



When Modern Materials Fail: Rehabilitation of a Taxidermy Orangutan

Fran Ritchie, Graduate Student, Buffalo State College; Jonathan Thornton, Objects Professor, Buffalo State College; Dr. Aaron Shugar, Conservation Scientist, Buffalo State College

Introduction: This juvenile female orangutan died at the Buffalo Zoo in 1966 and was mounted by an amateur taxidermist. The specimen was given to the Buffalo Museum of Science in Buffalo, NY, where it was on display until 2002. Damage occurred during de-installation due to the failure of non-traditional materials added to the mount. The specimen was conserved in the Spring of 2012 at Buffalo State College.

Note of Safety: XRF and X-radiography determined that no heavy metals were on or in the specimen.

Investigation: The original display mounting method failed causing extensive damage to the joining features. The specimen required removal; the materials and construction required investigation prior to treatment.



Left: Specimen on original driftwood display mount; Right: Proper left hand torn and pulling from mount.



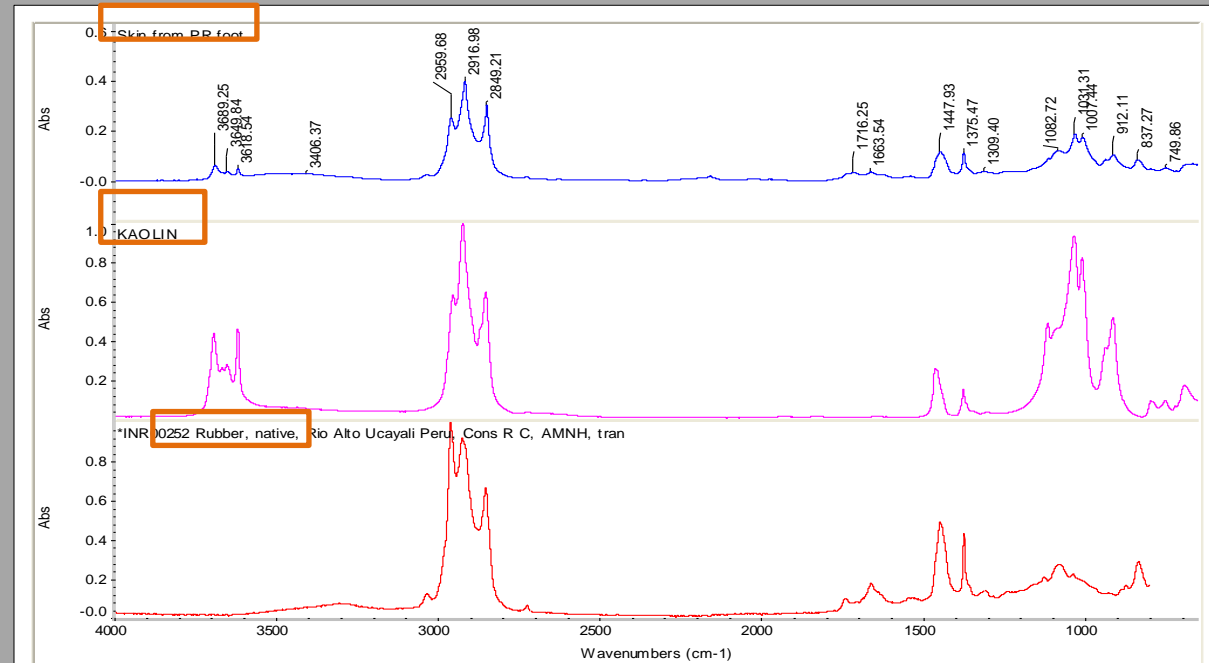
Response: The specimen was removed from the display mount by prying out nails and collecting broken finger fragments. Running ATR-FTIR on skin samples confirmed that the taxidermist replaced the palm skin and pads of feet with latex rubber. X-radiography revealed the internal support.



Above: X-radiograph superimposed on normal illumination photograph.



Above left: Rubber pulling away from original skin



Above right: ATR-FTIR spectra comparing specimen sample, natural rubber, kaolin.

Damage and repair: The hands and feet were ripped and torn with several fingers broken or detached due to poor mounting.



