

## CLEANING GLASS NEGATIVES

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The method described below was employed by the City of Toronto Archives in the period 1968-70 in cleaning the City's collection of approximately 15,000 5"x7" glass negatives. The method is inexpensive (involving little more than the cost of labour), uses materials which are readily available or easily improvised, requires no special skill to operate and, with few exceptions, is totally effective.

The condition of the City's collection prior to treatment appeared serious. The negatives, produced between 1910 and 1949 by the City Works Department Photography and Blueprinting Section, has been stored in acidic paper envelopes, often with three or four to each envelope. Many were loose, and all had been exposed for at least twenty years to the extremes of temperature and humidity in the uncontrolled environment of the old City Hall attic. A frequent result was the fusion of negatives, both with each other and with their containers.

In addition, until the appointment of the first City archivist in 1960, the collection was without a custodian. Security of the attic was not considered vital and the collection was much subjected to idle curiosity and to unrestricted plundering by private collectors and photograph enthusiasts. Negatives were even found to have been used to channel water away from leaks in the roof.

Over the years many envelopes were torn, removed or otherwise rendered useless as protection, and had exposed their contents to the elements - dust, water and the local pigeon population all took their toll. The seriousness of the problem, however, proved more apparent than real.

Advice on the care and treatment of glass negatives was eagerly sought. No one possessing first-hand

experience was forthcoming, but the concensus, expressed most clearly by Kodak Technical Information (Toronto) was that cleaning performed on site, without the supervision of a qualified conservator or photochemist, should be restricted to the use of distilled water and a wetting agent.

The method requires: a hand basin, a print-processing tray, an air-tight plastic container (e.g. as used for fruit juice), a supply of distilled water, wetting agent solution (such as Kodak Photo-Flo 200) and cotton wool balls, and a convenient, dust-free area and device in which to dry the negatives.

The process of cleaning, after a short period of supervision, can be carried on by an unskilled employee, with the obvious proviso that any unusual or unexpected occurrence be immediately reported to the archivist. Archivist and operator should become familiar with the medium before the cleaning begins. Experiments with expendable negatives should help build the confidence which is necessary in handling the glass and the emulsion.

An important precaution is to check any identification on the negative for stability - the use of soluble markings and fragile paper stickers was found amongst the City's collection. All identification should be compiled on a new envelope, and corresponding identification attached to the negative wherever necessary, prior to the cleaning process.

Holding the negative by its edges the operator should immerse it in the hand basin, containing tap water at room temperature, for no longer than one minute. During this time the negative can be agitated to dislodge excess dirt, and wiped (as vigorously as necessary on the glass surface, with light strokes in one direction on the emulsion side) with the cotton wool. Change the water often.

Before wiping the emulsion side check carefully for flaws, easily snagged by the cotton wool. If, by accident, the emulsion is peeled back or dislodged, it is usually possible for the archivist to satisfactorily restore it to its former position with the aid of a narrow-bladed knife (the kind used by draftsmen), keeping the emulsion damp throughout the operation. Emulsion was found to possess a durability and resilience unexpected by the layman.

In most cases of "fusion" the immersion and agitation enabled the negatives to be firmly but carefully pried apart. The archivist 'on the spot' must decide when more soaking or more force is a justifiable risk and when the problem might more sensibly be referred to a professional conservator. In all cases surface dirt was

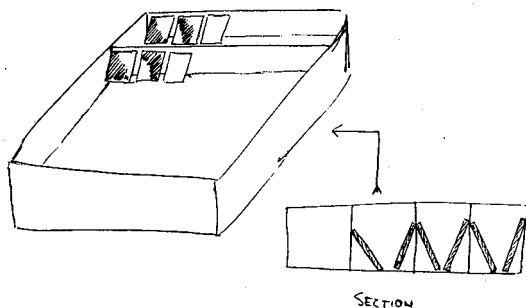
easily removed to the extent that excellent prints could later be taken from the negative.

Following the bath the negative should be drained briefly, transferred to the print-processing tray containing the wetting agent solution and gently agitated for approximately 20 seconds. This breaks down the surface tension of the water and allows the negative to dry without spotting. The solution should be renewed every two or three days and, when not in use, kept in the airtight container. After the short rinse the negative should be drained briefly and placed in the dryer.

A drying device was improvised in the City of Toronto Archives in a matter of half an hour using odd pieces of cardboard of adequate strength. The device resembled a many-shelved bookcase lying on its back, the walls and partitions tall enough to allow only the top and bottom edges of the negatives (when standing in the device) to be in contact with the cardboard. The design can be endlessly varied to accommodate different needs.

The most convenient for the City Archives was one of eight compartments holding 96 negatives at one time. It was possible, starting at 8:30 a.m., to complete a batch of 96 by 10:00 a.m. These would be dry in 3-4 hours allowing a second batch to be cleaned before the end of the day. The second batch would be left to dry overnight and be placed in the new envelopes the following morning. At this rate of nearly 200 negatives per day, 3 hours were spent daily in the washing process and a similar period spent preparing new envelopes with typed identification for each cleaned negative.

The City of Toronto Archives stores glass negatives in acid-free paper envelopes supplied solely, at present, by the Hollinger Corporation, Arlington, Virginia. The envelopes are filed in metal cabinets - units designed for 5"x8" index cards are well-suited to the 5"x7" negative.



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DRYING DEVICE.