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Newsletter

Contents

Photography: Carl Bigras and Jeremy Powell

Map of Five Counties

by David Hanington & Claire Titus

The *Map of the Counties of Stormont, Dundas, Glengarry, Prescott, and Russell* (Map of Five Counties), from the collection of the Chesterville and District Historical Society, received conservation treatment at CCI between July 1989 and February 1991.

The map was published in Prescott by D.P. Putman in 1862, and illustrates townships and counties in eastern Ontario. Individual land holdings are shown with maps of towns and villages that were surveyed under the direction of H. F. Walling. The Map of Five Counties is an example of county maps produced for private purchase in Canada in the late-19th century. In order to be popular, such maps not only had to be informative but visually pleasing as well. Details on the map, such as sketches, fancy lettering, and hand-colouring, gave the impression of prosperity within the county and enhanced the perceived value of the map.[1]

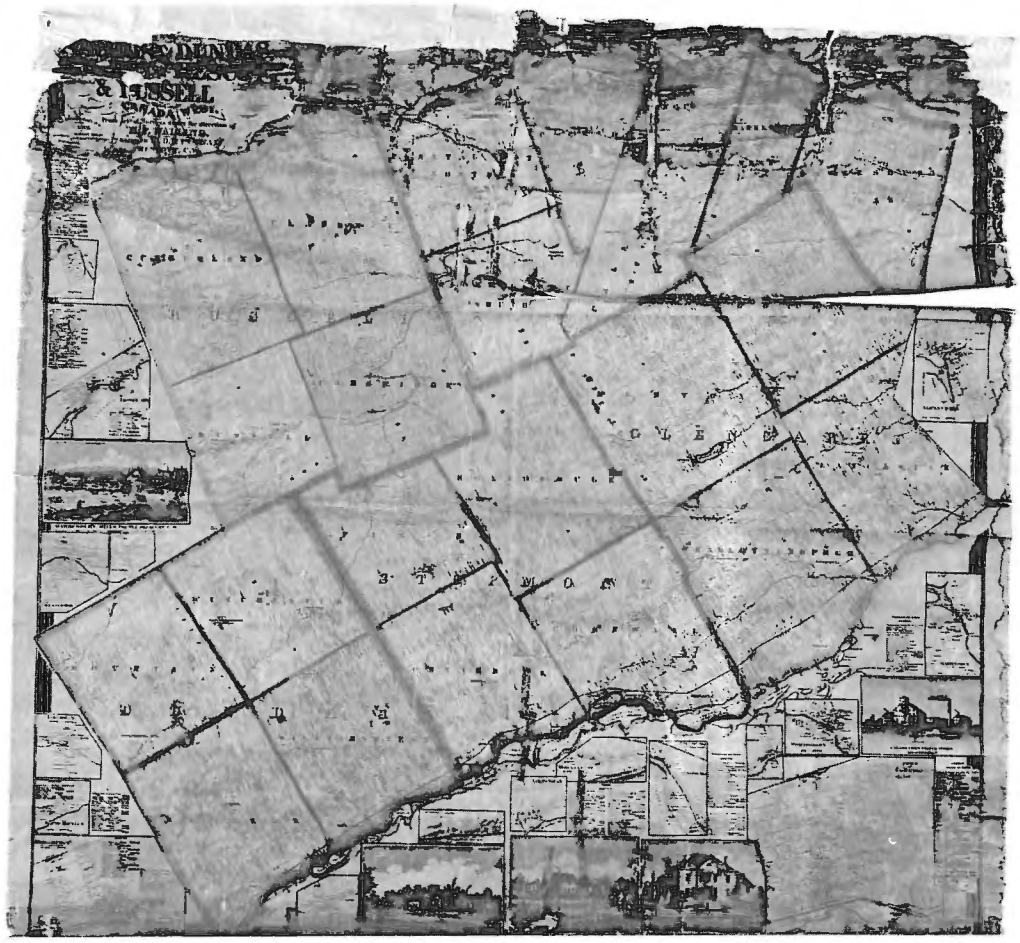
The Chesterville and District Historical Society's map is an important research tool for local historians. It documents early land holdings and structures, and provides a unique perspective on Canada's settlers.

The map is also not without artistic merit as an example of 19th century popular cartography and the graphic aesthetic of the period.

The map was printed in four sections on poor-quality wood pulp paper. It was mounted on a cloth backing, hung from display rods at the top and bottom, and coated with a thick varnish. Originally, the varnish had been applied to the map to protect its surface and to enhance its appearance. However, as the map aged, the varnish caused severe degradation of the paper. Over the years, the varnish became darkened and brittle, and as it was unrolled and rolled for storage the map became torn and split. Some of the damaged areas had been repaired with pressure-sensitive tape. By the time the map arrived at CCI, the adhesive on this tape had become dry and the tape itself was lifting from the surface. This had resulted in brown adhesive stains and in the removal of thin surface layers of paper that remained attached to the tape carrier. Other damage to the map included water stains, a missing dowel from the top of the map, the loss of fabric trim that had been sewn to the left and right edges of the map, and reinforcement of the cloth backing with brown paper grocery bags.

1. Jeffery S. Murray. "The County Map Hustlers." *Canadian Geographic* (Dec. 1990/Jan. 1991), pp. 76-80.

Washing the map in a large tray on its support screen.



Map of Five Counties before treatment.

The conservation treatment was complicated by the map's large size (almost six feet square) and the need to remove the varnish without losing any of the colour or information on the map. It was decided to remove the varnish, backing, and impurities in the paper during an extended washing process. Various varnish-removal techniques were tested on small areas of the map, and a cross-section analysis was made of some tested areas. A treatment technique used at the Northeast Document Conservation Center, U.S.A., was chosen to remove the varnish. This entailed spraying a mixture of solvents, commonly referred to as a reforming solvent, onto the varnished surface of the map. The action of the solvent mixture made the varnish easier to remove from the surface of the map using either a weak solvent or else less of a strong solvent. Tests showed that after spraying the solvent mixture onto the varnish layer and allowing it to dry, the varnish could be removed with water-soaked swabs and some mechanical action.

A screen was constructed to support the map during the washing process, to keep it flat, and to allow water to circulate above and below it. The screen was made of three layers: an aluminum grid to keep the large screen rigid, a network of 1/2"-diameter PVC plumbing pipes to circulate the water, and a layer of egg-crate grating on which to support the map. The map was supported on the screen with a cut piece of PeCAP™ (a woven polyester monofilament fabric), and Stabiltex (a polyester multifilament bolting cloth) was laid over the front of the top of the map to hold small pieces in place without using adhesive or inhibiting the washing process. The water level was dropped below the surface of the map, and swabs, blotters, and soft brushes were used to remove the swollen varnish layer. After two preliminary washes, the cloth backing was peeled off and the map was given a final wash before it was applied to its new backing.

To prepare the new backing, a large table was pasted out with wheat starch paste and covered with a layer of damp Terylene (a polyester release material). Heavy linen and Japanese paper were applied to the Terylene with wheat starch paste. The front and back of the map were covered with polyethylene sheeting before the map was rolled onto a cardboard carpet tube. It was then suspended parallel to the table, supported by two photographic light stands on casters. A thin film of paste was spread over the surface of the Japanese paper backing. The light stands were moved along beside the table as the map was unrolled onto the new backing. The polyethylene on the back of the map was rolled away, and the polyethylene on the front was left in place to protect the surface of the map as it was rolled onto the prepared backing using large, dry paste brushes to assure smooth application and good contact. The polyethylene was removed from the front, and the map was allowed to dry completely.

