Printmaking notes to the class

Beginning and Advanced Printmakers: **My methods in the Studio are, generally, different from other Printmaker's methods...you will be held responsible for learning my methods and for using them in this Studio. Unless you can prove to me, and the class, that the methods you use (as taught by someone else) are more effective, less wasteful, or superior in some other way, you will need to take notes and learn and apply my methods. Even if, as many Printmakers do, you eventually use methods different from mine, for this class you will need to use my system.**

Papers for Printmaking

There are many types of paper available to Printmakers, and there are several types of paper you may consider for each of the Printmaking processes. In general a good rule of thumb, until you become proficient in the art of "pulling" prints, is to use one of the papers I have listed here by process. Let's start with the processes and which papers I recommend for each of them.

- Monotype: because the image is on the surface of a Monotype plate only, and because the paper will be soaked before printing, I suggest either **German** or **Domestic Etching** paper. It is thin, but it only has to emboss the thickness of the plate and it only has to stay wet for a short time. Both the **German** and **Domestic Etching** papers are less expensive than heavier weight papers. You may instead use **Stonehenge (this paper is HIGHLY recommended)** for all the processes, including Monotype, except Relief (see: Relief [below].)
- Drypoint: You may also use **German** or **Domestic Etching** paper for Drypoint but a thicker paper will protect your image a bit. If you wish to try a thicker paper I suggest getting **Stonehenge**, a heavyweight but inexpensive paper that requires a longer soak.
- Copperplate Etching: **Stonehenge** is an excellent choice for Copperplate etching, as is **Domestic Etching** or **German Etching**. But if you wish to try an off-white paper that has more weight than either **Domestic Etching** or **German Etching** you might want to try **Rives Heavyweight** or **Arches Cover**.
- Collagraph: Any of the heavy papers suggested (above) will work for Collagraph. My suggestion is to use **Stonehenge** or, if you wish to try a different paper, **Fabriano Murillo**.
- Relief: It is suggested, unless you decide to print your blocks using a press, that you use an inexpensive but strong paper called: "**Oriental Rice Paper**." When printing with a press any printing paper may be used, but you will always print Relief DRY. Water will damage wood and Linoleum blocks, you do not need to emboss a Relief print, and there is not enough press pressure to force oil-based inks past the water barrier.
- Lithography: Almost any paper will work for Lithography except **Oriental Rice Paper**.

Monotype, Drypoint, Copperplate etching, and Collagraph papers will all need to be soaked in water before printing. The amount of time each of the papers will have to spend in the sink depends on the weight of the paper. Thinner, lighter weight, papers will need no more than 20 minutes in the sink while thicker, heavier weight, papers will need to soak for an hour or more. You will remove your paper from the water, and blot excess water from the papers' surface, just prior to placing it on an inked plate.

We tear paper to size before it is soaked, unless it is Oriental Rice Paper or any of the other very long fibered papers. Since paper is, in general, a bigger expense than any of the plates or blocks we will use I ask that you read and understand the following:

The paper you buy, for any of the Printmaking processes, will come in varying sizes depending on manufacturer or type of paper. It is suggested that, for the sake of simplicity, you buy your paper, measure it, and decide what size plates you can afford to work on. The general rule of thumb is: you should have, at least, a 2-inch paper border all the way around your plate. Example: if your paper is, when torn into quarters, 12"X16" (the full sheet being 24"X32") then your plate would be, at maximum, 8"X12". If you use a half-sheet of the same 24"X32" paper, torn across its short side, you would have a 24"X16" sheet of paper and your plate would be 20"X12". Simple? You bet. A plate for the full sheet of paper would be, allowing only a 2" border, 20"X28". This has been an example, your paper may be a different size, do the math.

Monotype

Explanation: Yields a single, fully inked, impression but may include a "ghost" impression that is not as intense as the initial print. A planar[1] process done on a plate that has an unaltered matrix[2]. May be done additively, subtractively, as a combination of the two, or as Frottage[3].

