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Article: FLATTENING CRACKS IN PHOTOGRAPHS

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## FLATTENING CRACKS IN PHOTOGRAPHS

By Ana B. Hofmann

The treatment I'm going to describe is the flattening of cracks and creases in photographs through applications of gelatin, moisture and heat. This method is particularly effective for single weight, glossy gelatin photographs but good results can be achieved with double weight, matte and albumen photographs. The technique was developed by Jose Orraca, and has since been modified by Jose, Marion Hunter and myself. As with all conservation treatments, each photograph that we treat has slightly different problems and requires a different approach to this treatment.

Before starting, you have to prepare the gelatin solution. The gelatin we use for this process is 250 bloom surface gelatin made by the Rousselot Company of Paris, France. We mix one part gelatin to eight parts cold water and allow the gelatin to swell for at least half an hour. It's then slowly heated on a hot plate and stirred occasionally until all the granules are dissolved. This stock solution is diluted with an equal amount of water and is applied warm to the photograph.

The treatment itself has four basic steps: mending, gelatin application, humidification and drying. I'll go through each step in turn. It's a good idea to try this treatment out on an expendable photograph for the first time.

### **STEP ONE: Mending and reinforcing where needed.**

This is done from the verso with wheat starch paste and a thin Japanese tissue. Areas where the paper support is torn are carefully lined up and overlapped before inserting paste to ensure the smoothest possible mend. Try to mend using long strips of tissue and don't overlap the strips. When the mends are dry, the photograph is flattened in a dry mount press for about 45 seconds to set the mends. We use a Seal dry mount press at 185-200F for all steps of this treatment.

### **STEP TWO: Gelatin application.**

Start by applying one coat of gelatin very carefully to the front of the crack. Use a fine tipped brush, making sure that no gelatin spills beyond the edges of the crack. This is important because any excess will make a shiny halo around the crack. If this happens anyway, excess gelatin can be wiped away with a damp cotton swab. After coating the front of the crack with gelatin, apply two coats to the back of the crack, allowing the gelatin to dry between coats. These coatings help pull the raised area of the crack flat and keep the mending tissue in place during humidification. When the gelatin is dry, flatten the photograph in the dry mount press in a release paper folder for 45 seconds to harden the gelatin.

### STEP THREE: Humidification.

The purpose of this step is to close and flatten the crack. The best way we've found to humidify the photograph is to place it between layers of non-woven polyester fabric such as Hollytex, and between damp blotter under a piece of glass for 5 to 20 minutes. The length of time depends on the thickness of the photograph and the dampness of the blotters. A plant sprayer or Dahlia sprayer works well to dampen the blotters evenly without over saturating them. Humidifying the photograph in this way allows the paper to relax and the gelatin to swell without running the risk of mends coming apart. As the gelatin swells, the edges of the crack will come together, narrowing the crack. The photograph is sufficiently humidified when it is completely relaxed and limp. At this point, very raised or stubborn cracks can be burnished from behind between layers of Hollytex and Mylar.

### STEP FOUR: Drying the photograph.

Once it is humidified, the photograph is immediately placed in a very clean release paper folder which is in turn placed in a clean Permalife bristol folder. This package is put into the dry mount press and the photograph is quickly dried before the gelatin has had time to air dry and shrink back to its original position. The appearance of the crack can almost always be improved by repeating the humidification and drying steps two or more times.

The method I've just outlined is appropriate only for fairly glossy photographs. Because of surface problems, cracks on matte photographs are trickier to flatten than those on glossy photographs, but they can usually be reduced. Matte photographs present a problem because their surface will take on a ferrotyped appearance when dampened and flattened against the glossy surface of release paper. Also for these photographs, it's even more important to be sparing with the gelatin, and sometimes they can only be coated from the verso of the photograph because a shiny bead can form in the crack. The coating on the verso should be light and only in the immediate area of the crack as the gelatin will sometimes seep through to the front of the crack causing a faint shiny halo. Another way to avoid shininess is to coat the front of the crack with a small amount of gelatin, press the photograph, and then remove most of the gelatin with a damp cotton swab. This seems to help the edges of the crack to stick together without causing a shiny spot.

The humidification and drying steps also need to be modified to avoid surface problems on matte photographs. To humidify, moisture can be applied locally to the back of the crack or the photograph can be dampened very slightly between blotters. To dry a matte photograph, press it in a Hollytex folder rather than a release paper folder.

Every surface is not alike and neither is every crack. Different kinds of cracks require different approaches to this treatment. A crease which is not very deep may not need to be reinforced with Japanese tissue. Two coats of gelatin to the verso of the crease and a light coat on the front will often be enough to pull the crease down flat.

Very narrow or hairline cracks present a problem because it is very difficult (next to impossible really) to feed gelatin into the crack without having it spill over the edges. It may only be possible to coat the verso of these cracks or to coat the front and then surface clean the area to remove excess gelatin. Very wide or deep cracks may need several coats of thick, undiluted gelatin to fill the gap.

We have encountered a few problems with this method along the way. I've already mentioned surface problems on matte photographs. There are two other problems which can cause a lot of heartache. The first is that release paper cockles very readily in the presence of moisture. If the release paper cockles while under pressure and in contact with the photograph, the photograph will cockle and crease as well. To avoid this nightmare, you have to move the photograph around in the release paper folder several times during the drying process. Place it in the release paper folder and press for 5-10 second, move it quickly to a dry spot in the folder and press for 10-15 seconds more. Then press it twice more, once for 15-20 seconds and once for about 30 seconds, each time moving it to a fresh spot in the folder or to a new folder. These drying times vary according to the thickness of the photograph.

Another problem is the creation of small indentations or "dingers" as Jose calls them in the surface of the photograph due to dust particles and fibers. The only way that we have found to avoid these dreaded dingers is to use new, perfectly clean Hollytex, new blotters and new, perfectly clean release paper. It's important to make sure that the photograph is free from dust before it's humidified and that it doesn't pick up any dust along the way.

At first this treatment will be more successful with some photographs than with others; as you gain in experience and practice you will achieve good results with more and more types of cracks and photographs.

*This is a transcript of a talk given at the Photographic Materials Group Winter Meeting in Ottawa on February 23, 1991.*

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