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ELECTRONIC PRINT MAKING: “DIGITAL ART”

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Printmaking is an Unique and different method of creating art form in which different techniques were produced by the help of Different tools for producing multiple editions which looks similar to each other and also called original prints, the bases of these all print is called Block, which is made on Cardboard, Wood, Rubber, Stone, Metal, Plastic, etc. Due to these qualities this art form is different to other techniques like painting, sculpture and else. The printmaking term is associated with the method of reproduction and itself as an independent art form, due to technical and cultural reason it is always developing from past. Printmaking is concerned with the production of image by various method of replicate onto a paper, fabric or other surface.

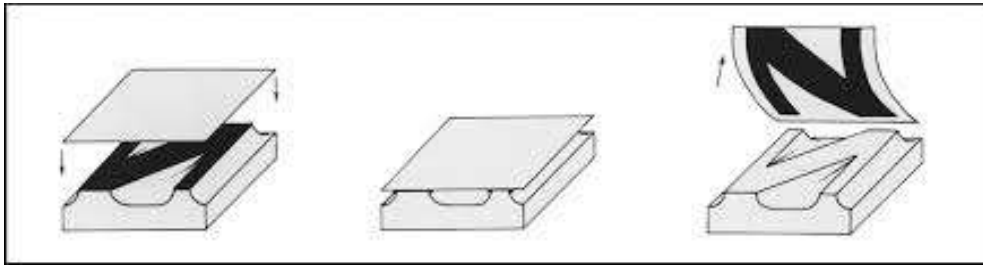
The earliest form of printmaking is often claimed to be the hand impression found on prehistoric cave walls, true printmaking however has its root in china. Where religious texts were carved on woodblocks are printed. The most significant invention to advance the art of printing was that on paper 105 AD. Also the first made in china and that of printing is spread to Japan and along the trade routes of the west. First made in Europe in Spain in 1115 AD.

Woodblock were probably first used to print patterns on fabric, by the early 15th century they were also widely used in the making of block books. Complete pages of text and illustrations carved from a single piece of wood by expert carver and printed by expert printers, Thousands of individual prints of religious pictures, popular tales, and playing cards sold in local market of different countries. The Artist made prints with the most Saints and playing cards.

In about 1400 more than six centuries after its inventions in the east, the technique of printing from woodblock is introduced in Europe. In the east the images are printed by the simple method a piece of paper on a carved and inked block and then rubbing its back to transfer the ink on paper. In the east, the main market is holy images for sale to pilgrims, playing cards are another early part of the western trade.

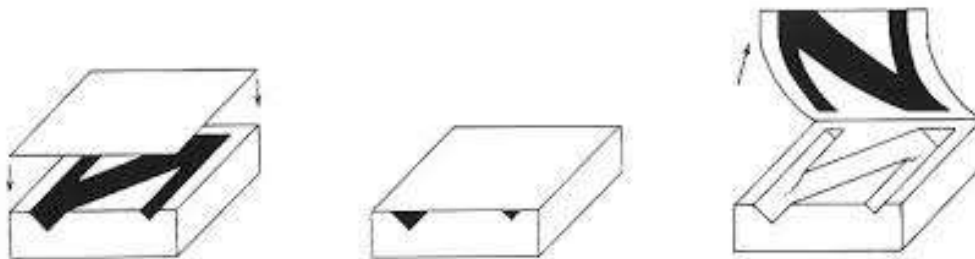
Prints are made from single original plate matrix, or another surface material such as , Metal, wood, plastic, cardboard, rubber etc. in these materials various techniques and tools are applied to create required designs, drawings, and textures according to the method by which print can be taken. These Methods are in use from last five centuries, and we can divide these in several method like...

