

# Storage of prints - a glimpse through the past towards the future

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## Abstract

In 1992 the conservators and curators of the Teyler Museum had to find an alternative way of storing the large print collection. Most of the prints were mounted on rag paper mounting sheets in a wide variation of sizes. In a museum which holds strongly to the preservation of objects within their tradition, this, combined with the relationship between artist and storage in numerical order, prevented storage in modern solander boxes. A solution was found in the shape of large albums in which the prints were placed inserted between the pages. Inspiration for this choice came from 18th century albums still used in the Teyler collection for the storage of old master drawings. The advantages of album storage over box storage for prints on mounting sheets of varied sizes are, among others, the minimisation of touching the prints themselves whilst searching, the maintenance of the character of the collection and the order of the old cataloguing system, the prevention of mechanical damage to prints by sliding within an oversized box and a more efficient use of storage space. Disadvantages are the bending of the prints during leafing through the albums and the need for extra protection for friable media.

## Zusammenfassung

Im Jahr 1992 mussten die Restauratoren und Kuratoren des Teyler Museum eine Alternative für die Aufbewahrung der großen Drucksammlung finden. Die meisten Drucke waren ursprünglich auf Hadernpapiere unterschiedlicher Größe aufgebracht. Dies verhinderte eine Aufbewahrung in modernen Kästen, da das Museum sich stark an die Beibehaltung der Objekte in ihrer ursprünglichen Tradition halten will, wie das Verhältnis zwischen der Aufbewahrung nach numerischer Ordnung und Künstler nicht verändern wollte. Man fand eine Lösung in der Form von großen Alben, in die man die Drucke montierte. Die Idee für diese Wahl entsprang anhand der Alben aus dem 18. Jahrhundert, die im Teyler Museum für die Aufbewahrung von Zeichnungen alter Meister benutzt werden. Die Vorteile für die Aufbewahrung der Drucke in Alben im Gegensatz zu der in Kästen sind unter anderem: die Verringerung der Handhabung der Originale, die Beibehaltung des Sammlungscharakters und der ursprünglichen Katalogisierungsord-

nung, das Verhindern von mechanischen Schäden durch das Übereinandergleiten der Drucke innerhalb einer Schachtel und eine effektivere Nutzung des verfügbaren Aufbewahrungsplatzes. Nachteile sind das Biegen der Blätter während des Umblätterns und die Notwendigkeit eines zusätzlichen Schutzes für bröselige Malmittel.

## Introduction

This paper discusses storage for a print collection, based on the tradition of storing drawings and prints inside large albums. Arguments for and against modern storage of this collection in solander boxes are given, the technical aspects of album storage are discussed and the development of a working routine for relocation is sketched out.

## Historical background

The Teyler Museum in Haarlem, founded in 1778, houses within its wide collection some 25.000 prints. This print collection ranges from the 15th century until the present day. In the late 18th century and the early 19th century the curator of the art collections mounted most of the prints onto thick, good quality rag paper sheets by pasting one edge (usually the left) of the print down onto the rag paper. The dimensions of the rag paper sheets varied with the size of the prints.

## Storage problems

It is not known how the prints were stored in the 18th century, but in the 19th century boxes were made to house them. The prints were arranged in the boxes according to time of manufacture, country of manufacture, and artist. This caused small and large prints to be mixed inside the boxes. On opening a box one would see a pile of prints much thicker in the middle than at the edges, like a mountain. Care had to be taken when carrying a box, otherwise one could hear the prints move inside the box since very few mounting sheets were the exact size of the box. Many mounting sheets show evidence on their backs of offsetting from another print. During a major check and cleaning operation prior to moving the whole collection to a new building, it became clear that this storage method had to be changed. In addition to this, the 19th century boxes were at the end of their lives, they were gradually distorted and falling apart.

