Besides his practical work as a teacher, Dr. Spragge's research for his doctorate (Monitorial Schools in the Canadas, 1810-1845) and his M.A. thesis, which was published as *The John Strachan Letter Book 1812-1834* (1946), focussed on education. He was a prolific writer on the early history of Upper Canada and is recognized as the first Tory revisionist historian for Ontario. The Ontario Historical Society awarded him the Cruikshank Medal for Outstanding Service to the Cause of History in Ontario for 1967.

Dr. Spragge not only wrote Canadian history but also served as Secretary Treasurer of the Ontario Historical Society and editor of *Ontario History* for many years. His involvement with historical publishing included *Three History Theses* printed by the Ontario Archives in 1961, and service on the Council of the Champlain Society.

Appointed Provincial Archivist of Ontario in August, 1950, Dr. Spragge took charge when the Archives were moving to larger quarters on Queen's Park Crescent. To prepare himself for his work, Dr. Spragge took the Archives Training course in Washington. The establishment of the Records Management programme at the Ontario Archives resulted from his initiative and perseverance. Under his guidance, the Ontario Archives prospered. His interests covered both American and English archival practice, and he was a member of the British Society of Archivists and the Society of American Archivists.

Trinity College was a lifelong interest. Following his retirement from the Ontario Archives in 1963, Dr. Spragge served for six years as Archivist of Trinity College and wrote the history of Trinity Medical College. As Esquire Bedell of Trinity College Convocation he researched and wrote about the office to ensure that the colourful staff of office carried at Convocation by the Esquire was correct in every detail.

In the personal tributes sent to his family on his death in March, 1976, a recurring theme is Dr. Spragge's helpfulness to the students, researchers, historical society members, fellow archivists and historians with whom he worked. Historical studies in Ontario and Canada have progressed measurably because of the work of this devoted practitioner of history.

Shirley Spragge
Kingston, Ontario

CONSERVATION: Technical Notes and Information[1]

Acid-Free Envelopes for Photo Storage

Various persons have written to enquire about the acid-free envelopes mentioned in the last issue. The Canada Envelope firm is now producing envelopes in several standard sizes. Further information may be obtained from M.L. Foote, Canada Envelope, 3421-8th Avenue S.E., Calgary, Alberta, T2G 3A4. Please keep in mind that each batch of envelopes purchased should be spot-tested randomly for pH. Any questionable lots should be returned to the supplier.

Conservation Committee—ACA

The Conservation Committee of the Association of Canadian Archivists has two projects underway. The first has been to take up the matter raised initially by the Prairie Archivists

1 Comments and contributions on matters of conservation should be sent to R. Lynn Ogden, Canadian Conservation Institute, 1030 Innes Road, Ottawa, Ontario, K1A 0M8.

group regarding the reduction or elimination of the 19.5% tariff on imported acid-free stock. The second project has consisted of preparing a preliminary list of topics for a series of technical leaflets for archivists and manuscript curators. The list includes standard topics such as: dry-cleaning, mending, types of deacidification, encapsulation, and environmental factors. There are twenty-four topics in all and volunteers are needed to assist in drafting or proof-reading articles to be sent to the ACA Publications Committee for consideration.

Preservation Methods Committee—SAA

At the meeting of the Society of American Archivists in Washington, D.C., the chairman of the Preservation Methods Committee announced that the completion date for a conservation manual will be June, 1977. The guidelines for potential contributors to the manual contain statements of philosophy which are now accepted but perhaps not stated in Canada. For example:

— Some conservation procedures should be carried out in-house; various procedures require guidance and (some) training; and certain categories of work need the attention of professional conservators.
— Archivists and manuscript curators should include basic conservation measures among their regular duties.

Lighting Survey

During the past year or so the Canadian Conservation Institute's Environment and Deterioration Research laboratory in Ottawa has conducted a survey of lighting fixtures and facilities in more than 100 museums, archives, galleries and National Exhibition Centres. The results of this survey were published in December, 1976. Participating institutions may obtain information relating to their own lighting from Ray Lafontaine, Research Chemist, Canadian Conservation Institute, 1030 Innes Road, Ottawa K1A 0M8.

Book Conservation

Bob Parliament has announced that he will no longer carry small quantities of acid-free archival stock as it has not proven to be economically feasible. Business is otherwise booming, however, as both Bob and his wife, Jill, are working full-time in the laboratory. Canada Manpower, under the on-the-job retraining scheme, has provided a third pair of hands since September, 1976.

Father Charles Brandt of the Canadian Conservation Institute, Atlantic Conservation Centre, Moncton, recently returned from a trip to Europe where he observed and practiced various book and binding conservation techniques at numerous important conservation centres in Rome, Florence, Milan, Vienna, Munich, and London. Anyone interested in finding out more about European book conservation techniques may wish to write to Rev. Charles A. Brandt, Atlantic Conservation Centre, Suite 150, 236 St. George Street, Moncton, N.B.

Provincial Archives of Saskatchewan

Ian Wilson reports that the Provincial Archives of Saskatchewan may be able to establish a small conservation programme. Thus, this institution will join the New Brunswick Archives, the Quebec Archives and the Ontario Archives in developing modest conservation capabilities. At least two other provincial archives are planning similar conservation programmes.

Conservation Research

Two projects of interest to paper conservators and archivists are nearing completion at the Canadian Conservation Institute, Ottawa Headquarters. One has been carried out by Marilyn Wheeler, Analytical Research Chemist, and relates to the Scanning Electron Microscope Examination and pH determination of a Tyvek envelope, a relatively recent synthetic paper product for the storage of photographs. More about this in the next issue. The second experiment has just been completed by Mary-Lou Florian, Senior Conservator, Biological Studies on Collections, and by David Dudley, Consultant Conservator, Works on Paper. The "Abstract," quoted below from the authors' paper presented at the Dearborn meeting of the American Institute of Conservation, summarizes the experiments on fungicides in paper conservation processes.

