

PAC REGIONAL CENTRE RESTORATION OF MAPS

By Henrik Otto

The collection of maps in the Deutsche Bücherei only deals with maps, atlases with German inscriptions as far as there have been published from 1913 onwards. That means until now :

- 100 000 maps in sheets
- 30 000 folded maps
- 4 000 wall maps
- 4 200 atlases

The stock of wall maps is the largest in a German library. Globes do not belong to the subject of the collection. The rooms of the map collection are situated on the first floor of the building. Its reading room covers an area of 76 m² and is equipped with 6 large special desks and one illuminated table (Leuchttisch). Next to the reading room, there is the store room which covers an area of 320 m². Its genuine equipment with cupboards for wall maps and roll fronted cupboards stems dates from the years 1915-1916. Special cupboards, of which the height is 4m, with hinged frames were constructed for the storage of mounted and rolled wall maps. Each of these 52 cupboards contains 8 rows, which can be filled with about 70 maps.

The roll fronted cupboard with their fixed interior measure of drawers (width 100 cm, depth 91 cm, height 6 cm) have proved useful. You can also use the top of these cupboards as a work top for reading maps.

The storage of folded maps is managed as follows : about 15 maps are bundled in an open cardboard box which is placed on a normal book-shelf.

Not only large size, but also special features of materials can make the conservation and restoration treatment difficult. Such features can be :

- large size documents, either rolled or folded,
- instable coloration,
- damage by inks and corrosive pigments,
- surface of prints covered by special waxes or varnishes,
- unstable floppy backing.

These and other factors are the background of the opinion that maplike documents need a special treatment which could be :

- dissolving of gummed up materials (enzymes, steam),
- fixing of pigments,
- neutralisation,
- treatment of damage caused by ink and paints,
- duplication materials and their usage,
- encapsulation,
- different kinds of storage.

Dissolving of gummed up materials

The main point is how far is it possible to work with water or steam on the original substance. You can use steam with traditional, but also new materials, for dissolving gummed materials. Simple compression of Filterkartons are as good as the new synthetic materials such as « Gore-Tex » or « Cappillary matting ». For very special problems, you can make use of enzymes or organic solvents.

Fixing of paints and pigments

There are still lots of risks in this field and only two ways of handling this problem. On one hand, you try it by pure research and chemicals. On the other hand, you can find pragmatists, who prefer the physical way. None of them provides a final result. We think, that the way of pragmatists has not too many risks, because you work with different types of cellulose, derivatives in combination with steam treatment. By careful application of these substances, you should not expect bad side effects.

Neutralisation

The neutralisation and the deposition of an alkaline reserve can be achieved through different means. Neutralisation can be done separately during the conservation / restoration process.

The possibility to add enough alkaline substances in the glue, so that they could function as a neutralisation agent, make it easier to work on sophisticated damaged spots. The simplest way is to use a glue, which is added to CaCo and MgCo in any concentration, or any mixture.

In this application, are the demands of crystalline sizes and a appropriate distribution of carbonates fulfilled without disadvantages of wet treatment. Do not

forget, in this context, that some of these pigments can react as an indicator with colour changing. It is possible to deacidify by waterfree organic solvents, solved active substances. This way permit to treat very sensitive objects.

Treatment of damages caused by ink and paints

At first, you should eliminate the cause of these damages. Then, you could stabilise the damaged parts as best as possible. The cause of eaten away ink and paint is influenced by heavy metal ions, like iron and copper in hydrolytic and oxidise events. Recent publication confirm the removing of heavy metal ions by wet treatment will use of a vacuum table. The old conception, that the heavy metal ions will be distributed by wet treatment in the healthy parts, has not been confirmed presently. It is useful for the stabilisation of sheets of paper which are damaged by eaten away ink and paint, and recommended for the local paper splitting technique.

Duplication materials and there usage

Very often, it is necessary to duplicate maplike documents, because lost parts, tears and other damage forbid to use these. In relation to the size of the maps, these could be duplicated with special papers as well as with textile materials. We distinguish three main methods.

The duplication material will be put on in a waterfree application. Normally, the maps will be laminated with materials made from polymers or industrial coat papers. The disadvantage is the irreversibility of this process. The advantage is the map can not change its sizes and keeps its authenticity equal. This is an important point of view at the beginning of every work.

To work on a vacuum table is an up-to-date technique. Thus, you can work on a stable and flat surface and therefore, the treatment can be very careful. To pull on of large sizes maps on new textile backing materials is a usual way. The biggest disadvantage is that the size of original is changing through the contact with water.

Encapsulation

Encapsulation means that the original is left after the welding of the edges protected between two polyester foil laying. Now you can watch it very well, because polyester is clear like glass. The foil is permanent and very stable against chemical reaction.

But a characteristic of polyester also is that an original inside of such an envelope can not breathe. That is a reason for the development of a micro-climate, which is very bad for the ageing of the original. Therefore, you should open the edges through small interruption in the weld, or by opening the surface like tiny holes. This would be an ideal result.

The decision whether the maps are stored, unrolled or hanging depends on the storage environment. The resources of the building, the available space, the available finances, the frequency of use and the size of the collection, together with other factors, will decide on the exact type of storage. A small remark about the usual rolled storage : it is better if the sheet is rolled around, then it is rolled into a cardboard tube.

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