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Brussels, Belgium

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## **MEGALETHOSCOPE PLATES**

### **A Case Study: Conservation Treatment of Megaethoscope plates from the Collection of the "Museum for Art and History" Brussels, Belgium**

Sylke HEYLEN, Herman MAES  
with supervision of Roger KOCKAERTS

#### **ABSTRACT**

The photography collection of the "Museum for Art and History" in Brussels, Belgium contains a Megaethoscope viewer with 27 sliding plates. On the occasion of an exhibition in 1998, the viewer has been restored. Two master degree students of the Photographic Materials Course of the 'Royal Academy of Fine Arts of Antwerp', under survey of their teacher, discussed the conservation of the original plates and made a proposal to the museum staff. All plates were soiled, most plates showed tears in the image- and/or backside. Initially, one plate was considered virtually lost. A plate, in 'visually good condition', was chosen and removed from its backmounting to evaluate the 'inside' condition. The treatment proposals were based on the inside condition of this plate. This paper will give an overview of the conservation treatment of Megaethoscope plates in varying conditions.

#### **INTRODUCTION**

During the 1997-98 and 1998-99 academic years, students of the photographic materials conservation section of the Royal Academy of Fine Arts of Antwerp, Belgium, had the occasion to work on a set of Megaethoscope plates from the collection of the Royal Museum of Art and History in Brussels. The museum staff wanted to have the opportunity to show these original sliding plates in the original Megaethoscope viewer.

#### **THE "ROYAL MUSEUM OF ART AND HISTORY" IN BRUSSELS**

The Museum houses an important collection illustrating different civilisations from all over the world. It surveys the history of mankind from prehistoric times to the present, across the five continents. The Museum's task is the collection, preservation and study of evidence of these civilisations, as well as showing them to the public. So, it is both a scientific institution and a museum.

The present form of the Museum is closely associated with the history of its development. The history of the museum begins in 1835, shortly after Belgium gained its independence, but the heart of the collection had been put together much earlier. In 1898, the Belgian government acquired 62 pictorialist photographs from reputed international photographers, which had been exposed at the "*1<sup>re</sup> Exposition d'Art Photographique de Bruxelles*", and offered them to the "*Musée de l'Industrie de Belgique*", which later became the actual "*Royal Museum of Art and History*". This purchase was the start of the photographic collection. One hundred years later, in the year 2000, after successive removals and minor disasters, the photographic collection will receive an entire museum wing devoted to photography and moving image.

## SHORT OVERVIEW OF OPTICAL TOYS

- 5th century, Leon Battista Alberti, camera obscura
- Early 18th century, peepshow boxes, pinpricked handcoloured drawings or engravings
- Mid 1780, Robert Barker, Panorama, a continuous landscape painting on a cylindrical canvas
- Early 1800, Transparent print with watercolour image
- 1811, Franz N. König, Diaphorama, watercolour on transparent paper
- Early 1820, Louis J.M. Daguerre, Diorama, transparent canvas, reflected and transmitted light creates day and night views
- Around 1830, Protean prints, hand-held prints, double mounted, effects similar as Daguerre's Diorama
- Polyrama Panoptique, Pierre H.A. Lefort, similar to Transparent and Protean print, but showed in a box
- Alethoscope, Megalethoscope, Carlo Ponti, similar to Polyrama Panoptique, but using real photographic prints.

## CARLO PONTI & THE MEGALETHOSCOPE

Carlo Ponti was born in Sagno, Switzerland, between 1822-24. For 8 years, he lived and worked in Paris. Eventually, he settled in Venice where, from 1854 on, he became a successful optician and photographer.<sup>1</sup> Renowned for his lenses, Ponti thanked his fame to the invention, in 1861, of his 'Aletoscopio', from which the 'Megalethoscopio' is derived. Jones<sup>2</sup> gives the following description of the Alethoscope:

*An optical device invented by Signor Ponti, of Venice, and intended for the inspection of transparencies of ordinary photographic prints. It consisted of a large single lens, suitably mounted ... It was claimed that the alethoscope showed single photographs with stereoscopic relief, but that is a theoretical impossibility, although it is possible to obtain a deceptive approximation to relief when looking with both eyes through a large convex lens at a single photograph, provided the lighting, modelling and perspective of the picture are good and natural; but this effect is more due to imagination and suggestion than anything else ... .*

During the 1860's, Ponti published a series of photographic albums under the title "Ricordi di Venezia". He also published and edited photographs from other Venetian photographers. The administrative confusion occasioned by the Austro-Prussian war and the following Peace Treaty of 1860 caused Carlo Ponti to lose the copyright on the alethoscope. His collaborator, Carlo Naya, began producing the Alethoscope under his own name. As long as he was professionally active he tried, without success, to regain his privilege. Carlo Ponti died, completely blind, in 1893.

