

# **Making Recycled Paper with Sarcastic Wit**

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A Strange Little Girl Production



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# Introduction

Making paper has definite meditative qualities to it. It can be accomplished easily in an afternoon, but the variations and subtleties will take a lifetime to master. What follows is a description of how I made paper because I wanted to know how it was done. If you have purchased a bound version of this text then you have a sample of the paper I have made. It is neither glorious nor incredibly sturdy, but it is mine. Hopefully you too will have the pleasure of claiming some paper as your own after reading this text.

# Making Recycled Paper

## Consumables

If you are making paper for the same reasons I made mine, your failures will be as useful to you as your successes. I give you full permission to make every possible mistake--but only if you are willing to laugh at yourself and learn a little about how paper is made along the way.

The first thing you will need to do is prepare your tools and your raw materials. I used old notes from my university days; for colour I used powdered pigment dissolved in a little bit of alcohol (Southern Comfort to be precise). The tints are lovely and mask the sludgy gray the paper would have been, but require a retention agent or an external size (I use corn starch instead of gelatin). To avoid the whole sizing issue, I recommend using fabric dye instead. You will also need water, but this should be readily available from your kitchen sink. We'll call these the consumables.

## Consumable Summary

- ♦ paper to recycle

- ◆ fabric dye
- ◆ water

## **Tools**

Next you will need some tools to help you. To create a vat of pulp you will need to first break down the paper you want to recycle into pulp. For this you will need a blender. Using your food blender is not recommended. Ask your mother to buy a used blender for you at the Sydenham auction. Once you've munched up the paper you will need to keep them suspended in water long enough to dip your mould into the vat and lift out a layer of pulp. Once you've lifted out your pulp covered mould you will couch your mould onto a bed of felts and squeeze all the water out. Finally you will lay your paper out to dry.

## **Tool summary**

- ◆ blender from the Sydenham auction
- ◆ vat (plastic tubs from Dollarama work well, plastic tubs from the
- ◆ hardware store make an acceptable substitute)
- ◆ mould (a supported screen that allows water to

- drain through but holds pulp in place)
- ◆ boards for the top and bottom of your post
  - ◆ felts (or other fabric)
  - ◆ weight (bodies work well for this)
  - ◆ space to dry

“Stop with the jargon already!” I hear you thinking. (I also have eyes in the back of my head and can be rented for parties.) Let's go through each of these tools so that you too can impress your friends with your ability to couch onto your post.

## **Blender From the Sydenham Auction**

A waterproof basin with spinning blade in the bottom. Food processors are not as good as they slosh liquid out the top. A rubber seal around the top is critical on your implement of paper destruction. Used in short pulses on your blender's “chop” setting to avoid burning out the motor. Even if you don't believe me, take it on faith that burning motors *stink* and are *bad* for the machine.

## **Vat**

A tub to hold paper particles. You really do want to get a plastic tub from Dollarama. Please do not use your bath tub. Unless of course you have a very, very



good relationship with your plumber. Your vat should be larger than your mould.

## **Mould**

Stuff your sister is allergic to. Black stuff works best and is the reason why all handmade paper is tinted black. ... Yes, yes, I'm pulling your leg. A mould is, in its most basic form, a screen that allows water to drain away from pulp. You don't need a fancy mould. You need a screen and a way to hold it almost perfectly flat without tearing your palms apart. Screening for windows is perfectly acceptable for a support mould (framed), but you will want a stiffer mesh if you are using the pour method.

If you are carpentry-capable you may wish to make a frame out of wood. If you are not carpentry-capable you may wish to buy a wooden picture frame from the dollar store--it won't be nearly as good, but it'll do.

Now you need to somehow stretch a screen across this wooden frame and attach the screen. Heavy duty staplers work well--normal office supply staplers do not. If you would like to protect your hands from the edges of the screen add duct tape along the edge of the screen.

Moulds typically come with a deckle--rhymes with heckle--is a frame that sits on top of the mould and creates an edge on the sheet of paper you are forming. But deckles are an extra tool step that prevent us from making paper RIGHT NOW! (See above regarding meditative qualities of paper making.)

