

# PRINT-MAKING TECHNIQUES

AN ABBREVIATED AND  
SIMPLIFIED GUIDE

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# INTAGLIO

## 1. ENGRAVING

Lines are incised on a highly polished metal plate, usually copper or zinc, by means of a sharp-pointed instrument, diamond-shaped in cross section, called a burin or graver. The tool works like a plough cutting a furrow. The strength of the line may be increased by cutting deeper. The burin is held in a fixed position and, to produce a curved line, the plate itself is turned. This makes engraving a slow and painstaking technique producing controlled, formal results. The plate is inked and the surface wiped, the ink remaining in the grooved lines after wiping.

## 2. DRYPOINT

Lines are scratched into the soft metal plate using any sharp instrument with the same freedom as a pencil. The effect is spontaneous, not formal. Cutting into the plate throws up, on each side of the cut, ridges of displaced metal, which are called burr. In the printing of the plate, these ridges will also take some ink and print a kind of inky glow around the line.

## 3. ETCHING

Lines are bitten into the metal plate through the use of acid. To begin with, the plate is covered with a thin, acid-impervious coating called a ground which is smoked to a uniform black. Lines are drawn through the ground with a stylus, visibly baring the metal of the plate. Acid is then applied which eats into the exposed areas. The longer the plate is exposed to the acid, the deeper the bite and therefore the stronger the line. Different depths are achieved by covering some lines with acid-impervious varnish (stop-out) and biting others a second (or third) time. The ground is then removed and the plate inked and wiped. The appearance of etchings is usually free and spontaneous but the technique has occasionally been used to produce results almost as formal as engraving.

## 4. AQUATINT

A technique of acid-biting areas of tone rather than lines. A ground is used that is not completely impervious to acid, and a pebbly or granular texture (broad or fine) is produced on the metal plate. Stop-out and second and third bitings are used to produce variations of darkness.

## **5. MEZZOTINT**

The only intaglio technique that proceeds from dark to light rather than the opposite. The metal plate is totally abraded with an instrument called a rocker. Were it inked and printed at this point, it would produce an even, rich black. The design, in areas of tone rather than lines, is produced entirely by smoothing areas of the plate with a scraper or a burnishing tool. The more scraping and burnishing done, the lighter the area.

*In all intaglio prints except mezzotint the design is produced from ink in lines or areas below the surface of the plate. The smooth surface is wiped of ink before printing, though some ink may purposely be left on the plate for tonal effects. Considerable pressure is used in the press to force the ink out of the lines and areas and, to an extent, to force the paper into them, so the final printed image will appear to be slightly raised above the surface of the uninked paper.*

## **RELIEF**

### **1. WOODCUT**

The design is drawn on a wood plank (side grain) and those areas that are not to print are cut away well below the surface with a knife or gouge. When inked, it is the uncut surface that takes the ink. Linocut is the same technique using linoleum rather than wood.

### **2. CHIAROSCURO WOODCUT**

The design is divided among several blocks, each to print a different color, with or without overlaps. Those areas cut away in all blocks will not print at all and thus provide highlights of the natural color of the paper used, the light of the “light-dark” technique. The blocks must be carefully matched to provide identical placement of the design (registration) and the paper must pass through as many printings as there are blocks.

### **3. WOOD ENGRAVING**

Tools similar to those of metal engraving are used on polished blocks of end-grain wood (usually boxwood), but instead of producing lines that will print, they are used to produce non-printing lines. It is the uncut surface that will take the ink and print.

in all relief techniques it is the surface of the block that is inked and printed and, given perfect printing, all lines or surfaces will be equally dark. Moderate pressure in the press will emboss the paper to an extent, so the inked design will lie slightly below the uninked surface of the paper.

# PLANOGRAPHIC

## 1. MONOTYPE

A design is drawn in ink or paint on any smooth surface. While the ink or paint is still wet, a piece of paper is laid on top of it and pressure applied, either with a press or by hand. The process, by its name, is meant to produce a single impression, but there is sometimes enough damp ink left on the plate surface to make a second, weaker, impression.

## 2. LITHOGRAPHY

The design is drawn or painted on the polished, or grained, flat surface of a stone, usually Bavarian limestone, with a greasy crayon or ink. The design is chemically fixed on the stone with a weak solution of acid and gum arabic. In printing, the stone is flooded with water which is absorbed everywhere except where repelled by the greasy ink. Oil-based printer's ink is then rolled on the stone, which is repelled in turn by the watersoaked areas and accepted only by the drawn design. A piece of paper is laid on the stone and it is run through the press with light pressure, the final print showing neither a raised nor embossed quality but lying entirely on the surface of the paper. The design may be divided among several stones, properly registered, to produce, through multiple printings, a lithograph in more than one color. A transfer lithograph (French, *autographie*) employs the same technique, but the design is drawn on specially prepared transfer paper with a lithographic crayon and is later mechanically transferred to the stone. A zincograph is the same as a lithograph, but employing a zinc plate rather than a stone.

## 3. CLICHÉ-VERRE (GLASS PRINT)

A glass plate is covered with ink or paint and a design is drawn through it with a stylus or brush, producing a negative matrix. A piece of photo-sensitized paper is placed beneath it and it is exposed to light. A positive, photographic image appears on the paper. It should be noted that this is a print without printing; there is no ink on the paper.

*Important Note: Techniques are often combined: etching with drypoint, etching with aquatint, engraving with etching, woodcut with wood engraving, even etching with chiaroscuro woodcut. There are, in addition, many dozens of secondary techniques used, usually in combination with these basic ones, and many variations of the basic techniques. Artists are artists, not technical purists, and no true artist will hesitate to use any technique, however seemingly outlandish, that gives the wanted result.*