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# **L'Atelier de Restauration et de Conservation des Photographies de la Ville de Paris (ARCP): Activities of the Preventive Conservation Section 2002- 2012**

**Aurélie Perreux and Claire Tragni**

*Presented at the 2013 AIC & ICOM-CC Photographs Conservation  
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## **ABSTRACT**

Over the past ten years the *Atelier de Restauration et de Conservation des Photographies de la Ville de Paris* (ARCP) has developed a number of key preservation plans, all managed and supported by a program named *Plan de Sauvegarde et de Valorisation du Patrimoine Photographique Parisien* (PSVPP). This program provides for the preservation and access of Parisian photographic patrimony, and was established in 2002 by the City of Paris' Department of Cultural Affairs. Originating from the cellulose nitrate negatives plan, the PSVPP allows participants to develop common interventive strategies, to pool resources, and to secure dedicated funds in order to deal with the extensive Parisian photographic patrimony of more than eight million items. In addition to the physical exhibition of photographs, this program includes the digital reproduction of a large number of photographic materials: digitization is done yearly by a semi-public company, and allows for the diffusion of the collections to a wide audience. As one of the main collaborators, the ARCP is in charge of the collection assessments, providing technical specifications, and implementing preservation measures. Preservation surveys are carried out in order to prioritize conservation campaigns: an example of this is the Charles Marville glass plate negatives project. Within the PSVPP, the laboratory launched a comprehensive project dedicated to the preservation of color photographs, addressing the need for climate controlled vaults as well as the related identification and preservation issues of contemporary photographic materials.

## **INTRODUCTION**

In 2002 the City of Paris launched a municipal program dedicated to providing for the preservation and access of Parisian photographic patrimony, the *Plan de Sauvegarde et de Valorisation du Patrimoine Photographique Parisien* (PSVPP). These collections represents more than eight million artifacts, ranging from early photographic processes to contemporary photographic images, belonging to 27 cultural institutions, and include items of high historic and cultural value. Originating from the Nitrate Plan developed and implemented by *L'Atelier de Restauration et de Conservation des Photographies de la Ville de Paris* (ARCP)<sup>1</sup>, the PSVPP involves several large-scale projects whose purposes are to highlight, preserve, and provide access to collections through exhibitions and online release of reproductions, whichever is in accordance with the preservation requirements. Substantial funds were dedicated by the Department of Cultural Affairs (DAC) to ensure the success of this plan, which involves major collaboration between different sections of the Department. The *Parisienne de Photographie*, a semi-public compagny, was created in 2005 to take charge of the digitization and accessibility of the photographic patrimony. Within the PSVPP, the ARCP is in charge of collection

assessments, providing technical specifications, and implementing preservation measures within the collections, all of these being performed in conjunction with the curators and the *Parisienne de Photographie*. Over the past ten years as part of this project, the ARCP has developed several major preservation plans and performed extensive preventive and interventive conservation campaigns.

### **THE NITRATE PLAN: A COMPREHENSIVE PRESERVATION PROJECT BEHIND THE CREATION OF THE PSVPP**

The Nitrate Project was launched in 2002, a few years short of the centennial anniversary of the last major flooding of the Seine: substantial portions of important photographic collections are stored in flood-prone areas. The biggest photographic collections in the city, like the Roger-Viollet collection, include a large number of cellulose nitrate films and could not be stored in the storage facilities where other works of art had been secured. The City of Paris had to provide a fitting solution that would meet the specific needs of the photographic collections and, more particularly, with the security and conservation issues of cellulose nitrate negatives (autocatalytic decay, toxicity, risks of fire, etc.). According to the French legislation, cellulose nitrate films and negatives are subject to laws regarding nitrocellulose materials (loi n°76-663 du 19 juillet 1976). The legislation states that institutions holding more than 50 kg of cellulose nitrate must notify the police headquarters, and that institutions with more than one ton of cellulose nitrate must be granted a special storage authorization. Within the framework of the Nitrate Plan, the ARCP and the City of Paris' Health and Security Bureau worked together in order to address both the conservation and the health and safety issues.