The megalethoscope is an enlarged version of the alethoscope and confides its confection to the cabinet-maker Demetrio Puppolin, whose name also figures on different megalethoscopes. A curved viewing slide was placed in the instrument, at the rear. The observer looked into the show box through the eye-glass of the arrangement. The scene could be viewed by reflected or transmitted light by manipulating the hinged top and side doors.

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<sup>1</sup> Musée Suisse de l'appareil photographique, 1996, 'Carlo Ponti – Un magicien de l'image', Vevey

<sup>2</sup> JONES, E. Bernard, 1911, Reprint 1981, 'The Encyclopaedia of Early Photography', London, Reprint from: Encyclopaedia of Photography.

These instruments existed in different versions: in simple walnut; with inlaid-work; or with sculptured adornments. An exceptional version was called the 'Megaletoscopio privilegiato', it was designed to receive curved plates, of which the Museum of Art and History has a copy.

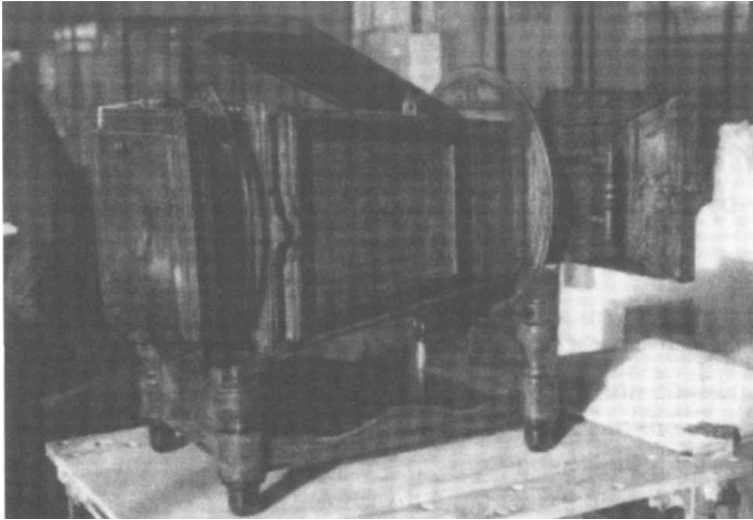


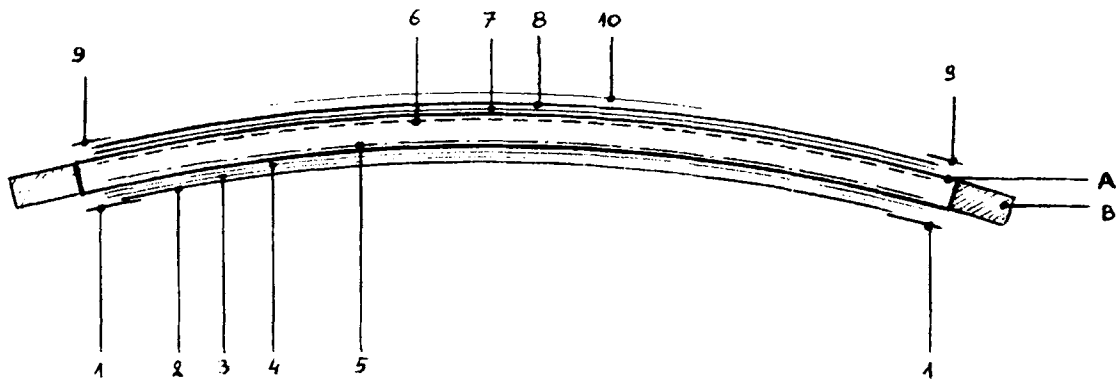
Figure 1 The 'Megaletoscopio privilegiato'.

## **THE MEGALETHOSCOPE PLATES**

### **DESCRIPTION**

The plates for this version of the viewer are curved. We are not sure why, but our opinion is that Ponti would obtain an optical correction of lens aberrations. The plates were constructed for viewing photographic images under reflected and transmitted light to suggest day or night lighting. All photographic prints on these plates were albumen prints. Pinprick perforations and mechanical thinned areas on the albumen prints have been made to create different light effects. The pine wooden strainers were made by using 'channel groove' join attachments with iron nails. On the short sides of the plates, wooden handles were attached for handling. The strainer was painted black, included the front protective paper borders. Some of the plates were provide with printed labels describing the image subject. The strainer measures about 30 x 40 cm, the image about 24 x 32 cm. The cross section of a plate (fig. 2) shows two or (mostly) three layers:

- the primary support combines an albumen print, a textile support and a watercolour painted paper
- a blue tissue or white waxed paper, watercolour painted and/or cut out, affixed to the borders on the back of the strainer
- the secondary support combines a textile support and a white paper.