## Requirements on historical grounds

The cataloguing system of the print collection also dates from the early 19th century. Based on the order of prints inside the boxes it does not permit the prints to be stored according to size. In addition to this the historic context does not permit the prints to be removed from their rag paper mounting sheets unless there is a necessity on conditional grounds. These two requirements seemed to leave us with one choice only for the solution of our storage problem: to mount the rag paper sheets onto acid free museum board whereby the sheets have the exact size of the boxes. However, this would cause an enormous increase in storage room needed. One 19th century box could house as many as 350 prints, one modern 20th century solander box would accommodate only 40 at the most.

Luckily, we had another example of storage method to consider. In the 18th century, curators had ordered large albums to store the collection of 16th and 17th century old master drawings. In the 19th century they had ordered even larger books to house the contemporary drawings. All these books were especially made for this purpose; the drawings (mounted on their rag paper mounting sheets) were inserted loosely between the pages. While the 19th century albums are not in very good condition any more, the 18th century albums are, and they still provide an excellent storage for the old master drawings.

## Album storage, advantages and disadvantages

Album storage has several technical and ethical advantages over box storage. Firstly, the actual handling of prints and drawings occurs only when absolutely necessary: one touches only the album pages when searching through an album. Another advantage is that the character of the collection with its variation in size of old mounting sheets is kept intact. This characteristic appearance would change with the mounting of the prints on modern, off-white museum board of standard dimensions. In addition to this, the order of the old cataloguing system needs not to be broken by storing the prints according to size. Also the compact mass of album sheets, mounting sheets and prints provides an excellent buffer against changes in climate. Furthermore, deterioration of paper by evaporation effects in air pockets within a stack of paper (e.g. in window-mounts), as discovered at the Municipal Archives in Amsterdam (1)(2) is minimised by the compactness of the paper in albums. Another point is that the album leaves distribute the pressure on the prints in an album more evenly than in a box where the prints are just put on top of each other in a pile. Also the damage of prints by sliding over each other has become impossible. As a last point of consideration: storage space is more efficiently used with albums instead of boxes.

Of course there are also disadvantages. Prints are slightly bent each time an album is consulted. And friable media need extra protection in the shape of smooth protection sheets. The removal of fragile objects from the album, to be stored window-mounted in a solander box, could be another solution to this problem.

## Album storage, the modern version

With the example set by our 18th century predecessors, it was decided to have new albums made to house the print collection. Almost immediately the decision was made that these albums should have a modern appearance rather than be modern copies of the old albums. If we would be able to order good quality 20th-century albums, it was felt that we could solve the problem of the wide variation in sizes of the mounting sheets while at the same time store the prints well, like the old master drawings. We would be able to keep the prints in the same order as it was done in the 18th- and 19th-century and to store from 60 up to 150 prints in one album. We would have an easily accessible collection, because leafing through an album is so much easier than going through the contents of a solander box. The price of such an album was calculated to be roughly twice that of the conventional storage on acid free board in a solander box. However, we decided that our gain would lie in the ability to keep the traditional way of mounting and cataloguing and in the fact that album storage would occupy much less space than modern box storage (though more than the 19th century box storage). If we could find a bookbinder who could make us albums to last for 200 years (or more, as the 18th century albums do) we would spend roughly the same amount of money that otherwise would have to be spent on solander boxes and acid free board that would have to be changed at least once in 200 years.

## Acquisition of new albums

The amount of albums needed was determined by a general condition survey carried out some years ago. Luckily the conservators had included the general size of the prints and the amount of prints per box. We reckoned that we would need 180 large albums (85 x 64 cm, 60 pages) and 60 smaller albums (66 x 49 cm, 80 pages). The albums already in use for the drawings determined the size of the albums: most of the print collection would also fit into albums of these sizes.

After a long search we found a bookbinder who could make such large books, was capable and willing to bind such a large amount of oversized books, who was able to understand the needs of a museum collection and to think along unconventional lines. We found suitable paper [1] and suitable leather [2], we found a second bookbinder who could import and prepare the leather for us and last but not least, we found suitable funding. Paper was ordered and a contract was drawn between the museum and both bookbinders. The die was cast.