The preventive conservation team carried out surveys in all institutions likely to own cellulose nitrate negatives. The goal of these surveys was to locate, identify, and assess the condition and any risks associated with the nitrate films, as well as to evaluate the weight of material present. It was decided to assess each collection at a high level, even when the institutions did not consider their nitrate negatives of high importance. The films were identified by visual examination, using notch codes and manufacturers' edge printing, as well as signs of deterioration if present. When no manufacturer data or signs of degradation permitted identification of the film support, a diphenylamine chemical test was performed. In order to simplify the visual assessment of the films' condition, the number of degradations levels referenced in the literature was narrowed to four. A database was created specifically for the Nitrate Project and was used in all of the participating institutions. Each institution was given a report including survey data, emergency preservation recommendations, treatment planning as required, and health and security requirements to serve as a guideline. Due to the diversity of the collections, the methodology was adapted according to the typology, scale, and homogeneity of the collections: the surveys would be done at an item-level or through representative items, as was appropriate. The major difficulty was managing large, sometimes unprocessed, and often mixed collections. Most nitrate negatives were stored alongside glass plates, acetate films, or prints in the same envelopes or boxes.

The result of this work is the identification and assessment of approximately one million nitrate negatives, representing more than two tons of material, in 16 different institutions. The negatives are mixed with 3 million photographs of other types. The number of nitrate negatives in each institution ranges from several hundred to the 700,000 negatives held by the Roger-Viollet

collection. Approximately 24% of the total number of nitrate negatives is at an advanced degradation level.

To address the problems of film degradation, toxicity, and fire risks, it was decided to place the nitrate films in dedicated, shared climate-controlled storage facilities. Several factors had to be taken into account in choosing these storage facilities: the mixed nature of the collections, the necessity for easy access to the artifacts, the requirement of obtaining special authorization for large-scale cellulose nitrate storage, and the difficulty of obtaining real-estate in downtown Paris. In the end, two separate storage facilities were located. The first storage vault is a temporary facility with cool climate conditions set at 59°F/15°C ( $\pm 1$  over 24 hours) and 35% relative humidity ( $\pm 5$ ) that meet the required safety standards (air renewal, fire resistant walls, anti-deflagration system, etc.). Such environmental conditions are appropriate for the storage of all types of photographs involved, and allows for easy and regular access to the artifacts by avoiding the potential for condensation. Furthermore the staff can perform inventories, sort, rehouse, and digitize in an adjacent laboratory, preparing the nitrate negatives for relocation to the second vault. The second facility needed is a permanent facility with cold climate conditions set at 36°F/2°C ( $\pm 2$  over 24 hours) and 25% relative humidity ( $\pm 5$ ). This vault must also meet all safety standards for the long term storage and preservation of cellulose nitrate negatives (ISO 10356; NFPA 40 of the National Fire Protection Association).



Fig. 1. Rehousing nitrate films from the Roger-Viollet collection. © ARCP / Mairie de Paris.



Fig. 2. The temporary cool storage for nitrate films. © ARCP / Mairie de Paris.

Staff members for institutions containing cellulose nitrate were instructed in the inherent risks of such materials and in safe handling procedures, including the use of personal protective equipment. The ARCP also trained them to carry out any necessary cleaning and rehousing: the City of Paris allots a specific yearly budget to provide institutions with housing materials and protective equipment for staff.

It is the negatives' degradation level (1= low, 4= high) that determines the priority for processing, treatment, rehousing, and digitization. Negatives at levels 2 – 3 are the first treated and digitized. Nitrate negatives are only destroyed when the ARCP assesses them as at the last stage of film decay (level 4), when the image is no longer visible. The Health and Security Department transports these negatives to a laboratory which specializes in the elimination of toxic and hazardous wastes.

Processing and rehousing have been completed for all of the institutions, with the exception of the larger collections at Roger-Viollet and *Bibliothèque Historique de la Ville de Paris* (BHVP), for which the treatment of the negatives is still in progress. The cool storage vault, located in downtown Paris, is readily accessible to the institutions and is limited by law to a weight of one ton of nitrate material. To date approximately 470,000 nitrate negatives have been treated and are stored in the cool storage facility. The long-term storage facility is not yet available and should be set up in a near future. Within the scope of the nitrate plan, 85,000 negatives have been digitized. The need for digitization of a large number of historic film negatives is one of the factors that initiated the creation of the *Parisienne de Photographie*.

### THE DIGITIZATION PROGRAM

The Digitization Program, launched in 2006, gives the public access to the collections through websites and also allows for their commercial use. The *Parisienne de Photographie*, in charge of the digitization of the city's collections, works closely with the ARCP and all institutions.



Fig. 3. Dust removal on an album at the Cernuschi museum. © ARCP / Mairie de Paris.



Fig. 4. Dust removal on a Marville print at the Musée Carnavalet. © ARCP / Mairie de Paris.