1. Front side, black painted protective paper strip

A. Pine wooden strainer

B. Wooden handles

**Primary support**

- 2. Albumen print
- 3. Textile support
- 4. Watercolour painted paper
- 5. & 6. blue tissue or white waxed paper

**Secondary support**

- 7. White paper
- 8. Textile support
- 9. Bleu protective paper strip
- 10. Eventually printed paper label

Figure 2. Cross section of a megalithoscope plate

**CONDITION**

All plates were extremely soiled by dust, some by diverse adhesions. Half of the plates showed small tears in the primary and secondary supports. Twelve plates showed major tears in the photographic print. One plate was considered virtually lost because of a great number of tears and a gap in the print. All secondary supports showed brown spots. Some plates had lost one or both handles.

In order to make further decisions, a plate in relative visual good condition was first dry cleaned and removed from its secondary support to evaluate the inside condition. The back paper of the primary support had been painted with watercolour and was in good condition. Opposite the pinpricks, on the paper side of the secondary support, were some small soiled areas. There were no traces of biological deterioration. The paper of the secondary support was brittle and discoloured. Measuring of the transmission density of the secondary support resulted in a value of approximately 0.80.

This first plate did not contain an intermediate paper but by removing the secondary supports of the other plates, we could assess that most of the plates had been mounted with a blue tissue or white waxed paper between the primary and secondary support.

Most of the blue tissue papers were torn, very brittle, and were discoloured on the borders (due to contact with the wood of the strainer).

## **CONSERVATION PROPOSAL**

A treatment scenario was considered that made the plates useful in the least intrusive way. Removal of the secondary support would give easy access to the back of the primary support in order to repair the tears in the photographic prints. The primary support would remain on the strainer. There was no need renewing the textile layer of the primary support; the risk of damaging the photographic print and/or the watercolour painted paper was considered too high. The secondary support would be replaced by a more transparent paper/textile layer; the objective was a density value between 0.40 and 0.60. After dry and wet cleaning, repairing the tears, and retouching the repairs, a new secondary support and paper border protections would be mounted. The extant labels would be replaced.

## **TREATMENT**

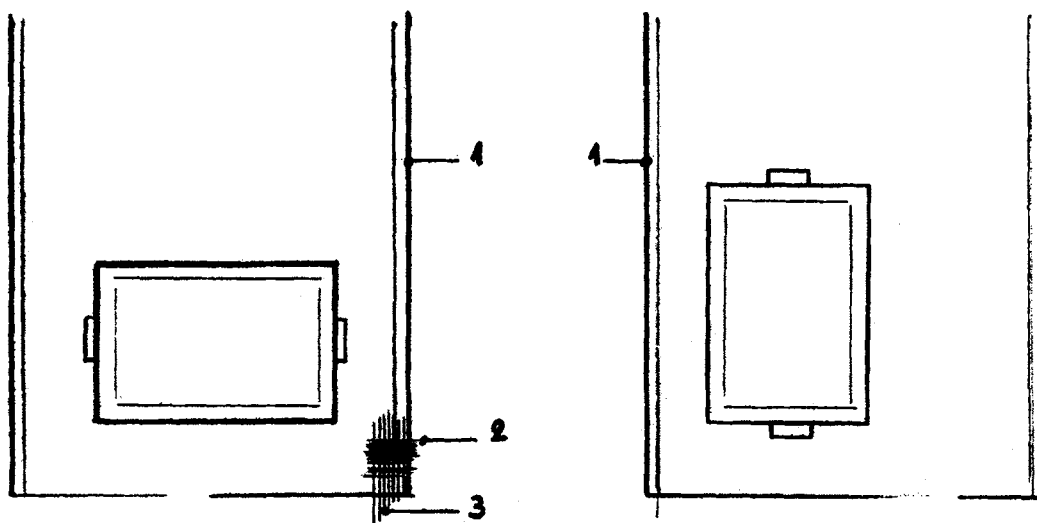
First, the condition of each plate was drawn up. After dry and wet cleaning (ethanol/demin. water, 30/70) of the albumen print, the secondary support was removed by using a firm (strong) starch glue. The paper border protection could not be recuperated. The interior was been dry cleaned using a soft brush. The tears in the primary support were repaired from the back by using starch glue, and drying under smooth pressure between synthetic supports. The handcolouring along the consolidated tears has been retouched.