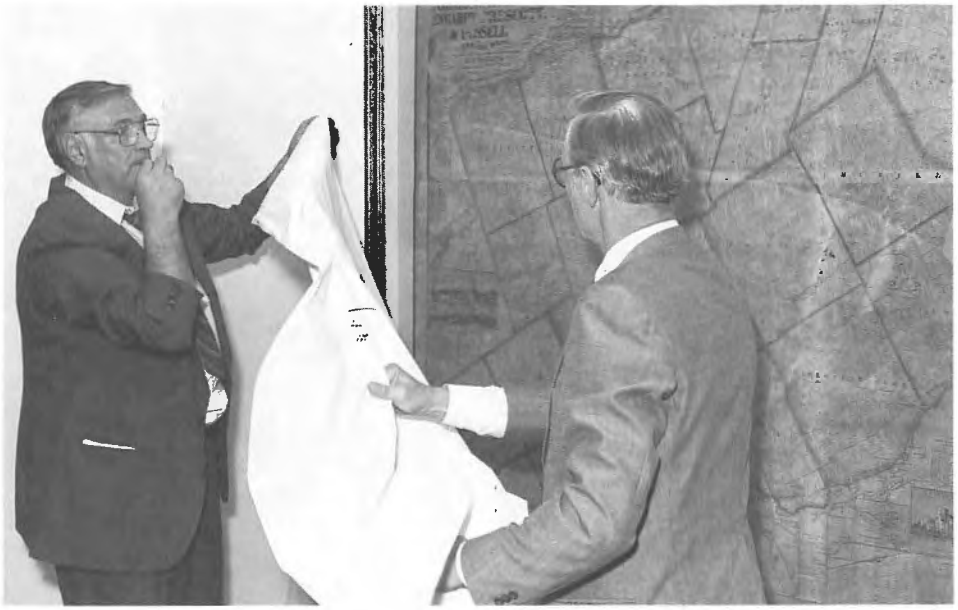
After the map was dry and flat, the holes and damaged areas were infilled with Aiko's old gold #331 Japanese paper. Pieces of Japanese paper were cut to shape and were applied to the edges of the map with wheat starch paste. The same Japanese paper was disintegrated in a blender to serve as pulp fills for small cracks and missing areas within the map. To improve the aesthetic appearance of the map, watercolour paints were used to inpaint damaged surface areas and cracks. The map backing was trimmed, and black tape was sewn along the right and left edges to replace the original fabric trim that had been lost. The Furniture and Wooden Objects Section of CCI made a replica of the missing dowel, which was painted with a black latex paint, and it and the top dowel were attached to the map through cloth tape using a series of brass cup washers and screws.

Finally, the map was mounted for display. A rigid support was constructed using 1/8" Luan Mahogany plywood door skins fastened to a pine frame. A layer of

(Continued on page 4)

Unveiling the Map of Five Counties

At last, the long-anticipated day came. The *Map of the Counties of Stormont, Dundas, Glengarry, Prescott, and Russell* was returned to its home at the Chesterville and District Historical Society Heritage Centre. On May 13, 1991, over thirty people turned out to see a video about the Canadian Conservation Institute and a presentation by David Hanington, Conservator in CCI's Works on Paper Section, and Claire Titus, a CCI Fellow, with slides by Scientific Documentation Technologist Carl Bigras, on the conservation treatment of the Map of Five Counties. Besides David, Claire, and Carl, CCI was represented by Sherry Guild and Wanda McWilliams, both of the Works on Paper Section.



Reeves Larry Gray of the Village of Winchester (left) and Tim Cook of the Village of Chesterville (right) unveil the treated map.

Mr. J.P. Leguerrier, director of the Centre, coordinated the event and began the evening by welcoming everyone and introducing the presentation on the treatment of the map. The highlight of the evening was the unveiling of the map by the Reeve of the Village of Chesterville, Tim Cook, and the Reeve of the Village of Winchester, Larry Gray. Reeve Gray spoke about the historic significance of the map, especially in light of the fact that some areas shown are now under water after the building of the St Lawrence Seaway. Reeve Cook thanked the Chesterville and District Historical Society and CCI.

There was a great deal of interest in the project, and many people stayed to study the map more closely and to read two posters, made by CCI for display at the Centre, describing the treatment of the map.

Glen MacGregor had purchased the map from Mrs. Mildred McLaughlin, the last of the McConnel family to live on the family farm in the Township of Winchester. Mrs. McLaughlin wanted the map to stay in the community, and it was with this in mind that Mr. MacGregor donated it to the Historical Society. Clarence Cross, a local historian and genealogist, has found that the Historical Society's map differs from other maps of the same subject and publishing date in that it has an inset street plan of the Village of Chesterville. This plan of the Village of Chesterville will provide helpful information and will assist in an architectural survey of the town that the Canadian Parks Service of Environment Canada is sponsoring.

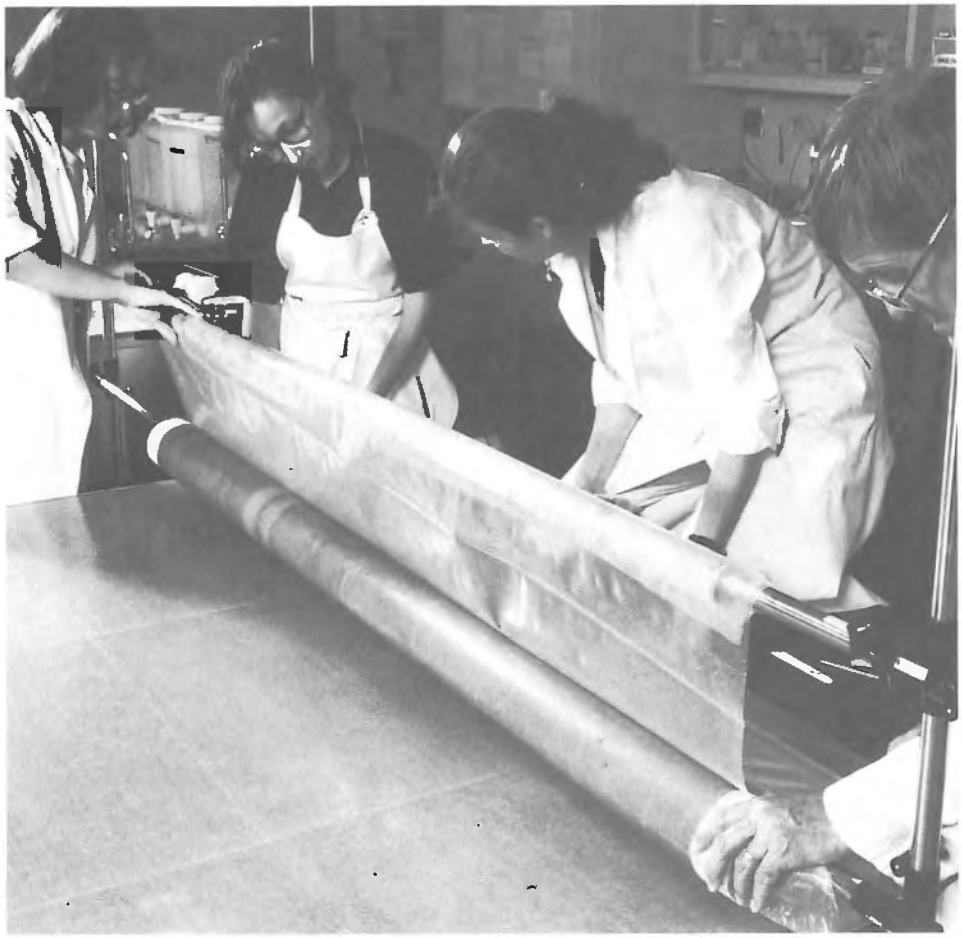
It was very rewarding and a great pleasure for those who worked on its conservation treatment to see the fully conserved map displayed and received with such excitement, enthusiasm, and pride. Although not everyone involved in the treatment of the map was able to attend the unveiling and meet the people of Chesterville, it was apparent that the community appreciated all the work that had been done and that "the map" has been returned to a loving home.•

A curious onlooker examines the street plan of Chesterville.