For Monotype you will need:

1. A piece of Stonehenge printing paper*

2. A piece of Plexiglas [single-thickness, .060 to .095] (final size of the plate will be determined by the size of your paper)

3. A Scraper and a Burnisher

4. Various size and shape paint brushes (at least a small "round" and 1-inch "flat")

5. Roll of "Blue Shop Towels"

6. Small metal or plastic containers for solvent

7. Q-Tips and a toothbrush

8. Apron or large cover-up (smock, shirt, etc.)

9. Paper stumps or Torchons

10. Concept (drawing, painting, photo, magazine picture, etc.)

An additive Monotype image is created by painting ink (or watercolor) onto a plate that has an unaltered matrix[2] (a blank plate.) When wet paper is laid on the plate and run through the press, the image on the surface of the plate will transfer to the paper from the plate. A second sheet of wet paper that is run through the press, on that previously printed plate, will pull what is called a "ghost print." See the section on "Setting the press pressure."

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[1] Planar means a "flat surface" that has length and width but no height or depth.
[2] An altered matrix is defined as a permanent image/design/set of marks etched, scratched, or affixed to the plate. A blank plate has an unaltered matrix.
[3] Frottage is a "rubbing," a method of making a design by placing a piece of paper on top of an object and then rubbing over it, as with a pencil or charcoal.

Monotype vs. Monoprint

The difference between Monotype and Monoprint:

1. A *monotype* is considered, in the academic art world, to be "an image developed on top of an unaltered plate, which is then printed."

2. A *monoprint* is "an image developed upon a plate that has a preexisting matrix." This means that the plate will have an image resident prior to inking, and that the process of inking the image is unique.

Additive and subtractive methods:

The additive method (or "working into a **light field**") is an approach where the image is "painted in positive" directly on the plate. The subtractive method (or "working from a **dark field**") is an approach that requires that the plate be covered with medium (paint or ink) and the image is developed in negative by removing the medium with various tools.

This Monotype is an example of the subtractive method (working from a dark field) the plexiglass plate was rolled with black ink and the image was created by removing ink from those areas of the plate where the artist wished the image to appear. Color was added to the image prior to printing.

Beveling the plate:

We use Plexiglas (.060 to .095 thickness) plates for monotype that cannot be sent through the press without being beveled. Plates are beveled to keep from cutting the blankets or the printing paper. A proper bevel will remove approximately three fourths of the thickness of the plate at a 30 to 45 degree angle. Once you have beveled the plate you will carefully round the sharp point off the four corners of the plate and smooth the bevel using a scraper tool.

30°-45°

¾

¼

Side view of the plate
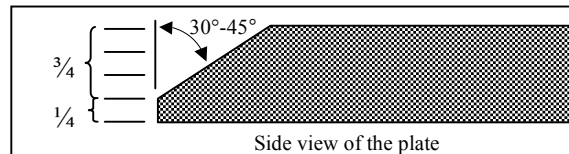
Drypoint

Explanation: An Intaglio[3] process, the plate is inked and wiped for printing, that can be done on a plastic or metal plate. Because the burr, the part of the plate raised when scratched with a needle, is what prints (mostly) this printing process only allows a small number of prints before the image breaks down and cannot be printed any more*.

For Drypoint you will need:

