



Fact Sheet No. 3

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Archaeological Conservation

Archaeology: The study of past human life and culture through the recovery and examination of artifacts, features, and soils.

Conservation: The work of safeguarding artworks, artifacts and natural science collections for the future.

Archaeological Conservation

Archaeologists and conservators often work side by side to recover clues from the past. From the earliest planning stages of archaeological fieldwork, a conservator foresees problems that may cause damage to artifacts and the information they convey. The conservator advises on lifting, packing and handling techniques that can be used in the field. Once the artifacts arrive at a conservation laboratory, such as the one at the Royal Saskatchewan Museum (RSM), they are preserved for longer term research and exhibition purposes.

A Lockplate from Brabant Lake

In the summer of 1998, excavations at Brabant Lake in northeastern Saskatchewan uncovered the metal remains of a Northwest gun. Due to the fragile nature of the lockplate, it was encased, along with the surrounding soil, in a plaster jacket. In this improvised cradle, it was lifted from the ground and transported to the Conservation Lab at the RSM.

In the Lab, the plaster jacket was carefully removed along with the surrounding soil. Loose bits of rust were painstakingly picked off to reveal a more consolidated layer. The lockplate was then coated with an acrylic solution to prevent further deterioration. Al-



Lockplate in plaster

though much of the accreted soil and rust was removed, the lockplate still looked like a fairly shapeless chunk of rusty metal. So how much of the lockplate was intact beneath the corrosion?

Fortunately, X-rays penetrate rust without causing damage to the artifact. Collaborating with the RCMP Forensics Lab, X-rays were taken. Surprisingly, the X-rays revealed that most of the lockplate remained intact under the accretions. Using the X-ray as a guide, the conservator proceeded with a more aggressive cleaning and consolidation, revealing the type and shape of the



X-ray

jaws and the pan, as well as the number and location of screws that attached the plate to the gun. Although the rust had destroyed the manufacturer's marks, making it difficult to date the gun, the information revealed by cleaning and X-rays suggests that the lockplate was probably manufactured between 1820 and 1840. Armed with this information, the archaeologist was able to narrow down the possible origin of the gun.



Lockplate after treatment

Wet Leather from Stanley Mission

Archaeological excavations at Stanley Mission, on the Churchill River north of La Ronge, unearthed some interesting wet leather. Over fifty fragments of footwear, some with stitching lines and metal eyelets, were removed and transported to the RSM in foil wrapping and plastic bags. The plastic kept the leather wet, since rapid drying of leather causes shrinkage and distortion that obscures analysis of the artifacts. Upon arrival at the RSM, the leather was frozen to prevent drying and to guard against the growth of mould while awaiting treatment.

When the leather was thawed, precise measurements, diagrams, and photographs were taken of each fragment to document its condition and dimensions. The leather was then dried slowly, over a period of months, using plastic wrap to slow down evaporation.

Each piece was then humidified to relax the leather, and reshaped and assembled like puzzle pieces. To complicate the process, there were few clues to the number of individual shoes and boots represented by the fragments. Some fragments of leather from the same item were very different in colour and even dimensions due to their particular burial environment. And there were far more pieces missing from each shoe than were recovered.

In the end, partial representations of several late 19th Century shoes and boots were reconstructed by the conservator. The archaeologist can now make accurate assumptions about what kind of people were present at Stanley Mission at the time. Was it only men, or were there women and possibly children there too? What social classes are represented? Were they present at a time of year that required rubber boots? winter boots? or sandals? Were these people making or repairing their own shoes or did they buy them from a distant factory? The clues will tell the story.



Reconstructed shoes

A Common Goal

Archaeology is a destructive process. Digging and collecting disturbs objects that have survived in the ground for ages and disrupts the connections between objects and their burial environment. The conservator must prevent any further deterioration of the objects after excavation.

Even before the archaeologist heads into the field, the conservator puts together a preservation field kit. For example, an RSM archaeologist takes along plaster bandages to wrap around a fragile lockplate in order to lift it in one piece and cradle it for the journey back to the museum. Plastic bags and foil were brought along to keep the Stanley Mission leather wet until it could be properly documented and slow-dried. In other cases, special glues and consolidants as well as lifting trays and padding material are taken into the field.

Like a photograph left out in the rain, an artifact is useless if it isn't preserved. With an understanding of the common purpose shared by archaeologists and conservators, and in fact, everyone working in museums, amazing snapshots of our past can be brought into focus.