> It is the concern of the authors that there is unwarranted use of fumigants, and volatile or non-persistent fungicides in paper conservation processes. Some conservation processes involve the use of chemicals which are known to be fungicidal and thus the process itself should act as a fungicide. To determine if this is the case thirteen processes used in paper conservation were tested for their inherent fungicidal features. The test paper was Whatman No. 1 filter paper. Each process was tested using three papers: one control treated with conservation process alone; one control inoculated with the following fungi species; *Penicillium* cyclopium Westling; *Penicillium rubrum* Stoll; and *Alternaria tenuis* Auct.; and one test using both fungi and the conservation process. The filter papers were incubated on sterile Sabouraud dextrose agar at room temperature. Fungus growth was recorded after 48 hours and 1 week incubation. The results showed that conservation processes which use borax, methyl alcohol or chloramine T had inherent fungicidal action. The use of gelatine or methyl cellulose introduced fungi and enhanced fungus growth. The results support the premise that if the conservation process is fungicidal in action there is no need for a follow up fumigation or treatment with a volatile or non-persistent fungicide.

Slide Series—Paper Conservation

The Conservation Information Program at the Smithsonian has produced both slide and video-tape presentations "to acquaint museums, organizations and individuals with a selection of principles currently practised in the field of museum conservation." Along with appropriate disclaimers and cautionary comments, this is a useful series which covers a number of topics of interest to archivists. For example, three slide series cover topics including:

— The Cleaning of Prints, Drawings and Manuscripts on Paper: Dry Methods.
— The Curatorial Examination of Paper Objects.
— Proper Hinging and Mounting of Paper Objects.

The video-tape series is of interest, especially lectures V-50 to V-60 which deal with "Paper Artifacts" and include topics such as washing, deacidification, reinforcement of fragile paper and bleaching. Further information can be obtained about loans and scheduling from Elena Borowski, Conservation Information Program, 2235 Arts and Industries Building, Smithsonian Institution, Washington, D.C., 20560.

Conservation Training and Publication

The Canadian Conservation Institute (CCI) participated in a number of paper conservation workshops and seminars during the summer. These included the School of Library Science, Summer School Course at the University of Alberta; the course given at the University of Ottawa in collaboration with the Public Archives of Canada; and the Association of Manitoba Museums Annual Meeting and Training Seminar.

A periodical describing the CCI's facilities and services in the regions and at the headquarters will be available free of charge after December, 1976. The CCI is also preparing a permanent educational demonstration of recent advances in conservation in Ottawa.

R. Lynn Ogden
Canadian Conservation Institute

Editor's Note: *Readers of the following paper concerning case photographs should appreciate the experimental nature of the processes described. Applications of the processes should be undertaken with caution and the usual concern for the special requirements of individual items. Comments concerning the processes described may be relayed to the author through R. Lynn Ogden, Canadian Conservation Institute, 1030 Innes Road, Ottawa, Ontario, K1A 0M8.*

The Conservation of Case Photographs

Case photographs include early photographic forms, in particular the daguerreotype (1839-1865), the ambrotype (melainotype) (1851-1885), and the tintype (ferrotype) (1852-1920). These were unique photographic positives matted with metal and glass, and displayed in decorative cases. The plates themselves had supports made of copper, glass or iron. The cases housing the plates were of decorative leather-cloth, plastic or wood, and were lined with velvet or silk.

Historical Development

The daguerreotype was introduced in 1839 and most were simple head and shoulder portraits. The image was formed on a silver coated copper plate sensitized with iodine vapour and developed over heated mercury after exposure. Fixing took place with "hypo". By 1840 a gold toner was used as a part of the fixing bath, resulting in a stronger visual image as well as providing a protective coating for the silver.

The daguerreotype image is simultaneously positive and negative, depending upon the observer's viewing angle. This duality is very strong and provides the major point of identification. By 1842, plates were being hand-coloured with dry pigment and gum. Within eight years, the daguerreotype process was being displaced by the newer wet collodion process, which was faster and cheaper but could not match the daguerreotype in the delicacy or range of tones. Nevertheless, it was used from 1852-1885 with numerous modifications and revisions to the process being made by photographers. The collodion process could have had any of three products: a negative or one of two positives. The ambrotype was an underexposed negative on a glass base which, when backed with a black lacquer, produced a positive image. The second positive, the tintype, was a black-lacquered iron plate. Identification of these two often requires the removal of the plates (photographs) from their cases.

The ambrotype was developed with a diluted developer which had nitric acid added, though mercuric chloride was often substituted for the acid. Either compound decreased the blackness of the reduced silver. The plate was fixed in a solution of potassium cyanide rather than "hypo", since the latter resulted in a darker negative image and thus a poorer positive. Once dry, the back of the glass plate was coated with a black Japan lacquer, thereby changing the image from a negative to a positive. The emulsion was usually coated with a colourless varnish. Hand-tinting was done with water colour, oil, wax crayon or dry pigment and completed before the plates were varnished. Flaws in the manipulation of the process include reticulation and emulsion flaking because of rapid drying, as well as abrasive marks and scratches. Some photographers coated their plates with albumen before coating the emulsion thereby reducing the possibility of flaking. Fading in ambrotypes resulting from residuals is rare since potassium cyanide, the fixing agent, could be effectively removed even with a minimal wash. Faded images could indicate the use in the developer of a corrosive sublimate, such as mercuric chloride.

The tintype consisted of a wet collodion emulsion placed on a blackened metal plate and developed in an iron developer. Problems with the tintype included scratching which leads to emulsion losses and the deformation of the plates themselves.