

HAND PAPERMAKING

(A Journal)

P.O. Box 10571 Minneapolis, MN 55458

## Experiments in Paper Casting

Jody Williams

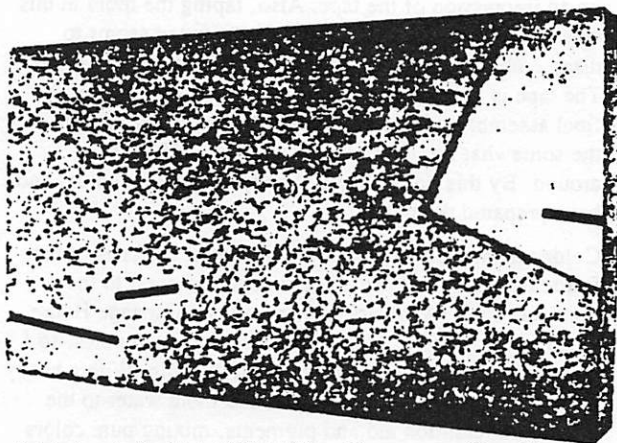
Papermaking attracts artists from many different backgrounds, each bringing their own visions, skills, and personalities, producing diverse, unique, and exciting works. This seems to be especially true with cast paper, where the possibilities appear limitless. Almost any surface or form can be adapted or constructed for paper casting. My own continually developing casting methods are tied technically and conceptually to my background in metal-smithing and printmaking.

I began making paper as a graduate student in printmaking. Rag paper scraps and old prints were recycled into sheets, with flecks of ink creating a sense of space which fit the imagery I was using at the time and have been obsessed with ever since: shapes in space. After a month of making flat sheets, I tried working with the pulp dimensionally. Although my first cast piece was unsuccessful, the next pieces were better and I hung three of them in my thesis show, alongside four prints on handmade paper. I have continued to work both two- and three-dimensionally with paper since then; this allows for a lot of technical and visual connections.

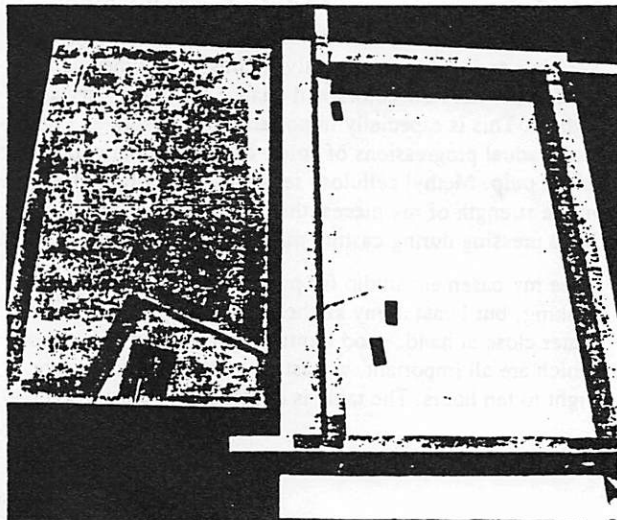
Drawing on my eclectic background, I built up a vocabulary of what I could do dimensionally with paper. I used whatever materials were around me: matboard, plexiglass, sheet metal—including used aluminum lithographic plates—and metal screening. Construction techniques were invented as needed to work with the materials. I started with a smooth surface, up to 20" x 36", which could be laid flat on a table for casting, with constructed forms either laid on or attached to the surface. The resulting piece would be a flat plane floating in front of a wall, with shapes breaking the plane going back towards the wall. Although this made mold making and casting direct and simple, the pieces were awkward to hang, as the back was not flat. To add to the imagery created by the mold, I tried embedding materials such as metal foil, screening, wire, and different papers, sometimes printed. These were laid on the mold just before casting, after using clear acrylic spray to seal the matboard and potentially rusty metals.

Recycled rag papers were used as pulp. I made lightly pressed sheets and reserved some pulp to use as a glue where the torn sheets overlapped. Nothing was added to the pulp, although some sizing was left over from the rag papers. The pieces were sponged lightly as the molds were not always very sturdy. As a result of this and given the nature of recycled pulp, the pieces had a spongy texture and were somewhat unstable. Technique was not an obsession of mine at this time; I wanted to experiment, make a lot of pieces, see what was possible, and make "artistic statements" which related to my prints. After all, I was in graduate school.

