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Conservation of Leathercraft and Related Objects

Interim Meeting

on the Treatment of and Research into
Leather, in Particular of Ethnographic Objects

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Editors: P.B. Hallebeek, J.A. Mosk
DTP: J.A. Mosk
Word processing: S.F. Fontijn

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The Deltaplan and Skin-Related Materials

Jaap van der Burg  
Projectmanager Deltaplan  
National Museum of Ethnology  
P.O. Box 212, NL-2300 AE Leiden

Since preventive conservation for wood or paper is quite similar to preventive conservation for textile and leather this paper deals with preventive conservation in general. However I will focus on the problems in conservation of leather and skin-related materials, as parts of a large scale project in preventive conservation, moves, documentation etc.

The Why of the Project

Every year the Dutch General Audit Office controls a Government organization. In 1988 it was the National Museums turn. To cut a long story short: they came to the conclusion that the Dutch National Cultural Heritage, its storage and its preservation was, to say the least, in a very poor condition. Bad enough to be called a National Catastrophe. Because of the magical combination of the terms National and Catastrophe a relative large amount of money was set aside to stem the tide covering however only 10% of the estimated backlog.

Dealing with government money, the flow and use of the funds had to be regulated through a plan. This was the Deltaplan for Cultural Heritage.

The National Museum of Ethnology in Leiden is the biggest user of the Deltaplan for Cultural Heritage in The Netherlands. The funds are used to move the complete collection of over 200.000 artifacts, of which Ca. 20.000 with leather related materials, from the old storages in attics and cellars to new storages in storehouses and renovated attics. The new storehouses are located at ’s-Gravenzande, 37 km from Leiden. This project was initiated in 1991 and will take about 5 years; during this period it will provide work for over 30 people working as Conservation Technicians.

A large part of these project-workers originate from the unemployed people pool of Leiden. After a one-year period of training, during which they were paid out of Social Security funds, they were hired for the duration of the project. Since museum work and especially conservation was new to them they had an ‘on the spot’ training by conservators. This training ended for the technicians with a certificate from the State School for Conservators and for the training itself in a National education for Conservation Technicians. The conservators still have a very big input in the projects since they are responsible for, what we call, quality control.

Once you start working on a complete collection like this you tend to use this ‘once in a lifetime’ opportunity to do as much as you can squeeze in. So apart from just moving the artifacts we decided to enter them in a database, dust, label, photograph and, where necessary, support them as well.

During the span of the project a part of the museum is renovated, and another part will be renovated soon. During these renovations about 90% of the collection will have to be housed in our Outside Storage. After the renovation about 30% will return to be stored inside the building in Leiden. We estimate that eventually about 3% will be on display. To add to the confusion; two of the outside storehouses are ‘upgraded’ from just a stone building with heating equipment to proper museological storages.

I will not go any further into the inroads this makes in the project. You do not need much imagination to perceive what this means for planning, logistics and double and triple moves, not to mention the demotivation of the people involved. This is enough for a presentation in itself.

What kind of problems do we find?

Next to the well known artifacts as shoes and harnesses made out of tanned leather and coats and hats made out of fur, we encounter skin-related materials in a lot of other objects, for example drums, string-instruments, pouches, belts, floaters, canoes, tubes, plugs, dolls, figurines, etc.

Materials involved are; gut, bladder, dried skin, hide, tanned skin, hair, feathers, fish skin, horn, etc. Many of the artifacts are just dusty.

Unfortunately all the other thinkable damages are there as well.
To name several; brittleness, loss of hair, tearing by drying, mould, infestations by insects and rodents, distortion, rot, loss of stability, excess of fat and grease, sticky varnish, unbound pigments.

**What do we do about the problems?**

I will run you through our project by following a Kalimantan warcoat. Together with 15 others this warcoat was improperly 'stored' in a wooden drawer. First we removed them from their old, humid, storage. Then, one by one, we dusted the artifacts. No solvents or liquids were used, only brushes and moving air.

If, as in this case, there is mould on the object, we use a separate room kept for 'mould-treatment'. Here we brush the mould from the object. The spores are suctioned out into the open air. When the mould is growing on hair, we do not use the brush in a stroking direction since the risk of pulling the hairs out of the skin is too severe. Instead we tap the hair. Usually this is enough to release the visible mould growth. We do not use any other treatment against mould. We try to prevent a new growth by means of adequate storage. Stains and discolouring are not treated at this stage. Quite often we find insect infestations or debris as well. We usually try to remove these with a pair of pincers. This work is done only by our conservators. Sometimes the leftovers of a former hair growth are the only indication left on the skin. Then we will try to leave it in place for future reference. Of course we secure these objects from the rest.