1. A beveled Plexiglas plate (the plate you used for Monotyping)
2. An apron or Cover-up
3. Etching needle (you may also use any tools you have that can scratch the plate)
4. 200-grit sandpaper (if you wish to do a soft tone)
5. Printing paper such as Reeves BFK, Arches Cover, Murillo, Somerset, or Stonehenge
6. Concept (drypoint yields primarily a line art image, possible ways of putting you image on the plate include, but are not limited to, contour, cross contour, random-mark linear value, or stipple.)
7. It is possible to use water-soluble colored pencil to ink the lines on a drypoint.
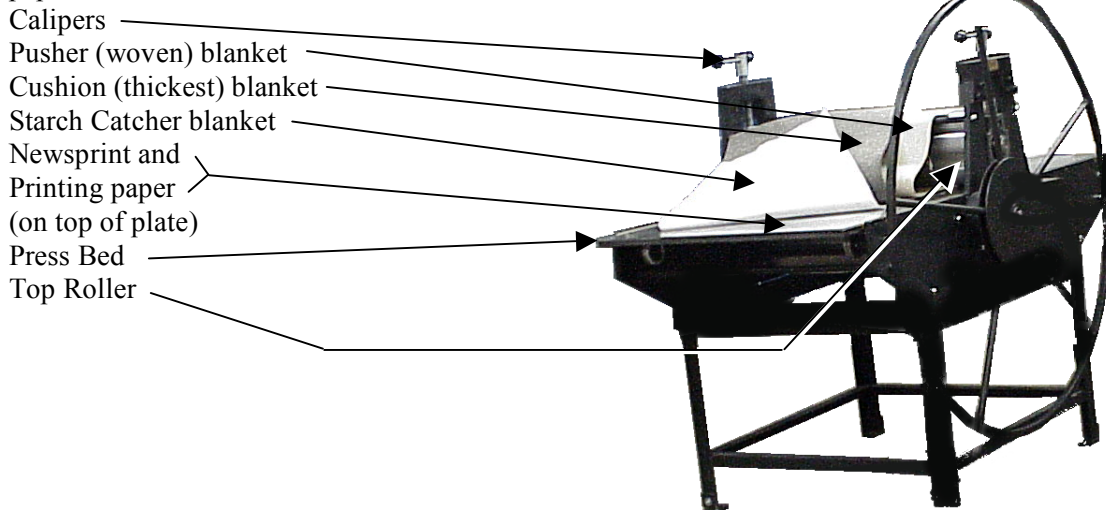
*Drypoint usually allows for very small editions, at best, especially when done on Plexiglas. Lexan, a very flexible and almost unbreakable plastic, does not hold a burr and should not be used for Drypoint. Acrylic is softer than Plexiglas and will not hold a burr for more than a couple of prints. Copper and Zinc will hold a burr longer than Plexiglas and will allow for a few more prints. Steel plate will allow for many more prints but is much harder to work on and will rust very quickly, making the plate unprintable.

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[3] "Intaglio" means the areas of the plate that are below the surface will hold ink and will be printed. The surface (relief) areas of the plate will be wiped clean of ink.

Setting the press pressure:

After beveling the plate, and before any ink is applied to the plate, it is time to set the press pressure. There are two pressure gauges (calipers) on each of the Intaglio presses, it is important that they are set evenly to protect the rollers and to ensure an even ink transfer. Start by raising the top roller (turn the calipers counterclockwise) to a height above the plate, a sheet of newsprint, and the three blankets (the bottom blanket, the one that is placed down first, is the starch catcher, the second, middle, blanket is the cushion, forming blanket, and the top blanket is the pusher, or woven felt blanket which acts as protection for the top roller) making sure that both calipers are set to the same mark(s). Turning the calipers clockwise, lower the top roller evenly just until you cannot easily pull the blankets out from under the top roller. Record this pressure setting on your printing guide so that you can reset the pressure if someone changes it for a different thickness plate. You can make any adjustments (increase the press pressure) once you have pulled your first print. If you have followed this procedure carefully, a slight increase in press pressure can be accomplished by laying extra sheets of newsprint between the printing paper and the blankets.