(Continued from page 2)

Marvelseal 360 (a foil composed of nylon, aluminum, and polyethylene) was ironed onto the entire surface of the support, making it impervious to degradative acids, vapours, and moisture. Linen fabric was washed thoroughly and, while slightly damp, was stretched and stapled onto the support over an inner layer of polyester batting. The map was attached to the support with woven binding tape fastened to the top dowel and elastic fastened to the bottom rod. The elastic and binding tape were then fastened to the pine frame with brass cup washers and screws. The elastic attachment will allow some movement if the map expands or contracts while on display. A simple pine frame was built to protect the Map of Five Counties. The framed map has been inset into a partition wall for display in the Chesterville Museum.

The authors would like to acknowledge the help of many conservators, scientists and personnel at CCI who offered their advice or assistance in this project. •



Applying the map to new backing materials.

X-ray Diffraction at CCI

By Jane Sirois

X-ray diffraction is one of the main procedures used in the analysis of museum objects. Over 58,000 compounds can be identified with this technique including minerals, metals, corrosion products, pigments, ceramics, clays, efflorescence products, and paint fillers. These materials are all crystalline, that is they are composed of atoms arranged in a repeating three-dimensional pattern. In contrast, materials that are amorphous or that have a random atomic structure are not suitable for examination by X-ray diffraction. Examples of such substances are glasses, plastics, and most organic materials. These substances must be analysed by other techniques, such as infrared spectrometry or chromatography.

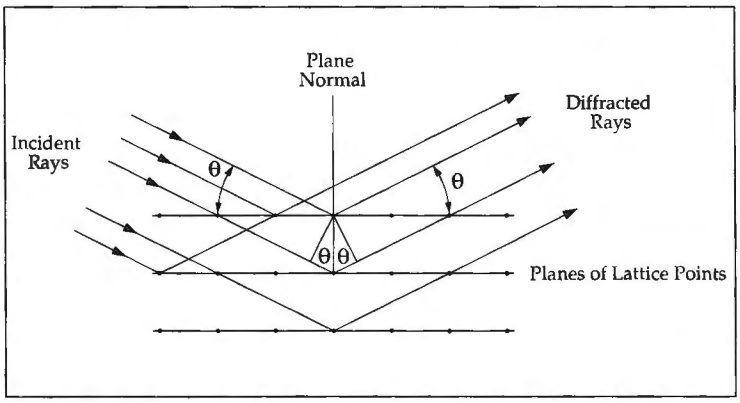


Figure 1. Diffraction of X-rays by a crystal.

X-ray diffraction was discovered in 1912 by the German physicist Max von Laue. In a single brilliant experiment, he demonstrated both the regular internal structure of crystals and the wave nature of X-rays. von Laue's experiments were read with great interest by two British physicists, W.H. Bragg and his son W.L. Bragg. While still a student at Cambridge in 1912, the younger Bragg analysed the von Laue experiment and was able to define the specific set of conditions that give rise to diffraction. These conditions relate the angle at which X-rays are diffracted off the crystal planes to the distance between the different planes. This work, coupled with the work

of William Bragg, Sr., who developed the X-ray spectrometer in 1912, led the father and son team to be awarded the Nobel Prize for Physics in 1915.

Technique

During analysis, an X-ray beam is directed onto a sample. The X-rays are diffracted off the atoms that form the various crystal planes (Figure 1), and are recorded either on photographic film in a diffraction camera or with an electronic detector in a diffractometer (Figure 2). Diffraction occurs at angles and with intensities that are characteristic for each compound, and depends on the arrangement and size of the atoms in the crystal. This results in a diffraction pattern characteristic of each crystalline compound.

This unique pattern can be used to identify a compound. The diffraction pattern from the sample is compared to a series of reference patterns from known standard materials for an exact "finger-print" match.

Two great advantages of this technique are the very small sample size required and the fact that the sample is not destroyed during analysis. The sample size is usually slightly smaller than that of a typed period. Further, it is possible to determine the composition of a pure compound with only a grain of material. As the sample size decreases, the analysis time increases.

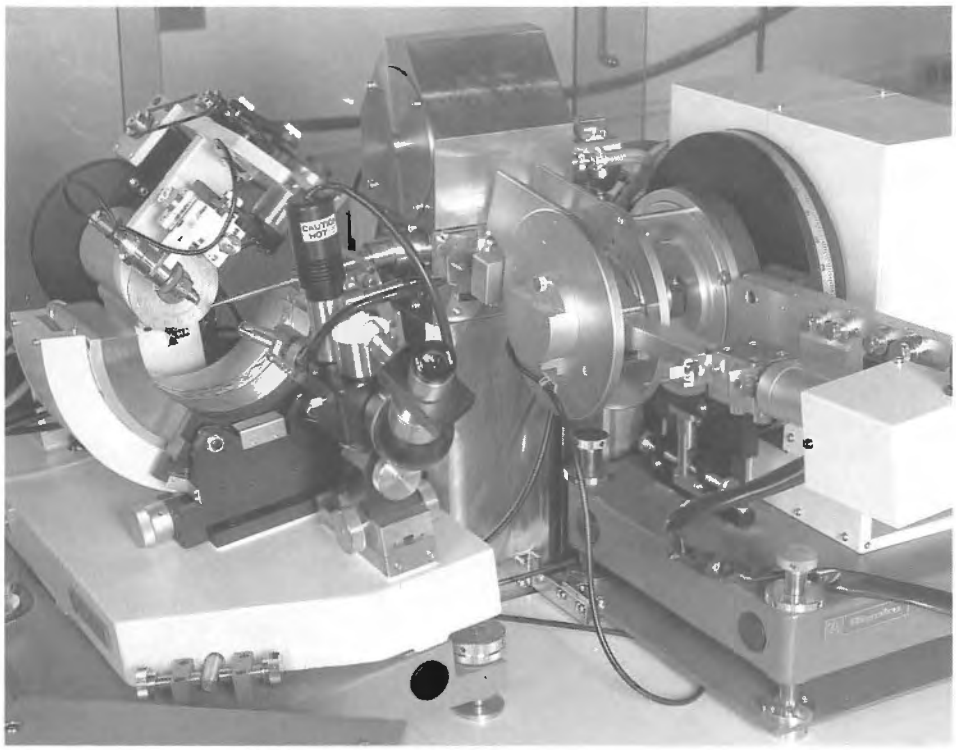


Figure 2. The X-ray system at CCI includes a diffractometer and a microdiffractometer.

A traditional film technique requires that a sample be exposed to X-rays for between two and 10 hours. With the use of a microdiffractometer, which employs an electronic detector, the exposure time can be reduced to only minutes.

Provenance

X-ray diffraction has been used in conservation research to provide information for provenance studies. One example is a painting by Meindert Hobbema entitled *Two Water Mills*, from the collection of the National Gallery of Canada. An analysis of the materials was requested to determine whether they were consistent with a painting of 17th century Dutch attribution. The yellow pigments identified in this painting, lead tin yellow type I and type II (Figure 3), provided a key piece of evidence in determining that the painting was executed before about 1750. This conclusion was based on data obtained from the analysis of several hundred paintings at the Doerner Institute and elsewhere[1]. Lead tin yellow pigments have not been found on paintings executed after 1750, and were used most frequently in the 15th, 16th, and 17th centuries. Lead tin yellow type I (Pb_2SnO_4) is commonly found in the paintings of artists such as Rembrandt, Vermeer, and Salomon van Ruysdael. Type II (matches $PbSnO_3$) is typically encountered in much earlier paintings.

