

## PRINTMAKING

### WHAT IS AN ORIGINAL PRINT?

An original print is the printed impression produced from a block, plate, stone or screen on which the artist has worked. By choosing to use a fine art print medium, it is possible to produce a number of identical images, each one a hand-made original by the artist. Normally there is a separate inking, wiping and printing of each color and for each copy within the edition.

The total number of prints is predetermined by the artist and thereafter; the blocks, plates, stones, or screens are destroyed or recycled so that no further impressions may be taken. Only in modern times have editions been limited to make them more desirable as an investment. Each original print must bear the signature of the artist (usually in the lower right-hand corner or margin) and also an indication of the total edition and serial number of the print. This appears like a fraction; 1/5 meaning the first print out of an edition of five.

### WHAT ARE PROOFS?

Besides numbered prints, a fine art edition usually includes artist's proofs. These proofs are designated P/A. The number of these proofs is usually 5 -- 10% of the total number of the edition, more would be considered abusive. So an edition of 50 would have a maximum of five artist's proofs. Sometimes these proofs are numbered with Roman numerals, e.g. I/V, II/V, III/V etc. Some of the most valuable proofs do not form part of the edition. These are the trial proofs, P/E, which the artist pulls in the process of creating the final print. A series of trial proofs represents a unique record of the work in process, and as such is highly sought after by fine art print collectors.

Sometimes H/C is seen written in the margin of a print. This is a French annotation "hors de commerce", which means the print was a gift or unsuitable for selling.

Every edition has a single "bon a tirer", which is the artist's final proof, the ideal which all the prints in the edition must emulate.

## **I. RELIEF PRINTING**

A relief print is any print in which an image is printed from the raised portion of a carved, etched, or cast block. A simple example would be a rubber stamp. The most common relief prints are woodcuts.

### CHINESE STONE RUBBINGS AND WOODCUTS

Printmaking originated in China after paper was invented around AD 105. Relief printing appeared in Europe in the 15<sup>th</sup> Century, when the process of papermaking was imported from the East.

Stone rubbing predates any form of woodcut. To enable Chinese scholars to study their scriptures, the classic texts and accompanying holy images were carved into large, flat stone slabs. After lines were cut into the stone, damp paper was pressed and molded on the surface, so that the paper was held in the incised lines. Ink was applied and the paper was carefully removed. The resulting image appeared as white lines on a black background. This technique was the foundation of printing. The development of printing continued with the spread of Buddhism from

India to China; images and text were printed on paper from a single block. This method of combining text and image is called blockbook printing.

## WOODCUTS

Woodcuts are the oldest method of printmaking. They were first developed in China in the 9<sup>th</sup> Century. European examples date from the 14<sup>th</sup> Century. It is called a relief process because the lines and surfaces to which the ink adheres are higher than the parts that are not printed.

To create a woodcut, the artist draws a design on a piece of wood sawed lengthwise across the grain. Pine is the wood most commonly used, although fruitwoods such as pear or cherry may also be used. After smoothing the surface, the wood may be hardened by treating it with shellac. This makes it more durable under the pressure of a press and also makes it easier to carve strong, bold images. The artist then paints or draws an image on the surface. The wood between the drawn lines is cut away, leaving only the drawn image standing on the surface. To make the cuts chisels, gouges or knives may be used.

A roller holding a film of oil-based ink is rolled completely over the block. A sheet of paper, ideally an absorbent paper like rice paper, is placed over the block and the artist may then print the image by hand rubbing the surface with the bowl of a spoon or with another burnishing instrument. The block and paper may be run through a press; under the pressure of the press the image is transferred to paper. The impression is pulled by carefully lifting a corner of the paper and peeling it off the block. Separate blocks are used for color woodcuts, one block is used for each color.

In the Middle Ages woodcuts were used to print patterns on textiles. Beginning in the 1400's, artists made woodcuts to portray religious subjects, to decorate and illustrate books, and to make playing cards. In the late 1400's and early 1500's the German artist, Albrecht Dürer brought the art of woodcuts to a new level with his expert artistic and technical skills.

During the 1700's and 1800's Japanese artists produced outstanding woodcuts that greatly influenced such European artists as Degas, Manet, Toulouse-Lautrec and Van Gogh.

In the 1900's expressionist artists such as Ernst Ludwig Kirchner of Germany and Edvard Munch of Norway created many fine woodcuts.