Calipers
Pusher (woven) blanket
Cushion (thickest) blanket
Starch Catcher blanket
Newsprint and
Printing paper
(on top of plate)
Press Bed
Top Roller

Remember: To **loosen** the top (pressure) roller turn the calipers counter-clockwise

To **tighten** the top (pressure) roller turn the calipers clockwise
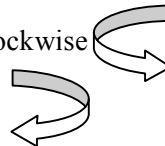
Ink viscosity:

Viscosity refers to ink "flow characteristics," or how "loose" or "stiff" an ink is. A "high viscosity" ink is stiff, for instance. Ink also has various levels of "tackiness," and an ink that is too tacky will "pick up" or tear the printing paper. An oil-based inks' tackiness can be modified by adding Vaseline, Easy Wipe, or "00" Plate Oil. Thin, low-viscosity inks will repel thicker, high-viscosity inks. Thick, high-viscosity ink rolled over thin, low viscosity ink will leave color only in the areas where the plate is clean. Thick, high viscosity ink, such as etching ink, will repel a thinner, lower viscosity ink. If, for example, a collagraph is inked and wiped using 514A ink (thick, high viscosity) and a relief ink, that has "00" oil or Vaseline worked into it, is rolled onto the Collagraph plate using a soft roller, the loose, low viscosity ink will not "pull up" the etching ink. You are encouraged to experiment.

Copperplate Etching

Explanation: An Intaglio process that has many mordant-based ways of creating an image. The plate, once it is beveled, polished, degreased, and grounded will have an image scratched through the ground, exposing the copper. This plate will then be etched in a Mordant bath (we use Ferric Chloride, $FeCl_3$) and then the ground will be removed. To print, the surface of the fully inked plate will be wiped clean and only the incised areas of the plate will print. The first print pulled is called a "working proof."*

For Etching you will need:
1. Copperplate
2. Contact paper (vinyl, medium stick, self-adhesive)
3. An etching needle
4. A burnisher and a scraper
5. Printing paper
6. An apron, a smock, or a very large, old, shirt
7. Blue shop towels
8. Neoprene gloves
9. 2" foam brush
10. Un-inked toothbrush
11. Concept sketches

*Working Proof: (or, Trial Proof) a print pulled that is not part of an edition, but is a print of a "state" of the plate.

NOTE: We use copper rather than zinc, so we don't have to use an acid bath mordant. Ferric is "base" rather than "acid" and, while caustic enough to etch copper, is not as dangerous as acid but safety equipment should still be worn (safety goggles, neoprene gloves, and an apron) when using the Ferric bath. If, by accident, you get Ferric Chloride on your skin immediately wash it off with clean water. Ferric will not come off your clothes.

***DEGREASING THE PLATE:** Before any kind of ground (including hard ground, liquid hard ground, soft ground, stop out, or rosin for aquatint) can be applied to your plate you must degrease it. We use a pinch or two of whiting or French chalk and a little alcohol (drip the alcohol directly on the whiting and mix it to the consistency of cream gravy.) Using one or two fingers rub the whiting/alcohol mixture into the plates surface (cover the *whole* surface of the plate.) Making sure not to touch the plate with anything except the finger(s) you used to apply the whiting/alcohol paste, rinse the whiting off of the plate using plain water (do this in the sink.) Prop your plate up on one end and let it dry (a little white powder residue will not hurt, but make sure you haven't left lumps of white powder residue.) You may, if you are in a hurry, force-dry your plate with a hair dryer. Once the plate has been degreased DO NOT TOUCH THE SURFACE WITH ANYTHING EXCEPT THE GROUND you intend to apply.

Liquid Hard Ground Technique

Prepare the plate: Bevel, polish, and degrease it. Liquid hard ground is a mordant-resistant covering that protects a copper plate and provides a surface that can be easily scratched through using an etching needle or any other very sharp needle. Our liquid hard ground is a mixture of 1 part powdered rosin, 2 parts beeswax, and 5 parts thinned asphaltum dissolved in Naptha. We make our liquid hard ground thicker than required and thin it out for use with Naphtha. A thin coat of hard ground (it will appear to be translucent and light-to-medium brown in color if thinned correctly) is preferable to a heavy coat of hard ground (opaque and dark brown in color.) Liquid hard ground is applied using a soft bristle brush, or a foam brush, and it must be applied quickly and evenly, starting at the top of the plate (the plate is propped against the grounding station.) Applying liquid hard ground to a plate that has been laid flat on the grounding station will require a slightly thinner coat (thin with Naptha only.) You can "force" the ground to dry more quickly by using a hair dryer once the ground has set up, or the copper plate can be put on a hot plate set to 150 to 250 degrees. Before etching your plate you will have to back the plate with vinyl contact paper to keep from etching the back of the plate.