A double-sided panel painting attributed to Tom Thomson was analysed by X-ray diffraction to identify the pigments used (see CCI *Newsletter*, Winter 1991). The combination of pigments encountered in the panel, particularly the presence of lead sulphate, which is not commonly used as an artist's pigment, had previously been

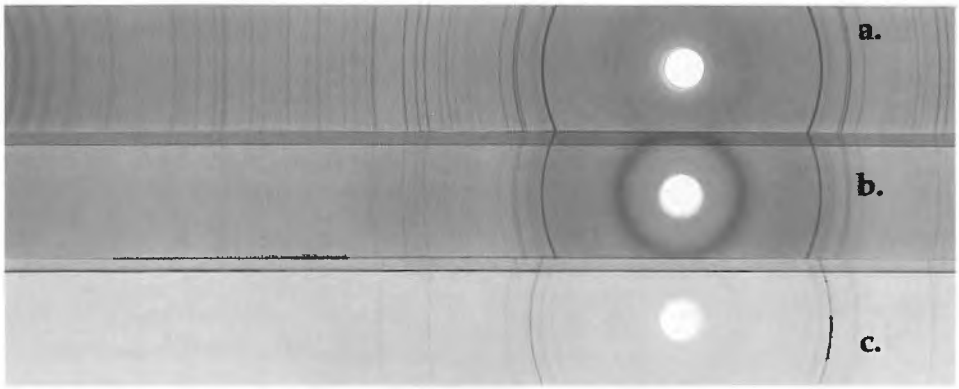


Figure 3. Several lead tin yellow X-ray diffraction patterns, obtained using a Gandolfi camera are shown here.

a. Lead tin yellow type I pigment standard ($2PbO.SnO_2$).
b. Yellow pigment sample from Two Water Mills *by Meindert Hobbema, identified as lead tin yellow type I ($2PbO.SnO_2$).*
c. Yellow pigment sample from Two Water Mills *by Meindert Hobbema, identified as lead tin yellow type II ($PbSnO_3$).*

identified in several Group of Seven paintings from the McMichael Canadian Collection in Kleinburg, Ontario. Several other Thomson panels loaned to CCI for this study by the National Gallery of Canada also contained this pigment.

X-ray diffraction has been used to provide evidence for art fraud cases. In 1985, a series of paintings was brought to CCI by the Metropolitan Toronto Police as part of an art fraud investigation. One of these was a painting sold as a van Gogh (Figure 4). When the painting was examined, rutile titanium dioxide was found. White titanium dioxide pigment is available in two forms, anatase or rutile. Anatase came into production in its pure form in about 1925; however, rutile was not produced commercially until late 1938. Both these compounds have the same chemical composition, but different crystal structures. Diffraction is the ideal technique for determining which form of titanium dioxide is present and, therefore, the earliest possible production date of the painting. The presence of rutile titanium dioxide proved that, in this case, the painting could not have been executed during van Gogh's lifetime.

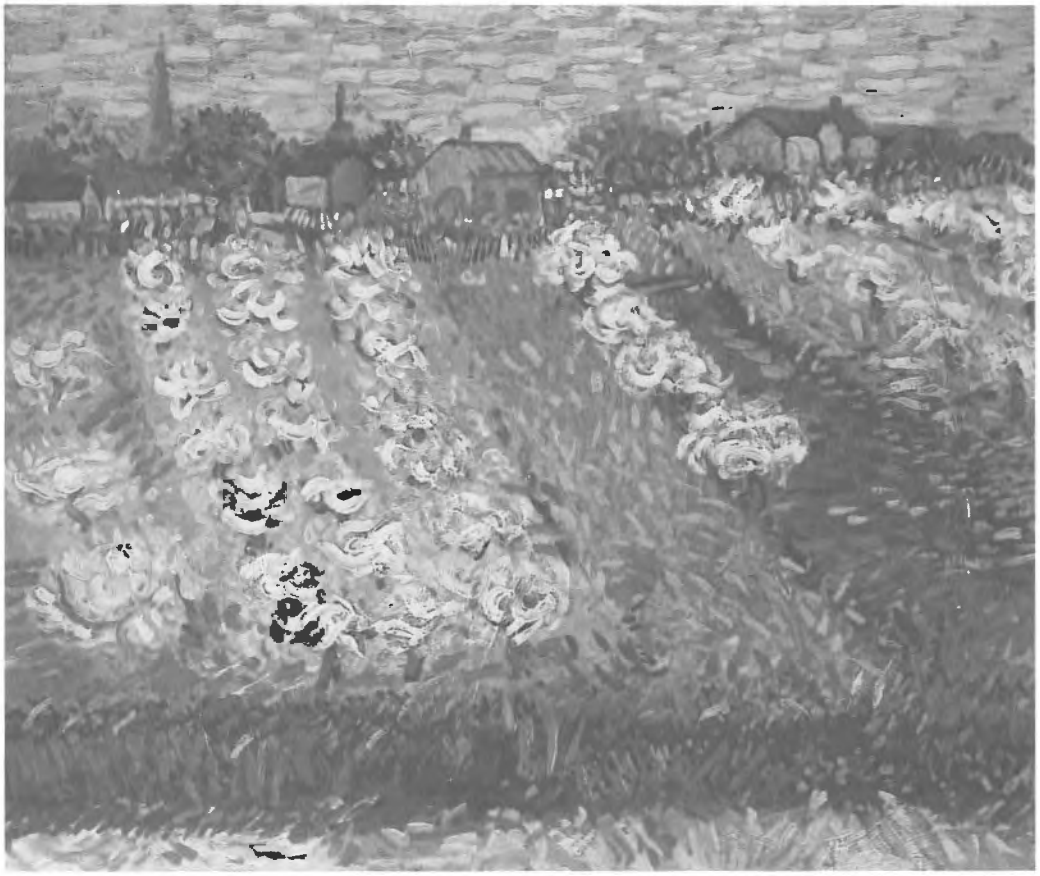
Conservation Research

Alteration products on certain paint films have been investigated using diffraction. One pigment that is particularly susceptible to discolouration is red lead (minium Pb_3O_4). Red lead alteration products have been identified on artifacts such as a Haida canoe with red paint that had faded to a pale cream colour. The original red pigment, minium, had altered and had turned to litharge (PbO). Diffraction also identified plattnerite, a black/brown lead oxide, on what had originally been red lead paint films in samples taken from the Dunhuang caves in Ganzu Province, The Peoples Republic of China (see CCI *Newsletter*, February 1989, p. 9).

Conservation Treatment

Green blotches of corrosion are often present on the surface of bronzes. This green colouration can range from harmless patination or casting residues to what is commonly called "bronze disease". These two types of residues can be distinguished and their composition determined by X-ray diffraction. Typically, the presence of the corrosion products nantokite (CuCl), paratacamite ($CuCl_2.3Cu(OH)_2$), and atacamite ($CuCl_2.3Cu(OH)_2$) indicate that active corrosion or "bronze disease" is occurring. The presence of minerals such as malachite ($CuCO_3.Cu(OH)_2$) or cuprite (Cu_2O) indicates a stable patina.