Each participating institution's involvement is defined based on an annual schedule. Once the curator has selected photographs to be digitized, the ARCP provides process identification if necessary, assesses the condition of the selected photographs, and determines the needs for cleaning, rehousing, and any minor conservation treatment. Stabilization treatments, if necessary, are performed by ARCP staff. As in the Nitrate Plan, the ARCP oversees the preservation campaigns carried out by institutional staff members. Once the photographs are stabilized and rehousing, the *Parisienne de Photographie* performs the digitization work, mostly in situ. Following a strict protocol established by the ARCP Reproduction section, the photographs are

digitized with their margins included, so that the public has a better understanding of the original objects. The target is set for 60,000 photographic items per year, among which 20,000 are nitrate films. The Preventive Conservation Section provides recommendations for the method of digitization and gives assistance in the handling of fragile objects if necessary.

Since the beginning of the digitization project, approximately 20,000 photographic items (not including nitrate negatives) have been stabilized through preventive conservation campaigns. The digital collections are available to the public on Specialized Libraries' intranet and on the website *Paris en image*.

## THE COLOR AND DIGITAL PRINTS

Beside the issues surrounding the preservation of nitrate films, the issue of color and digital prints preservation is also considered as a priority. Only the Modern Art Museum (MAM) and the Maison Européenne de la Photographie (MEP) are prepared to house such items: in most municipal institutions these prints are stored without climate control, even though some of them require cold climate. The main goal of the Color Plan, launched in 2006, was therefore to improve the environmental conditions for highly sensitive color materials such as chromogenic processes or ink jet prints, by creating a common color storage vault for collections held by the Cultural Affairs Department. Surveys undertaken by the ARCP also permit the precise process identification and condition evaluation of the collection, and allow for the prioritizing of conservation interventions according to the level of urgency.

### Addressing the Evaluation Issue of Contemporary Photographic Works of Art

The constant technical evolutions in the field of digital printing and proprietary nature of trade secrets prevent photograph conservators from accessing key information on this imaging technology. Also, conservators have to adapt their conservation methods according to the nature of the objects.

In 2007, Anne Cartier-Bresson and Françoise Ploye, former head of the Preventive Conservation Section, organized two research sessions on the identification, sensitivity, and cleaning of digital prints. These workshops were carried out by the *Institut National du Patrimoine* (INP) and a digital printing laboratory, Studio Franck Bordas. To increase its expertise with contemporary photographic objects and to better answer the needs of the contemporary collections, in 2007 the ARCP developed a questionnaire to be filled before each new acquisition<sup>2</sup>. The questionnaire gathers technical information on the process (such as the paper, the photographic laboratory, the printer, or the type of ink) and on the type of mounting system used. For work acquired prior to 2007 and when visual examination is not sufficient to identify the process or mounting technique, the gallery, the photographic laboratory, the printer, the mounting laboratory, or the author himself is contacted to gain further knowledge. In order to facilitate discussions and to better describe the artifacts, the ARCP also developed a shared terminology and a technical glossary.

The Specific Case of the Fonds Municipal d'Art Contemporain (FMAC)

The FMAC is a municipal cultural institution dedicated to the promotion and diffusion of contemporary art. Its main missions are to encourage artistic creation and to exhibit to a wide public the works of art acquired by the City of Paris. The FMAC's collection is exhibited in public places such as city halls, councilors' offices, public libraries, and schools, and consequently in conditions that do not meet with preservation requirements. Therefore, knowing printing processes and their sensitivity, and the potential exhibition locations and their environmental conditions (humidity, light, pollution sources, etc.) becomes essential. Beginning in 2007 the ARCP has assessed these environmental parameters, which are collected in a FileMaker Pro database. Used as a monitoring tool, the database includes colorimetric readings collected by the ARCP before and after exhibition, and is also enriched by the FMAC's staff with data from the exhibiting places.



Fig. 5. Loris Gréaud, *Sans titre (une prophétie)*. Ink jet print on backlit canvas. Wedding stairs, 13<sup>th</sup> district City Hall.