i- Relief Method of Printing –



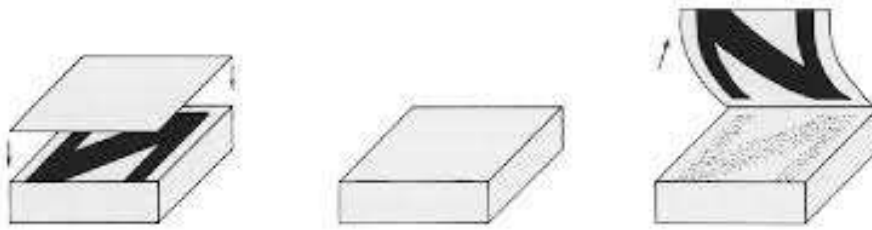
Among the most appealing aspects of relief printmaking are the directness and swiftness of making an image and the simplicity of the materials used in creating it. In a relief print it is the surface of the block that yields the image; the areas that do not print are cut away, as in a woodcut or linocut, or a positive image is created by cutting white lines into the block, as in a wood engraving. In a collage print the relief surface is achieved by adhering materials to a support plate. In all methods ink is rolled on the surface of the block by the help of rubber rollers, paper is then placed upon it, and after this step, either is then rubbed by hand or run through a press to transfer the inked image on printing paper. Of all the form of expression in printmaking, the relief print is the most ancient. Although it is not possible to relate the rich history of the relief print in a limited space.

ii- Intaglio Method of Printing –



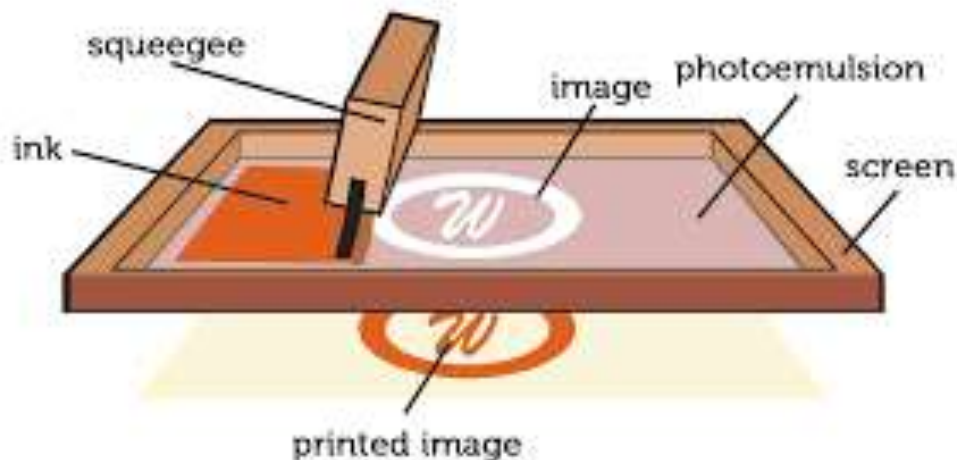
Under this intaglio method multiple techniques are used for creating blocks on metal plates. Out of several techniques to create incised grooves on metal plate few techniques are based on acid and chemicals and few techniques are based on nonacid process. In the Acid process Line Etching, Aquatint, Soft Ground and Viscosity Techniques are the common in this and in nonacid process Engraving, Mezzotint, Dry point and collagraphy techniques are applicable to create metal block for intaglio Printing. After this a print is made by inking the incised lines and recessed textures of a plate, wiping the surface, placing damp paper over the inked plate and running it through an high pressure etching press. In a relief print only the surface of the plate is inked and printed, but in this method the incised lines of the surface can be print. These all techniques has rich historical background of the development of this method.

iii- Planography method of Printing –



Planography Process is differs from other graphic processes in that it depends on a chemical reaction instead of the physical separation of the inked and uninked areas. It is the antipathy of grease to water and water to grease that is the basis of this planography process, noting to cut from the surface nothing to add on the surface for preparing block, only by the help of chemically solutions and use of water and oil the printing is possible in this process, in this Mainly Lithography and Offset Techniques are popular, lithography is done on special kind of lime stone called Litho Stone, later in the place of heavy litho stone the aluminum thin sheets are used which called offset method, and this offset printing dominated all the traditional printing method by quality wise as well as economically.

iv- Stencil method of Printing –



Off all the printing methods in use today screen printing is no doubt one of the newest, yet it has ancient origin. It is also one of the simplest multicolor images, the screen print is produced on a rectangular frame over which fine mesh fabric made by silk, polyester, nylon, Dacron, or organdy is stretched. The fabric is blocked out where ever unprinted areas are to appear and water or oil based colour is squeezed through the open mesh of the fabric, producing an image on the paper surface below. The instrument most often used to push the colour through is actually called a squeeze. It consists of a wooden or metal casing that holds a plastic or rubber blade that guides the colour.

Printing is derived from commercial purposes to an individual art expressing medium now and modern artist were using these method for creating art works. These change was not done in single days, it took several years, and developing towards, new printing technology.