X-ray diffraction can provide answers to many of the questions encountered in a conservation laboratory. Identifying efflorescence products on ceramics or building materials, determining whether dust present on natural history specimens contains arsenic or mercury compounds, identifying weathering crusts on rock art, or degradation products and opacifiers in glass beads are other examples of analyses well suited to X-ray diffraction.•



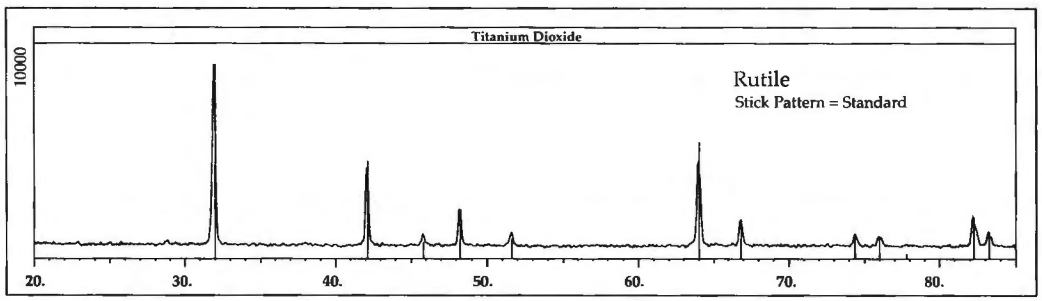


Figure 4. A Spring Landscape Near Arles *was sold as a work by Vincent van Gogh. The presence of white rutile TiO_2, shown below, determined conclusively that the painting could not have been executed before 1931 and was probably done after 1938.*

1. Kühn, Hermann. 1973. "Terminal Dates for Paintings Derived from Pigment Analysis." In *Application of Science in Examination of Works of Art*, W.J. Young, ed. Proceedings of the Seminar, 15-19 June, 1970. Boston: Museum of Fine Arts.

Who's Who at CCI — Valerie Dorge

by Martha Perry

Valerie Dorge, Senior Assistant Conservator in CCI's Furniture & Wooden Objects Section, travelled many roads and covered a lot of miles on her trip from Australia to Canada, and it seems the wanderer in her has not yet been stilled. However, luckily for us, she seems to be able to express this wanderlust and still work at the Canadian Conservation Institute.

Valerie's affinity to wood developed at an early age. While others were playing with doll houses, she was building them. However, Valerie did not follow her bent right away. She received training in the secretarial field, and used that background and other odd jobs to support herself during her travels through Australia, New Zealand, and Canada.

Arriving in Vancouver, Canada in 1967, Valerie expected to stay for only one year—yet here she is still. In Toronto, her second stopover in Canada, she worked as an artist, as a trainee fashion designer, and finally as a secretary for Olympia and York Developments, where it seems she had enough spare time to teach herself Spanish.

During her later travels to Spain and the British Isles, Valerie's interest turned to museology. When she arrived in Ottawa, she enrolled in the Museum Technology course at Algonquin College. She followed her studies at Algonquin part-time while working as a temporary and later as an executive secretary at the National Museum of Man (NMM). There, Valerie was encouraged to follow her museological interests and, along with her administrative duties, was made responsible for day-to-day patrolling of the exhibits and for reporting problem situations.

In 1979, Valerie was granted a short leave of absence from her administrative position at the National Museum of Man to work with Aline Myre, Conservator at the Canadian Ethnology Service of the NMM. In 1980, Valerie was granted another leave of absence to join the Canadian Conservation Institute as a Mobile Laboratory Intern. Because interns were required to spend time in each of the laboratories at CCI, Valerie feels that she received a depth of experience that stood her in good stead later on in her career. Valerie is one of the few original interns remaining at CCI, and also holds the somewhat dubious honour of having travelled the farthest in that ubiquitous big blue truck, having beaten out a close friend and colleague by a few kilometres. In 1983, CCI wisely made Valerie a permanent member of the Furniture & Wooden Objects Section.

Valerie Dorge, Senior Assistant Conservator, Furniture and Wooden Objects Section.

A permanent position has not "lab-bound" Valerie. In the period since 1983, she has completed a B.A. with Distinction in Material Culture Studies at Carleton University on a part-time basis, has attended and in some instances presented at many professional conferences and workshops, and has contributed to the literature with a number of publications.

Valerie was awarded a Mellon Fellowship in Polychromed Sculpture at the Detroit Institute of Arts (DIA), and spent one year at the Institute in 1987/88. This position afforded her the opportunity to research traditional techniques, to carry out examination, analysis, and treatment of polychromed wooden and terracotta sculptures, and to participate in the general activities of the DIA. Her training in the area of treatment of polychromed wood has proven very useful in her work in CCI's Furniture & Wooden Objects lab. A number of artifacts, including an 18th century European zither from the Kings Landing Historical Settlement in New Brunswick, have since benefited. During her time as a Fellow, Valerie received a study grant to visit leading European polychromed sculpture conservation laboratories and collections (which required a crash course in German), and was able to compile an extensive bibliography of polychromed sculpture techniques and conservation literature.

Valerie took a one-month leave from CCI in the summer of 1990 to participate as a conservator on the Gordion Furniture Project in Ankara, Turkey. There, she had the opportunity to work on an important collection of ancient furniture. This furniture had been excavated from tumuli at Gordion, the capital of the Phrygian kingdom, which was most powerful from the 8th to the 7th century B.C.

During the first weekend of her stay in Ankara, the area felt the effects of an earth tremor, a deluge, and the Iraqi invasion of Kuwait (which, of course, had an impact on the entire Middle East). One of the images Valerie will always carry with her is that of a group of worried people clustered around the lab radio listening intently to the twice-daily news broadcasts. To her, it had a movie-like quality, an image that seemed more appropriate to 50 years ago than to the present.

Back in Canada, Valerie commits time, as do others in the field, to the International Institute for Conservation – Canadian Group (IIC-CG). She now serves on the IIC-CG Council, and participates as the CCI representative on the Training Committee. In addition, Valerie is serving on the program committee for the CCI-sponsored Symposium 91, "Saving the Twentieth Century. The Degradation and Conservation of Modern Materials."

The Furniture & Wooden Objects Section has a grand tradition of passing on its expertise from more experienced to less experienced conservators. Valerie has profited from the advice of Gordon Fairbairn, Senior Conservator in the lab, and feels it is now her responsibility to pass her expertise on to others. She particularly enjoys the opportunity to teach one-on-one and to watch a conservator grow in his or her abilities; this is an area to which she would like to commit more of her time.

The variety of work available to her in the conservation profession is what Valerie finds particularly satisfying. The constant change and challenge to be found and exploited and the doors that open to unexplored areas are important to her. Conservation has captured Valerie's interest and, to some extent, has kept her wandering spirit in check. She attributes the longevity of her stay at CCI to the atmosphere found in its Furniture & Wooden Objects Section, and feels that that atmosphere is directly attributable to Gordon Fairbairn. Others feel that the atmosphere may well be attributable in some way to Valerie herself.

It was a long trip from Toowoomba, Australia, to Ottawa, Canada, but it has been a worthwhile one, certainly from the point of view of the Canadian heritage community and of those who work with Valerie Dorge. •

Art in Transit Research at CCI

by Paul Marcon

The Environment and Deterioration Research Division of CCI is now into its third year of research on art in transit. The research program began in 1988 with a comprehensive search of industrial literature in order to take advantage of existing information on shipping hazards and package design. This literature review has provided a great deal of information that can be directly applied to shipments of art.

