPROPRIATE LEVEL OF TREATMENT WITHOUT COMPROMISING THE HISTORIC INTEGRITY WAS GUIDED BY THESE SUCCINCTLY STATED WORDS OFFERED BY A COLLEAGUE: "LESS OF YOU, MORE OF MY ANCESTORS."

TREATMENT AIMED TO ADDRESS:

- CONDITIONS IMPEDING QUALITY IMAGE CAPTURE—undulations incurred from rolled and folded storage
- CONDITIONS PREVENTING SAFE HANDLING AND TRANSPORT, BOTH DURING IMAGE CAPTURE AND IN FUTURE USE—flaking dyes, areas of brittleness and loss, large tears, shredded cloth

TREATMENT PROVIDED THE BARKCLOTH strength to withstand being rolled and unrolled multiple times during transport, during imaging, for final storage, and future use

TO THE LEFT ARE IMAGES OF TREATMENT STEPS FOR ONE PIECE OF BARKCLOTH WITHIN THE CCTC COLLECTION.

STORAGE

BALANCING THE IDEAL WITH THE REALISTIC TO SAFEGUARD FROM FURTHER DETERIORATION OR DAMAGE

IDEAL—FLAT STORAGE

- Within the CCTC collection, barkcloth that could fit in existing flat file map cases, were stored flat in 10 pt. archival paper folders.

REALISTIC—ROLLED STORAGE

- Oversized pieces were rolled on a 4.5 inch archival tube padded with Ethafoam and a polyester film cover.
- The barkcloth was rolled face up with Hollytex interleaving.
- An additional cover of polyester film was rolled around the tube to protect from dust and sealed with double-sided Velcro.
- A thumbnail image on the outside of the roll provided identification to limit unnecessary handling.



DIGITIZATION

CHALLENGES

- OVERSIZED DIMENSIONS REQUIRED SETTING UP ON THE FLOOR WITH THE CAMERA ABOVE ON A MOTORIZED COLUMN.
- MULTIPLE SHOTS WERE NEEDED TO CAPTURE THE FULL BARKCLOTH
- THIS PROCESS INVOLVED PARTIAL UNROLLING, REPOSITIONING UNDER THE CAMERA, AND RE-ROLLING TO ACCESS THE NEXT SECTION OF BARKCLOTH.



TECHNOLOGY

A PHASE ONE IQ3 100-MEGAPIXEL DIGITAL BACK AND DIGITAL TRANSITIONS DT RCAM WAS USED TO CAPTURE A HIGH QUALITY RAW IMAGE. SETUP FOR EACH IMAGE REQUIRED CALIBRATION AND FOCUS OF THE CAMERA AND TIME TO REPOSITION THE CLOTH. A LIVE VIEW ON THE COMPUTER SOFTWARE HELPED CAPTURE THE CLOTH IN SECTIONS. THE CAMERA IS ABLE TO CAPTURE 1 METER PER SHOT. THE LARGEST PIECE OF BARKCLOTH REQUIRED 15 SHOTS PER SIDE (LEFT). A COMPOSITE IMAGE IS PRODUCED THROUGH PHOTOSHOP (RIGHT).