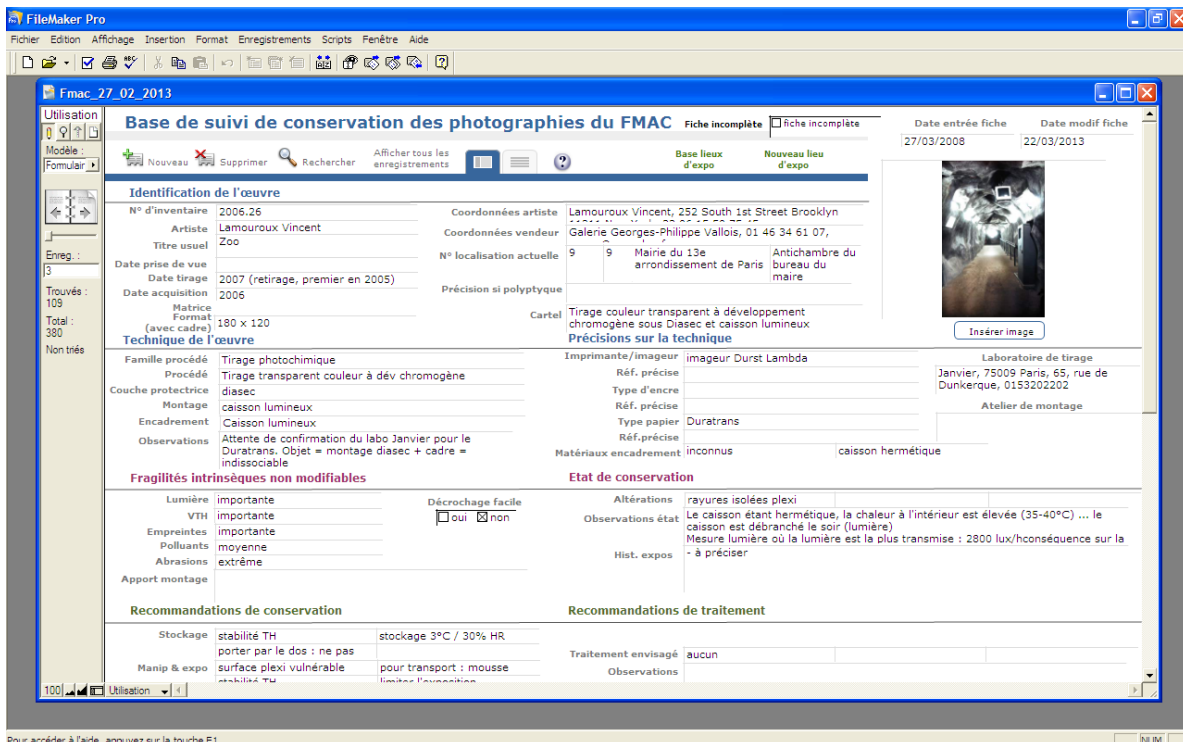


Fig. 6. The FMAC FileMaker Pro database.

Since 2007 each artifact is examined upon acquisition and the most suitable hanging location is selected, according to the object's mode of presentation and fragilities.

In the framework of contemporary art preservation, collaboration with the artist may also be sought when seeking to improve the preservation capacity of a frame or mounting system while remaining in accordance with the artist's intent. For example a more protective frame was proposed for the Jimmy Robert's work *Untitled (period drama)*, which was acquired by the FMAC in 2011. The inkjet print on fine art paper arrived in the collection with precise instructions on how it should be exhibited. The artist's initial intent was to simply hang the print with two pins fixed at the two upper corners so that the lower edge would roll up. The print was also to be shown in a frame without protective glazing. We proposed two different frames: a frame without glazing as desired by the artist, for exhibition areas that met preservation standards, and a deep frame with protective glazing for exhibitions in other public places. The second frame is deep enough to allow the print's lower edge roll up as desired. Also, as the original pins used to attach the print to the wall were not strong enough to support the weight of the paper, they were replaced by similar-looking magnets.



Fig. 7. Jimmy Robert, *Untitled (period drama)*. Ink jet print on paper. The FIAC exhibition, Grand Palais, 2011. FMAC Collection © Jimmy Robert/FMAC, Ville de Paris/Christophe Noël.

Since 2007 the color and digital print collections at the MAM, the MEP, the Musée Carnavalet, and the FMAC's collection have been examined: this represents the majority of the City's contemporary color photography collections. The other smaller collections will be surveyed within the next two years. Thanks to these first studies, it is already possible to estimate the space requirements necessary for the future storage facility, which will meet the current conservation environmental standards for very fragile processes (ISO 18920: 2011 (E)). Moreover, this survey substantially improves our understanding of the different processes that can be found in the collections, as well as our knowledge for the digital photographic processes.





Fig. 8. Taking light readings in a school. © FMAC/Mairie de Paris.



Fig. 9. The FMAC's storage space. © FMAC / Mairie de Paris.

### GENERAL PRESERVATION CAMPAIGNS: THE MARVILLE GLASS PLATE NEGATIVES PROJECT

In parallel with these specific plans, the ARCP Preventive Conservation Section is studying portions or entire collections in order to prioritize for conservation treatments evaluate a potential biological contamination, or to organize a moving for a collection. In 2010 a preservation campaign at the BHVP was undertaken for the more than 800 collodion glass plate negatives by Charles Marville. The goal of the project was to develop a proper conservation treatment procedure and custom-made housings for this precious and highly fragile collection.

