TECHNICAL NOTES

Lamination

A 3442 Ademco Dry Mounting Press has been installed at the Queensland State Archives and is now operational using a double-sided lamatec tissue and cotton sheeting for the backing. The temperature is set at 85°C with a hold of thirty-five seconds. Initially some difficulty was experienced in getting the tissue to adhere properly to the documents or map being mounted. This has been resolved by storing the rolls of tissue in an upright position in an air-conditioned area. Proper temperature and humidity control would appear to be essential for lamatec tissue in a sub-tropical climate such as Brisbane's.

Jim Bruce

Deacidification

A representative from Commonwealth Industrial Gases demonstrated a spray gun unit suitable for use with Wei T'o Nonaquaeous Deacidification Solution. It consists of an Arnold spray gun TX53N and half-gallon pressure pot KXKB520, plus CO_2 regulator, refrigerant gas and other fittings. The approximate cost (June 1976) was $250. The equipment was tested on both bound and unbound material. Drying time was found to be about thirty seconds. The spray nozzle used could be adjusted to produce either a narrow or a wide jet of solution. Freon 12 is used to create an inert atmosphere which prevents contamination from entering the material while being sprayed. The solution can be left in the spray unit without deterioration. The spray gun would be particularly useful for bound materials as it would save much valuable time now spent removing bindings and preparing material for deacidification in bath solutions.

Jim Bruce

Mounting and Restoration of Cartographic Materials

Should a map coming into the hands of a map custodian be left and stored as it was received, or be mounted on paper or calico by using heat or pressure-sensitive adhesive or paste; or should it be placed in a suitable transparent envelope or some other cover after deacidification; or should it be treated in some other manner? It is a very interesting question and should be given considerable thought by any map librarian before a decision is taken.

It is generally known that all paper expands and contracts during wetting and drying, such as when a map is pasted for mounting or wetted during cleaning and deacidification. Yet experience shows that few map custodians seem to be aware that a map once wet rarely if ever reverts to its original size on drying. The extent of the difference depends on the material on which it was made. The variation in size of the map before and after treatment will often be as much as 2 inches both ways in a standard sized map of 30" x 40". This of course immediately makes the printed map-scale faulty. Unless the actual difference in size is known the map in question will be basically worthless as a reference source.

The normal practice at most overseas institutions today is to accurately measure the length, width and diagonals of the map and to

note these measurements on the margin before any work is carried out. Although this simple procedure could have been followed in this country some years ago, I do not know of one place where it has been done even in 1976.

In general, it is recommended that map custodians observe the following points:

1. That all materials used in restoration and mounting processes including papers, textiles, fibres, films and adhesives, have been thoroughly tested to standards of permanence;
2. That procedures used in restoration techniques, such as the application of heat or pressure, do not in any way reduce permanence of or in any way damage the original.
3. That all materials used will ensure a certain degree of permanence, durability and legibility, taking into account the probable use of the map; and
4. That no measures are applied in such a way as to lock into the treated maps the very elements such as acid and mould that are the direct causes of deterioration.

T. F. Nielsen

Cyclohexylamine Carbonate Crystals

I have found from discussions with a variety of archivists that some of their institutions are using cyclohexylamine carbonate crystals (CHC) in pouch form placed among documentary materials to combat or neutralise acid. It is generally recognized that vapour-phase deacidification would be a most desirable method; but I am afraid that the following facts are not widely enough known in Australia.

The vapours of volatile ammoniacal chemicals such as CHC are only very mildly effective in neutralising *some* acid in paper; but they are not at all strong or concentrated enough to reduce sulphuric acid which is present in all but acid-free paper. Further, after considerable experimentation, including my own, it is known that CHC always converts to cyclohexylamine sulphate which in our warm conditions (above 50°F) becomes acid. Langwell's experiments with CHC would have been very promising if some other ammoniacal compound could have been developed that would have both neutralised acid and converted to a buffer compound; but as yet no such compound has been found.

On the balance it would be better to concentrate resources on proper and well-proven aqueous and non-aqueous deacidification of the documentary paper materials in our institutions.

References, apart from my own work and experiments, are as follows:

Smith, R. D., *The Non-aqueous Deacidification of Paper and Books.* 1970.

Kathpalia, Y. P., 'Deterioration and Conservation of Paper', *Indian Pulp and Paper* 1962.

DuPuis, R. N., 'Evaluation of Langwell's Vapour Phase Deacidification', *Library of Congress Bulletin* 1970.

T. F. Nielsen

Thermo-hygrograph

A Lambrecht Thermo-hygrograph capable of one day or seven days recording has been purchased by the University of Sydney Archives to monitor temperature and humidity levels in the repository. On the basis of some two months recording it has been found that while the temperature remains fairly stable at 21°C the relative humidity has sometimes fluctuated below and above the optimum levels (50-55%). Some fluctuations appear to be attributable to outside atmospheric conditions. The recordings so far made have provided a basis for discussion with the air-conditioning maintenance technician who is able to make appropriate adjustments. As the plant serves a variety of needs on seven floors (office, teaching, library and archival storage) and can itself be affected by conditions in these areas, continuous monitoring seems essential. The instrument was obtained from Dobbie Instruments Pty. Ltd., Five Dock, Sydney; the cost about $400.

Gerald Fischer