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Contents

The Inuit Skin Preparation Workshop

by Tom Stone

As part of CCI's mandate to provide conservation training, a number of specialized workshops have been offered over the past few years. One of the most recent focused on Inuit techniques for the preparation of seal and caribou skin. The five day workshop was held in late August at the Northern Studies Centre in Churchill, Manitoba, the "Polar Bear Capital of the World". Participants at the workshop came from museums in Canada, the U.S.A. and Europe.

The workshop was designed for conservators who deal with collections of Inuit skin clothing and artifacts. Per Guldbeck, who was the first Chief of the Ethnology Section at CCI, felt that it was extremely useful for conservators of skin and leather artifacts to have had experience in the preparation and tanning of skin and hides. As a consequence, he included it as an element in CCI's "Conservators in Training Programme" in the early 1970's. Since that time, CCI has offered

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ᐃᓄᐃᑦ ᐊᒥᖕᒋᓐᓂᒃ ᐃᓕᓴᖅᑐᑦ.

ᑖᒻ ᓯᑑᓐ ᑎᑎᕋᖅᑖ.

CCI-ᑯᑦ ᐱᓕᕆᐊᕆᓯᕆᐊᖃᖕᒪᒋᑦᑕᐅᖅ ᐃᓕᓴᐃᑎᑦᓯᓂᕐᒥᒃ ᐋᒥᑦ ᐊᑐᖅᑕᐅᑦᓯᐊᕐᓂᖕᒋᓐᓂᒃ, ᐊᒥᓱᑦ ᐃᓕᓴᐃᓂᕐᒧᑦ ᐱᒋᐊᕈᑎᒋᓴᐅᓛᖅᑐᑦ ᐅᑭᐅᓂᑦ ᐊᒥᓱᓂᑦ. ᐃᓄᐃᑦ ᐊᒥᓕᕆᐊᓂᓵᓚᐅᖅᑐᑦ ᐊᕐᒪᓗ ᓇᑦᓰᑦ ᕿᓯᓕᕆᓂᖕᒋᓐᓂᒃ. ᐅᑉᓗᑦ ᑕᓪᓕᒪᓂᒃ ᐊᒥᓕᕆᓚᐅᖅᑐᑦ ᐊᒍᔅᑎᐅᑎᓪᓗᒍ ᓇᓕᑭᑎᓯᕿᑭᓴ ᐳᑎᒥᖁᓂᕿᐅ ᕋᕿᓴᑎᑭᕿᑯᓐᓂ (ᐅᑭᐅᖅᑕᖅᑐᖅ ᐱᔪᕐᑎᒋᓪᓗᒍ ᐃᓕᓐᓂᐊᓇᐊᕐᐱᒃ) ᑰᒡᔪᐊᕌᓗᖕᒥ "ᓇᓄᐃᑦ ᓄᓇᖁᑎᖕᒐᑦ ᓯᓚᕐᔪᐊᕐᒥ."

ᐃᓚᐅᖃᑕᐅᓚᕐᑐᑦ ᐊᒥᓕᕆᓂᖕᒥᒃ ᑕᑯᓐᓇᕐᑫᒃᓴᓕᕆᔨᒃᑯᓐᓂᖕᒑᖅᑐᑦ ᑲᓇᑕᒥ, ᐊᒥᐊᓕᑲᒥᓗ, ᑕᓕᐅᑉ ᐊᑭᐊᓂᖕᒑᕐᓗᑎᒃᓗ.

ᐃᓕᓴᕐᓂᐅᑉ ᐊᒥᓕᕆᓂᖕᒥᒃ ᑐᕌᖕᒐᓚᐅᖅᑐᖅ ᐃᖃᓇᐃᔭᖅᑐᓄᑦ ᐃᓄᐃᑦ ᐊᓐᓄᕌᖕᒋᓐᓂᑦ ᐱᖁᑎᖕᒋᓐᓂᒡᓗ ᐊᑐᒐᐅᑦᓯᐊᖁᑉᓗᒋᑦ. ᐹᕐ ᒎᑦᐸᒃ, ᐃᓱᒪᑕᐅᔪᖅ ᐃᓄᐃᑦ ᐃᓕᖁᓯᖕᒋᓂᑦ ᑐᖕᒐᐲᖕᒐᑦ C.C.I.-ᑯᓐᓂ ᐊᑲᐅᓂᕋᓗᓂᐅᒃ ᐊᒻᒥᓂᑦ ᐱᖁᑎᓂᒡᓗ ᐱᓕᕆᐊᖃᖅᐸᒃᑐᑦ ᐃᓕᑉᐸᓪᓕᐊᖁᑉᓗᒋᑦ ᕿᑐᓕᓴᐃᓂᕐᒥᒃ. 1970-ᒥ ᐱᒋᐊᕐᓂᖕᒐᓂ ᐱᐸᓪᓕᐊᒋᐊᓕᓵᓚᐅᕐᒪᑕ ᐃᓕᓴᐃᑉᓗᑎᒃ ᐊᒥᓕᕆᐸᒃᐸᒃᑐᓄᑦ ᐃᑦᓴᓂᑕᐃᑦ ᑕᑯᔭᖅᑐᕐᐱᒃᔪᐊᕐᒥ. ᑕᐃᒪᖕᒐᓂᑦ C.C.I.-ᑯᑦ ᒪᕐᕈᓂᒃ ᐃᓕᓴᐃᑎᑦᓯᑉᓗᑎᒃ ᐅᑭᐅᕐᑕᖅᑐᕐᒥᐅᓂᑦ ᐊᒡᒥᓂᑦ ᕿᑐᓕᓴᐃᓂᕐᒥᒃ. ᐊᑲᐅᒋᓴᐅᑦᓯᐊᓚᐅᕐᒪᑕ C.C.I.-ᑯᑦ ᐃᖃᓇᐃᔭᖅᑎᖕᒋᓐᓄᑦ, ᐃᓱᒪᓕᐅᓕᓚᐅᖅᐳᑦ ᐃᓕᓴᐃᖁᔨᑉᓗᑎᒃ ᑕᒪᒃᑯᓂᖕᒐᑦ ᖃᓄᖅ ᐃᓄᐃᑦ

two "in house" courses on native North American Techniques of skin preparation and tanning. As both of these were well received by staff, it was decided to offer a five day workshop focusing on Inuit skin preparation techniques, for conservators outside CCI.

Instructors on the course were Jill Oakes and Rick Riewe, both from the University of Manitoba, in Winnipeg, and Elizabeth Nibgoarsi and Leah Okatsiak of Arviat, Northwest Territories. Both Jill and Rick have had extensive experience in the preparation, manufacture and use of skin clothing in the Arctic. Elizabeth and Leah are expert Inuit seamstresses with many years of experience in the manufacture of traditional skin clothing. The scraping and other techniques we were shown reflected, for the most part, the methods used on the west coast of Hudson Bay, the area that Elizabeth and Leah are from.

Nevertheless, because Jill Oakes and Rick Riewe have had experience in skin preparation methods in many parts of the Arctic, participants had the opportunity to try a variety of techniques and tools used in areas from Greenland to Alaska.

The Churchill area is a major point for polar bears to gather before the freeze up of Hudson Bay each fall, and so it was necessary to be especially careful when working out of doors. It was suggested that the process of blubber removal from the seal skins (the polar bear's favourite food) be done at least 500–600 metres away from the buildings at the Study Centre, so as to not attract bears to the main complex. As a result, this is probably the first conservation workshop that required the presence of an armed guard to patrol the perimeter of the work area. Fortunately, this aspect of the work took only a couple of hours and to everyone's relief/disappointment, no bears were seen.

Although a few participants had some experience with skin preparation and tanning, most had not, and so the physical effort required to do the job properly was somewhat of a revelation. Participants had the opportunity to work with caribou skin and the skins of both Ringed and Bearded seals. It was especially useful to experience the range of difficulty in preparation between the different caribou skins and between the caribou skins and the seal skins. It soon became obvious why animals are hunted at specific times of the year. For example, the skin of a caribou shot in early July will probably have a considerable number of holes created by

ᐊᓕᒋᓪᓕᔪᖅᓯᒪᔪᖅᑎᒃ ᐅᑦᓗᖅᖢᑎᑕ-
ᐅᑦᓗᑎᐅ ᑕᕐᓕᒪᓂᐅ, ᑭᓇᑐᐃᓐᓇᒧᑦ
ᐊᒥᓕᕆᔨᖅᑐᓄᑦ.

ᐃᓕᓴᐃᓚᐅᓕᕐᕋᑦ ᓚᐅᓐ ᐅᐦᓗ,
ᕆᐅ ᕆᐅᓗ, ᑕᒪᖅᑎᐅ ᐱᓂᐲᖏᑦ
ᐃᓕᓐᓂᐊᕐᕕᓵᔪᐊᖏᑦ ᐃᖅᓇᓇᐃᔭᖅᓗᑎᐅ,
ᐊᓚᒪᓗ ᐃᓕᓴᐱ ᓂᕿᐊᖅᑭᓗ ᓕᐊ
ᐅᖅᑲᕈᐊᖅᓗ ᐊᖅᐱᐊᓂᑦ ᓄᓇᕈᐊᖏᑦ.
ᑕᕿᐊᐃ ᓚᐅᓐᓗ ᕆᐅᓗ ᐊᔪᖏᑎᕈᐊᖅ-
ᓗᑎᐅ ᐊᓚᒥᓇᓂᖅᑎᐅ ᐅᑭᐅᖅᑕᖅᑐᑎ-
ᐅᑐᑦ. ᐃᓕᓴᐱᓗ ᓕᐊᓗ ᖅᑲᐅᓚᑕᕈᑦ-
ᐊᖅᓗᑎᐅ ᑐᐅᑐᓂᓂᖅᑎᐅ ᐊᒥᓕᕆᓂᖅᑎᐅ,
ᓇᑦᕈᐅᑦ ᖃᕈᓕᕆᓂᖅᑎᐅ ᐊᓐᓄᔭᓴ-
ᓕᐅᓂᖅᓚᓗ. ᑭᐸᓕᖅᑎᐅᑕᑦ ᖅᑲᓄᖅ
ᐊᒥᓕᕆᔨᖅᓚᑎᒃ ᐊᔪᖃᖅᑐᑐᐃᓕᐅᖅᓴᑦ
ᐃᓕᓴᐱᓗ ᓕᐊᓗ. ᓴᐅᓐᓗ ᕆᐅᓗ
ᐃᓕᓐᓂᐊᕐᕕᓚᖅᓕᓕᓕ ᖅᑲᓄᖅ ᐅᑭᐅᖅ-
ᕿᖅᑐᐅᑦ ᐊᖅᓚᓕᕆᓂᕈᓚᖅᑎᒃ. ᐃᓕ-
ᓴᐃᔪᑦ ᐅᐦᑐᓕᐅᖅᓴᑦ ᑲᓵᓕᒥᐅᑐᑦ
ᐊᓵᖅᑲᒥᐅᑐᓕᓗ ᖅᑲᓄᖅ
ᐊᒥᓕᕆᓐᓇᒪᓂᖅᑎᒃ.

Scraping caribou skins. Both Coppermine (centre) and Western Hudson Bay techniques are shown.

ᓱᓴᓕᓂᖅᓴᖅ ᑭᓯᓕᕆᔨᐅᑦᓗᑎᐅ ᐊᒥᓯ-
ᓂᑦ ᖃᐅᔨᓗᖅᑐᒥᐅᑦ (ᖃᑎᐊᓂᑦᑐᖅ)
ᐅᐊᓕᓂᖅᒥᐅᑦ ᐊᒥᓕᕆᓂᐅᑦ ᒥᐅᒃᓗᓄᑦ
ᐱᓕᕆᐊᕆᔨᓱᖏᓄᑦ.

warble fly larvae. If the caribou is shot in mid to late August, these holes will be mostly healed over with scar tissue, leaving a much more uniform skin with far fewer holes. The Inuit instructors mentioned that the skins we processed probably would have been whiter and softer if they had been scraped in cooler temperatures. While this undoubtedly had some truth in it, we felt they were being diplomatic in explaining our "less than perfect" results.