Several discussions with the bookbinder were necessary to come to a design for the albums that provided sufficient protection for the prints. Their construction should be strong enough to withstand handling for the next 200 years. We settled for an album with a reinforced, extra strong and round back. This was a necessity, because unlike most books, albums in use are viewed standing on their backs in stands. Protection for the prints was provided for by using good quality watercolour paper and by sewing guard strips between the pages to provide extra space for the inserted objects, rather

like photo-albums. The albums would be stored horizontally, therefore no headbands were necessary and lettering labels would have to be placed horizontally. No sewing cords must protrude from the back, since the leather would be damaged on these points after several years of sliding albums onto shelves.

The material to cover the albums presented additional problems. Linen was considered to be too weak in the joints. Covering full bindings with leather or parchment would be too expensive. Parchment only used on the back was seriously considered, but then such large skins turned out to be impossible to find in sufficient quantities. In the end we settled for buffalo leather in a dark red colour for spines and edges. The boards of the albums were to be covered in strong dark red Buckram.

For economical reasons we had to buy all the paper (ca. 12,000 sheets in two sizes) and all the leather (61 skins) in advance. Luckily the bookbinder was prepared to store all these materials, several cubic metres, in his cellar. The time of storage would last three years, because our finances did not permit us to pay the bookbinder for all the albums at once. Therefore delivery had to be spread over three years. It was agreed that the bookbinder would work on the albums whenever his normal routine was slack. He would deliver one third of the total amount every year.

## New albums, practical implications

A year went by before the first albums were delivered. They had to be sewn by hand because no sewing machine was large enough. The bookbinder had even to invent new tools for sewing the large books. When he was working on the albums, nearly half of the available floor and table space was needed. At last the albums arrived and we could start the relocation of the prints.

At first everything looked straightforward, but already with the first album we encountered problems. We found that relocation is not simple at all. From the start a conservator and a curator worked in close co-operation, stumbling over issues of cataloguing, accessibility and preservation. Occasionally the Keeper of the Art Collections was referred to whenever complicated decisions had to be made.

General working rules had to be established first. Throughout the Art Collections the numerical order of inventory numbers is very important. It was decided that this should have top priority as well in the relocation process because, as mentioned above, a traditional link between inventory number, country of origin, time of manufacture and artist exists in the collections. It was also decided that we would not leave space for acquisitions. It is impossible to guess which and how many acquisitions there will be in the next 200 years. Acquisitions will in future not be stored according to the old cataloguing system, but according to order of acquisition. Thanks to the computer, it will still be fairly easy to find all the prints of one artist even if they are not stored next to each other.

Another difficult point was when to use small albums and when to use large albums. It was very tempting to use small

albums, because they are so much easier to handle. We decided that a small album would be used when a box of the old storage system contained only small prints. Whenever a box also contained larger prints, a large album was used, even if there were only one or two larger sizes. Otherwise these larger prints would have to be placed elsewhere, which would disturb the historical order. Not much album space would be wasted when small prints are placed in large albums. They can be placed in pairs (or even in threes or fours), side by side, unless an overlap of sheets would occur. Oversized folded prints would be stored in the album in their own numerical place. Having decided these things, we thought we would be able to tackle the task without more ado.

However, the contents of the first 6 albums had to be shuffled around a few times before we had an acceptable working system. And later, after almost every two albums we had to stop to find a suitable solution to an unexpected problem.

Keeping the order of inventory numbers intact for example, was not as easy as it looked. Some prints were acquired in the near past and had high inventory numbers, but were inserted in between prints of the same artist. Should we take those out or tolerate a disturbance of the numerical order? This difficulty was made easier if one applied the rule per album. This meant that we could store the high numbered prints at the end of the album, provided it would not end up in the middle of a series by a different artist. In which case we would reluctantly leave a few last sheets of the album unused and store the prints of the later artist in the next album.