If you are especially impatient\*, I propose skipping the whole wooden frame step and going with the pour method (see instructions below). If you are using the pour method, you will need a larger tin can and stiff screen for the mould and a smaller tin can for the deckle. Tomato cans, tuna fish cans, anchovy cans, and anything-else-you-can-think-of cans all work well.

## **Boards for your post**

Basically a post is a stack of paper. Each new sheet will be couched (pronounced like chesterfield--from the French *coucher* which means “to sleep”) onto the post. Although the Japanese tradition of papermaking couches paper onto paper we will use the Western tradition of adding fabric between each

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\* Leah and I have contemplated making buttons which read, “Impatient with crafts? Ask me!”

sheet of paper. You need a board on the bottom of your post and a board on the top. Your boards should be larger than the paper you are making. To avoid mold (the kind of mold your sister is allergic to) I recommend coating them some kind of water sealant that is appropriate to the type of board you are using. Your boards should be strong enough to hold your weight. One inch plywood or Medium Density Fiberboard (MDF) is a good start although oriented strand board (“chip board”) is fun to say so, I'll add it to the list as well and edit it out in version 2.0 of this text.

## **Felts**

Any type of fabric will work, but there are a few properties you should be aware of. We want a fabric that will absorb water. Wool felt does this very, very well. But it is expensive and not available at Dollarama. I've found J-cloths to be an acceptable substitute; however, it leaves an impression on the paper. If you like impressions, choose fabric that has a pattern you like. If you don't like impressions, you will almost certainly want to invest in felts at some point. Most fabric likes to be soaked and rung out first for maximum absorption.

## **Weight**

Your own body is best. The heavier the better. Eat up! We've got paper to make! Once we've created our post you are going to step onto the post and press the water out of the paper. Anything with weight will work, but be aware, it is almost certain to get wet.

## **Space to Dry**

I've tried the following: lay flat to dry, hang to dry, and iron dry (with a clothing iron--no steam). Hanging to dry only works if the paper has already dried enough that it won't fall apart under its own weight.

## **Process**

Read this all the way through once before starting.

For the Impatient

1. make half-stuff by tearing paper up into little chunks and softening in water
2. add colour
3. munch up half-stuff and water in the blender to make pulp

4. pour pulp into the vat and dilute with more water
5. start your post by adding a board and mound of fabric to couch onto
6. mould: dip your mould into the water and pull out a sheet of paper
7. pour method: create a tower of can-screen-can. Dip smaller bucket into the vat and pour the pulp into the top of the tower let the water drain back into the vat (sponge the back)
8. couch the sheet onto your post
9. add a piece of fabric to separate sheets of paper
10. repeat until you have 10 or so sheets in your post
11. add the top board
12. stand on the board and press out all the water (Have I mentioned this step should be done outside?) carefully peel the layers of fabric off the paper and lay the paper out to dry
13. repeat

## **The Instructions**

The steps above For the Impatient cover all of the

steps, but there is a bit more you should know ahead of time.

## **Making Half-Stuff**

Two sheets of paper will make a new sheet of approximately the same size. In order to save the motor on your blender you should rip up the paper into small one inch squares (or smaller) and soak it for as long as you have patience (at least an hour if you can stand it). At this point you've transformed your paper into "half-stuff." Once it's mulched it will be considered pulp. If you are not patient use boiling hot water and as soon as you can stand the heat, you can use the half-stuff. Do not soak your entire university career at once and think you will be able to make that much paper in an afternoon--even if you were a Christmas Graduate and only lasted one semester at school.

## **Adding Colour**

Colour should be dissolved in hot water before it is added to the half-stuff. A few tablespoons of fabric dye will be enough for a nice tint. Half fill a bucket with hot water (boiling if your bucket can handle it) and add your dissolved dye. Add your pre-soaked

half-stuff to the bucket and stir. Leave the bucket until the water has cooled. Drain and rinse once. It's fine if there are some flecks of paper that haven't been stained. They will meld in when we make the pulp in the next step.