APPLICATION:

1. Bevel the edges of the plate. Scuff the back of the plate with 200 or 400 grit wet/dry sandpaper (use wet), and spray paint the back of the plate with engine enamel paint (you will need to allow 5 days for the paint to cure) **or** apply self-stick shelf paper to the back of the plate.

2. Polish the plate (unless you wish scratches and random plate tone.) De-grease* the plate so it will readily accept the ground. Let the plate dry thoroughly. Prop the plate on the grounding station in the $FeCl_3$ room.

3. Apply the hard ground with a large, soft, brush and, after laying the plate flat on the grounding station, plug in the hotplates.

4. Once the ground has "settled" put the plate on the hotplate and dry the ground. Drying the ground should take no more than 5 to 10 minutes if the steel plate is hot. As soon as the plate is cool you are ready to "scratch" an image onto the plate through the ground. Scratch gently but make sure you expose the copper, otherwise the image will not etch.

5. You will now etch the image into the plate in the Ferric Chloride bath (your hard ground will protect the plate for approximately 1 hour, but you will etch for no more than approximately 45 to 50 minutes if your image is scratched through the ground exposing the copper.) Make sure you back the plate before etching.

6. Etch in 5-minute increments, rinsing the plate the water bath every 5 minutes, until the plate has been cumulatively etched for 45 to 50 minutes. Then remove the ground in the sawdust box using mineral spirits, clean the front and back of the plate.

7. Clean the plate with a little alcohol and a paper towel just prior to inking the plate. Pull a "proof" of the plate before deciding what else to do to your image

NOTE: Always return the brush to the "brush solvent can" and close the liquid hard ground can with a lid (your grade will suffer if you are caught abusing the equipment or supplies, so please be careful and follow all the instructions.)

Soft Ground Technique

Soft Ground, traditionally, is used to replicate the quality of a soft pencil line, to receive a textural transfer from various materials, or to accept the impression of various types of plant matter or animal skins. A soft ground, even when dry, remains soft and sensitive to pressure. Our soft ground is a mixture of 1 part petroleum jelly to, approximately, 3 parts liquid hard ground and is applied with a medium soft rubber brayer that is used for *nothing else*. A brayer that has been used for inking or hard ground will contaminate the soft ground, so we bag the brayer after use and return it to the appropriate hook. Because a soft ground remains sensitive to the touch after it is dry, the plate must be handled with care. Since slight scratches, fingerprints, or bruises will etch we must use a bridge to keep from touching the surface of the plate, and when you store the plate before removing the ground you must not allow anything to touch the grounded surface. The longer you let soft ground sit after you have applied it, the less sensitive it becomes. For maximum receptivity to textures or drawings you should work on the plate about 5 minutes after the ground has dried and the plate has cooled, but allow some time for the ground to "set up" before placing the plate in the mordant.

APPLICATION:

1. Bevel the edges of the plate. Scuff the back of the plate with 200 or 400 grit wet/dry sandpaper (use wet), and spray paint the back of the plate with engine enamel paint **or** apply self-stick shelf paper to the back of the plate.

2. Polish the plate (unless you wish scratches and random plate tone.) De-grease* the plate so it will readily accept the ground. Let the plate dry thoroughly.

3. Tape newsprint to a hotplate, place your copper plate on the newsprint, and turn the thermostat to 350º or 375º, allow the hotplate (and your copper plate) to get very warm. Daub a small amount of soft ground onto the plate (use a mat-card to avoid scratching the plate), and allow the ground to melt. DO NOT burn the soft ground, if it starts to smoke turn the thermostat down, burning soft ground onto a plate will reduce its ability to transfer an image or texture cleanly.