Museum examples: *A la Víbora de la Mar (To the Viper of the Sea)*, Luis Garcia Robledo (1960) Alexander Gallery; *Au Dormir de Lantar (The Dormant Lantara) from La Forête de Fontainebleau (The Forest of Fontainebleau)* Auguste-Louis Lepère (1887-1890) Belk Gallery

## LINOLEUM CUT

Linoleum cut is a relief print carved into linoleum rather than wood. Linoleum is composed of burlap coated with linoleum; polymerized oil mixed with ground cork and pigments. The best grade, battleship linoleum, is usually brown or gray. Linoleum is more easily cut than wood and lighter weight tools are now made and sold for this process.

Generally speaking, linocuts are less esteemed by artists than woodcuts. Linoleum will not take very delicate or subtle cuts. The end result may appear block or poster like. However it is a good medium for artists who enjoy producing less exacting, more casual work.

Museum Examples: *Untitled*, Luis Garcia Robledo (1960) Williamson Gallery

## II. INTAGLIO

The intaglio method of printing involves cutting or incising an image into a metal plate with various tools or acids. The wide variety of methods used gives this medium enormous range. The two basic types of intaglio printing are engraving and etching. In engraving the image is cut into the plate with tools called needles, burnishers, scrapers or rockers. In etching the image is cut into the plate with acids.

### ENGRAVING

Engraving is a form of intaglio printing (from Italian meaning to carve or to cut) in which the lines that print are incised into the surface of the print form. The print form is a thin metallic plate, usually made of copper. A sharply pointed steel instrument called a burin is used to cut the grooves into the surface of the plate. Burin engraving requires considerable force and is done from the strength of the arm (this differs from etching which is done more from the fingertips like a fine drawing). The finished plate is inked with heavy, viscous ink and wiped with a rag, leaving ink in the grooves. Slightly moistened paper is applied to the inked plate. Plate and paper are run through a printing press, which can apply sufficient pressure to force the paper to pick up the ink in the grooves. The resulting printed lines are sharply defined and slightly raised. Several hundred prints can be made before weak lines on the print reveal the plate is wearing down.

Most early engravings were book illustrations and religious images intended for popular use. Today these are sought after by museums and collectors.

Today engraving is used for producing currency and certificates.

Museum Examples: *An Accurate Map of North and South Carolina with Their Indian Frontiers*, Henry Mouzon - Alexander Gallery; *The American Partridge*, Mark Catesby (1712) - Spangler Gallery; *Roseate Spoonbill*, Audubon (1836) - Spangler Gallery; *Le Reflet*, Jean Solombre - Williamson Gallery

### GICLEE PRINT

Giclee is a relatively new and exciting form of fine art reproduction. It is a French term, pronounced "zhee-clay", meaning "that which is sprayed". This plateless fine art printing method was developed in 1989, and was used mainly for printing posters and proofs. Giclee prints are sometimes referred to as Iris prints due to the fact they were printed on an Iris printer, one of the first high-end digital printers. Giclee prints can be original works of art generated with a computer, multiple originals based on artwork (created with or without a computer) made with the Giclee process in mind, or high quality reproductions of original artwork.

One of the drawbacks of the early Iris printers was the lack of durability of their inks. The initial colors were rich and beautiful, but tended to fade noticeably in two to three years. As the Iris giclee evolved from the Iris print process, the permanence of the inks has improved dramatically. A typical giclee now resists fading for thirty to sixty years. Ongoing advancements in ink technology include inks that will remain stable for up to seventy-five years.

Prints can be made on most absorbent media, from glossy or textured photo papers to canvas to watercolor paper. When prints are executed using high visual resolution, even artists have a hard time telling the original from the copy. Obviously, using quality paper and inks are key to this process.

After determining the paper, size and quantity of the edition, the printmaking process begins. A roll of paper or canvas is loaded on the machine. The system's computer processes the digital file with the final approved pre-press version. The artist chooses (this final version). The computer controls six heads which each spray pigmented ink. The heads move back and forth across the width of the paper as it slowly moves through the printer at a rate of about one-inch per minute.

Giclee has several advantages over other printmaking methods such as streamlining production, reducing upfront costs and eliminating the need for storage. The artist works with the printer to approve the Giclee print; he can then order prints as needed without huge upfront costs and storage problems. This method gives the artist a chance to test market a new idea without investing time and money on an image that may not sell in large quantities. Also artist can build inventory slowly over time in response to the market.