Left: Proper left hand

Right: Proper right hand (detached fingers recovered but not pictured).



Left: Circular toned fill tissue infused with BEVA film beside hole in proper left foot.



Right: Toned tissue applied to exposed BEVA where original rubber no longer aligned and in-painted.

Response: Tears were repaired and fingers reattached using toned Japanese tissue infused with BEVA film on the rubber, and spun polyester flocked with BEVA on the thicker leather pieces (tops of hands and feet).



Above: Lining the interior of splits with toned tissue infused with BEVA.



Below: After setting the linings using heat.

Repairing Mount: The specimen needed a new display mount that could support it without further damaging the deteriorating latex rubber.

Response: Threaded metal rods were inserted into the hands and proper right foot, all secured with epoxy, to bridge the internal and external supports.



1. The batting was removed from the proper right hand and a hole drilled into the plaster. 2. An epoxy-coated wooden peg with threaded metal rod inserted into drilled hole. 3. Palm reconstructed/reinforced with lightweight spackle. 4. Fingers reattached.

Mounting Response, cont.: A new display support mount was constructed from a prefabricated polyester resin branch and by casting additional epoxy branches to fit the specimen's limbs. The threaded rods from the specimens were inserted into the new mount (see photo below), secured with nuts, covered with lightweight spackle, painted, and documented in an X-radiograph (see photo to the right).



Seam and Loss Repair: The amateur taxidermist mounted the orangutan with misaligned hide and wide, obvious seams.

There were areas of skin loss throughout, present as lighter areas in the dark skin. The aesthetic value was compromised.