It is always a special experience to work with highly skilled craftspeople. The ease with which our two Inuit instructors handled their tools and the intuitive way they made decisions about the skins was a true pleasure to watch. One had the feeling that we were just scratching the surface of these women's knowledge and expertise.

The isolated location of the Northern Studies Centre, on the tundra, 10 miles outside Churchill, gave rise to work days that ran 13–14 hours. The days were devoted to work on the skins with evenings devoted to lectures, movies and discussions of different techniques of skin preparation across the Arctic, Inuit culture and technology, and the conservation of skin and leather artifacts. As one participant put it, "the flow of information was amazing".

Despite the intensity of the workshop, participants had the opportunity to spend some time in Churchill visiting the Eskimo Museum and Fort Prince of Wales, buying Inuit carvings and prints, and watching beluga whales on the Churchill River.

Jill Oakes had brought along part of her collection of contemporary Inuit clothing from various areas of the Arctic and during the last evening, an Inuit fashion show was held. Everyone had a chance to try on the various styles. For conservators who often work with very old and fragile caribou and sealskin clothing, it was a special treat to be able to wear skin parkas and boots, to feel the kind of movement one has in them, how they flex, and how quickly one gets warm in them.

The workshop provided the participants with a unique experience. Firstly, it provided an appreciation of the effort and skill required to make sealskin and caribou clothing and the importance of choosing skins taken at the proper time of year. Secondly, it provided useful information concerning preparation techniques and how they may lead to the future deterioration of the skin, the kind of deterioration that many of the conservators

Cutting boot (Kamik) soles from dried seal skin and softening them by chewing, is demonstrated by Leah Okatsiak and Elizabeth Nibgoarsi.

ᑐᒡᓕᐊ ᑲᒥᓕᐅᖅᑐᑦ ᐸᓂᖅᑐᒥᒃ ᕿᓯᕐᓂᒃ ᐊᒻᒪᓗ ᓰᓕᕆᔭᐃᑉᓗᑎᒃ ᓕᐊ ᐅᖃᑦᓯᐊᖅ ᐊᒻᒪᓗ ᐃᓕᓴᐱ ᓂᑉᒍᐊᖅᓯ.

ᑰᒡᔪᐊᕌᓗᖕᒥ ᓇᓄᖅᑕᖃᓗᐊᓰᖕᒍᖕᒪᑦ ᑲᖕᒋᖅᓯᐊᓘᑉ ᐃᓗᐊᓂ ᓯᑯᒃᖄᖅᑎᓐᓇᒍ ᐅᑭᐊᒃᓵᒃᑯᑦ, ᖃᐅᔨᓴᑦᓯᐊᕆᐊᖃᓚᓰᖕᒍᖕᒪᑕ ᓯᓚᒥ. ᐃᓯᒪᑎᔭᐅᓯᒪᔭᑐᖃᐅᑉᓗᓂ ᓇᑦᓯᓕᕆᓂᐊᕐᖕᒐᒥᒃ ᐅᖅᓯᐃᑦ (ᓇᓄᐃᑦ ᓂᕆᖃᑦᑕᕐᒪᑎᑦ) ᐲᖅᑕᐅᑎᐊᕐᖕᒐᒥᒃ 500-ᒥ 600-ᒥ ᒦᑐᕐᓂᑦ ᐅᖕᒐᓯᒃᑎᑎᔭᕆᐊᖃᓂᖕᒥᓐᓄᑦ ᐃᒡᓗᕐᔪᐊᕐᓂᑦ ᐃᓕᓴᕐᐱᐅᐸᒃᑐᒥ, ᓇᓄᐃᑦ ᖃᒡᓚᓗᐊᕐᑯᓇᒥᑦ. ᑕᐃᒪᓐᓇ ᓯᕗᓪᓕᐅᕐᑰᓯᕗᖅ ᖁᑭᐅᑎᓕᖕᒥᒃ ᖃᐅᔨᓴᖅᑕᐅᔭᓂᑦ ᐃᓕᓴᕐᐱᐅᑉ ᒥᐊᓂᕆᔭᐅᔭᕆᐊᖃᓂᖕᒐᓄᑦ ᓯᓚᑎᖕᒐᓂᑦ. ᑕᒪᓐᓇ ᐱᓕᕆᓐᓂᕆᔭᖕᒐᑦ ᐊᑯᓂᐅᓗᐊᓚᐅᖕᒥᑐᖅ ᒪᓐᑭᑦ ᐃᑲᕋᑐᐃᓐᓇᕐᓂᑦ ᑕᑯᔭᒪᓚᐅᕋᓗᐊᕐᓗᑎᒃ ᓇᓐᓄᓂᑦ ᖁᐱᐊᓯᓗᐊᓚᐅᖕᒥᑦᑐᑦ ᑕᒪᕐᒥᑦ.

had already seen and could relate to immediately. It also provided a great deal of information about the identification of native repair techniques and wear patterns one is likely to encounter on skin clothing.

Given the positive comments of the participants concerning the usefulness of the workshop, CCI may offer it again.

The Canadian Conservation Institute would like to thank the Department of Indian and Northern Affairs for providing generous grants to bring the Inuit instructors to this workshop. •

We thank David Webster, Head Inuit Culture and Linguistics, Department of Indian and Northern Affairs for his kind assistance and Katolic Utatnaq of Inuit Tapirisat of Canada who did the translation in Inuktitut.

ᐃᓚᐅᖃᑕᐅᓚᐅᕐᑐᑦ ᐃᓚᖏᑦ ᐊᒻᒥᓕᕆᓂᕐᒥᑦ ᕿᑐᓕᓴᐃᓂᕐᒥᑦ ᖃᐅᔨᒪᓚᐅᕐᑐᑦ ᐃᓚᖏᑦ ᖃᐅᔨᒪᖏᓗᑎᒃ. ᐃᓕᑉᐸᓕᐊᔪᑦ ᐊᒃᓱᕈᖕᓂᖃᓚᐅᕐᐳᑦ ᐱᑦᓯᐊᕐᓯᐊᕐᓗᑎᒃ ᐊᒻᒥᕆᓂᕐᒥᒃ. ᐃᓚᐅᖃᑕᐅᓚᐅᕐᑐᐃᑦ ᑐᒃᑐᓂᒃ ᐊᒻᒥᕆᓕᕆᑎᑕᐅᓚᐅᕐᒪᑕ ᓇᑦᓯᕐᓂᒃ ᐅᒡᔪᖕᓂᒃᓗ ᕿᓯᖏᓐᓂᒃ. ᑕᒪᓐᓇ ᐊᑐᕐᓂᖃᓪᓚᕆᓚᐅᕐᒪᑦ ᐊᔾᔨᒋᖏᓂᖏᑦ ᑐᒃᑐᐃᑦ ᐊᒥᖏᑦ ᓇᑦᓰᓪᓗ ᕿᓯᖏᑦ. ᐃᓕᓴᕈᑎᐸᓪᓕᐊᓂᕆᔪᖕᒐᑦ ᑐᑭᓯᓂᕆᓕᓚᐅᒑᑦ ᓰᖅ ᓂᕐᔪᑎᓂᑦ ᐊᖑᓇᓱᒃᑕᐅᕙᖕᒪᖕᒑᑖ ᐅᑭᐅᒃᑯᑦ ᐊᐅᔭᒃᑯᓪᓗᓐᓃᑦ ᓈᑦᓗᒋᑦ. ᐆᒃᑐᑎᒋᓗᒍ, ᔪᓚᐃᖑᓕᓵᕐᑎᓪᓗᒍ ᐱᑕᖅᑕᐅᔪᑦ ᖁᐱᓪᕈᖕᓂᖃᓕᓯᖑᒪᑕ. ᐊᒡᒍᐦᑎ ᕿᑎᐊᓂᑦ ᓄᖑᐊᓂᓗ ᐱᑕᖅᑕᐅᔪᑦ ᖁᐱᓪᕈᖕᓃᑦ (ᕿᑎᕈᓕᖃᐲᑦ) ᒪᒥᑉᐸᓪᓕᐊᑉᓗᑎᒃ. ᐃᓕᓴᐃᔨᐅᓚᐅᕐᑐᒃ ᐃᓅᒃ ᐅᖃᓚᐅᕐᑐᒃ ᐊᒻᒥᕆᓚᐅᒃᑲᒥᖕᓂᒃ ᖃᐅᓪᓗᓂᖅᓴᐅᓇᔭᓚᕐᑐᑦ ᐊᒻᒪᓗ ᕿᑐᓐᓂᖅᓴᐅᓪᓗᑎᒃᓗ ᓰᕐᓕᖅᑕᐅᒃᐸᑕ ᓂᒡᓕᓇᕐᓂᖅᓴᐅᔪᒥ. ᑕᒻᓇ ᐅᖃᖅᑕᐅᔪᖅ ᑐᑭᓯᓐᓇᕐᓯᐊᕐᐸ ᐃᓱᒪᓕᓚᐅᕐᐳᒍᑦ ᐅᖃᕋᓱᒋᑉᓗᒋᑦ ᐱᓕᕆᐊᕆᔭᐳᑦ ᐱᑦᓯᐊᒐᓯᒋᖏᑉᓗᒋᑦ.

ᑕᒪᒃᑯᓂᖓᑦ ᐃᓕᓴᐃᑉᓗᓂ ᐊᓕᐊᓇᐃᓕᓚᐅᕐᒪᑦ ᖃᐅᔨᒪᑦᓯᐊᕐᑐᓂᑦ. ᑕᑦᑯᐊᒃ ᒪᓪᕉᒃ ᐃᓕᓴᖅᑎᒋᓚᐅᒃᑲᕗᑦ ᐊᔪᖏᑦᓯᐊᕐᓗᑎᒃ ᐱᖅᑯᓯᒥᖕᓂᒃ ᐊᒥᓕᕆᓂᐅᑉ ᒥᒃᓵᓄᑦ ᐊᓕᐊᓇᐃᓚᐅᕐᒪᑦ ᑕᐅᑐᒃᓗᒋᑦ. ᑕᒪᓐᓇ ᐃᓱᒪᓇᓚᐅᕐᑐᖅ ᖃᐅᔨᐸᓪᓕᕈᑎᒋᔭᕐᑎᖕᓂᑦ ᐊᕐᓈᒃ ᐊᔪᖏᓐᓂᖏᓐᓂᒃ ᖃᐅᔨᒪᓂᖏᓐᓂᒃᓗ.

ᐃᓄᐃᓪᕈᖕᒥ 10 ᒪᐃᓚᓂᑦ ᐅᖓᓯᒃᑎᒋᔪᒥ ᑰᒡᔪᐊᕐᓘᑉ ᓯᓚᑎᒋᔭᖓᓂᑦ ᐅᑭᐅᖅᑕᖅᑐᒥᐅᑦ ᐃᓕᓴᐱᒋᔭᐅᕙᒃᑐᖅ ᐱᓕᕆᐊᖃᓛᖅᐳᑦ 13-14 ᐃᑲᕋᓂᑦ ᐅᑉᓗᖃᖅᑎᑕᐅᓯᒪᑉᓗᑎᒃ ᐊᒥᓕᕆᓂᕐᒥᑦ ᐅᓐᓄᒃᓴᒃᑯᑦ ᓯᓕᕆᐊᒃᓴᖃᑎᑕᐅᓗᐊᖏᓗᑎᒃ, ᑕᕐᕆᔭᓗᕿᓗᑎᒃ, ᐅᖃᐅᓯᖃᓗᑎᒃ

ᐊᔾᔨᒋᖏᑐᓂᑦ ᐊᒥᓕᕆᓂᕐᒥᒃ ᐅᑭᐅᖅᑕᖅᑐᒥ, ᐃᓄᐃᑦ ᐃᓕᖅᑯᓯᖏᓂᒃ ᐊᒻᒪᓗ ᐱᕐᑯᑎᒋᔭᐅᐸᓕᕐᑐᑦ ᐅᑉᓗᒥᓂᑕᐃᑦ ᐱᓕᕆᐊᖃᑦᓯᐊᓂᖏᓪᓗ ᐊᒥᕐᓂᒃ ᕿᓯᕐᓂᒃᓗ ᐱᕐᑯᑎᓂᒃᓗ. ᐃᓕᓐᓂᐊᓚᐅᕐᑐᖅ ᐅᖃᓚᐅᕐᑐᖅ, “ᑐᓴᐅᒪᔭᒃᓴᑦ ᓇᓐᖓᕐᓇᓚᐅᕐᑐᖅ.”

