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Article: Conservation of Three Collodion Glass Plate Negatives Made by Charles Marville (C. 1865): Research on Cleaning and Strengthening of the Collodion Varnished Image Binder (Abstract)

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**CONSERVATION OF THREE COLLODION GLASS PLATE NEGATIVES MADE BY CHARLES MARVILLE (C. 1865): RESEARCH ON CLEANING AND STRENGTHENING OF THE COLLODION VARNISHED IMAGE BINDER**

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The purpose of this research was to study the conservation issues of three collodion glass plates owned by the « Bibliothèque historique de la Ville de Paris » (Historical Library of Paris). They were created around 1865 by the French photographer Charles Marville (1813 - 1879) who followed, with his pictures, the different reconstructions of the city.

The collodion negative process was introduced in 1851 by Frederick Scott Archer, and has been employed by Charles Marville since 1856. Little information exists on Marville's photographic technique. Analysis on the negatives has helped to specify the collodion process.

The three glass plates came in a poor condition: their surface was dirty and the collodion binder was flaked and blistered. The negatives exhibited glass degradation which had contributed to the flaking of the collodion binder.

This work investigates several possibilities to strengthen the blisters and to reset the flakes on the glass. Application of various adhesives was first compared. Then we experimented with solvent vapors in order to reactivate the collodion adhesion. Finally, an adhesive of 2% (w/v) gelatin in a 70/30 mixture of water/ethanol appeared the most appropriate method to strengthen the blisters and fix the flakes.

At the same time, we studied the effect of several solvents on the image, on the collodion binder and on the varnish, in order to propose a cleaning procedure for these three negatives. The application with a cotton swab of distilled water (possibly mixed with 30% of ethanol) can ensure a safe cleaning for these negative plates. Heptane can be used when the varnished surface is too sensitive to moisture or to water.

This work also proposes a mounting adapted to the conservation of these fragile objects that present a chemically unstable glass support.

This diploma research was supervised by Anne Cartier-Bresson, curator and director of L'Atelier de restauration et de conservation des photographies de la Ville de Paris (ARCP) ; Carole Gascard, curator at La Bibliothèque historique de la Ville de Paris ; Bertrand Lavédrine, director of Le Centre de recherche sur la conservation des collections (CRCC) ; Françoise Ploye, conservator of photographs.

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