Oversized prints, i.e. prints that were too large even for the largest albums, were stored in flat so-called "posterfolders" [3], again in numerical order. Oversized folded prints were also relocated to posterfolders. The built-in guard strips in the albums provided insufficient protection for pressure on the folds of folded prints. Other items which were not relocated to albums were those prints which had been bound into books and prints which had been bought and kept as a series. For the latter the fact that they were joined by means of a string was used as indication (even if the string was not present any more, but the holes were). These books and series went into solander boxes.

At this moment some 50 new albums have been filled with prints. It is slow work, which has to be carried out in between work on exhibitions and other tasks. After the relocation the curator has to adjust the cataloguing system to reflect the new storage place of each print. The conservators will then embark on a conservation program in which the condition of each print will be checked and stabilised if necessary.

## Conclusions

On the whole, curators and conservators are satisfied with this storage facility. As with most projects which are carried out for the first time, a few things turned out to have unexpected consequences. The paper we chose is not completely smooth. This choice was made for aesthetical reasons, but turned out to be slightly impractical. It means that friable media like mezzotints need to have an extra protection sheet of very smooth acid free transparent paper placed in front of them,

possibly even attached to the album leaf in front of them by the four corners to prevent it from sliding away. The paper of the album leaves is also a bit more flexible than we had thought. Being bound with the machine direction parallel to the spine (as it should be) it tends to bend inwards when the album is opened. This makes leafing a bit awkward, one has to leaf carefully.

Another unexpected surprise were the closing cords. The bookbinder recommended leather straps because they would be much more durable than linen straps. When we began to use the albums, however, we discovered that new leather sheds a number of fine leather fibres when tied in a bow. We had to remember to remove them from the fore-edges before we opened the albums to prevent the fibres from falling between the album leaves. We ended up sanding all cords at the rough side with sandpaper and impregnating them with polyvinyl acetate to prevent them from shedding more fibres.

A pleasant surprise was the price of the albums. The cost of a small album was roughly the same as that for a large album, both taking the same amount of working time which is the most expensive factor. One album cost Hfl 655,- (price 1997). With an average of 100 prints per album, this means Hfl 6,55 per print. Storage in solander boxes and mounting each print on acid free museum board was calculated to cost ca. Hfl 14,- per print (in 1992).

All in all the album storage provides us with an easily accessible print collection and a very satisfactory storage facility for the variety of mounting sheet sizes. For our collection it is a logical sequence to the historical way in which the old master drawings are stored. Seeing the spines of the new albums in the storage cupboards next to the spines of the 18th and 19th century albums is a beautiful sight. It takes some funding, a lot of work and thinking, but we would make the same decisions if we were to reconsider. Only a few things (mentioned before) would have to be adjusted. We can recommend a similar facility to every collector that has a collection like ours, with so much variation in paper sizes.

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## Notes

- 1 Aquarel Torchon (ruw, watervast), manufactured by MoDo Van Gelder, 190 grs, permanent, 2% calciumcarbonate, pH 7-8.

- 2 Waterbuffalo skins from the Far East, bought in France, each ca. 25 foot, chromium tanned, colour red/grenat.
- 3 "Posterfolders" (Affichemappen) are made from acid free, corrugated board and are designed to store up to 10 posters. They are sold in two sizes (1200x870x10 mm and 920x605x10 mm) and their only disadvantage is that the upper flap tends to come upright, which makes the stacking of folders difficult.

## References

- 1 Lingbeek, N.; 'Verbruiningen in prenten- en tekeningen-collecties opgezet in passepartout' ; *De Restaurator* 2/ 1995
- 2 In personal communication with Vermeulen, P.; unpublished paper, IADA Congress, Uppsala 1991.

## Biography

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