## **Making Pulp**

Most blenders from the Sydenham auction can handle about one sheet of paper at a time. Adding more will destroy the motor. Add a small handful of paper squares and fill the blender half full of water. In short pulses (5 seconds) and with your hand on the lid, munch up the paper using the “chop” setting. On the one hand, you want to keep your fibers as long as possible; on the other hand, you want to increase the surface area of each piece of pulp. The chemistry of pulp is absolutely addictive. The short of it is this: cellulose wants to stick to other cellulose as long as water isn't present. The more water you remove the stronger the paper will be. The more that a fiber can touch other fibers the stronger the bond will be between those two fibers, and the stronger your paper will be.

## **Size**

Size makes your paper less absorbent and prevents inks from bleeding on the page. There are two ways to size a sheet of paper: internal and external. Internal sizing is added at this point and is inside the sheet of paper. External size is added after the paper has been made and is painted on, or applied via a bath. You can use gelatin, PVA or starch as an internal size. Be sure to dissolve the size before adding it to the vat. Paper that does not have any size is known as “waterleaf.”

By using photocopy paper we can avoid adding "size" to our sheets. How so? Well the manufacturer of the original sheet has already added it for us. In fact they've probably spent a lot of research and development money coming up with the perfect formulation for their paper. You can add your own size, but it shouldn't be necessary.

## **Diluting Pulp**

Pour the mulch you've made into your vat. Add 3 times as much water. Run your fingers through the vat. Feels good, doesn't it? Repeat until you have 10 sheets mulched in your vat. This step allows you to run your mould through the pulp and pick up a sheet



of paper instead of a lump of mulch. Although lumps of mulch are fun for embossed papers, they are not the goal of this text.

## Preparing the Post



**Figure 1. A mound to start  
(apologies to The Little Prince)**

The first few sheets will be very hard to couch without a round mound. To prepare this mound first lay down one of your boards. Now make a little mound about the size of one of your sheets. You can do this by folding a few pieces of fabric and then covering these folded pieces with another piece of fabric.

## **Pulling Your First Sheet: Frame Mould**

Stir up the vat to make sure the pulp is suspended and has not settled to the bottom. Submerge your

mould into the vat with the screen on top and the frame on the bottom. Swish it around a bit and lift it out. Marvel at your first sheet of paper. Add rose petals and dead butterflies. (This step is optional--especially the part about the rose petals.) You will need to decide at this point if the pulp is correctly diluted. If the sheet is too sludgy, add more water, if the sheet is too thin, add more pulp. If you are not happy with your sheet, kiss it back into the vat by flipping your mould up-side-down and kissing (touching) it to the surface of the water.

### **Pouring Your First Sheet: Pour Mould**

You are going to make a small tower in your vat. First down is a big tin can. Next is the screen. And finally a smaller tin can which will shape your sheet of paper. Using a disposable (waterproof) container dip into the vat and collect a container's full of pulp. Pour this pulp gently into your small tin can. You want to pour it fast enough that the pulp doesn't settle at the bottom, but not so fast that you dig a hole in your pulp. Allow to drain. Remove the top tin can and proceed.

## **Draining**

Gently, gently rub the back of the screen with either your finger tips, or even better, a sponge. If you rub too hard the pulp will ball up and you will have to start over. Sponges are better.

## **Couching Your First Sheet**

I will not lie. This next part requires nerves of steel. But as long as you remember you can always put the pulp back and try again it's really not that bad. Breathe deeply. Allow the water to drain from your mould. Flip the mould upside down and rock it across your post leaving the sheet of paper and pulling off your screen. If the pulp clumps before you can couch the sheet you need to let it drain longer before trying to flip. Marvel at your sheet. If it is too thin you may want to couch another sheet on top (perhaps of a different colour?). Add another felt (or whatever your fabric of choice is) to prepare for the next sheet. Remember to save a few pieces of fabric for the top of your post.

## **Pressing**

When your post is 10 sheets tall (or you've run out of fabric, whichever comes first) you are ready to press

out the water. This is the step that really glues your paper together from a lump of pulp to a sheet of paper. It really is a tiny miracle.