4. While the ground and plate are warm, take the brayer reserved for soft ground and roll the ground evenly over the plate. If the brayer slides do not apply as much pressure. Once the ground has been applied evenly turn the thermostat off, un-tape the newsprint, and use the newsprint to help slide the plate off the hotplate. Set the plate down on a cool surface and continue to roll the surface of the plate until it looks MATTE. Let the plate cool completely before drawing on the plate or attempting to transfer a texture to the plate.

5. If the plate is shiny, repeat the process with a warm re-roll followed by a cool re-roll. You should not need, if your application was correct the first time, to add more soft ground to the plate.

IMAGE TRANSFER:

1. Hand Method: Break the ground by pressing textures into the ground using the pressure of your hand or a clean brayer.

2. Pencil/Pen Method: You should mark the outline of the plate onto tracing paper (or any other lightweight paper) **before** applying soft ground. Lay this marked tracing

paper over the plate and tape it to the table. Use a bridge to avoid bruising the ground. Draw an image onto the tracing paper (or trace over an existing image), varying the pressure to alter the light-ness or dark-ness of the line. After drawing remove the tape and lift the tracing paper from the plate.

3. Press Transfer Method: (WARNING, use only soft materials or fabrics. Do not use wire or anything else that can damage the blankets or the press. Absolutely no animals, fish, or any other living or dead creatures may be run through the press!) Place your grounded plate on the bed of the press. Arrange the textured material(s) on your grounded plate. Cover the plate and material with mat board that is larger than the plate. Cover the mat board with clean newsprint and lay the press blankets on top of the newsprint (being careful not to disturb the plate, material, mat board, and newsprint "sandwich.") Use much less pressure than you would for printing and roll the press bed through the press. Carefully peel away the blankets, newsprint, mat board, and material. Stop out any areas you do not wish to etch. Please do not use any ACC fabrics, including tarlatans, to transfer texture to the plate.

ETCH:

1. Back your plate (carefully attach contact paper, use a rosin-based varnish, or have the back of your plate scuffed and painted with engine paint) but remember that fingerprints will etch. After backing the plate, you may need to stop the front out again. The plate will be etched with Ferric Chloride ($FeCl_3$) and will require more time than a line etch (but you will need to watch the plate carefully because soft ground will "give up" more quickly than hard ground.) Timing for a soft ground is generally no more than 45 minutes (total cumulative time) before the ground gives up. At around 45 minutes a soft ground etch can begin foul biting and the ground will begin to crater in the lines, so watch your plate carefully.

2. Etching times: (these times are cumulative)

5 minutes – light line	15 minutes – dark gray line
8 minutes – medium gray line	30 minutes – black line

CLEAN UP:

The solvent for soft ground is Mineral Spirits, as is the solvent for liquid hard ground or ball hard ground. A rosin-based (alcohol) stop-out varnish works best on soft ground; it doesn't break the ground. Once the soft ground has been cleaned off the plate, you will need to use alcohol to clean the stop-out varnish off the plate. Use the sawdust box for removing grounds and stop-outs, this will allow you to use much less solvent (only a small amount of solvent goes a very long way in the sawdust box), and will make clean up much easier and much less messy.

NOTE, this is only for advanced students due to the "sometimes" nature of this information: Plates that have been previously bitten can be re-grounded with liquid hard ground but the irregularities of the plate will not accept liquid hard ground as completely as they will accept soft ground. If your initial etch was deep, and you have sharp, clean lines that you wish to keep crisp, you will probably want to use soft ground for subsequent grounding of the plate. Soft ground on a deeply bitten plate tends not to fill the etched areas as thoroughly as liquid hard ground, so you will have to use your own judgment.

Collagraph

Explanation: An Intaglio process that is simply a collage-based way of creating an image. The plate, a bevel-cut piece of mat board, is a base for a well-glued collage of materials. When sealed (varnished with Acrylic Gloss Medium and Varnish) properly this plate can make many impressions and is impervious to Mineral Spirits and water, but not to alcohol. Alcohol must never be used on a Collagraph plate; it causes the Acrylic to break down and makes it very sticky.