After graduate school, in 1982, the scale of my work was greatly reduced, shrinking with my studio space. Smaller pieces seemed to demand more attention to technique and there were several breakthroughs which set the tone for the work I am doing now. I started casting directly with pulp, rather than using sheets. This required more sponging, as the sheetmaking had removed a lot of water. With more sponging the pieces were sturdier. Also, the surfaces were



Finished work. Untitled, 11 1/2" x 21" x 2", cast cotton fiber with pigments. Photo by the artist.



ever since.

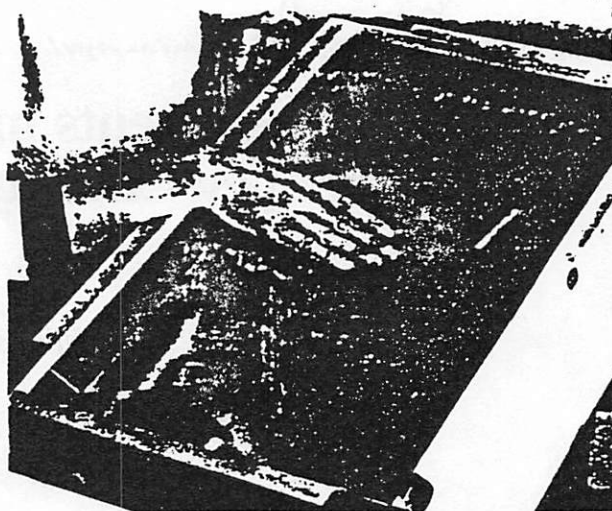
Another technical concern was presentation. The pieces still had an unfinished quality and were hard to hang. Making "wall-boxes" was the answer. I had always been fascinated with boxes, and had made a number of small metal and plexiglass boxes in school. I built sides surrounding the front plane and going back to meet the wall. This evoked a box, not as a container, but rather as a contained, finished piece. A hanging system could be easily attached to the sides; on the first pieces I simply stitched thread through the sides across the back.

Also around this time, I started casting with better pulp. My production paper work — stationery and books — was increasing, as was my need for pulp, and I began ordering prepared pulp from Twinrocker (Brookston, Indiana). Hollander-beaten pulp, even cotton linter, made a big difference in the surface and structure of my cast pieces. Production work in general has helped quality control and efficiency. I can experiment with the stationery and incorporate ideas and techniques into artwork: ways of getting images using color and pulp additives, including mixed media elements.

The processes, format, and imagery of my cast work since 1985 have not changed radically, although they are always evolving. As I have gotten more confident, the pieces have become more complex, more refined, larger, and more challenging structurally and visually. They keep making a similar statement, which has become more clear over time, a statement about shape, line, space, atmosphere, color, surface, and structure. These basic elements, and their interactions, are the subject, content and object of my work. I often feel that casting is a somewhat roundabout way to make statements, although my processes by now are fairly well-refined and routine.

Initial sketches, drawn to scale, help determine the format and size of a piece. I often work with diptychs and triptychs, which enables me to work on a larger scale, and the interaction of several forms adds another layer of activity. Commercial paper is then used to make a full-scale model of the piece, which is hung on the wall. I use collaged papers to work out the final composition of interior shapes and lines. The paper model turns into a pattern for the mold. I am using mostly sheet metal now: aluminum lithographic plates if I have been printing or .012" thick aluminum. The main pieces of the mold, the front and sides, are cut using a utility knife, lots of blades, and a heavy-duty straight edge. I make a few cuts to score the metal, and then fold it along the scored line to snap it apart. Cutting metal this way is potentially dangerous, as I have to press hard with the blade, so I always make sure I am in the right frame of mind and able to concentrate on where my hands are.

Before I do anything else to the face of the mold, I construct the inner pieces which will be attached, so they can be measured precisely. These too are made from sheet aluminum and are constructed using duct tape.



*Williams pats cotton pulp onto mold. Photo by W. H. Schilling.*

To transfer the full-scale drawing to the metal, I tape it on and score right through the paper. The fronts of the mold and drawing have been clearly marked so I do not do anything backwards. I cut out the portions of the mold face which will have shapes recessed in addition to those with projecting shapes, so they can be securely attached to the mold. A lot of duct tape is used in assembling the molds. All taping is done on the outside or front of the mold, since the pulp goes on the inside. Otherwise the pulp would pick up an impression of the tape. Also, taping the mold in this way allows me to simply cut along the taped seams to disassemble the molds for removing the finished cast piece. The tape is burnished to insure good adhesion. All of the final assembling is done just before I am ready to cast, so the somewhat fragile molds do not have to be moved around. By this point I have already decided on colors and have prepared the pulp.