Add at least one piece of fabric to the top of your post. Add the second board to the top of the post. Add weight. If you are an apartment-dweller without access to the outdoors you will want to place your post in a second tub before pressing out the water. The amount of water about to spill out of your post is not to be laughed at. Ready? Step up! Your first step should be onto the middle of the board (and the middle of the stack of sheets). Your second step should put your feet together. Now carefully wiggle your feet out a bit. Water will be gushing out at this point. Perform a Sun Salutation. Breathe deeply. Wiggle your feet back together and step off your post. The longer your sheets can stay under pressure, the better.

## **Drying**

Carefully peel away the layers of fabric to reveal your paper. It will have transformed from pulpy water into very delicate sheets of paper. The first stage of drying should be done by laying the paper flat to dry on the fabric. I know books say you're supposed to

hang it to dry at this point, but I've had sheets fall off their fabric. It's devastating. As more of the water evaporates from the pulp it will transform into a stronger sheet of paper. After an hour it may be ready to peel off the fabric, but not before. The longer you can leave it on the fabric, the better. Make more paper to distract yourself. Picnic tables on hot sunny, summer days are perfect for drying small sheets of paper. If this is not available to you (and you cannot afford to move to Mexico) a shower curtain rod, hangers and clothes pins make a good substitute. It is at this point that you'll wish you had a lot more fabric. The paper will need to dry at least overnight, and probably longer.

## **A Smooth Finish**

When the paper is nearly dry you may decide that you would like to press the paper to give it a surreal smooth finish. This can be accomplished with a hot clothing iron (no steam). Add a piece of scrap fabric onto the ironing board (and another between the sheet of paper and the iron). If you don't, paper is liable to stick to things you really don't want it sticking to. Iron the sheet until it is smooth, flat and dry.

## **Cleanup**

Everyone hates cleanup. I'll keep it brief. Hang the fabric to dry (important if you want to prevent mold). Drain the vat through some kind of sieve to prevent the pulp from clogging your drains. Rinse your screens to prevent pulp from drying on them. Wash your blender in hot soapy water (especially if you've been working with dyes).

# Resources

Sydenham Auction <http://www.sydenhamauction.com/>

Paper Making and Bookbinding: Coastal Inspirations  
by Joanne B. Kaar (Guild of Master Craftsman  
Publications, 2003)

Papermaking: The History and Technique of an  
Ancient Craft by Dard Hunter (Dover, 1947)

Paper by Kids by Arnold Grummer (Dillon Press Inc,  
1990)

The Art of Papermaking by Bernard Toale (Davis  
Publications, 1983)

Tin Can Papermaking Recycle for Earth and Art by  
Arnold Grummer (Greg Markin, Inc., 1992)

Papermaking with Plants by Helen Hiebert  
(Storeybooks, 1998)

Washi: The world of Japanese paper by Sukey Hughes (Kodensha International, 1978)

Japanese Bookbinding: Instruction from a master craftsman by Kojiro Ikegami (Weatherhill, 1986)

The Chemistry of Paper by JC Roberts (Royal Society of Chemistry, 1996)

The Sizing of Paper edited by Walter F. Reynolds (Tappi Press, 1989)

Plant Fibers for Papermaking by Lilian Bell (Liliaceae Press, 1990)

Making Your Own Paper by Marianne Saddington (Storey Publishing Communications, 1993)

Written on Bamboo and Silk: The beginning of Chinese books and inspiration by Tsuen-Hsueh Tsien (University of Chicago Press, 1962)



The Craft of Handmade Paper: A practical guide to papermaking techniques by John Plowman (Quintet Publishing, 1997)

Making Paper by Bo Rudin (Rudins, 1990)

Paper Making as an Artistic Craft by John Mason (Twelve by Eight, 1963)

Paper and Paper Making by FH Norris (Oxford University Press, 1952)

Making and Decorating Your Own Paper by Kathy Blake and Bill Milne (Sterling Publishing Co., Inc, 1994)

Papermaking by Jules Heller (Watson Guptill Publications, 1978)

The Art and Craft of Handmade Paper by Vance Studley (van Nostrand Reinhold Company, 1977)

Papercrafts by Anness Publishing Limited (2001)

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