ᑕᒪᓐᓇ ᐊᒻᒥᓕᕆᓂᖅ ᐱᔭᕆᐊᕐᑯᖅᑐᒐᓗᐊᕐᓗᓂ ᐃᓕᓴᕐᐱᐅᔪᒥ, ᐱᖃᑕᐅᓚᐅᕐᑐᐃᑦ ᑯᒡᔪᐊᕐᓗᖑᑦ ᐳᓚᖅᑎᑕᐅᔪᓐᓇᓚᐅᕐᒪᑕ ᐃᓄᐃᑦ ᐃᑦᓴᕐᓂᑕᕐᓂᒃ ᑕᑯᔭᖅᑐᕐᐱᖓᓐᓂᑦ ᐊᒻᒪᓗ Fort Prince of Wales-ᒧᑦ, ᓂᐅᐱᕐᓗᑎᒃ ᐃᓄᐃᑦ ᓴᓇᐅᒐᖏᓂᑦ ᐊᒻᒪᓗ ᒥᖑᐊᖑᐊᒐᕐᓂᑦ, ᐊᒻᒪᑦᑕᐅᖅ ᑕᑯᔪᓐᓇᖅᓯᑎᑕᐅᑉᓗᑎᒃ ᕿᓇᓗᒐᕐᓂᑦ ᑯᒡᔪᐊᕐᓘᑉ ᑰᖓᓐᓂᑦ.

ᔨᐅᓪ ᐆᒃᔅ ᓇᒃᓴᓚᐅᕐᑐᖅ ᐃᓄᐃᑦ ᐊᑐᕙᓕᒐᐃᓂᑦ ᐅᑉᓗᒥ ᐊᓐᓄᕋᓂᑦ ᑲᑎᖅᓱᖅᑕᐅᓯᒪᔪᓂᑦ ᓇᑭᑐᐃᓐᓇᖅ ᐅᑭᐅᖅᑕᖅᑐᒥᐅᓂᑦ ᑕᑯᑎᑕᒐᐅᑉᓗᑎᒃ. ᑕᒪᕐᒥᑦ ᐊᑐᖑᐊᕆᓐᓇᖅᓯᑎᑕᐅᑉᓗᑎᒃ ᐊᔾᔨᒋᖏᑐᓂᑦ ᐊᓐᓄᕋᒐᓗᖕᓂᑦ. ᑐᒃᑐᓂᒃ ᓇᑦᓯᕐᓂᒃᓗ ᐊᓐᓄᕋᖏᓂᑦ ᐱᓕᕆᐊᖃᐸᒃᑐᑦ ᐃᑦᓴᕐᓂᑕᐃᑦ ᑕᑯᔭᕐᑐᐱᒃᔪᐊᖓᓐᓂᑦ ᐊᓕᐊᓇᐃᒍᓯᓚᐅᕐᑐᑦ ᐊᑐᖑᐊᕐᑎᑕᐅᔪᓐᓇᓚᐅᕐᒪᑕ ᖁᓕᑦᑕᕐᓂᑦ ᐊᒻᒪᓗ ᑲᒥᖕᓂᑦ ᖃᓄᖅ ᐊᑲᐅᓂᖏᓐᓄᑦ ᖃᓄᕐᓗ ᐅᕐᑯᖅᑎᒋᖕᒪᖕᒑᑖ.

ᐃᓚᐅᑎᑕᐅᓚᐅᕐᑐᑦ ᖃᐅᔨᒍᓐᓇᖅᓯᓕᓚᐅᕐᒪᑕ ᖃᓄᖅ ᐊᓯᖃᖏᑦᑐᒥᒃ ᐃᒃᐱᒍᓱᒃᑎᑕᐅᓚᐅᕐᓂᖏᓄᑦ. ᓯᕗᓪᓕᖅᐹᒥᒃ ᖃᓄᖅ ᐱᓕᕆᐊᕆᔭᐅᕙᖕᒪᖕᒑᑖ ᓇᑦᓰᑦ ᕿᓯᐅᕙᑦᓯᐊᖑᒪᖕᒑᑖ ᐊᒻᒪᓗ ᑐᒃᑐᐃᑦ ᐊᒥᑦᓯᐊᖑᓚᖑᒪᖕᒑᑖ ᐅᑭᐅᑦ ᓈᑎᑕᐅᑉᓗᑎᒃ. ᑐᒡᓕᕆᔭᖓᑦ, ᐊᑐᓛᖑᔪᓂᒃ ᑐᓴᐅᒪᓇᑦᓯᐊᕐᓗᑎᒃ ᑕᒪᒃᑯᓂᖓᑦ ᐱᓕᕆᐊᕆᔭᐅᕙᖕᒪᖕᒑᑖ ᐊᒻᒪᓗ ᖃᓄᖅ ᓯᕗᓂᕐᒥ ᐊᒦᑦ ᐅᓐᓇᔭᕐᒪᖕᒑᑖ ᑕᒪᒃᑯᐊ ᑕᑯᔭᐅᓯᒪᔪᐃᑦ ᐊᒥᓯᓂᑦ ᐱᓕᕆᐊᕆᔭᐅᐸᒃᑐᓂᑦ ᐃᒪᓐᓇ ᑲᒪᖅᑕᐅᔪᓐᓇᖅᓯᓯᖑᒪᖕᒑᑖ. ᑐᓴᐅᒪᓇᑦᓯᐊᕐᓗᑎᒃ ᖃᓄᖅ ᓄᓇᓕᑐᖃᐃᑦ ᐱᓕᐊᖃᓯᖑᒪᖕᒑᑖ ᐊᑐᖅᑕᐅᔪᒫᖅᑐᐃᑦ ᐊᒦᑦ ᐊᓐᓄᕋᕋᓗᐃᑦ.

ᑕᑦᑯᐊ ᐅᖃᐅᓯᐅᓯᒪᔪᑦ ᐃᓚᐅᖃᑕᐅᓚᐅᕐᑐᓂᒃ ᐊᑐᓪᓚᕆᓚᐅᕐᓂᖓᓄᑦ ᐃᓕᓴᕐᐱᐅᕙᒃᑐᒥ, CCI-ᑯᑦ ᐱᑎᑦᓯᑲᒃᑲᓐᓂᕈᒫᖅᑐᒃᓴᐅᔪᑦ.

ᑲᓇᑕᒥᐅᑦ ᖁᔭᓐᓇᒥᕈᒪᔪᑦ ᐃᑲᔪᓚᐅᕐᑐᓄᑦ ᐃᓄᓕᕆᔨᒃᑯᑦ ᐃᓄᖕᓂᑦ ᐃᓕᓴᐃᔭᖅᑐᖅᑎᑦᓯᑉᓗᑎᒃ. •

Udder Headdress

by Charlotte Newton

Head-Smashed-In Buffalo Jump in southern Alberta is one of the oldest and best preserved buffalo jumps in North America. The earliest dated bones at the kill site are 5,700 years old, though there is evidence of the site having been visited as early as 9,000 years ago. After a period of abandonment, the site was in continual use for the last three thousand years, until the buffalo herds began to disappear with the arrival of Europeans. Head-Smashed-In was declared a World Heritage Site in 1981 and an Interpretive Centre was opened there in July 1987.

About twenty five years ago an archaeological object was discovered there, which today remains an intriguing puzzle to both archaeologists and scientists. The name of the excavator was Poncho–he was the family dog belonging to the Dersches, ranchers whose home this has been for generations. Poncho made his discovery during a family hike to the nearby buffalo jump. The object is part of a cow udder, which had been cut into a roughly triangular shape with tapering ends at two points of the triangle. Though it is not clear what the function of the piece was, it has been known for many years as the cow udder headdress. The rarity of skin artifacts from this and other similar sites makes the udder a particularly important piece. The Dersches donated the udder to the Government of Alberta, to be displayed at the Interpretive Centre at Head-Smashed-In. It was sent to CCI for treatment before being put on display.

Sometime after its discovery the udder was coated with grease, which made it very dark in colour, sticky and unpleasant smelling. This excess fat may have been responsible for the relatively good preservation of the udder, since it protected the skin from other forms of degradation. However, the grease itself was beginning to degrade, resulting in damage to the skin.

Greg Young, Jane Sirois and Charlotte Newton examine the udder during treatment.

Removal of the grease was necessary for the stability of the skin, and to improve the appearance and the handling of the udder.

Work on the udder began with an assessment of the condition of the skin and identification of the grease. Gregory Young, of the Analytical Research Services (ARS) Division of CCI, carried out microscopic tests to determine the hydrothermal stability of the collagen. (See "Analytical Research on the Conservation of Native Skins and Leathers", by Gregory S. Young, *CCI Newsletter*, June 1988) He found that the udder was in a state of moderate deterioration, with localized areas of severe deterioration. Analysis of the fatty material by Scott Williams, also of the Analytical Research Services Division, indicated that it was a combination of a hydrocarbon grease, such as Vaseline, and fats of animal or plant origin. Radiocarbon dating carried out by Erle Nelson at the Department of Archaeology, Simon Fraser University, indicated that the probable age is 260 ± 80 years B.P., which places the udder in the period A.D. 1610 to 1770.

It was decided to remove the grease by soaking the udder in baths of solvent. Following this, if the skin had lost flexibility, a lubricant could be added. The information from the analyses indicated that a suitable choice of solvent, for both grease removal and stability of the skin, would be hexane. As the grease was being removed during the initial solvent baths and the skin became lighter in colour, areas of green and red colouring began to appear on the udder. It was not obvious whether this colour had been deliberately applied or was the result of accidental deposition during burial. The red areas resembled iron staining, as if the object had been next to a piece of rusting iron. The green was present as a light overall colouring and in more concentrated deposits which looked somewhat like tide lines, both located on the grain surface.

Analysis of the coloured material by Jane Sirois and Scott Williams, of the ARS Division, confirmed that the red is most likely the result of accidental staining. The presence of the green material is more difficult to explain. It was identified as a particulate chromium phosphate compound, located on the surface of the skin. There are,

however, problems explaining either deliberate application or accidental deposition of this compound. Chromium phosphate is not a naturally occurring mineral, so the possibility of it being used as a pigment in this form can be ruled out. The likelihood of chromium phosphate being present in the ground water and subsequently being deposited on the udder is also remote, since chromium phosphate does not occur naturally and chromite, the most likely naturally occurring source of chromium, is insoluble in water. Chromium phosphate was not developed as a synthetic pigment until after the turn of the century and did not become commercially available until the mid 1950s. The presence of chromium could be the result of a tanning procedure, but chrome tanning did not come into use until the late 1850s. Another source of chromium might be some other chromium containing compound which was applied as a pigment, but this again moves the date to after 1800, likely somewhat later than this. At present, it is not possible to say with any certainty how the green colouring came to be on the udder.

At this point in the treatment the skin still had dark greasy areas. Analysis showed that the grease remaining after extractions with hexane was predominantly of hydrocarbon origin, so a different solvent was needed. Further investigation established a group of solvents which could effectively remove the grease, without being too rapid or harsh, and which would not affect the stability of the skin. Various dry cleaning solvents fell into this category. The udder was soaked in baths of trichlorotrifluoroethane which reduced the overall staining, but still left a number of dark patches. Rather than overcleaning the already cleaned areas, it was decided to complete the treatment by local application of solvent. Again a number of different solvents were tested, and 1:1:2–trichloroethane was chosen for use. This was applied by small poultices of absorbent cotton soaked in the solvent. As the poultices dried, they pulled grease out of the skin.