Charles Marville was an official photographer for the City of Paris, probably starting his work around 1860. It is around that time that he abandoned the paper negative process in favor of exclusively using the collodion glass plate technique. As a municipal photographer, Marville's mission was to illustrate the major urbanization modifications undertaken by Georges-Eugène Haussmann (commonly known as Baron Haussmann) as well as the last remaining unhealthy neighborhood before being demolished. The BHVP's plates date from the mid-1860's and show the new urban structures, the capital's streets and buildings or the ongoing construction works.

The 800 glass plates, measuring 30 x 40 cm and 40 x 50 cm, were stored in 39 vintage wooden boxes and in a few cardboard boxes. A representative survey indicated that the majority of the glasses used were convex and that their dimensions were not standardized. Graphite pencil or watercolor retouching, varnished masks and fake painted skies were applied to numerous negatives. A few paper masks were also applied on the glass side of the negatives. Marville occasionally drew characters with a graphite pencil in order to populate some of his pictures. More than 500 negatives exhibited glass deterioration, which was responsible for the degradation

and adhesive failure of the collodion binder. Of the negatives, 10% of the plates were either broken, incomplete, or exhibited flaking of the binder.

Thanks to the survey, the ARCP was able to organize the cleaning and rehousing of the negatives in situ at the BHVP. As the plates were convex and in non-standard sizes, a mat board case with spacers was specially designed in one size that would fit all the plates. Negatives that were cracked or broken or that had flaking collodion binders received conservation treatment in the laboratory. In order to properly house the 10% of the glass plates that were severely damaged, the ARCP adopted a frame designed by Fabien Cannarella, photograph conservator, as part of his INP Master's thesis in 2010. This sealed, semi-hermetic frame offers protection against the variations in relative humidity that speed up glass deterioration. Its transparency enables the examination and digitization of the plate without having to handle it directly. The flaking and lifting collodion was consolidated using a solution of ethanol, gelatin and water. As of publication, all the plates have been stabilized and the main part of the collection is digitized.



Fig 10. Original wooden boxes of the Marville collection. © ARCP / Mairie de Paris.



Fig. 11. An opened wooden box from the Marville collection. © ARCP / Mairie de Paris.



Fig. 12. Charles Marville, *Place du Châtelet, théâtre du Châtelet*, (ca. 1865), collodion glass plate. 30 x 40 cm. The BHVP collection. © ARCP / Mairie de Paris.



Fig. 13. The conservation frame in the reinforced conservation card box. © ARCP / Mairie de Paris.

## CONCLUSION

The PSVPP has led to a great collaborative effort between a number of cultural institutions. This collaborative project enables the stakeholders to strategically address the treatment needs of the collections, which include millions of photographs. It has provided the opportunity to plan and schedule long-term on-going preservation projects, with shared resources, such as storage vaults. Although the methodology used is always adapted to the specificities of the institutions, the comprehensive approach of the ARCP guarantees consistent, coherent, and thorough managements procedures.

The Color and Digital Prints Plan and the Nitrate Plan are current priorities though the general conservation survey and preservation work continue: a survey of the France Soir newspaper collection is planned for the coming year (2014). This collection of the eponymous newspaper, the full importance of which is yet unknown, is presently thought to contain hundreds of thousands of items with a great historic interest. Ultimately, dealing with the eight million photographs that are part of the city's cultural heritage will remain a work in progress on the long term.

## ACKNOWLEDGEMENTS

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## NOTES

1. The ARCP works with more than eight millions photographs, including more than four millions negatives, held in the collections of 13 museums, four major libraries, archives, a photographic agency collection (Roger-Viollet) and specific institutions such as the *Maison Européenne de la Photographie* or the *Cinémathèque Robert Lynen*.
2. The French version of our acquisition questionnaire evolved further when the AIC developed the Photograph Information Record (PIR), to which the ARCP contributed: ([http://www.paris.fr/politiques/atelier-de-restauration-et-de-conservation-des-photographies-de-la-ville-de-paris/documentation/documentation/formulaire-de-renseignements-sur-les-materiaux-et-techniques-des-photographies-contemporaines/rub\\_7833\\_dossier\\_29674\\_port\\_18051\\_sheet\\_13478](http://www.paris.fr/politiques/atelier-de-restauration-et-de-conservation-des-photographies-de-la-ville-de-paris/documentation/documentation/formulaire-de-renseignements-sur-les-materiaux-et-techniques-des-photographies-contemporaines/rub_7833_dossier_29674_port_18051_sheet_13478)).

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