Franz Zeier

Selections from: *Books, Boxes and Portfolios*

Gluing methods

How to Glue Properly

The examples in the following paragraphs are typical of the many situations that can arise when you work with paper. To concentrate on the most important procedures is next to impossible, since almost every situation constitutes a special one. I try to be as concrete as I can and to leave adaptions to the reader. Further hints about adhesives and their uses are also to be found in some other sections of this book.

Always have at your disposal at least two round brushes with a diameter of 1/2 or 2 in and two flat ones about 1/2 in wide. All of them should be of good quality, made of natural bristles and in good condition. No bristles should ever come loose during pasting.

Mounting Paper on Cardboard

General Hints

To understand the basic behavior of adhesives prepare a thin piece of cardboard, about 15 x 25 in, and a piece of paper of the same size.
Preparing the work surface

It is very important to work on a flat and clean surface. Protect the work surface with a single sheet of newsprint, never a whole stack, since folds and creases in lower layers could be overlooked and could later interfere. After one use, the sheet should be discarded. If a larger piece is needed, connect smaller sheets to each other with a dab of adhesive.

Applying adhesive

Put the paper to be mounted on a larger sheet of newsprint and apply paste in two steps. The round brush, unlike watercolor brushes, is not held between fingers but in the fist. Two fingers of the other hand hold the sheet at the lower edge, while the paste is applied in a pattern of radiating strokes towards and past the three edges.

When the paste is evenly spread, move your hand to the upper edge of the paper and repeat the process in the opposite direction.

Some experienced bookbinders prefer to apply the adhesive in dots, especially at the beginning of the process, and they gently spread the adhesive in the last step.
Curling edges

It soon becomes obvious that the sheet curls along the edges as a result of the stretching against the grain. It reacts as if it were alive.

There are different ways to counter this effect:

a. Pull the brush across the curling edges vigorously and repeatedly until the material “tires” and stays flat.
b. In particularly challenging situations, fold over the corners of the sheet as shown.
c. In rare cases dampen the underlying paper.
d. Apply the adhesive indirectly, as described on page 70.

Before you lift the sheet off, check for loose particles or bristles and remove them with the tip of a knife if necessary. Also make sure that the whole sheet has been covered with adhesive and fill any dry spots.

Lifting the sheet

Gently pick up the near right-hand corner with your left hand and lift the paper so that it hangs downward. With your right hand pick up the diagonally opposite corner, so that the pasted side faces away from you.
Put the corner that you are holding with your right hand down onto the cardboard, matching its bottom right corner. With the left hand, lower the rest of the sheet onto the cardboard until one paper edge is flush with one cardboard edge, preferably in the same grain direction.

Rub gently and move your left hand to the middle of the opposite edge. With successive strokes of the right hand press the paper against the cardboard, while the left hand holds up the still unattached portion.

If the paper was covered evenly with adhesive and was allowed to expand, there should be no bubbles or creases.

To mount sheets of medium size (up to 15 x 25 in), follow this method: Hold the sheet to which the adhesive has been applied by the two corners along one edge. Use both hands. Set the edge down on the corresponding edge of the cardboard, but roll the rest of the sheet until its dry side rests on the cardboard. Rub the initial edge, then unroll the rest of the sheet and proceed as with a smaller sheet.
Mistakes

If adhesive oozes out around the edges:
   a. Too much adhesive was used;
   b. Too much pressure was applied;
   c. The adhesive was too thin.

Treating one side only

Push

A novice might think that the work is now done. Let us see what happens if we stop here. The freshly mounted piece will arch, the side that carries the paper becomes convex, flattens after a while, and finally turns more or less concave.

Pull

If you repeat the process with several layers of paper, a tube will form, provided that the grain directions are identical.
Counteracting tension

Two more procedures are essential to explain how to counteract tensions and how to dry a piece properly. To keep a mounted piece permanently flat you have to balance the tension forces acting on it. This means that a paper of very similar properties has to be glued on the other side of the cardboard, preferably at the same time and with similar intervals between steps. Whether the right balance was reached can only be determined when the work is finished.

Drying

The importance of the drying process is generally underestimated. Perfectly executed work can be ruined if the piece is left to dry in the open or not long enough. A piece that contains a high degree of moisture should not be put under pressure immediately. Instead it should be exposed to air, maybe leaning against a wall for about 15 minutes, to allow some of the moisture to escape.

Drying in open air

The cardboard, covered with paper mounted on both sides, is now placed between two absorbent sheets of cardboard of slightly larger size, and finally between two boards. Then a weight is put on top of it. The drying process takes at least 4 hours, during which the absorbent sheets of cardboard should be changed at least once, after the first ½ hour.

Weighting
Trimming the corners

Trim the corners at an angle of 45 degrees, cutting no closer to the corner than one and a half times the thickness of the cardboard. If you cut off too much, the corner cannot be covered completely. If you leave too much, the corner becomes too bulky.

As a rule, treat boards, portfolios, and books in this sequence: top and bottom first, sides last. In a box start with two parallel sides, followed by the other pair. For most efficient folding, position the piece at the edge of the table so that the side you want to work on sticks out over the edge about 1 in.

Sequence

Two steps of folding

Hold the piece in place with your left hand and fold the paper up to form a right angle with the cardboard. Ideally, the paper should stick to the cut edge of the cardboard.

Caution

During the second step of the process rub the paper down with your thumb inch by inch, starting at the left corner. The paper should stick immediately, and the edge should look clean and even. To prevent the edge of the table from leaving an impression in the still-damp cover, position your left hand well behind the edge to avoid pressure along the edge. Another precaution is to slightly round off the edge of the table.
Hollow spots

The drawing shows a right (a) and wrong (b) fold. Hollow spots should also be avoided.

Corners

After two parallel sides are done, and before you start the remaining sides, the corners receive special treatment. Tools are fingertips and fingernails. Now position the piece flat on the work surface.

Finish

Before you fold the two remaining sides, make sure that the adhesive is still damp enough, and reapply if necessary. Proceed as with the first two sides. Check the whole piece carefully for loose spots and too-sharp corners, either of which you pat down gently with a bone folder.
After the signatures are sewn together the cover can be attached. For this technique it has to be cut with two attached flaps, which will be folded around the two outer pages, which may be made of paper that is slightly sturdier than the other pages. The knot can be placed on the outside if it seems disturbing in the middle of the booklet.

Sewing two signatures together

Two signatures can be sewn together in a very similar way (1). Fold half of one layer around the other (2) to turn two into one (3). After they have been sewn according to the instructions given earlier, fold the first signature back to its original position (4). Align the edges. Attach a cover with flaps, after creasing the spine with two parallel lines according to the thickness of the stack.