When cleaning was finished, the skin was still quite flexible so it was not necessary to add a lubricant. The skin was much lighter in colour and the pigmented areas were clearly visible. The analytical work which was done not only helped to determine the safest and most effective treatment for the udder, but provided a great deal of new information about this unique object.•

Shared Responsibility

by Marion Barclay
Senior Conservator,
Paintings and Contemporary Art
National Gallery of Canada

Shared Responsibility: A Seminar for Curators and Conservators, was held at the National Gallery of Canada in Ottawa on October 26–28, 1989. The seminar was co-hosted by the National Gallery of Canada and the Canadian Conservation Institute and was attended by about 100 participants from Canada and abroad.

The seminar was intended to be a forum for the intelligent exchange of ideas on various approaches to the treatment of paintings; this for the benefit of artists, art historians, curators, conservators and conservation scientists. It was intended to dispel some of the myth and mystery surrounding the process of conservation treatments and conservators themselves. It was also intended to help conservators understand more fully the very real concerns that artists, art historians, curators, registrars, exhibition coordinators, designers, preparators (and all museum personnel who impact directly on the usage of collections) have when involved in the decision-making process of lending, borrowing, exhibitions. It was to help establish wider parameters when decisions involving treatment of paintings are made.

The idea for this seminar was first brought before the Canadian Art Museum Directors Organization (CAMDO) meeting in October, 1986 and elicited a positive response from the members present. Systematic research was completed by writing letters to the Directors of art galleries across Canada asking if such a seminar were organized by the National Gallery of Canada would they, and either a curator or conservator, or both, be interested in attending. Of thirty-six letters mailed out, twenty-eight of the institutions responded positively, indicating that a curator would attend and in some cases, that both curator and conservator would attend. The seminar has been exactly three years coming to fruition.

Organizing the seminar began more seriously in October 1987 when the core committee was formed, consisting of Marion Barclay, Senior Conservator, Paintings and Contemporary Art and Charlie Hill, Curator of Canadian Art, both from the National Gallery of Canada; John Taylor, Chief, Analytical Research Services Division, Canadian Conservation Institute; and Karen Graham, Senior Conservator, Canadian War Museum.

Potential speakers were contacted and a meeting was held in February 1988 to discuss the content in more detail. It was at this meeting that Ross Merrill, Chief of Conservation, National Gallery of Art, Washington, D.C., stressed the need to keep the seminar as non-confrontational as possible. This became one of its main objectives.

Twenty-two papers varying in length from fifteen minutes to an hour, were presented. In addition, there were three panel discussions each lasting approximately one hour and a half.

There were many issues addressed, including the nature and fragility of artists' materials and the techniques used by these artists. The unavoidable changes, however minor, caused by treatments as well as controversies surrounding various kinds of treatments. Museum policies on such topics as conservation and copyright were discussed as well as artists' concerns about curatorial and conservation issues. Packing and transporting works of art was another vital topic. A panel discussion took place on loans and exhibitions and the change in attitudes from past to present from the curatorial/conservation point of view.

There were many excellent speakers, in particular the artists who addressed, in an informed and conscientious manner, the complexities of curatorial and conservation issues which they face when exhibiting their work in art galleries.

From comments, letters and evaluation forms returned by participants, the seminar was successful in achieving what it set out to do–establish a relaxed and informative forum for the intelligent exchange of ideas regarding the shared responsibility in the use of collections.

Much of this was achieved by having a good balance of curators and conservators participating in the proceedings and limiting the attendance to a number which allowed a degree of intimacy along with structured informality.

A publication of the proceedings, targeted for June, 1990, will be available from either the Restoration and Conservation Laboratory, National Gallery of Canada, 380 Sussex Drive, P.O. Box 427, Station A, Ottawa, Ontario, KIN 9N4, Canada, (613) 990-1942, or the Canadian Conservation Institute, Department of Communications, 1030 Innes Road, Ottawa, Ontario, K1A 0C8, Canada, (613) 998-3721.•

National Chemistry Week and CCI

by John Taylor

The week of October 29 to November 4, 1989, was *National Chemistry Week* in Canada. During the week, various local sections of the Chemical Institute of Canada (CIC) organized a number of events including public lectures, laboratory tours and demonstrations on the magic of chemistry and promoting its importance to society.

The Honourable William Winegard, Minister of State for Science and Technology, gave a short address on the importance of science to Canada's future in the auditorium of the National Gallery of Canada to officially open the Week on October 31. This was followed by a well received talk on **The Adventures of a Chemist–Collector** presented by the well known "Chemist Collector" Dr. Alfred Bader, Chairman of the Sigma Aldrich Corporation.

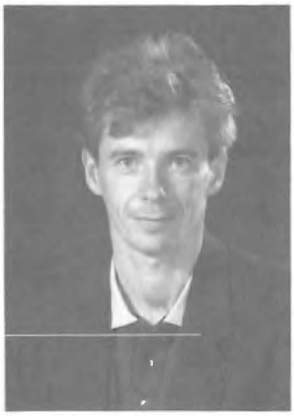
During his visit to Ottawa, Dr. Bader also presented a lecture entitled **The Detective's Eye: Investigating the Old Masters**, at the Canadian Conservation Institute and Carleton University.

Over 500 secondary school students from area schools toured the various laboratories in and around Ottawa, including those at CCI, to see and discuss scientific work first hand, with chemists. In addition, a 30 minute "Do-it-Yourself-Chemistry" elementary school demonstration was presented to schools in the area.

The Week was successful, introducing students and the public to chemists and showing them the various roles chemists play in society, including those in the conservation and art history professions.

Guest Editorial
Finding a Structure of Collaboration

by Gerry Hedley



Gerry Hedley has a B.Sc. in Mechanical Engineering, Imperial College, London University, and a Certificate of Paintings Conservation, Courtauld Institute of Art, London University. He has been Lecturer in Conservation of Paintings at the Courtauld since 1976. His research interests concern the structural behaviour of canvas paintings. During 1984–85, he held a contract appointment at CCI to study the moisture response of paintings on canvas. Gerry has organized numerous conservation workshops and conferences and is active in ICOM's Committee for Conservation. He is a Fellow of IIC.

Conservation is a multi-disciplinary activity. How many times have we heard this grand statement? To inspire us, it is sometimes illustrated by examples of legendary polymaths such as Leonardo and Michelangelo. Yet, for all this, I still think we have not yet found the key to developing a functioning multi-disciplinary profession. Leonardo and Michelangelo do not really help very much; they are too titanic, too intimidating, too iconic for our world. Most of all, they are too dead. We are not like them and the modern world is not like theirs. It is hyper-specialised, multi-fragmented, an age when to be an expert means to know a great deal about a tiny area. Conservation, in stressing cross cultural collaboration, is swimming against the current.

We believe that conservation requires the effective collaboration of practical conservator, scientist and cultural historian. In practice, we have found this to be no simple task. The gaps between these worlds can be canyon wide. Nancy Kerr, in the last issue, told the all too familiar anecdote of the conservator who could not stomach being presented with graphs. The cultures of science and the arts are terribly separated; pity the poor lecturer who must teach students from one area about even elementary matters from the other. In Britain, there is a particular resistance from the humanities specialists to the scientific world. Mention the word "atom" to young art historians and they are apt to glaze over, switching out this alien world. And, what of the craftsmen in our field whose background of practical experience is structured so differently from university learning?

CCI is an immensely important attempt to create a structure of collaboration. For a start, by international standards, it is very big and relatively well resourced. More importantly, it houses, in the same building, conservators and scientists in more or less equal numbers. This model of close contact is all too rare and should not be underestimated. It is quite different, for instance, from the situation at the Louvre, where the scientists and the restorers are physically very remote. It is also different, in scale, from the situation at the Institut royal du patrimoine artistique, in Brussels, where, although scientists and conservators work in the same building, there are comparatively few scientists. Equally, it is different from places like the Getty Conservation Institute which includes few practicing conservators within its facility. Above all, it is very different from the kind of situation, which seems to be quite common in Italy, where external research scientists are called in to address a specific conservation problem.

Now, I am not saying that all of these other models cannot produce good results, but I do believe they will find it more difficult. The danger is that research directed towards the processes of conservation will not be firmly enough rooted in conservation problems and techniques. In practice, scientists recognise this danger and, faced with the hugely complex world of practical conservation, they often prefer to stick with their strengths. This sometimes means the strengths of analytical chemistry or it can mean a focus on areas like environmental control, which are more remote from practice. Of course, we need this kind of work–it is a really essential bedrock–but nowadays, I believe it must be more and more supplemented by applied conservation science.

In my own area of paintings, it is quite striking that with very few exceptions, the work of interest to practical conservation has originated from scientists who are also conserving paintings, or are extremely close to the practice. The contributions of Mecklenburg and Wolbers illustrate the point that intimate involvement with practical problems is a profound stimulus for apposite research. I know from personal experience elsewhere how difficult it was to convince conservation scientists who had never cleaned a painting that the cleaning of paintings was an area crying out for research attention. All too often, they simply could not grasp the importance of the problem. But we cannot rely any longer on the tiny number of hybrid conservator–scientists; we need full time scientists and structures within which they can work.

It is in having such a structure that CCI scores and which, along with its scale, unquestionably makes it the most important, the most serious, conservation research facility in the world. Witness the impressive contributions that have emerged in areas like waterlogged wood, paper

treatment, wood filling and the lining project, which all needed close working partnerships between conservator and scientist.

For me, then, part of the solution to conservation problems is the intimate mixing of disciplines. But mixing alone does not ensure intimate mixing! During the very happy year I spent at CCI, it was possible to see that there was a real difference in the extent of cross fertilisation that took place. It worked best when conservators and scientists had time for each other and could gradually become acquainted with one another's methodology and problems. I think that creating the right environment for that kind of exchange is a core management challenge in an institution like CCI. Sometimes when I roamed from floor to floor, it was possible to detect that there remained room for improvement. Conservators and scientists have very different experiences of the world. The conservator is faced with a hugely complex practical problem, riddled with variables, at best only part way understood, yet the object is there and must be treated. The scientist, by comparison, wishes to isolate individual problems and conduct experiments with strictly controlled variables. At least in the first instance, the scientist fragments and abstracts reality without any thought of immediate action in the real world. If not carefully handled, these polarities result in mutual incomprehension. The scientist dismisses conservators as people who are unable to define their problems and ignorant of basic scientific methodology. The conservators dismiss the scientists as people who cannot understand their problems or their need to act on the basis of partial knowledge. Actually, this is why intimate mixing is so important. Conservators, who are not scientists, will never be able to define their problems in scientific terms. Scientists, who are not conservators, will never understand the problems of conservation unless they take the time to work with conservators and watch what they actually do. Unfortunately, incomprehension can also be compounded by a sense of hierarchy.

At least in North America, it appears that scientists, with their ordered body of knowledge and sophisticated machinery, can come to feel in some way superior to the hapless practical conservator.

I have wondered a lot about this crossing of cultures. If I do not find Leonardo or Michelangelo meaningful role models, who else is there to look to? Recently, I have been reading the works of the Italian author Primo Levi. His most important books, with great wisdom and terrifying clarity of thought, deal with the Nazi holocaust. However, in his normal life, he was a chemist. In his book, *The Periodic Table*, he tried to do something which is surprisingly rare–he set out to convey, by detailing the experiences and motivations, a sense of the daily life of an ordinary chemist. He wanted to bring workaday scientific life into the realms of literature. Elsewhere, he hits upon what I feel to be essential for our purposes. Levi says that he hopes in his writings, "to make it clear that between the two cultures there is no incompatibility; contrary, there is, at times, when there is good will, mutual attraction."