How do Giclee Prints differ from lithographs and serigraphs?

Taking a continuous tone image and processing it through a screen makes offset lithographs. The result is an image created with a series of dots, each one proportional in size to the density of the original at the location of the dot. The human eye is tricked into seeing something that approximates a continuous tone image. Most printed material such as newspapers and magazines are made this way.

Serigraphs are really screenprints. These prints are made by creating a set of screens, each representing one color. Ink is squeezed through the screen and onto the media. For fine art reproduction, the number of screens required to approximate the tonal qualities of the original are typically from 20 to more than 100. The larger the number of screens the closer a serigraph can appear to be continuous tone and the more expensive it is to reproduce.

Giclee prints have advantages over both of these methods. The color available for giclee processing is limited only by the color gamut of the inks. Therefore, literally millions of colors are available and the limitation imposed by the screening process does not exist. The giclee process uses such small dots and so many of them that they are not discernible to the eye. So a giclee print is essentially a continuous tone print showing every color and tone nuance. And lastly, giclee prints are available to "print on demand", meaning you only print what you need and can reorder additional quantities as needed.

But are Giclee Prints "Real Art"?

Giclee prints are not "computer-generated" in the way we usually know and think of that term. Computers control the complex and technologically advanced printers that create the reproductions, much as computers are used to create offset lithographs and serigraph. The giclee process is simply a new and significant step in the creation of limited edition fine art prints.

It is also interesting to note that many photographers are using giclee-reproduced photographs. They like the soft, painterly look of giclee prints, and photos reproduced in this way do not have the reflectance of traditional photographic prints.

Artists such as Robert Rauschenberg, Jim Dine, David Hockney and Andrew and Jamie Wyeth are using giclee to create original works of art, multiple originals or reproductions. Also, giclee prints are shown at the Metropolitan Museum of Art in New York, the Los Angeles Museum of Modern Art and the Corcoran Gallery in Washington, DC.

But it isn't just high-profile artists and galleries who are making and showing giclees. Artists at all levels are working in a wide variety of media to create prints and original works using giclee

technology. While the fine art market increases by about three percent annually, the giclee market is growing more than 60 percent annually. The growth in the print market of giclees has been mostly at the expense of the serigraphs.

### **III. LITHOGRAPHY**

#### Process

Lithography is a method of printmaking based on the chemical repellence of oil and water. It is a process of printing from a smooth plate; the printing and non-printing surfaces are all at the same level, as opposed to intaglio or relief processes in which the design is cut into the printing block.

Designs are drawn or painted on a level, porous surface with a greasy material, such as conte crayon, grease pencil or a greasy substance called tusche. The most commonly used surfaces are limestone or plates made of metal or plastic.

After the image is drawn, the stone is dampened and ink is applied with a roller. The greasy image repels the water and holds the oily ink while the rest of the surface does the opposite. The stone is chemically treated after the image is created in order to enhance the effect.

The artist then places a sheet of paper on the printing surface and runs the paper and the stone or plate through a printing press under heavy pressure. The pressure transfers the inked design onto the paper. To make additional impressions the artist redampens and reinks the surface

It is interesting to note that because of the equipment used and the knowledge and skill required for the printing process, lithography lends itself to collaboration between artist and printer. Also pulling a large print requires two people.

#### History

Lithography was the first fundamentally new printing technology since the invention of relief printing in the 15<sup>th</sup> Century. Alois Senefelder invented it in Germany in 1798. He was a comedic playwright looking for a way to publish multiple copies of his works. Realizing the commercial possibilities of this technique, Senefelder patented it a year later in Munich. Within 20 years lithography appeared in England and the United States.

Although lithography enjoyed early commercial success as a leading method of printing books, magazines and newspapers, it took a while longer to be accepted as a legitimate art form. In the 19<sup>th</sup> and early 20<sup>th</sup> century many people saw it only as a less expensive means to own a work of art by a well-known painter.

However many European artists began experimenting with lithography soon after its invention in 1798. They liked the spontaneous effect they could achieve by drawing directly on the printing surface. Some of these early masters included Eugene Delacroix, Pierre Bonnard, Henri de Toulouse-Lautrec and Edvard Munch.