Packing artifacts for shipment, as with any item or product, requires consideration of i) the shock and vibration characteristics of the shipping environment, ii) the sensitivity or fragility of the packaged item, and iii) the performance characteristics of the package and cushioning materials. The literature already provides accurate descriptions of the shock and vibration inputs to packages for common modes of travel (i.e., road, rail, air, and sea), and provides methods of estimating handling risks. It also gives detailed data and design criteria for shock and vibration control using modern packing materials. The limiting factor in the design of packages for works of art is the lack of information on artifact fragility. Determining the shock and vibration fragility of different types of artifacts is one of the major objectives of CCI's experimental research on art in transit.

A better knowledge of this parameter will provide a better assessment of the risks posed by shipment and of the actual requirements of the protective packaging. This information will also be useful in assessing the potential risks to collections posed by shock and vibration from other sources such as construction operations and certain building environments. The scope of the experimental work is

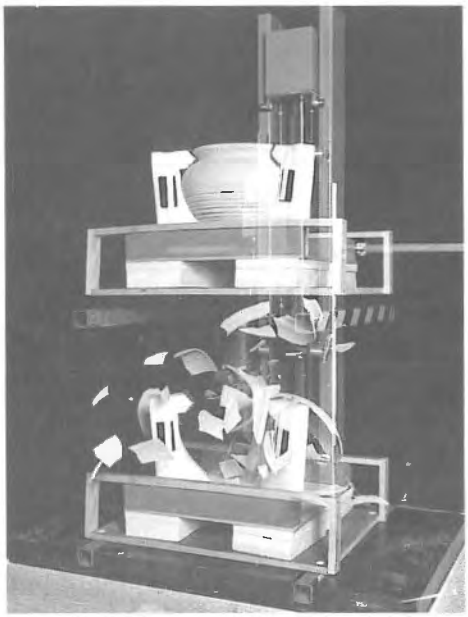


Figure 1. An unfired clay pot on a polyethylene foam support is dropped from a height of 75 cm onto a steel base plate. The four polystyrene pads under the pot are unable to compress enough to reduce the shock to a level that will prevent damage to the pot.

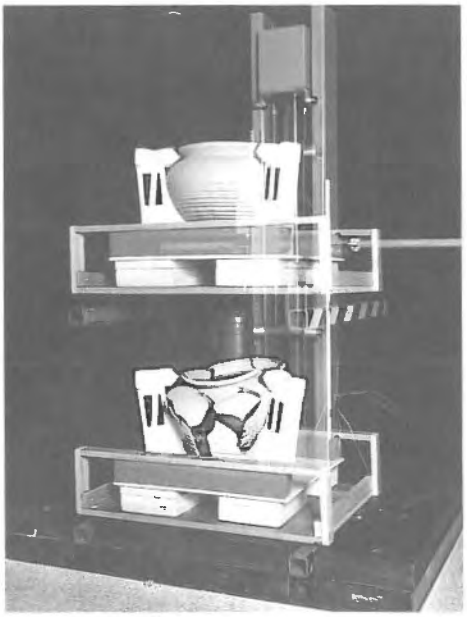


Figure 2. The initial stages of breakage for the unfired clay pot shown in Figure 1.

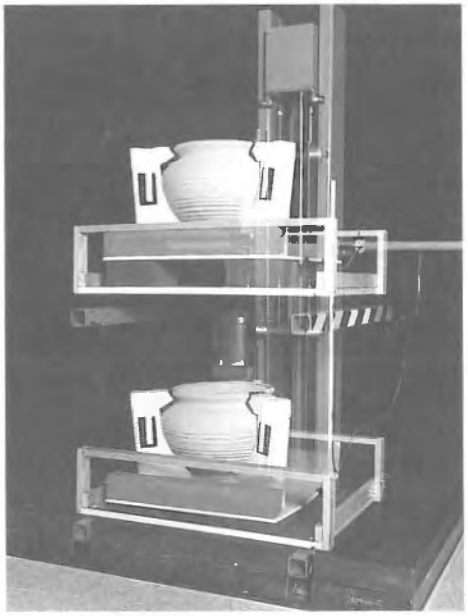


Figure 3. An optimized design using low-density polyurethane pads. The compression of the polyurethane pads spreads the applied shock over a greater period of time and limits the impact force to a level the clay pot can tolerate without damage.

currently limited to canvas and panel paintings, but will eventually progress to other types of artifacts, as well.

The shock and vibration laboratory at CCI is equipped with a 225 kg drop tester, a 70 kg vibration plate, an electrodynamic shaker, and an array of data acquisition and analysis equipment. This equipment will be used for testing basic object fragility, vibration sensitivity, and package performance. In order to extend CCI's test capabilities, collaborative agreements are being arranged with the David Florida Vibration Laboratory of the Department of Communications Space Agency and with the Land Engineering Test Establishment of the Canadian Department of National Defence. Through these institutions, CCI will have access to equipment that can provide the rigorous test environment required in standard fragility and package test procedures.

Another area of experimental research for art in transit is package testing and evaluation. This involves tests of packing crates supplied by museums, art galleries, and other public institutions. The results of the tests will be collected and compared in order to quantify the performance of current successful package designs. Participants in this testing program presently include the National Gallery of Canada, the Canadian Museum of Contemporary Photography, the National Archives of Canada, and the National Gallery of Art in Washington, D.C.

The information derived from the packing literature provides a valuable base of information for the packing and shipping of artifacts. While the information is very useful for research purposes, much of it is technical and does not necessarily meet the needs of the museum community in day-to-day packing situations. In order to provide practical solutions to packing problems, CCI has developed package design tools such as the *Circular Slide Rule for Package Design* and a computer program called *CCI-PADCAD*. These products are based on information, cushion data, and standard design procedures, and have been created to free museum personnel from having to interpret graphs and tables and from having to perform repetitive calculations.

The slide rule and computer program are intended to complement the experience of packers by simplifying the quantitative aspects of cushion design and allowing them to concentrate on the more qualitative aspects, such as providing adequate support and using appropriate wrapping methods. For example, the optimum cushioning material type for the clay pot problem illustrated in Figures 1 to 3 can be easily calculated by using either of these new procedures.

Much of the research information on packing gathered to date was presented at an international conference on packing held in London, England, this Fall. This conference will be followed by a series of practical workshops at various locations in North America. In the meantime, CCI can provide information and assistance on packing, and welcomes any comments or suggestions on packing-related issues.•

Selecting and Employing a Conservator in Canada

The Canadian Association of Professional Conservators (CAPC), in conjunction with the International Institute for Conservation - Canadian Group (IIC-CG), has recently published the brochure *Selecting and Employing a Conservator in Canada.*

This publication provides clients with valuable information on the conservation profession in Canada today, and outlines what clients should and should not expect when approaching a professional conservator for conservation treatment services.

Copies of this brochure are available by writing to either:

IIC-CG
P.O. Box 9195
OTTAWA, Ontario
K1G 3T9

or

CAPC
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Orders for fewer than 50 copies will be provided free of charge. A nominal fee of 10 cents per copy will be charged on orders of 50 or more copies.

A Circular Slide Rule for Cushion Design

One of the greatest hazards an object will face during shipment is shock during handling operations. In order to protect items from shock, package designers use a standard design procedure for the selection and use of cushioning materials. The procedure involves using tables, interpreting graphs, and performing repetitive calculations. The circular slide rule is based on this procedure, but relieves the packer from the aforementioned tasks. With the help of the slide rule, a packer can quickly select a cushioning material that will provide a specific degree of shock isolation by simply dialing in the weight of an object, its surface area, and the total package weight.

The slide rule is now ready for production, and will be available shortly. Further information on the slide rule can be obtained by contacting Paul Marcon or Extension Services, Canadian Conservation Institute.