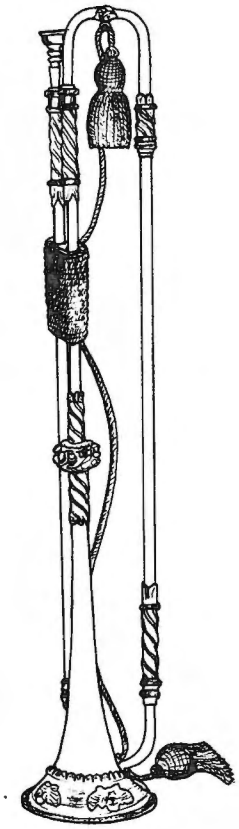
I think that is the key; we do not just need the right structure, but within our structures, we have to find tasks and working procedures which foster good will and enhance the mutual attraction.

When I was at CCI, I felt that there was sometimes a disjunction between conservators who were doing good but often routine conservation and scientists who were frequently carrying out research at the very highest level. These two activities did not always gel, and such disparity was bound to confer still greater status on the scientists. It seemed to me that the "bench" conservator did not have a clear enough function in such a high powered institution. However, the recent decision by CCI to focus on complex treatment projects substantially and vitally alters the relationship. Though it will take time to develop, I thing it is the best possible hope for intimate mixing of conservator and scientist on an equal basis. What is more, there can be no chance of it succeeding without both sides functioning at the highest level. Through such projects, conservators and scientists will gain mutal confidence and respect. Teamwork will become of the essence. But this will take time and patience. Nor will the path always be smooth. From my own experience of complex treatments, I know there will also be occasions of failure.

We ought to face it head on. Taking on complex projects will not only mean great successes, it also means daring to fail. In any case, conservation is not an absolute science; we have to make compromises, act on half knowledge, sometimes guess. These factors mean creating structures which are flexible enough, human enough, to handle this imperfect world. When I returned to Canada for the Shared Responsibility Seminar, I was struck by just how much conservation had "got policies" since I left CCI four years ago. There appears now to be a positive deluge of Mission Statements, Policy Statements and Codes of Practice, all formulated in rather bland generalisations which I found difficult to interpret in terms of practice. Of course, I know that they provide an important semblance of accountability, but I do hope these kinds of things do not become too cumbersome and time consuming. One danger is that, despite the best of intentions, the structure may become too rigid. In the June issue of the *CCI Newsletter*, Ken Macleod alluded to the dangers associated with "orders of magnitude more paperwork", leading to the net result that "more time [is] lost from real, productive work and more rigidity is injected into the system." My guess would be that with the shift towards complex treatments, CCI is going to need to preserve and expand its flexibility.

Another plus of the new approach is that it will of necessity bring CCI into regular contact with curators who have specific involvement with particularly difficult objects and so extend the depth of discussion which presently occurs across the three disciplines. This must help to fill a gap created by the fact that CCI has no permanent collection and therefore no resident body of historians to complement the scientists and conservators.

Nowhere in the world has a structure yet been created for conservation which successfully ensures the collaboration of all three disciplines. Perhaps, it is a chimera, an impossibility to which we can only aspire. CCI's structure makes it a standard bearer in that pursuit. For that reason alone, the development of CCI matters not just in Canada but throughout the international field of conservation. I wish it every success.•



CCI's International Activities

Comité international des musées et collections d'instruments de musique (CIMCIM–ICOM)

by Bob Barclay

We continue our report on CCI's international activities with this brief look at our long-standing association with CIMCIM, the International Musical Instrument Committee of ICOM. The Committee grew out of IAMIC, the International Association of Musical Instrument Collections, in the 1960s. Its establishment as an ICOM Committee allowed it to become an international forum for museums and collections of musical instruments. Since its inception, membership has steadily grown to encompass most European and North American museum instrument collections and many in Africa, South America, the Near East, the Far East and Japan. The Committee meets during the ICOM General Meetings and also organizes conferences and symposia in the intervening years.

My involvement with CIMCIM dates back to 1977 when I became a member after a 3–month musical instrument training course in Nürnberg. My activities with the Committee include Working Groups on musical instrument collection databases, ethics, access to collections, and storage and display guidelines. I have made contributions to the following CIMCIM documents: *Recommendations for Regulating the Access to Musical Instruments in Public Collections, Towards a Code of Ethics for the Preservation of Musical Instruments in Public Collections* and *Musical Instrument Exhibitions in Scandinavia*. I have also contributed several articles to the *CIMCIM Newsletter*.

Perhaps of more significance than either the committee work or the publications is the fostering of a conservation consciousness among the membership. Hitherto, musical instruments were perhaps the most abused common artifacts in museums. The desire for playability, and the practice of allowing museum material to be restored by private musical instrument makers, often resulted in irreversible damage to unique examples, and significant loss of historical evidence. It became clear to the few conservators on the Committee that the opening statement of a CIMCIM publication of 1967, *Preservation and Restoration of Musical Instruments*, that "Where possible the restoration of a deteriorated instrument is commendable", could no longer be supported in a museum context. For over a decade, the activity of the conservation contingent of CIMCIM has resulted in a better understanding of musical instrument conservation, a fuller awareness of published works in the field of artifact care, and a greater appreciation for the ethical and practical aspects of musical instrument conservation.

Although ICOM has a very large and diverse Conservation Committee, it is important to realise that conservators are also active within the other committees. The conservators of CIMCIM feel, quite justifiably, that their work within the committee has enabled the fostering of a conservation consciousness which hardly existed before. Indeed, it is arguable that the work of preventive conservation is better carried out among the curators, custodians and scholars of the objects than within a committee of conservation specialists.•

Train the Trainers: Instructional Skills for Conservators and Conservation Scientists

by Joe Dorning

CCI's conservators and conservation scientists have given literally hundreds of seminars, workshops and other basic and advanced level training presentations to museum workers and other professionals since CCI was founded in 1972. For many, this "sideways trip" into the training world has been done without benefit of formal instructional skills.

To address this need, two courses were held in August and November. Each course had ten participants divided between conservators and conservation scientists. The location of the course was an old heritage house provided appropriately enough through the kindness and cooperation of Heritage Canada.

Here, under the perceptive direction of Albini Soucy, a bilingual management consultant and trainer, participants learned to write clear, measurable and concrete learning objectives. They found out how to choose the best methodology for subject matter and learner. They discussed the merits of lesson plans, including introduction, presentation, application and conclusion. Each participant was given the opportunity to practice newly acquired skills by making a number of minor presentations and one major presentation to the class. In most cases, these were videotaped for mutual critiquing. Throughout the three days the workshop emphasized group participation, and was guided by the principle of learning from and through experience. As one might expect, there were humorous moments and serious moments as participants struggled with establishing the type of learning they wanted to take place and the objectives they wanted to achieve during their presentations.

At the conclusion of the course, most of the participants felt the sessions had given them new insights and pointers to use in future workshops. Perhaps most important, it demonstrated the importance of considering the learners' as well as the instructors' point of view in the seminar situation.•

Scott Williams making a presentation to interested and enthusiastic participants. Train the Trainers course.

Saving the Twentieth Century: The Degradation and Conservation of Modern Materials–*Symposium 91*

The 20th century has seen the emergence of the most amazing number and variety of new materials. They have been adapted for all manner of purposes, both utilitarian and artistic. Today, museums and galleries contain untold numbers of objects and works of art made from these modern materials. Their degradation and conservation are among the biggest challenges presently facing conservators. As an example, consider the remarkable eighth century Anglo-Saxon helmet excavated in 1982 from the Coppergate site, York, England. The helmet, which is quite sophisticated in its construction and intricate in design, and itself an extremely difficult conservation problem, is fabricated from just two materials–brass and iron. The corrosion properties of these two metals are well understood and there is an established body of experience for treatment available. In contrast, an early 1950s airman's helmet presently being studied at CCI, and which is in poor condition, is composed of many materials: polyvinyl chloride; polystyrene; nylon; cotton; phenol-formaldehyde resins; leather; silicone rubber; copper; brass; aluminum; cadmium plated steel; and assorted resins and adhesives. Little is known, especially in museological terms, of the mechanisms by which so many of these materials degrade, and conservators

1950s airman's helmet.

have no body of experience to work from. This is just one example among many thousands.

The Canadian Conservation Institute has begun planning for a symposium to be held in the Fall of 1991. The primary aim will focus attention on the latest developments and problems in the degradation and conservation of objects made from modern materials.

A second aim of the conference is to create professional and public awareness that modern materials are as vulnerable to degradation as traditional materials, if not more so. That modern synthetics are often (mistakenly) believed to be almost indestructible, is itself a problem, and one that must be urgently addressed before much invaluable historic material is lost.

The problems with modern materials and their relevance to the museum will be discussed as well as approaches to conservation. In addition, the degradation and stabilization of modern materials which are of interest to museums will be discussed by experts from other fields in industry and academia.

It is hoped that *Symposium 91* will stimulate further interest and research into modern materials, and improve curatorial awareness of their special needs.

To receive further details, write to :

Cliff McCawley or David Grattan
Symposium 91
Canadian Conservation Institute,
Department of Communications,
1030 Innes
Ottawa, Canada
K1A 0C8•

Development of Analytical Methods for the Analysis of Proteins

by Helen D. Burgess

The Conservation Processes Research Division of CCI is currently carrying out research in the area of historic and archaeological textiles. Many of the questions being asked about cellulosic textiles, such as cotton and linen, can be answered by our already existing research projects. For example, our project on the evaluation of the effect of the fumigant Vikane™ on cellulosic and ligneous materials[1], involves the study of 12 cellulosic textile substrates. In addition, the majority of our work on the conservation of paper will have considerable application to cellulosic textiles. However, the treatment problems of proteinaceous natural fibres, silk and wool, are being severely limited by the lack of appropriate analytical methods to monitor the degradation of proteins.

The purpose of this project, which will also be coordinated by the author, is to develop methods of analysis which will be able to precisely and accurately determine physical and chemical changes in protein fibres. When considering possible methods of physical analysis, it is likely that the single yarn analysis used in the Instron tensile testing of cellulosics will also be useful in the strength analysis of silk and wool fibres. However, very degraded fibres are often too weak to be accurately measured by these Instron methods.

On the other hand, thermal analysis, and in particular the use of Thermal-mechanical Analysis (TMA) could be useful in obtaining information about physical properties of deteriorated silk or wool. Preliminary work using Differential Scanning Calorimetry (DSC) shows differences between modern wool textile and an archaeological wool sample obtained from the site of a 16th century Basque whaling station in Red Bay, Labrador. It is unclear whether the differences among samples will be significant enough to be used for the relatively subtle changes that would result from standard conservation treatments like water washing.

However, our experience with paper research leads us to believe that the most sensitive methods, and therefore the most appropriate techniques, will be found among chemical methods of analysis. When following the degradation of organic polymers like natural fibres, it is usual to monitor the state of oxidation of the material and/or the length of the long chain molecule. Unfortunately, the individual amino acids which make up the protein molecules contain so many functional groups that the oxidation state is difficult to follow. Analysis of individual amino acids (e.g. the cysteine in wool which degrades as the fibres deteriorate) has been used by some researchers but has not been demonstrated to have the sensitivity required for conservation process research.

By far the most promising are the methods which indicate changes in the length of the protein molecules. A reduction in the molecular size or weight of a polymer, is a direct result of oxidative and/or hydrolytic degradation[2]. Since physical strength is dependent upon the length of the fibre, molecular weight determinations will simultaneously give you information about both physical and chemical properties of a particular substrate.

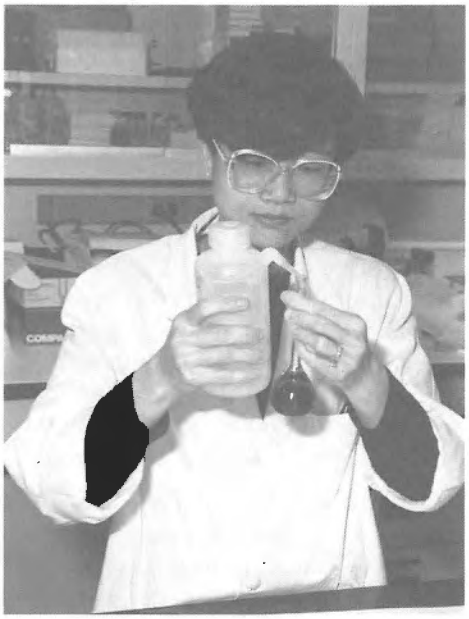
[1]This project is funded by the Getty Conservation Institute (GCI) and is being carried out jointly by GCI, CCI, and the Conservation Analytical Laboratory (CAL) of the Smithsonian Institute. GCI is studing the effects of the fumigant on metals, oils and resins and CAL is investigating proteins and dyes. The researchers involved in CCI portion of the project are Nancy Binnie and Helen Burgess.