The fragile intermediate blue tissue papers must be lined before remounting them. This was done by using a Bolloré paper, and was done at the same time the tears were repaired. The repairs were retouched by using watercolour paint using transmitted from a light table.

## **A NEW SECONDARY SUPPORT**

We evaluated different paper/textile combinations on their shrinking capacities, and transmission density. We choose three, more or less similar to the original, different, pure cotton textiles and lined them with the Bolloré paper. Bolloré paper is a strong Western type quality paper with well-distributed fibres, and has a (for this purpose) good transmission density (around 0.20), and is less expensive than the most Japanese papers.

The textiles were washed in hot water to remove additional products such as starch (apret). After lining they were immediately wet mounted on a wooden frame. The least shrunken combination was selected for further use, but first we did another test. The selected textile had a different number of chain (10) and woof (18) wires, which resulted in different shrinking behaviour by using the textile in different directions on the plate. Mounted with the weft-side parallel to the long side of the plate, after drying, the secondary support could make contact with the primary support. Mounted with the warp-side parallel to the long side of the plate, there was less shrinking in the long side direction and the supports could not make contact. This was the best way of mounting. For manipulating the new secondary support, the size of the textile and paper should be at least 20 cm larger on both sides so it can be pinned to a board.



A. Long side of the plate parallel to the woof-wire

B. Long side of the plate parallel to the chain-wire

1. selvage
2. weft or woof-wire (width wise)
3. warp or chain-wire (length wise)



4. ----- secondary support

Figure 3. Shrinking behaviour of the new textile/paper combination

For the newly lined secondary support, we measured a transmission density of approximately 0.40. In combination with the lined blue tissue this resulted in a total density of approximately 0.65.

We divided the plates into two groups: plates without and plates with an intermediate paper. For plates without an intermediate paper, mounting of the secondary support could be executed wet in one step. For plates with an intermediate paper, mounting was executed in two, dry, steps. The secondary support was lined and dried in advance. Then, the lined intermediate paper was adhered to the borders by using starch glue. The near dry secondary support was mounted the same way and stretched on the strainer.

### TREATMENT OF THE "VIRTUALLY LOST" PLATE

The treatment of this plate required complete dismantling. Both the primary and secondary textile layers were replaced. The albumen print and the watercolour painted paper were adhered, by using a firm (strong) starch glue, on the new textile layer. Tears were filled by

using paper fibres. The gap was repaired by filling it with a similar paper and retouching the paper by using watercolours.

A list of the treatment steps:

- dry cleaning of the albumen print
- wet removal of the front border tape (laponite or starch glue)
- wet cleaning of the albumen print using a cotton swab and ethanol/water mixture
- wet removal of the albumen print from the textile using an ethanol/water mixture
- wet removal of the textile layer of the primary support
- removal, wet and dry, of the secondary support and the blue tissue paper
- dry cleaning of the watercolour painted paper
- dry and wet removal of the watercolour painted paper primary support

Mounting:

- dry cleaning and lining of the blue tissue paper
- relaxing of the textile, the handcoloured paper and the albumen print
- apply firm starch glue on the back of the print, using a less firm starch glue for the paper
- reassembly of the print/textile/handcoloured paper, checking the right position by using transmitted light and placing, wet, the primary support on the strainer
- drying slowly, in a cool and humid environment
- filling and retouching tears in the albumen print and watercolour painted paper by using wet cotton fibres (wetted by using 50/50 ethanol/water for less swelling and quicker drying)
- filling the gap, about 20 cm<sup>2</sup>, with a pure cotton paper (Silversafe Photostore 120 gsm) and retouching by using watercolours. The paper is retouched, giving it a value equivalent in transmitted light to the original, but not imitating the albumen layer in colour. It is easy reversible
- other steps were the same as described for the other plates

## CONCLUSION

The first objective was to find a minimally intrusive treatment; it was not necessary to remove all the albumen prints from their textile support. Replacing the secondary support was justified, because both the paper and textile layer were soiled and damaged and the paper was brittle. The pH of the paper and textile was tested, resulting in values of approximately 4.9. This case study has given us the opportunity to understand these types of objects, especially the treatment of the “virtually lost” plate.

We wish to thank our teacher Roger Kockaerts for his support, and Madame Deltour of the Museum of Art and History for giving us the opportunity to work with these objects and the PMG specialty group for the possibility to come into the conservators’ world.



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