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.

January 1991

Janet Mason gave a slide show and talk on work done at the Pacific Regional Conservation Centre, Bishop Museum, Hawaii, to the Ottawa Regional Group of the International Institute for Conservation-Canadian Group (IIC-CG). She also spoke on the "Conservation of Splintwood Baskets" to the Nova Scotia Basketry Guild in Halifax, Nova Scotia.

Bob Barclay gave a two-week course in Rome, Italy, on "The Conservation of Wood" for the Prevention for Museums in Africa (PREMA) program of ICCROM from January 28 to February 8, 1991.

Colette Naud, Carole Dignard and Jean Tétreault have been participating in the preparation of a video on preventive conservation. This ongoing project is in conjunction with the Centre de conservation du Québec for the Société des musées québécois and l'Université du Québec à Montréal.

Seminar

"Conservation of Inorganic Archaeological Materials"
Judy Logan and Maureen Williams for the Saskatchewan Research Council, University of Saskatchewan, Saskatoon, Saskatchewan.

February 1991

David Grattan attended a special meeting of the Art and Archaeological Technical Abstracts editorial board in New York City in order to plan a new index of chemical terms for the cumulative index now in preparation.

Carole Dignard gave a course in Rome, Italy, on the "Conservation of Materials of Animal Origin" for the Prevention for Museums in Africa (PREMA) program of ICCROM.

Carl Schlichting participated in a panel discussion and presented a short paper entitled "The Conservation of Industrial Collections" at the Hagley Fellows Seminar on "Risks and Rewards: Perspectives on Operating Mechanical Artifacts", held in Wilmington, Delaware.

Debra Daly Hartin and Helen McKay were instrumental in the organization of the first Gerry Hedley Fellowship Forum, held at Queen's University, Kingston, Ontario.

Colette Naud has been working as a member of an ongoing committee to advise on the content of a program in conservation training for francophones that is currently being planned by Université Laval.

Seminars

"Construction of Mannequins for Historic Costumes"
Eva Burnham and Janet Wagner for the Sir Alexander Galt Museum and Archives, Lethbridge, Alberta.

"Polymers and Plastic Materials"
Scott Williams for the Winnipeg Art Gallery,
Winnipeg, Manitoba.

March 1991

Laura Nagora gave a workshop on guilding to students in the second year of the Master of Art Conservation program at Queen's University, Kingston, Ontario. She was assisted by Peter Newlands.

Valerie Dorge and Bob Barclay visited the David M. Stewart Museum in Montreal, Quebec, to inspect and advise on the treatment of a celestial globe.

Peter Vogel visited the Senate of Canada as part of an ongoing project to provide advice as to the future care and conservation of several portraits of former senators.

Jean Tétreault gave lectures on "Matériaux en conservation" and "La lumière" to students at the Collège Montmorency in Montreal, Quebec.

Seminars

"Care, Cleaning, and Repair of Ceramic and Glass Objects"
Judy Logan and Stan Frydryn at the Archives Building, Charlottetown, P.E.I.

"Care of Paintings"
Debra Daly Hartin and Helen McKay for the Kamloops Public Art Gallery
Kamloops, British Columbia.

"Framework for Preventive Conservation"
Paul Marcon for the Memorial University Art Gallery
St. John's, Newfoundland.

"Emergency and Disaster Preparedness"
Wanda McWilliams, Deborah Stewart, and Claire Titus for the Yarmouth County Museum
Yarmouth, Nova Scotia.

April 1991

Helen McKay participated in the presentation of a one-day seminar on "Museum Case Design" that was organized by the Ottawa Regional Group of the IIC-CG and was presented at the Canadian Museum of Civilization, Hull, Quebec.

Deborah Robichaud attended the Museums Association of Saskatchewan conference in Weyburn, Saskatchewan.

Jean Tétreault participated as a lecturer in the Ottawa Regional Group of the IIC-CG workshop on "Museum Case Design", speaking specifically on materials for use in the construction of museum cases and on conservation considerations in display case designs.

May 1991

The following CCI staff members presented papers at the IIC-CG Conference held in Vancouver, British Columbia: Nancy Binnie presented

"Research Report on Treatments for Waterlogged Wood/Metal Composites"; Carole Dignard gave a paper on "A New Method of Consolidating Powdery Paint: The Ultrasonic Mist"; Marie-Claude Corbeil spoke on "A Scientific Examination of *The Leopards*, Attributed to Peter Paul Rubens"; Stan Frydryn presented "Restoration of a 16th Century Ceramic Stove"; and Wanda McWilliams described "The Dismounting of a Dry-Mounted Lansdowne Watercolours with the Aid of a Solvent Vapour Chamber".

Carl Schlichting presented, and Carolyn Leckie helped to prepare and organize, a mount making workshop at the Society for the Preservation of Natural History Collections (SPNHC) meeting held at the Canadian Museum of Nature, Ottawa. Stefan Michalski, Paul Marcon, Tom Strang, and Jean Tétreault presented a course on "Preventive Conservation" to delegates of SPNHC. Carolyn Leckie also presented a paper on "How Can CCI Help Preserve Natural History Collections?".

Mary Peever received a grant from the Samuel Kress Foundation to attend the conference of the American Institute of Conservation. Mary was the opening speaker at the General Session of the conference, talking about "Sacred and Secret Objects: Cultural and Professional Perspectives".

Thanks to the generosity of the Yamao Foundation of Tokyo, Bob Barclay was able to attend the Comité international des musées et collections d'instruments de musique (CIMCIM) conference in Osaka, Hamamatsu, and Tokyo, Japan. Bob is the Secretary/Treasurer of this ICOM Committee and is Chair of a Working Group on Conservation Guidelines for Musical Instrument Collections.

Leslie Carlyle gave a talk at CCI on her research into British 19th century oil painting techniques, materials, and pigments, and on the computer data base developed as part of this research.

Seminar

"Construction of Mannequins for Historic Costumes"
Ela Keyserlingk and Janet Wagner at Keir Memorial Museum, Malpeque, P.E.I.•

Upcoming Seminars

The following CCI training presentations are scheduled for the remainder of 1991 and the beginning of 1992. Times and places are subject to change. Please contact the appropriate provincial museums association listed to confirm details or to register for any of these seminars.

October 1991

Nova Scotia (Federation of Nova Scotian Heritage)
"Basic Care of Books and Archival Materials"
Date: October 31-November 1
Place: Colchester Historical Society Museum, Truro, N.S.

November 1991

British Columbia (British Columbia Museums Association)
Update for BCCG on "Symposium 91" and on "Objects and Research Groups at CCI"
Date: November 8
Place: Royal British Columbia Museum Victoria, B.C.