[2]Hydrolytic degradation involves the addition of a molecule of water to the protein: the molecular chain is cut at that point.

We are approaching the problem of gaining information about molecular length through two methods. The first is the quantitative analysis of functional groups which can be found at the terminal ends of the individual proteins chains. During a recent sabbatical in the Conservation Processes Research Division (CPR), Nancy Kerr, an Associate Professor in textile science at the University of Alberta, carried out some preliminary work on the use of ninhydrin to analyse proteins. The results are encouraging, and Season Tse, Senior Assistant Conservation Scientist in CPR, will be continuing the work in 1990.

The second line of attack, which will be carried out by myself, concerns the problem of determining the molecular weight of proteins. This involves the use of electrophoretic and gel chromatographic techniques to follow changes in molecular size. The success of both these types of methods depends upon solubilization of protein material without substantial degradation. Work on this aspect of the problem is proceeding as well as the initial electrophoretic experiments. Some success has been achieved with a clear differentiation among modern, 19th century historic, and 16th century archaeological wool samples.

The scope of this project is very large and it is estimated that the project will cover a time period of approximately five years. The latter stages of the project will involve using the developed methods to study specific conservation questions. The information that we have received from the conservation community suggests that the problems associated with the washing of textiles is of primary interest. Therefore, it is probable that this will be the first issue that will be addressed.•



Season Tse at work in CPR laboratory.

The Effect of Alkali on the Long-Term Stability of Cellulosic Fibres

by Helen D. Burgess

Recently, the Conservation Processes Research Division of CCI began scientific research into the effects of alkali on the long-term stability of cellulosic fibres. Although many procedures involve the use of alkaline materials, the most important and frequently used are washing and deacidification treatments. The same hydroxide and bicarbonate salts of magnesium and calcium are used for both these processes. The main difference is one of concentration: low quantities (under 50 ppm magnesium or calcium) for the neutralization process used in extensive washing, and higher amounts (50–2500 ppm) for a full deacidification treatment involving neutralization, alkalization and buffer deposition.

Many questions about these treatments still remain unanswered. Some of the most important include: do different fibres react differently to alkalization; is the optimum concentration dependent on the individual fibre being treated; is there any advantage to one particular chemical or do they all work as well; how are different types of media affected by alkalization?

The project initiated by CCI is in direct response to these questions being asked by the conservators, archivists, curators and librarians in the preservation community. As an expression of their interest in and support for the study, the Conservation Committee of the Canadian Council of Archives is providing funding for the salary of a contract researcher to work on the project. The project is being coordinated by Helen D. Burgess. Other scientists who have or are contributing to the work are Season Tse, Stephen Duffy, and France Bertrand.

One of the most important aims of the investigation is to make it applicable to the material found in Canadian collections. Therefore, it is essential that the papers used in some way typify many of the characteristics or problems of the North American or European papers found in our institutions. Through the combined efforts of the Canadian Council of Archives and the National Archives of Canada, institutions across Canada donated over one hundred different paper types to CCI for use in this project. These papers, added to ones which CCI had collected over the years, were assessed and thirteen papers of widely varying age, degree of degradation and fibre type were chosen for the first phase of the project. Researchers are studying and analyzing these fibres in an effort to discover which ones are most likely to benefit from alkalization and which types show no change or are harmed by the introduction of alkali.

The current experiments involve the individual aqueous treatment of the thirteen papers with high (200 ppm) and low (20 ppm) concentrations of alkali in the form of magnesium bicarbonate. The higher concentration simulates a deacidification procedure while the lower one is similar to what would be used in a washing

treatment. Experiments are also being carried out using identical concentrations of a neutral magnesium sulphate salt. Appropriate control samples include materials which have been only washed in pure water and those which have had no treatment at all.

The long-term effects of the various treatment sequences are being investigated through the analysis of samples before and after thermal accelerated ageing at 50% RH and 70 °C. Degradative changes in the materials are being monitored by two analytical procedures:

- estimation of the concentration of carbonyl groups in order to indicate degree of oxidation, and
- determination of the viscometric average degree of polymerization in order to follow changes in the average length of the cellulose molecule.

If deterioration of the fibres is taking place, significant changes in the degree of oxidation and/or a decrease in the length of the molecule will be observed.

Comparing the results between the alkaline and the neutral salt treatments (relative to the control samples) will help to determine if the observed effects are due to alkalinity or to the presence of the magnesium cations. The results for the control samples will give valuable information about the permanence or chemical stability of paper fibres which are washed with very pure water.

We anticipate that the first phase of the project will be completed by the end of 1989. It is hoped that the results will allow us to make some general recommendations concerning

- which types of paper may be safely deacidified by aqueous methods,
- if neutral magnesium salts are useful in cases where either the image or the paper is sensitive to alkali, and
- procedures for the safe water washing of paper materials.

The direction of the next stage of this investigation is going to depend greatly upon the results we obtain in the first phase. However, it is likely that we will be taking a closer look at how the concentration of the particular magnesium compound influences the observed effects. A priority will be placed on studying any fibre types which have displayed a sensitivity to alkali in the Phase I experiments. Similar investigations with non-aqueous deacidification systems are also under consideration.•

Helen D. Burgess entering data for the Cellulosic Fibres Project.

Internships and Fellowships

In response to the diverse training requirements of the conservation community in Canada and abroad, the Canadian Conservation Institute offers Internship and Fellowship programmes. The following individuals have recently participated or are currently involved in one of these programmes at CCI.

Internships

Chiraporn Asanyanak, Conservator, Division of National Museums, Bankok, Thailand, May 8–12, 1989, Textile Section.

Ivan Tricovik, Chief of Ethnographic Conservation, State Museum, Belgrade, Yugoslavia, May 15–26, 1989, Ethnology Section.

Michael O'Malley, Queen's University, June–August, 1989, Fine Arts Section.

Joan Weir, Queen's University, June–August 1989, Works on Paper Section.

Linda Borsch, Queen's University, June-November 1989, Furniture Section.

Susan (Watson) Fuhr, Textile Section, University of Alberta, August–December 1989, Textile Section.

Gail Daggett, Sir Sandford Fleming Art Conservation Programme, September 1989–April 1990, Ethnology Section.

Lloy Jane (Osburn) Billingham, Sir Sandford Fleming Art Conservation Programme, October 1989–April 1990, Works on Paper Section.

Fellowships

The Fellowship programme encompasses work in designated laboratories at CCI, as well as participation in CCI services to museums, galleries and related institutions and associations throughout Canada (e.g., workshops, surveys, etc.)

The following individuals will start their fellowships at CCI April 2, 1990:

Peter Newlands, from Technical Operations, The Canadian Museum of Nature (Furniture Section)

Claire Titus, from Picture Conservation Division's Prints and Drawings Laboratory, National Archives (Works on Paper Section)

Janet Wagner from Textile Conservation Laboratory, Royal Ontario Museum (Textile Section)

Maureen Williams, from Department of Archaeology, UC Cardiff, Wales (Archaeology Section)

Continuing into the second year of the fellowship programme:

Carolyn Leckie (Ethnology Section)•

Happy Retirement to our Esteemed French Editor

by Colette Naud and Carole Dignard

Pierrette Bissonnette

Pierrette Bissonnette, French editor at CCI, retired on September 29, 1989. We considered ourselves very fortunate when she joined our Training and Information section two years ago. Editing of French texts at CCI is an enormous task for one individual, owing to the number of publications we produce. (Most of our texts are written in English, then translated and edited.) Those who have never had to struggle with the problems inherent in translation and editing will have a hard time imagining the headaches faced by translators and editors.

Since 1987, M^{me} Bissonnette had edited and corrected all our texts translated into French–the *CCI Bulletin*, the *Annual Review of Research Projects*, the *CCI Research Groups Report*, Symposium '86 and '88 abstracts, posters and so on. One of her most important contributions to the museum community was the editing of several of our *Technical Bulletins* and *CCI Notes*; her aim was to improve the quality of the French and remove the errors which had slipped in. The conservation field is huge, and one needs more than an excellent knowledge of the language of Molière to produce a good text; one must also acquire knowledge of the field and know the specific terminology in a variety of areas ranging from paintings restoration to stabilization of waterlogged wood and the operation of air-conditioning systems. M^{me} Bissonnette was quick to catch nuances and even to intuit implicit ideas sometimes well hidden in scholarly documents! After much research, consultation and discussion with authors and with specialists in the Translation Bureau of the Department of the Secretary of State, she would succeed in finding the right word or an elegant turn of phrase.

M^{me} Bissonnette was a perfectionist and was completely devoted to her work; she spent much time on it outside her normal hours of work. The translation committee of the Canadian Group of the International Institute for Conservation (IIC-CG) benefited a great deal from this devotion: at its request, she helped edit a number of texts, the most important of which was the *Code of Ethics and Guidance for Practice for Those Involved in the Conservation of Cultural Property in Canada.*

Before she came to our aid, M^{me} Bissonnette had already had a very full professional and personal life. After working as a part-time professor at Carleton University and the University of Ottawa, she was an editor in the Canadian Unity Information Office at the Department of the Secretary of State. Since her husband, André, was an official in the Department of External Affairs, she also had the opportunity to live in a number of countries–Belgium, Malaysia, France and Great Britain.

Although officially retired, M^{me} Bissonnette will not be withdrawing from all her professional activities. However, she will be allowing herself more free time for personal pursuits such as reading, music, gardening and cooking. (They say she's one of the best hostesses in the country!) With the departure of Pierrette Bissonnette, CCI is losing an indispensable specialist in the French language, as well as a charming and devoted colleague. M^{me} Bissonnette's retirement is well-deserved, though, and we wish her many peaceful and productive years. •

Who's Who at CCI

by Ian N.M. Wainwright

Maureen Clark

Library Technician

CCI staff and other users have come to rely on what has become, over the last two decades, one of the best libraries of conservation and museology material in the world. It is not an overstatement to say that virtually all activity in research, treatment, publication and other areas would come to a grinding halt without the Library.

Today's researcher recognizes that the CCI Library is not simply an attractively designed and well-organized reading room recently relocated in the northeast corner of the building, on the ground floor. The stacks, which are filled with a rich variety of books, current periodicals, and reference works, are certainly a good place to begin a project. But the Library is also, to an ever increasing degree, a library without walls–a focal point and also a node in a network which extends across Canada and abroad. Through Interlibrary Loans (ILLs), professional contacts among librarians and others, and through a variety of electronic media including both electronic mail and on-line computer data bases,
library clients have access to a huge volume of printed and electronic data.

Maureen Clark is a key figure in maintaining this flow of information–an indispensable guide to those of us who find the pathways and byways of Library holdings somewhat daunting. Maureen is responsible for interlibrary loans of which she handles approximately 80 per month. An ILL is a request for a book or, more often, a photocopy of an article in a periodical to be mailed to a Library client. In one particularly hectic month over 200 such requests were filled. Requests by contributing libraries are made by using the Envoy system or by mail or telephone. Increasingly, FAX is being used.

At least half of all loans are of books or offprints (reprints) from the Canada Institute for Scientific and Technical Information of the National Research Council of Canada (CISTI). Some come, as well, from the National Library of Canada, from other federal government departmental libraries, or from universities across Canada, the U.S.A., and abroad. With CCI now a contributing member of the Conservation Information Network (CIN), there has been an increase in interchange with the International Centre for Conservation: Rome (ICCROM), the Conservation Analytical Laboratory of the Smithsonian Institution in Washington–an organization not unlike CCI–and the Getty Conservation Institute in Marina del Rey, California. A data base with the acronym BCIN (Bibliographical Database) is jointly updated by these and other participants in CIN.