For Collagraph you will need:
1. A piece of mat board* that you must bevel, or a "window" previously cut from a beveled mat.
2. **Acrylic Gloss Medium** and Varnish (this substance will be used as a sealer, an adhesive, and as a final varnish.)
3. Various size/shape brushes and containers for water (a 2" wide flat brush, or a 2" foam brush work best for sealing and varnishing.)
4. X-Acto knife and blades (a utility knife or a box-cutter may be substituted.)
5. Various pieces of scrap paper, some lightweight (thin) fabric of various kinds, sewing thread, sandpaper, and any other thin, lightweight, or abrasive materials.
6. Concept sketches. The edges of the objects/materials you glue to the plate will hold ink and will print (this is what makes Collagraph an Intaglio process) while the top surface of the plate will be wiped clean of excess ink, giving the image the contrast needed to make the image make visual sense.
7. Heavy, thick, printing paper to allow for deep embossing (paper such as Arches Cover, Fabriano Murillo, Rives BFK Heavyweight, or Stonehenge.)

To prepare your plate for constructing an image you will need to seal the front and back of the plate. Mix (approximately) **20% water** with **80% Acrylic Gloss Medium** and, using a wide soft brush, apply the mix to the front of the plate and let dry. Apply the 20/80% mix to the back and let it dry. Finally, apply **100%** Acrylic Gloss Medium to the back of the plate and, when it is dry, you can start constructing your image.

***Hint:** White mat board works best for Collagraph because it is easier to see how the plate is being wiped. Conversely it is harder to see black ink on a dark mat board surface.

Tip: the total thickness of the plate and all that you glue to the plate must not exceed 1/8" thickness or it will tear your paper when going through the press, it will not print correctly, and it might ruin the blankets (causing you much expense and trouble.)

Relief Roll on an Intaglio (inked and wiped) plate requires a single pass with the roller or brayer because multiple passes with the brayer will multiprint, smear, or pick up the Intaglio inked image. Use the method illustrated at right to determine the circumference of the roller. This measurement MUST exceed the length or width of the plate, and the width of the roller MUST exceed the plate's other dimension. Besides the length and circumference of the roller or brayer, ink viscosity is important to making a successful "Relief Roll on Intaglio" impression. Since the Intaglio ink is viscous (stiff), the relief ink must be very loose (almost runny) to avoid picking up the Intaglio ink.
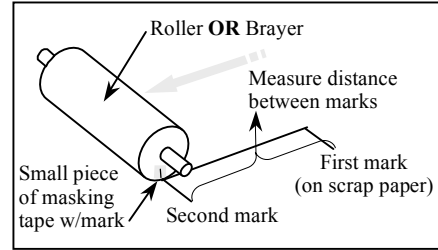
Relief

Explanation: Woodcut and Linoleum block printing are the traditional processes, but many other materials may be used for relief. The raised (or "relief") surface will be inked and printed; the non-printing areas of the block will be cut away and do not print. This process allows for multiple prints of a single image (an edition) and will hold up many passes through a press or much rubbing with a baren.
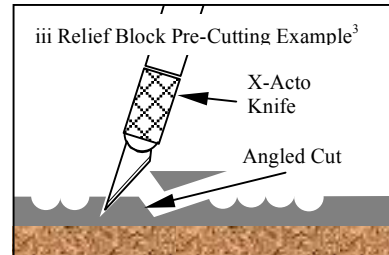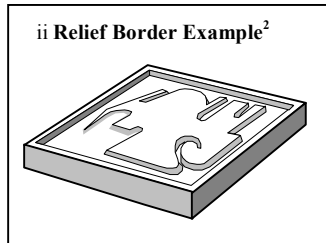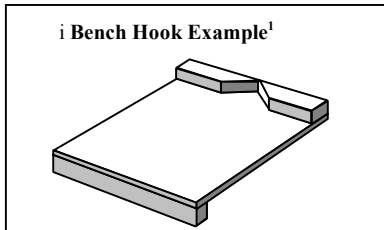
For Relief you will need:

1. A block of soft, tight grained, wood (such as Basswood) **or** a piece of linoleum, either mounted on a block or un-mounted (mounted lino is much easier to print.)