Once the Kalimantan warcoat is 'cleaned' its label will be selected from the pre-printed stack. With use of the bar codes on the label the object is photographed and its image stored in the computer. For transport and storage we try to support the objects wherever necessary, using Ethafoam, foamboard, fiberfill and acid-free tissue. Of course we try to use our space as economically as is possible but in the end we prefer to move and store cubic meters of air to incurring a possible risk for the objects. When we are certain an object is carrying an active infestation, we fumigate it before any other treatment. For this we use CO2 in a minimal concentration of 64% over a 28 days period at a temperature of 25°C.

We use this particular method mainly because it was commercially operational at the start of the project. Now we are looking into alternatives like freezing, low O2 and N2.

Because we have to move our objects quite often, and most of the temporary storages have not been disinfected before use, all objects made of organic material which are susceptible to insect infestation are fumigated as a standard operation before they are placed in their new storages.

For this particular Kalimantan warcoat a total of 46 minutes was spent in treatment, including (shared) transport from storage to fumigation and back. All objects which for the greater part are made out of skin or hide we store in a cool-cell. Unfortunately this cell will only maintain a minimum temperature of 10°C. With this low temperature we hope to slow down any chemical deterioration as well as most infestations. Of course we try to maintain a regular airflow and normal humidity of 55% RH.

The other artifacts are stored in the large storage rooms.

Despite our lack of space, objects we deem 'fragile' will not be moved more than is absolutely necessary. For this special category we have reserved some of the storages in the main building in Leiden. Whenever possible and necessary we will call in external expertise, Mr. Van Soest, a leather conservator, who does most of the urgent active conservation.

**What do we leave and is left to be done?**

First of all we leave a complete change of scope. Usually a conservator is likely to focus on one object or a small group of artifacts at the time, that he or she wants to treat for 100%. We were confronted with a mass of 200.000 artifacts that all had to benefit, as much as possible, from our limited resources. So choices had to be made. Our preferred treatment as we did at the start of the project took us 48 minutes per object excluding all extra moves etc. and without any active conservation. Because we had to show the financiers (politicians) results we had to cut the total project up in two phases. In phase one our limited time and resources forced us to cut the average treatment down to 24 minutes per object, including transports etc.
So we will do about 30% of the total task. The total task then includes all active conservation on individual artifacts. Phase two will have to take care of the rest. For this several smaller projects will have to be defined. Most of the artifacts we have handled will not deteriorate any further in the near future.

At the beginning we made a condition report of every damaged artifact we treated. This resulted in such an amount of data with such a varied reference that we decided to take this task from our schedule. Our conservators are working on a condition-report that can be used for groups of artifacts instead of individual artifacts. After this large move we will, for the first time in this museum’s history, have an inventory of what we have and how bad its condition is. We will use these data to plan follow-up projects. Part of the collection will be out of immediate danger at the end of phase I; another part will be stored, packed in boxes. Both for accessibility and for preservation these boxes will have to be unpacked in the near future. Some of the projects will include improvement of storage (-systems). In others we will go into further active conservation of materials that still do deteriorate and in the odd instance restoration. Further, we hope that we can convince our board that a larger, and cooler, storage is wanted for leather.

Projects including skin-related materials might be:
- maintenance
- reuniting parts of artifacts with their main bodies
- stabilization of unbound pigments on skins
- further improvement of individual storage in the refrigerator
- better individual support for Shadow Puppets
- treatment of feathers
- degreasing sea-mammal skins
- future pest eradication treatments and
- old restorations
- last but not least our aim is to have as many museums and institutions benefit from our experience.

The project we are involved in is one of the largest in its sort. I am sure we made some, if not several, mistakes. I am equally sure we found solutions and gained expertise which might be of use to you and others.

We might not have all the solutions yet, but we sure do know most of the problems related to storage, registration, logistics, preventive conservation, and as it is called nowadays, human resources management.

Usually we all shrink back from working at basic ‘all-over’ improvement in our collections storages. This is usually caused by the sheer magnitude of the task. We learned that slicing up this task into smaller, digestible, portions has two positive sides. First a short term result expectation will make the project more interesting for the financiers (usually politicians). Secondly, and maybe even more important, there is the effect of results on the moral and motivation of everybody involved.

There is a big risk though as well. The short term result might be judged to be enough, and finances for a follow-up or second phase might be endangered by that. We laid the foundations and built most of the groundfloor of a, possibly very beautiful, building. But our work derives its merit from what is done with its results in the future.

The building will have to be finished, at least a roof has to be put on, and the maintenance crew will have to pay it a regular visit.

Acknowledgement

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Fig. 1. New storage facility with metal shelving. Ample space for objects and figurines from India.