Color schemes are worked out with small sketches of the full scale patterns. I use colored pencils closest to the pigments I use (Aardvark Colorants from Carriage House Paper in Somerville, Massachusetts), and keep notes, so I know what I want before I start with the pulp. With a heavy duty hand drill and paint mixer, I add more water to the pulp, then retention aid and pigments, mixing pure colors first and then mixing the colored pulps together. I estimate how much pulp I will need and then prepare much more, as it is disastrous to run out of pulp in the middle of casting. Small bits of the final colors are dried to check against the sketches and, more importantly, against each other, as it is hard to predict how colors will change when they dry and lighten. This is especially important for my work as I often use gradual progressions of color. I do not add anything else to the pulp. Methyl cellulose seems to make little difference in the strength of my pieces: their structure and extensive hand pressing during casting make them quite sturdy.

I use my basement studio for pulp preparation and sheet making, but I cast in my kitchen. I have a big sturdy table, water close at hand, good lighting, coffee, and my stereo, which are all important, as casting a large piece can take eight to ten hours. The table is covered with plastic and the



pulp, cellulose sponges, towels, and a few metal-working tools. I piece together a wood structure out of two-by-fours and one-by-threes to support the mold on the bottom and sides. The mold is placed front side down inside the structure, so I am looking at the inside or back of the mold and, as it is often covered with greasy fingerprints and dust at this point, I clean it with rubbing alcohol.

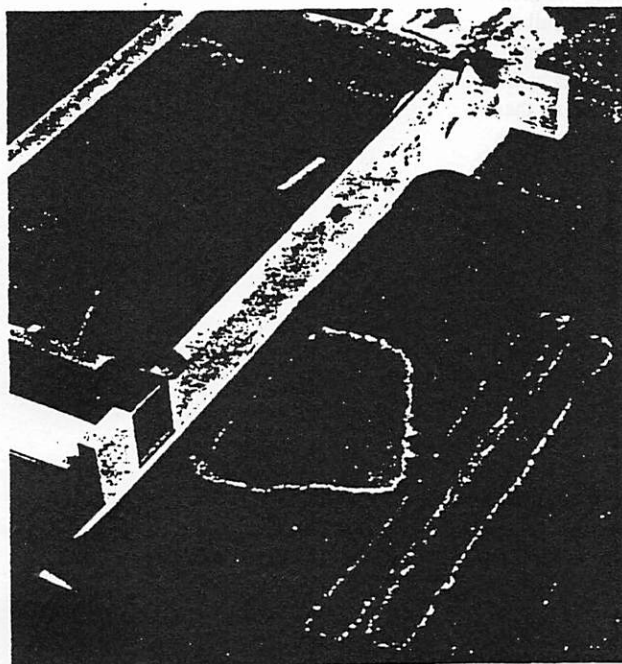
The shapes which project from the face of the piece are now on the very bottom of the mold. These are filled first, with pulp that is slightly strained to about an apple sauce consistency. Tiny blobs of pulp are put into the corners with a pointed metal scribe. Throughout casting I pay special attention to edges and corners to avoid air bubbles. The small shapes have to be gradually filled with pulp four or five times, with slight sponging in between, followed by a thorough sponging once as much pulp as possible is packed in.

The really fun part follows and it goes quickly: The whole bottom flat section of the mold, the face, is filled with handfuls of slightly strained pulp, to about  $\frac{3}{4}$ ". I usually start by working pulp around the shapes and lines sticking up inside the mold, which will be recessed. These have to be treated carefully so I do not cover them up with pulp. Once the bottom is filled, I pat the pulp with my hand to get an even, well-bonded layer. Sponging takes about an hour and is done very lightly at first, starting in the center and working out. As the pulp layer becomes more stable, I press harder and harder with the sponges until most of the excess water is removed. The outermost edges are left alone and wet, as the sides are cast last and these edges will be sponged later. On the edges around the inner shapes and lines, still uncovered, a small metal straight edge is used to press the pulp evenly into the corners. By casting the inner shapes after the face, seams are hidden on the inside edges.

gotten thinner, smaller, and closer together, as I work compulsively towards detail and precision. It is easier to cast them from pieces of a sheet of fresh, wet paper than with fingerfuls of pulp. Sheets are made just before casting: couched, pressed by hand with a sponge, and kept between felts until needed. I cut small pieces or strips from the sheets and drape them over the line or shape, first pressing with my fingers on the top, and then working along the sides using the small straight edge. The pieces of sheets extend at least  $\frac{1}{2}$ " over the bottom layer of pulp. Some of my sponges are cut into tiny pieces designed to fit between the shapes and lines.