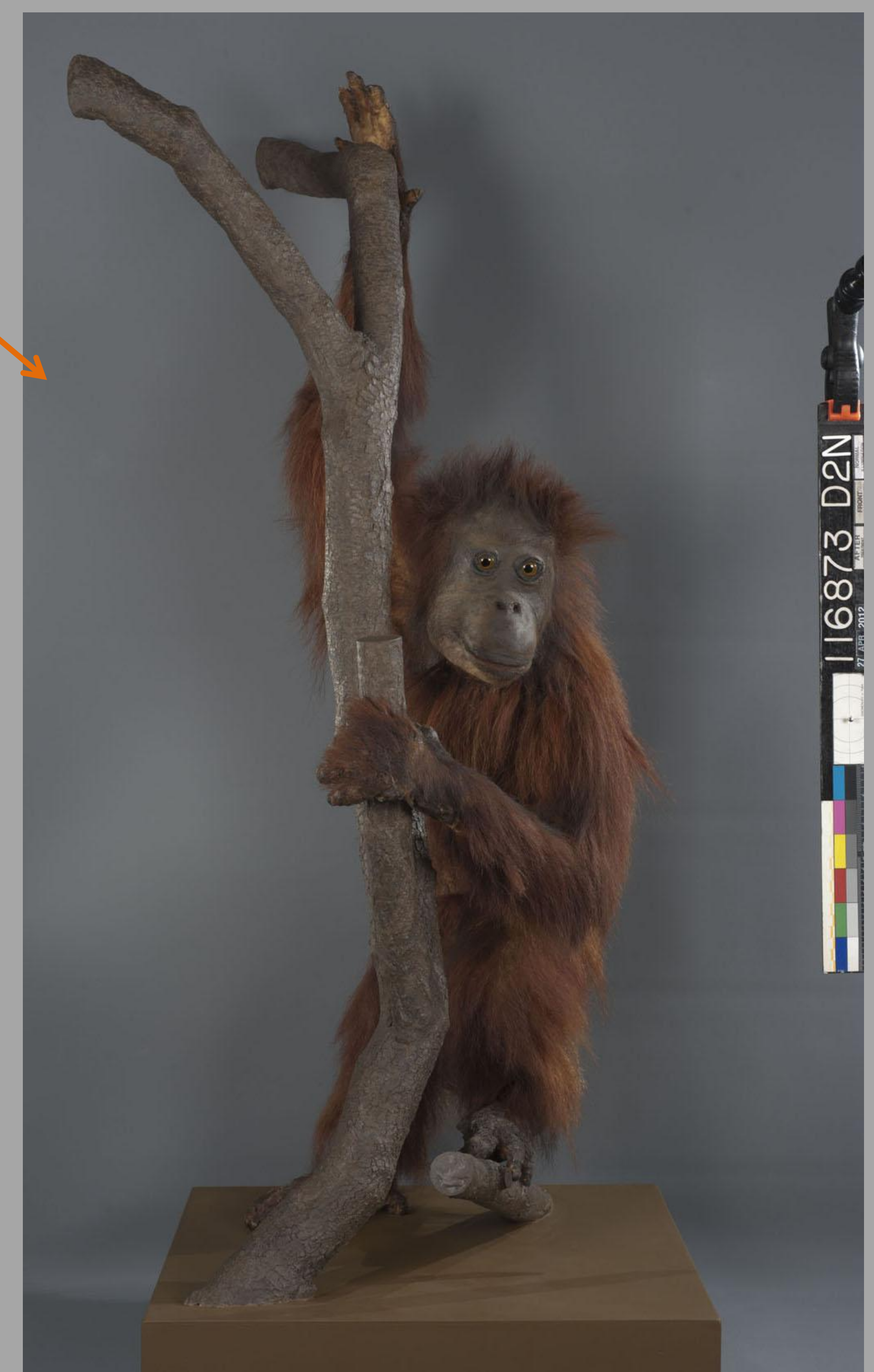
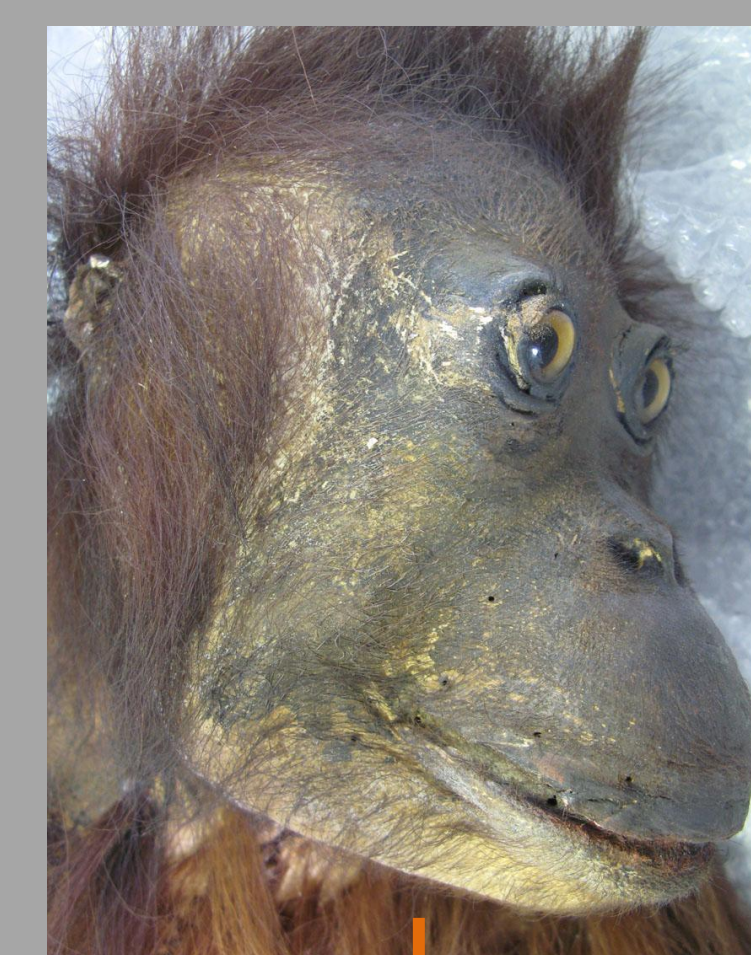
Before Treatment under the chin seam.

Response: Toned Japanese tissue was applied using BEVA film or wheat starch paste throughout the specimen, as well as in-painting, for visual compensations.



Corresponding After Treatment from toned fills and in-painting.

Before/After Treatment:



Special Thanks to Dr. Cory Rogge, Dan Kushel, faculty and staff at Buffalo State College Program in Art Conservation, Kathy Leacock at the Buffalo Museum of Science, and FAIC.