The Library "tries to collect everything on conservation" and it is the great variety and the exchange aspect of her job which most interest Maureen. Her files reveal the international nature of conservation with copies of correspondence with Australia, India, Japan, France, Germany, Hungary, Poland, Italy, the United Kingdom and the U.S.A. Libraries such as the New York Public Library have been particularly useful, as CCI's reprint file has grown to about 9000. The Library is also attempting to expand its collection of graduate theses from the Institute of Archaeology (University of London), the Courtauld Institute of Art, Queen's University and other academic sources. Job-sharing and staggered hours by Library staff have meant that Maureen has been able to answer reference questions in addition to her duties with ILLs which has brought an added dimension and challenge to her work.

Maureen is an Ottawa native who began work with the Canada Mortgage and Housing Corporation and the National Research Council of Canada. After spending 15 years as a homemaker raising four children, Maureen pursued evening courses at Carleton University followed by part time courses at Algonquin College from

which she graduated in 1977 with a Library Technician Diploma. She was employed by the Gloucester Public Library (1972–1977) and the Royal Commission on Financial Management and Accountability (1977–1978) and has been with CCI since 1978.

The study of the materials, fabrication and conservation of art and artifacts encompasses the most current scientific research into synthetic polymers, corrosion inhibitors, environmental controls, spectroscopy and chromatography, biocides, and computer modelling of mechanical systems. But it also takes in the old, the arcane, the forgotten technologies, recipes and discoveries of bygone eras. As a result, requests for reprints in the field of conservation can be from any of the thousands of journals in the humanities or the natural sciences.

The problem of stabilizing a lead plaque from the coffin of Père Jean de Brébeuf at Sainte-Marie Among the Hurons is currently being investigated. This requires that relevant articles on the corrosion and conservation of lead alloys be found immediately. One of Maureen's clients is in the process of collecting information on brass musical instrument making techniques and materials; another is treating a mummy and needs to have information on Egyptian mummification processes. Yet another is faced with the task of treating a *Kachelöfen*– a type of Central European stove–and is conducting background reading on that technology. In another exhaustive study, the industrial development of the artists' pigment titanium white is being traced through the patent literature and other sources, especially in German, back to the 18th century. Each of these projects demands considerable bibliographical research and more demands on Maureen's time.

It is difficult to imagine a library with as diverse a collection of monographs, serials and reprints as CCI's. This has only been made possible through the contribution of Maureen Clark and her colleagues, both present and past.•

CCI Commercial Product Analytical Reports

The Canadian Conservation Institute is offering for sale a set of 650 Analytical Research Services reports on commercial products. These reports describe the analysis of a wide variety of materials encountered in conservation such as adhesives, cleaning materials, surface coatings and display/storage materials. Long term aging studies and performance testing were not conducted as part of the analyses but, where possible, recommendations were made regarding the suitability of the products for conservation applications. Although every attempt has been made to ensure the reliability of the reports, they were written over a fourteen year period and some may now be obsolete as a result of products being discontinued or changed in formulation.

The initial set of reports issued in May 1988 consisted of 480 reports in a three ring binder. It is available at a cost of $100.00 (CDN) plus a $10.00 postage and handling charge. The July 1989 update contains 170 report summaries and costs $60.00. Copies of up to ten reports will be provided free of charge. Please complete the attached form and send it to:

Extension Services
Canadian Conservation Institute
Department of Communications
1030 Innes Road
Ottawa, Ontario, K1A 0C8

FAX (613) 998-4721

✂ --

Name: ....

Title: ....

Address: ....

....

....

- ☐ Complete list of available reports
- ☐ List of new reports in the 1989 update
- ☐ Copies of reports ARS numbers ....
  ....
- ☐ Initial set of reports in three ring binder $110.00 (CDN)
- ☐ 1989 update $60.00 (CDN)

Cheques should be made payable to:
Canadian Conservation Institute–Receiver General for Canada

CCI Services: Seminars, lectures, workshops and visits

To respond to specific needs within the museum community, CCI offers, in cooperation with provincial museum and art gallery associations, workshops, seminars and lectures related to the conservation and care of museum and art gallery collections. CCI staff also participate in, and present lectures to, meetings of professional groups and associations.

April 1989

Tom Stone presented a paper on "The Conservation of Skin and Semi-tanned Leather at the Canadian Conservation Institute: Three Case Histories" to the ICOM Leathercraft Working Group Meeting, Offenbach, West Germany.

Prior to her departure to work at the Metropolitan Museum of Art in New York, **Chris Paulocik** examined costumes in the textile collection of the Provincial Museum of Man and Nature, Winnipeg, April 3–4. Advice was provided on the storage and care of this collection and samples of beads and sequins were brought back to CCI for analysis.

David Tremain spoke to the Ottawa Jewish Historical Society on "How to Preserve Family Documents and Photographs".

David Hanington and **Sherry Guild** presented a workshop on "Boxes and Protective Folders" to students in the Conservation Technology Programme at Sir Sandford Fleming College, Peterborough, Ontario.

Eva Burnham completed the third and final phase of a survey of textile collections for the province of New Brunswick.

Colette Naud provided a tour of Conservation Services laboratories to students from Collège de l'Outaouais, April 3.

A tour of the Paper Section and the Conservation Processes Research Division was also provided to Directors from the Academy of Science, Leningrad, April 19.

Wanda Noel, Consultant on copyright with the Cultural Affairs and Broadcasting Branch, Department of Communications presented a lecture at CCI on "What Copyright Means to Conservators", outlining the new legislation, the rights and responsibilities of conservators on copyright and photocopying.

SEMINARS

"Care of Textiles and Historic Costumes"
Eva Burnham
at Landry House, Dorchester, N.B.

"Polymers and Plastics for Storage, Display and Packing"
Scott Williams
to the Pacific Region Conservation Group 19th semi-annual meeting at the UBC Museum of Anthropology, Vancouver, B.C.

"Polymers in Conservation"
Scott Williams
at the Canadian Conservation Institute, Ottawa.

May 1989

Joe Dorning attended the Saskatchewan Museums Association annual conference held in Saskatoon, Saskatchewan.

Edward Maeder, curator, Costumes and Textiles, Los Angeles County Museum of Art visited CCI and presented two lectures: "Restoration of a 16th Century Mercenary Soldier's Uniform" and "A Roman Grave Garment; Telling of a True Story".

During the week of May 22, Fine Arts staff assisted National Gallery of Canada staff with the removal of a large painting on canvas by Jean-Pierre Riopelle from the Lester B. Pearson Airport in Toronto. After undergoing conservation treatment at the National Gallery, it was to be presented by the Government of Canada to the Government of France in July in honour of the celebration of the Bicentenary of the French Revolution. It will be installed in the new Opera de la Bastille.

Several staff members participated in the annual meeting and the pre-conference seminar of IIC-CG held in St. John's, Newfoundland. Papers were given on "The Artists' Technique as Discovered Through the Treatment of Various Paintings by Antoine Plamondon" by **Peter Vogel**; "Clamping Techniques" by **Carl Schlichting**, and poster sessions on the use of dry ice for block-lifting by **Judy Logan**, Parylene by **David Grattan** and on the treatment of a sewing box owned by the Newfoundland Museum by **Valerie Dorge**.

David Hanington and **David Tremain** carried out a survey of the conservation needs of an archival collection belonging to Canadian Pacific Railway, located in Windsor Station, Montreal.

Peter Vogel visited Memorial University Art Gallery in St. John's, Newfoundland, to examine several works of art and to apply a protective facing to the painting "October Moon" by Maurice Cullen.

Eva Burnham attended the Costume Society of America, Ethnic Dress Symposium, Denver, Colorado.

Judy Logan and **Charlotte Newton** attended the Canadian Archaeological Association Conference, Fredericton, New Brunswick where Judy presented a paper entitled "The Cost of Conservation".

SEMINARS

"Use of Enzymes in Paper Conservation"
Helen Burgess and **Season Tse**
at New Bedford Whaling Museum, New Bedford, Mass.

"Polymers and Plastics for Storage, Display and Packing"
Scott Williams
at the Provincial Museum of Alberta, Edmonton, Alberta.

June 1989

The Canadian Broadcasting Corporation (CBC) filmed leaf-casting procedures in the Paper section for future inclusion in the television series "The Nature of Things". In addition, Radio-Québec filmed several conservation treatment projects in the Fine Arts and Paper sections to be included in a television series entitled "Omniscience".

Bob Barclay taught the two-week segment on "Materials of Animal Origin" at the PREMA course at ICCROM in Rome, Italy.

Mary Peever attended the Triennial Symposium on African Art at the Smithsonian Institute.

Carl Schlichting attended the American Living Farm and History Museums Association Conference in Indiana. He participated on a panel and presented a paper entitled "Tiering Collections from a Conservation Point of View".

Carole Dignard and **Nancy Green** welcomed many delegates attending the Canadian Museum Association Annual Conference in Hull, June 6–10 to the CCI display booth. In addition, an open house was held at CCI to allow the delegates an opportunity to visit the laboratories and see the work in progress.

Tours of Conservation Services and Conservation Research Services labs were held June 23 and June 28 for new employees of the Department of Communications.

Joe Dorning, Extension Services, attended the symposium on Conservation Teaching Excellence at the Getty Conservation Institute, Marina del Rey, California.

July 1989

Tara Grant attended the Restorers Conference in Veszprem, Hungary. This year's conference focussed on the conservation of metals and the training of metal restorers.

Charlotte Newton spent three weeks carrying out field work at Gupuk, a prehistoric Inuit site in the MacKenzie Delta, Northwest Territories, at the request of the Prince of Wales Northern Heritage Centre.

Deborah Stewart and **Wanda MacWilliams** visited the Russell Museum, Russell, Ontario. They gave advice on basic care of collections and commented on the suitability of a local building that the historical society hopes to turn into a museum.

Deborah Stewart and **Debbie Juchem** spent a day at the Federal Government Department of Energy Mines and Resources, surface cleaning two large Inuit and Dene wall hangings on loan from the Petro Canada Art Collection in Calgary. A complete report on their findings was written and forwarded to Petro Canada.

Helen Burgess attended the Society for the Preservation of Natural History Collections 4th Annual Conference at Drumheller, Alberta and presented a paper entitled "The Selection of Cellulosic Materials for the Storage of Natural History Specimens.

Lyndsie Selwyn attended DIALOGUE/89, a conference on "The Conservation of Bronze Sculpture in the Outdoor Environment" in Baltimore, Maryland.

Cliff McCawley attended the annual conference of the Association of Canadian Archivists in Fredericton, New Brunswick, and presented a paper on CCI's resources available to the archival community.

Film crews for CBC "The Nature of Things" and also for Radio-Québec have been active at CCI. The "Nature of Things" is preparing a programme on the deterioration of paper, while the Radio-Québec crew filmed work on the stabilization of fossil wood and cones using the Parylene and PEG methods.

Tom Stone visited Red Bay, Labrador, the sixteenth century Basque whaling station. The trip provided an opportunity to see the site and become familiar with the visitor's centre which was under construction. While on the site, Tom helped with the 'screening' and identification of artifacts.

A tour of CCI was provided by **Ken Macleod, Cliff McCawley** and **Lyndsie Selwyn** to a group of five people including **Michael Sawlek** and **Betty Seifert**, from Maryland, U.S.A. They are touring various conservation facilities in preparation for designing and building a laboratory in Maryland.

CCI was the site of a recent fact finding trip to Canada by **Marylee MacDonald** and **Mark Rood** of the University of Illinois at Urbana–Champaign who were here to investigate studies on the effect of acid rain on outdoor sculptures and stonework.

Chuck Gruchy, Malcolm Bilz and **Carl Bigras** spent three weeks on Axel Heiberg Island, N.W.T. carrying out further surveys and observations of the Fossil Forest site.