Casting the sides of the mold goes fairly quickly after all this. I build the pulp about halfway up, sponge slightly, then pat pulp quickly in place to the top edge, and sponge again. One side is done at a time and I have to work quickly as the pulp tends to slide down. The top edge gets worked like a pie crust. It is slightly thicker and crimped into place. Towels are used to remove more water after sponging, before I go on to the next side, so I am basically done when I finish the last side. The bottom collects water from the sides, however, so I sponge that once more and then use towels. By now I am thoroughly tired of the piece and I put it aside and ignore it for a few days while it dries.

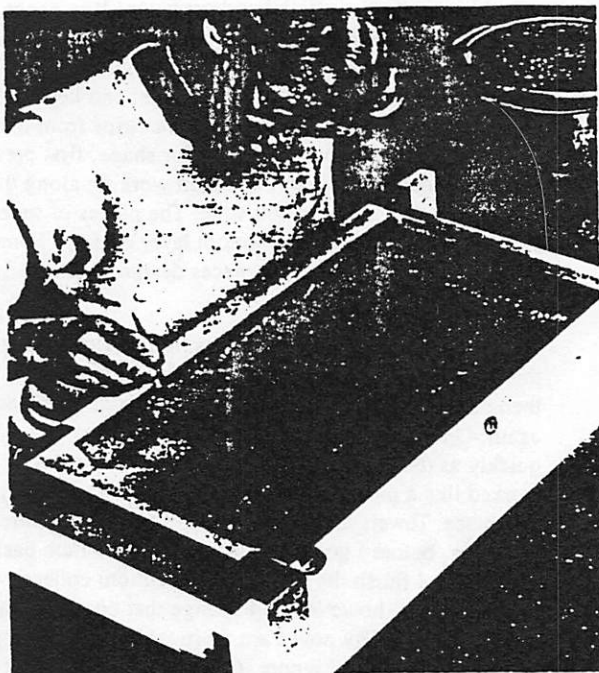
The top edge dries first, then the sides, which have a tendency to pull away from the mold. I cut foam core strips about  $1\frac{1}{2}$ " wide to fit across the back of the piece, pushing the sides against the mold. The wooden structure is left in place. Warping and shrinking is otherwise not much of a problem, as I use a long-fibered cotton linter pulp, remove as much water as possible during casting, and slowly air dry the work. I place 100 watt floodlights about 10" over the piece to speed drying only if I am in a hurry or if it is very humid.



*Sheets ready to be added. Photos by W. H. Schilling.*



*Sheet of paper being added to concave shape in casting.*



Tooling pulp onto sides of mold. Photo by W. H. Schilling.

Depending on the weather, the pieces dry in four to seven days. It is difficult sometimes to wait this long to see a result, but there is an incentive as damp pulp may stick to the metal and is more fragile and easier to dent. Also, complete drying in the mold prevents warping since everything is held firmly in place. When the piece is dry to the touch I still wait one more day to make sure it is dry all the way through.

The molds separate from the work quite easily. I liberate the projecting shapes first, by carefully cutting the duct tape along the seams around these sections and peeling the metal off. Then I cut the tape on the four outside corners, pull the sides up, and start on the top. Sometimes the mold comes off in one piece at this point but, if the recessed lines and shapes resist, the tape around them can be cut, leaving them in the piece when the face is peeled off. Needle-nose pliers are used to remove these separately.

Finishing is fairly minimal. Razor blades are used to trim away any escaped pulp and a burnisher smooths out surface irregularities. A few of the foam core drying supports serve to reinforce the structure. They are placed six to eight inches apart, in parallel strips across the top of the back, which will hang against the wall. Pins are pushed through the sides and into the foam core. A hanging wire is attached to the foam core so there is no distortion as the piece hangs.

I am always surprised to see the final product. Even though my processes are very controlled, with sketches, models, precise color mixing, and molds completely dictating what the pulp does, it is hard to predict results. The visual qualities of cast paper set up exciting contradictions. The paper appears heavy and solid, echoing the smooth surfaces, hard edges, and clean lines of the mold, but it is extremely lightweight, and the surface has a soft glow. There is a tension between what is and what appears to be, a tension I try to reinforce with the imagery of movement and stopped movement, relationships between shapes and voids, forms entering and leaving spaces, contrasts, complementary and split complementary colors. The tensions are a contradiction to the peaceful, playful atmospheres the pieces create. I continually challenge myself, visually and technically, and the challenges are often found in unexpected surprises which may be starting points for more work.