2. Appropriate cutting tools (wood chisels for woodblock, Speedball lino-cutting set for linoleum.)

3. Apron or cover-up

4. Blue shop towels

5. Tracing paper

6. Ebony or 6B pencil

7. X-Acto knife and blades

8. Concept (B&W, high contrast, drawing or photocopy). May use India ink and a brush or pen to draw directly on the block.

9. Oriental-style paper (smooth side/rough side) or may use (for press-printing) more expensive printmaking paper, such as Arches, Rives, or Stonehenge.

Use a "bench-hook"[i] for relief block cutting to avoid cutting yourself and always keep your non-tool holding hand BEHIND the cutting tool. Cut away (remove from the block) anything you do not want printed, but remember that some of what you leave in the cut area will probably print as well so be aware of the directions of your cuts and make them fit the "flow" of the image. Leave an uncut border[ii] all the way around the edge of the block unless your image has only small areas that are cut out. This allows you to roll ink over the whole surface without having the brayer "fall" into the cut areas of the block. You can always tape the border before inking, and remove the tape when you are ready to print the block, if you do not wish to have the border printed. This will also allow you to hand-register the image since you will have uncut borders to sight as you place the block on your printing paper. Keep your tools sharp, a dull tool makes a ragged cut, it is hard to push through the material, and it is dangerous (a sharp tool is safer than a dull tool.) If your blades are sharp and you are having trouble cutting into linoleum (i.e., you are meeting

resistance) heat the surface of the linoleum with a hairdryer, this will soften the linoleum and make it easier to cut. Proof your image often (a dry proof can be pulled by rubbing carbon, graphite, or charcoal over the back of a piece of tracing paper placed on top of the block.) Before you ink your block, make sure you have watched a demonstration and *TAKE NOTES*. Relief ink, and the inking process for relief, is different from any other of the printmaking inking processes. When cutting wood, or when trying to cut very fine details in Linoleum, pre-cut the lines with an X-Acto knife, and angle the cuts away from the surface that will be inked (this makes the areas that are left more stable and less likely to break off.[iii]) Everyone is expected to learn how to pull a relief print by hand, even if you end up using the press for editioning relief blocks. When inking a relief block remember that the forward motion of a brayer deposits ink, the backward motion of a brayer lifts ink. Throughout the inking process, a thinner deposit of ink on the block is much better than a thicker deposit, you can always roll more ink onto the block but you cannot remove an excess amount without cleaning the whole block. The type of block-to-paper registration you use will be determined by the kind of relief printing you intend to do, make sure you know about, and understand, the various methods of registration and when they are to be used.

- ✓ Single-block, hand-printed, no registration (this method requires extra paper margins and the finished prints will have to be torn down to a common size.)
- ✓ Single- or Multi-block, hand printed, corner registration requires a block that has three uncut corners, may also be press-printed.)
- ✓ Single-block, press-printed, absolute registration (3D block and 3D paper guides.)
- ✓ Multi-block, press-printed, absolute registration (3D block and 3D paper guides.)
- ✓ Pin registration on the block (requires a block larger than the image or burnishing the pinholes shut when finished.)
- ✓ Paper-guide registration (the second-least accurate method after *no registration*.)

i **Bench Hook Example**[1]

ii **Relief Border Example**[2]

iii Relief Block Pre-Cutting Example[3]

X-Acto Knife

Angled Cut

i Illustration of a "Bench Hook"[1]
ii Illustration of a "Border"[2]
iii Illustration of "Pre-cutting a Relief Block Image"[3]