SEMINARS

"Artifact Mounting"
Bob Barclay and Carl Schlichting
Napanee, Ontario

"Stable Polymers for Storage, Display and Packing" and
"Plastics in Conservation Storage, Display and Packing"
Scott Williams
at the Society for the Preservation of Natural History Collections 4th Annual Meeting, Drumheller and Calgary, Alberta.

August 1989

Bob Barclay was elected Secretary-Treasurer of CIMCIM, the ICOM musical instruments committee and has also volunteered as interim editor for the ICOM Conservation Committee Newsletter.

Tara Grant spent two weeks with **Judy Logan** at the field conservation lab, Red Bay, Labrador. While there, she worked extensively with ceramics and helped pack artifacts to be returned to St. John's and Ottawa.

Tom Stone and **Janet Mason** spent August 24–28 in Churchill, Manitoba hosting and participating in the CCI sponsored "Inuit Skin Preparation Workshop". Nine participants (including three from Europe) as well as Tom Stone and Janet Mason took part. The instructors were **Jill Oakes** and **Rick Riewe** from Winnipeg and **Leah Okatsiak** and **Elizabeth Nibgoarsi** from Arviat, N.W.T. (see article elsewhere in this Newsletter).

Sherry Guild and **Wanda McWilliams** visited the Lindsay Art Gallery August 21–24 to carry out a survey of the conservation needs of a collection of drawings/watercolours by the artist Ernest Thompson Seton. While in Lindsay, Sherry and Wanda also made a visit to the Victoria County Historical Society to assess storage and display of paper based materials in their collection.

Tom Stone and **Sandra Lougheed,** Ministry of Culture and Communications, Government of Ontario, co-instructed a three-day Ontario Museum Association course on "Artifacts" August 14–16 at Old Fort William, Thunder Bay, Ontario.

Carl Schlichting visited the Western Development Museum in Saskatoon to consult on the development of a conservation laboratory for heavy machinery. While there, he and **George Prytulack**, conservator at the WDM visited industrial heritage sites at North Battleford, Saskatchewan and Wetaskwin, Alberta.

SEMINARS

At the request of the Museum Association of Newfoundland & Labrador, on-site visits to five Newfoundland museums were made by CCI conservator **Deborah Stewart** between August 5–18, 1989.

September 1989

Joe Dorning, Extension Services, attended the annual meeting of Yukon Territory museums. During the three days of meetings, a presentation was made on CCI's services to museums, present and future.

Janice Manuel and **Debbie Juchem** accompanied **Gordon Fairbairn** to work in-situ September 6–8, 1989 at the Hastings County Museum, Belleville, Ontario. They gave a slide presentation to museum staff and volunteers, reviewing CCI treatment of some of the museum's artifacts as part of the Furniture section's in-house experience for interns and fellows.

Mrs. Mechthild Flury-Lemberg of the Textile Laboratory, Abegg-Stiftung in Riggisberg, Switzerland, presented a lecture on the conservation of "The Fabrics from the Grave of St. Anthony of Padua" and "The Cowl of St. Francis of Assisi". Mrs. M. Flury-Lemberg has recently published "Textile Conservation and Research", the result of thirty years devotion to the conservation of ancient textiles.

Bob Barclay spent one month in Accra, Ghana as co-instructor of conservation principles and techniques to Ghanian museum employees. The course is sponsored by ICCROM in Rome.

Stan Frydryn visited Carol Mayer, Curator of University of British Columbia's Museum of Anthropology to discuss CCI's involvement in the treatment of the sixteenth century *Kachelöfen* ceramic tile stove. While there, he also met with the donor of the stove to discuss the conservation work that CCI will do. **Carl Schlichting** will be constructing a special mount for the stove and Stan will be carrying out cleaning, repair and reproduction of missing tiles.

Colette Naud participated on a committee with representatives from Collège Montmorency, in Laval, Québec to assist in the design of a training programme for museum technicians.

Peter Vogel visited the Art Gallery of Windsor, September 23–26, to present a public lecture on the materials and techniques of the artist Antoine Plamondon as revealed through the treatment of *L'Assomption de la Vierge Marie*, a painting recently treated at CCI and currently on display at the Art Gallery of Windsor. Peter's lecture was recorded by the art gallery for inclusion in a video tape on the history of this painting.

Cliff McCawley and **David Grattan** attended the XVth General Conference of ICOM in the Hague. They also attended meetings of the ICOM Committee for Conservation, Directory Board, and visited museums and laboratories in Amsterdam, Rotterdam and Haarlem.

Harold Holland, paper conservator from the Provincial Archives of New Brunswick spent two days at CCI receiving instruction from **David Hanington**, on the preparation of paper pulp for leaf casting operations.

Stephan Michalski visited the Carberry Museum, Carberry, Manitoba to meet with their archives committee and advise on the museum's new humidistatic controlled room. He also met with the Manitoba Heritage Conservation Service Committee and gave staff a seminar on "Humidistatically Controlled Heating".

SEMINARS

"Care of Mixed Collections"
Helen McKay and **Carolyn Leckie**
at the Annapolis Valley MacDonald Museum
Middleton, N.S.

"Disaster Planning and Preparedness for the Small Museum"
Janet Mason, Sherry Guild and **Joe Dorning**
at the British Columbia Museum Association Conference,
Dawson Creek, B.C.

Survey of the Mill of Kintail Museum
Gordon Fairbairn, Linda Borsch, Janice Manuel and **Paul Marcon**•

Comings and Goings

Chiraporn Asanyanak, Conservator, Division of National Museums, Fine Arts Department, Bangkok, Thailand, spent a week long internship, May 8–12 in the Textile Section of CCI's Conservation Services. Ms. Asanyanak obtained an overview of current conservation treatment projects, research, materials and techniques used in the Textile laboratory.

Réjean Baribeau has begun a research project with the Analytical Research Services laboratory under The French-language Centres of Excellence Development and Promotion Program of the Department of Communications. Réjean is working on the simultaneous recording of three-dimensional and colour data from museum objects using a laser scanner developed at the National Research Council of Canada. The work is being done under the auspices of CCI, NRC's Laboratory for Intelligent Systems, and Université Laval.

Minda Bojin, museology reference librarian is on child care and nurture leave. Her replacement is **Elizabeth Kirby**. Elizabeth received her undergraduate degree from McGill University and her Master of Library Science degree from the University of Western Ontario. She worked as African Information Officer and Librarian & Records Manager at the Canadian Council for International Cooperation before joining CCI. Elizabeth has responsibility for the museological collection.

Debra Daly Hartin, Conservator in the Fine Arts and Polychrome Section at CCI, returned to work in May following a six month maternity leave.

Dai Demin of the Textile University, Shanghai, currently studying on a Canadian International Development Agency scholarship at the University of Alberta, spent several days in June at CCI consulting on textile conservation methods, materials and research.

Maria dos Dores Girano da Cruz, Ethnology Conservator from Portugal, spent three days in July in CCI's Ethnology Section learning about our techniques, materials and equipment.

Tabassum (Sumi) Grover joined the library as cataloguing librarian in August 1989. Sumi received her chemistry training from Punjab University, Université de Paris and the University of Saskatchewan and her Master of Library and Information Science from the University of Western Ontario. She worked at the Library of Parliament and at the National Archives of Canada before joining CCI.

Jane Sirois of the Analytical Research Services laboratory is on six months maternity leave.

Makiko Sugiyama, a PhD graduate from the Conservation Laboratory, Faculty of Fine Arts, Tokyo National University of Fine Arts and Music, is participating in a six month internship in the Environment and Deterioration Division of CCI. Her primary research interest is the use of pesticides and fumigants, and their effect on museum materials. While at CCI, she is investigating the use of a zero-span testing apparatus to determine the loss in fibre strength of various papers, before and after fumigation. Makiko did not want the Canadian winter to be part of her internship experience, and so having arrived in September and worked at CCI for two months. She will return in the spring for the remaining four months of her internship.

Jean Tétreault who recently obtained his Master of Science degree in analytical chemistry from the Université de Montréal joined the Environment and Deterioration Research Laboratory in May 1989 as assistant conservation scientist. He is studying the effect of emissions from display and storage materials on museum objects.

Ian Wainwright attended the Sixteeenth Annual Rock Art Conference of the American Rock Art Research Association (ARARA) in San Antonio, Texas from 26–30 May 1989 where he presented a paper on rock art conservation and recording projects in Canada. He visited rock painting sites in Seminole Canyon State Historical Park and along the Rio Grande and Lower Pecos rivers.

Ian has also accepted an invitation to participate as a Member of the Advisory Board of the Louis Pomerantz Institute.•

Proceedings from *Symposium 88*

CCI is now accepting orders for the complete set of audio tapes (19 cassettes) of the proceedings of *Symposium 88*, The Conservation of Historic and Artistic Works on Paper, held in Ottawa, Canada, October 3-7, 1988. The cost for this set of tapes is $150.00 CDN. Cheques should be made payable to *Receiver General for Canada*. Payment must accompany each order. It now appears that the printed proceedings for *Symposium 88* will not be ready for distribution until the spring of 1990. This publication will be distributed free of charge to all invited speakers and to delegates that paid the *full* registration fee for the week of *Symposium 88*. Students and single-day registrants will *not* receive a complimentary copy. The published proceedings will, however, be available for sale, the price to be determined at the time of publication.

Copies of the Abstracts from *Symposium 88* are still available at a cost of $10.00 CDN. Cheques for the purchase of the Abstracts should be made payable to *Symposium 88*.

All enquiries and orders for the above items should be sent to:

Extension Services
Canadian Conservation Institute
Department of Communications
1030 Innes Road
Ottawa, Ontario, Canada
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Canada

Bulletin de l'ICC, automne / hiver 1990

Institut canadien de conservation
Ministère des Communications
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Canada

La Semaine nationale de la chimie à l'ICC

par John Taylor

C'est du 29 octobre au 24 novembre 1989 que s'est déroulée la *Semaine nationale de la chimie* au Canada. Au cours de cette semaine, diverses sections locales de l'Institut de chimie du Canada ont organisé un certain nombre de manifestations, notamment des conférences publiques, des visites de laboratoires et des démonstrations sur la magie de la chimie, qui avaient pour but de sensibiliser le public à l'importance de cette discipline.

Invité à inaugurer l'événement, l'honorable William Winegard, ministre d'État chargé des Sciences et de la Technologie, a prononcé le 31 octobre, dans l'auditorium du Musée des beaux-arts du Canada, une brève allocution sur l'importance des sciences pour l'avenir de notre pays. Puis, le célèbre « chimiste collectionneur », M. Alfred Bader, président de la *Sigma Aldrich Corporation*, a donné une causerie fort bien accueillie sur les aventures d'un chimiste collectionneur.

Pendant son séjour à Ottawa, M. Bader a également présenté une conférence intitulée *The Detective's Eye: Investigating the Old Masters*, à l'Institut canadien de conservation et à *Carleton University*.

Plus de 500 élèves fréquentant des écoles secondaires des environs ont visité les divers laboratoires de la région d'Ottawa, y compris ceux de l'ICC, pour voir de leurs propres yeux en quoi consiste le travail scientifique et en discuter avec de vrais chimistes. De plus, une démonstration de trente minutes montrant des expériences de chimie à faire soi-même a été donnée dans des écoles élémentaires de la région.

La Semaine a été couronnée de succès : les élèves et le public ont appris à mieux connaître les chimistes et les divers rôles qu'ils jouent dans la société, notamment dans les domaines de la conservation et de l'histoire de l'art. •

Ian Wainwright a assisté, du 26 au 30 mai 1989, à la seizième conférence annuelle sur l'art rupestre de l'*American Rock Art Research Association (ARARA)* à San Antonio (Texas), où il a fait une communication sur les travaux d'enregistrement d'images et de conservation de l'art rupestre au Canada. Il est allé admirer des peintures rupestres dans le *Seminole Canyon State Historical Park* ainsi que le long du Rio Grande et du cours inférieur du Pecos. Il a également accepté de faire partie du conseil consultatif du *Louis Pomerantz Institute*. •