Today it has come to be seen as a well-respected art form with very unique expressive capabilities. Many artists combine lithography with other printmaking processes, such as silk-screen. Some leading lithographers of the 1900's included Marc Chagall, Edvard Munch, Pablo Picasso, Willem de Kooning, Jasper Johns and Robert Rauschenberg to name only a few.

Museum Examples: *Family Arc*, John Biggers (1992) - Harris Gallery; \$20 Bank of Charlotte bill (1853) - Alexander Gallery

## COLOR LITHOGRAPHY

Almost immediately after lithography was invented, attempts were made to create works in color. In 1837, Godefroy Engelmann patented a color printing technique called "Lithocolorprinting or Lithographs in color imitating printing". His use of the word "imitating" illustrates the initial attitude toward this procedure as an accepted art form.

Color lithography is a complex process that usually involves multiple pressings, one for each color in the image. According to one text on the technique, "The original color drawing should be treated as a guide for the final print, not as a finished work to be exactly duplicated". When different stones are used for each color (the same stone may also be used for multiple colors), it is very important to keep the print in register each time it passes through the press. This means insuring that the print is lined up exactly each time it goes through so that each color is in the right position and the overlaying colors merge correctly.

Museum Examples: "*Siren's Song*" from the *Odysseus Suite*, Romare Bearden (1979) Dalton Gallery

## **IV. MONOPRINT**

A monoprint or monotype refers to any print made in one version and incapable of being exactly duplicated. It cannot be editioned. They may be unique prints or variations on a theme.

The artist paints, rubs or wipes designs directly onto a plate using a slow drying paint or ink. The image must be printed before the ink dries. It is printed by press or hand. The artist gets only one strong impression. The remaining pigment can be reworked, but the next print will not be an exact copy of the first print. The final effect can only be guessed at as no trial proofs can be done. This method allows the artist much freedom and spontaneity.

No Museum Examples on Exhibit.

## **V. SCREEN PRINTING**

### SERIGRAPHY

Serigraphy (silk-screen printing or screen printing) is a 20<sup>th</sup> Century printmaking technique that was developed in America. It was introduced as a fine art technique with an exhibition of serigraphs at the New York World's Fair in 1939.

Anthony Velonis of New York City developed the term serigraphy. In 1940, Velonis was working for the WPA as head of the Fine Arts Project. The WPA was a depression era project aimed at finding work for the unemployed. The Fine Arts Project was developed to find government projects for unemployed artists to work on. The work was mostly of a commercial nature, such as producing poster and other mass media type work. Velonis noticed that many of the artists in his employ were suffering depression and a lack of self-esteem due to their situation. He consulted with gallery owner Carl Zigrosser about this problem, and also spent much of his own time thinking about and researching the situation. Finally he came up with the word Serigraphy to differentiate the creative art in silkscreen produced by the artists from the

commercial applications. Seri comes from the Latin work for silk and graphein, from the Greek, means to write or draw. This simple word change did much to elevate the feelings of fine artists such as Elizabeth Olds, Ruth Chaney and Harry Gottlieb, who were working with the FAP at the time.

The origin of screen-printing may have been in Japan, where artist made large, delicate paper cuttings in which the elements were joined and held together by human hair. The hairs served as stencil ties without interfering with the printmaking process.

In its simplest form, screen-printing involves forcing ink through a stencil that is embedded or securely attached to a silk or synthetic mesh screen. The screen is tightly stretched on a wooden or metal frame. Viscous ink is squeegee through the screen depositing the ink on the paper under the frame. A separate screen is used for each color and selected parts of the stencil can be blocked out, if desired, during the reprinting. Wet prints are usually hung to dry.

In the 1930's and 1940's artists used the touche-washout method. This involved painting directly on the top surface of the screen fabric with a grease crayon or touche. Once the image is drawn, the screen is elevated and a water based glue solution is pulled evenly across the fabric. When this solution dries, the grease marks on the fabric are removed leaving the image areas of the fabric open for painting. It is interesting to note that according to Velonis these depression era artists used fabric remnants for mesh, literally "anything they could get their hands on!" They used paint from the hardware store in lieu of today's fine art inks. Today many artists use photographic techniques to make stencils directly on the screen.

Artists such as Warhol, Albers, Motherwell, Stella, and Rauschenberg have all worked in Serigraphy.

Museum Examples- *Baptism from the Prevalence Ritual*, Romare Bearden (1975) - Dalton Gallery

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