Saskatchewan (Museums Association of Saskatchewan)
"The Permanence of Artists' Materials and Techniques"
Date: November 21-22
Place: Provincial Service Centre, Western Development Museum
Saskatoon, Saskatchewan

Quebec (Société des musées québécois)
"Supports pour les objets en réserve ou en exposition" (IN FRENCH)
Date: November 4-5
Place: Musée de la civilization
Quebec City, Quebec

Alberta (Alberta Museums Association)
"A Framework for Preventive Conservation"
Date: November 21-23
Place: Provincial Museum of Alberta
Edmonton, Alberta

January 1992

Saskatchewan (Museums Association of Saskatchewan)
"Artifact Mounting Workshop"
Date: January 9-10
Place: Saskatchewan Museum of Natural History
Regina, Saskatchewan

February 1992

Manitoba (Association of Manitoba Museums)
"The Permanence of Artists' Materials and Techniques"
Date: February 6-7
Place: To be announced

March 1992

Nova Scotia (Federation of Nova Scotian Heritage)
"A Framework for Preventive Conservation"
Date: To be announced
Place: To be announced

Ontario (Ontario Museum Association)
"Care of Furniture and Wooden Objects"
Date: March 5-6
Place: Heritage House Museum
Smiths Falls, Ontario

Alberta (Alberta Museums Association)
"Care of Books and Archival Materials"
Date: March 12-13
Place: Glenbow Museum
Calgary, Alberta

Newfoundland (Museum Association of Newfoundland and Labrador)
"Artifacts Mounting Workshop"
Date: To be announced
Place: St. John's, Newfoundland •

CCI to Become a Special Operating Agency

The president of the Treasury Board has announced that CCI will become a Special Operating Agency (SOA) during the course of the next year. SOA status will give CCI additional flexibilities in some administrative areas and, we hope, will make the Institute more responsive to the requirements of the Canadian museum community. We have just begun the process of negotiating with the Treasury Board and the Department of Communications for various authorities, and we do not yet know all of the implications for the Institute. This change in status does NOT mean that CCI will have to become a cost-recovery organization. We will remain a fully government-funded Institute, and our mandate, to provide conservation and scientific services to the museum community, will not change. By the time the next *Newsletter* is ready to go to press, I should be in a position to explain more about what SOA status means for CCI; until then, rest assured that our primary function will continue to be to provide the best possible service that we can.

Charles Gruchy
Director General

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 programs.

The Fellowship program 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 have recently participated or are currently involved in one of these programs at CCI.

Internship

Jennifer Cheney, Conservator of Fine Art, Owens Art Gallery, Mount Allison University, Sackville, New Brunswick. January 2 to February 28, 1991. (Works on Paper Section)

Fellowships

Alan Bird, graduate of the M.F.A. program in the Conservation of Paintings, Gateshead Technical College, Newcastle, U.K. (Fine Arts Section)

Lesley Ruth Dean, Ph.D. student at the School of Biological Sciences, Portsmouth Polytechnic, Portsmouth, England. Lesley's research project is run in conjunction with the Mary Rose Trust and with B.P. Chemicals (Conservation Processes Research Division).

The following people are continuing into the second year of their Fellowship programs:

Peter Newlands (Furniture and Wooden Objects Section)

Claire Titus (Works on Paper Section)

Janet Wagner (Textiles Section)

Maureen Williams (Archaeology Section)•

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

The response to the call for papers for CCI's Symposium 91 "Saving the Twentieth Century" was excellent; we received more abstracts for papers than anticipated. As a result, the program was exciting, interesting, and wide ranging. It also opened up a number of fresh topics for consideration by conservators and curators.

The program began with a presentation of actual problems in a museum collection, which practically and effectively directed the mind of the audience towards the topic. After this introduction, the technical sessions commenced with a consideration of plastics and rubber conservation. The topic then changed to textiles and fibres, and moved on to archival preservation. At this point in the program, papers were presented that dealt with the conservation of the products of high technology including one on the conservation of a computer. The subject then shifted to fine arts, and concluded with a consideration of metals conservation. We closed the meeting with a panel discussion, the aim of which was to explore the relevance of our findings in the context of the museum. For more about Symposium 91 proceedings, watch for a wrap up in our next *Newsletter*.

Comings and Goings

Sherry Guild, Senior Assistant Conservator in CCI's Works on Paper Section, has been seconded on a part-time basis for one year to CCI's Conservation Processes Research Division to work on a mass deacidification project for the Metro Toronto Chairman's Committee for Preserving Documentary Heritage.

Debbie and Vince Cooke, Native people from the Makah Indian Reservation in Washington State and conservators with the Makah Cultural Center museum, worked with David Grattan seeking methods of re-treating archaeological specimens from the Ozette and Hoko River sites. Specimens included wood, basketry, and various fibrous materials. Vince and Debbie were at CCI from mid-January to mid-May.

David Miller joined CCI staff on April 2 as a Senior Assistant Conservation Scientist in the Analytical Research Services Division. David's responsibilities will be to develop organic analysis techniques for polymers, resins, proteins, solvents, dyes, carbohydrates, oils, and adhesives using chromatography, mass spectroscopy, and thermal analysis, and to undertake service requests and research analyses on these materials.

Eva Burnham, a Senior Conservator in the Textiles Section, is on a two-year leave of absence from CCI and is now working at the McCord Museum of Canadian History in Montreal, Quebec, setting up their new costume and textile conservation laboratory. Once the McCord moves into its renovated new quarters and re-opens in the Spring of 1992, Eva will run the daily operations of this laboratory.

Judy Logan has been officially named Chief of CCI's Archaeology and Textiles Sections.

Leslie Carlyle has returned from a three-year education leave (with allowance from CCI) and a one-year leave of absence during which time she completed her Ph.D. thesis on British 19th century oil painting materials, techniques, and pigments at the Courtauld Institute of Art, University of London, in London, England. As of May 1991, Leslie has resumed her duties as a conservator in the Fine Arts and Polychromes Section of CCI.•

Recent Publications from CCI

The following new or revised publications are now available from CCI. Should you require additional information about CCI's publications, please do not hesitate to telephone or write to:

Chief, Extension Services
Canadian Conservation Institute
Communications Canada
1030 Innes Road
OTTAWA, Ontario
K1A 0C8 CANADA
Telephone: (613) 998-3721
FAX: (613) 998-4721.

Research Project Review - 1989

Technical Bulletin no. 12, "Controlling Museum Fungal Problems"

CCI Staff List (March 1991)

CCI Notes Table of Contents

CCI Notes no. 5/1, *Care of Ceramics and Glass*

CCI Notes no. 6/5, *Care of Quillwork*

CCI Notes no. 8/1, *Removing Mould from Leather*

CCI Notes no. 9/1, *Recognizing Active Corrosion*

CCI Notes no. 9/4, *Basic Care of Coins and Medals*

CCI Notes no. 9/5, *Tannic Acid Treatment*

CCI Notes no. 13/4, *Velcro Support System for Textiles*

CCI Notes no. 13/13, *Commercial Dry Cleaning of Museum Textiles*

CCI Notes Binders: New binders have been produced to hold and organize your collection of CCI Notes. These attractive binders make a striking addition to any library, and are available free of charge from the address given above.•

International Conference on the Packing and Transportation of Paintings

A three-day conference on the packing and transportation of paintings was held in London, England, on September 9, 10, and 11, 1991.

The conference was co-hosted by the Canadian Conservation Institute of Communications Canada, the Conservation Analytical Laboratory of the Smithsonian Institution, the National Gallery of Art in Washington, and the Tate Gallery in London, England.

Objectives of the conference were to improve understanding of critical issues involved in packing and shipping works of art, and to rationalize and advance packing methods around the world. The conference presentations were aimed at museum and gallery personnel who make decisions about shipping and packing, as well as those who are involved in the actual process of packing or shipping. Simultaneous translation was provided in English, French, and German. For a complete report on the conference, see our next *Newsletter*.•

ICOM 1992 in Canada: Celebrate with Us!

In September 1992, ICOM members from around the world will meet in Quebec City to debate the major issues and ideas that challenge museums as they move toward the year 2000.

There will be behind-the-scenes visits to museums in Quebec City, Montreal, and Ottawa, plus many special events and post-conference tours in Canada and the United States. Join us in celebrating the 500th anniversary of Christopher Columbus's arrival in North America, the 350th anniversary of Montreal, and Canada's 125th birthday.

Explore new concepts and ways of working in museums, and examine the traditions that form the foundation of our heritage at ICOM 1992.

Canada