New Version of Printmaking is developed and is fully based on Electronic process called digital Printing. Now contemporary printmaker's basically used and developed new technology of electronic printing. The artist has to create prints of a technical quality comparable to the highest standards of traditional etchings, engraving, block prints, stencil prints and lithographs. The new type of print have one thing in common they own their existence to digital computers. Whose evolution during last four decades from monolithic calculating machine in to powerful

and affordable device for the creation and manipulation of pictures has presented artist with fresh creative opportunities.

Graphical computing not only offers new techniques for combining and manipulating images and for specific turning creative ideas in to prints, but also printmakers to access and utilize many different sources. Drawing, painting, and photographs, poetry, music and computational process all can be represented. Whose identity and exploit the printmaking possibilities of modern, electronic pre – press device. The artist has continued to exercise their imagination in adopting all kinds of computer technologies for creative use. Some have adopted all digital approaches, in which the output of a digital device such as laser printer, or an dot matrix printer is the finished print. While other have device hybrid tech inventively combining digital output – film positive, machined, metal plates even tracing or memories of displayed images with traditional , media.

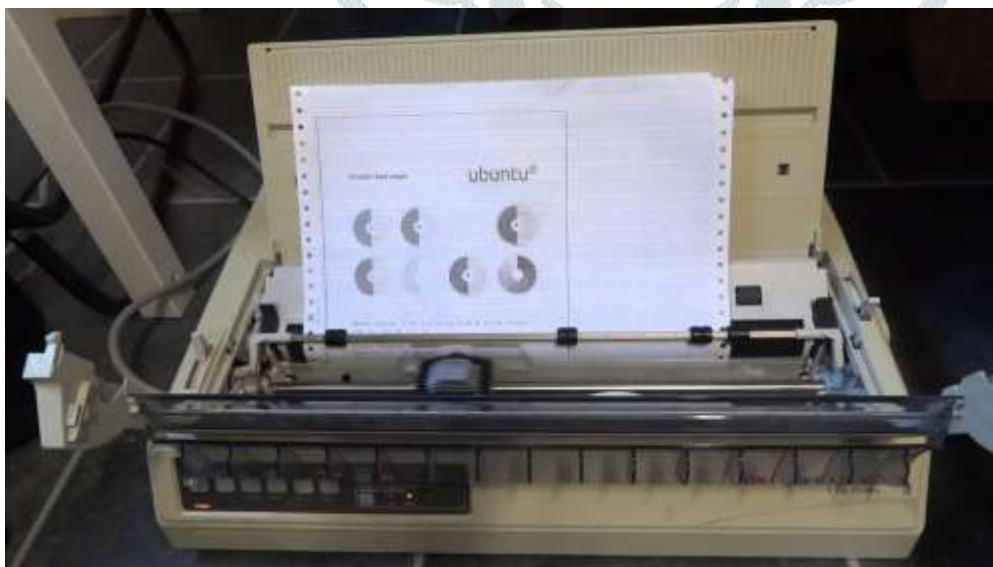
Digital printmaking is a completely new way of originating and then printing an image, and as such requires quite different skills from those used in traditional printmaking. Early digital prints were usually printed on small dot matrix office printers on paper supplied by the manufacture.

Now a days artist create drawings or his composition of art work directly on electronic screen for example on computer screen, for creating design they use different software's like Coral, illustrator, Photoshop, and use multiple tools for creating textures, effects, and finis there compositions on screen, after this they have to think about the printer and its effect which electronic printer is suitable for better results. The artist are generally using inkjet or laser printers toreproduce their original art works, photographs and computer generated art. Digital technology allows a flow from the artist hand to the artist mind and that is the artist's vision and quality of the work that called the work of art. Digital printing is a high quality inkjet print technology that requires the use of computer, and new skill and knowledge. Fine art digital inkjet printer is printing from computer image file directly to an inkjet printer as a final output giving exciting new possibilities. Fine art prints produced using printing technology is known as giclee. Most giclee prints are the reproduction of works of art in other medium copies of painting, water colour, drawings, in exact colour tones and effects.

After creating images on electronic screen different printers can be used for printing. Now days multiple electronic printers are available in the market by which artist can print require size of art work.

Here are the description of these electronic Printers how it works and how the effects of these printers is.

DOT MATRIX PRINTER ---



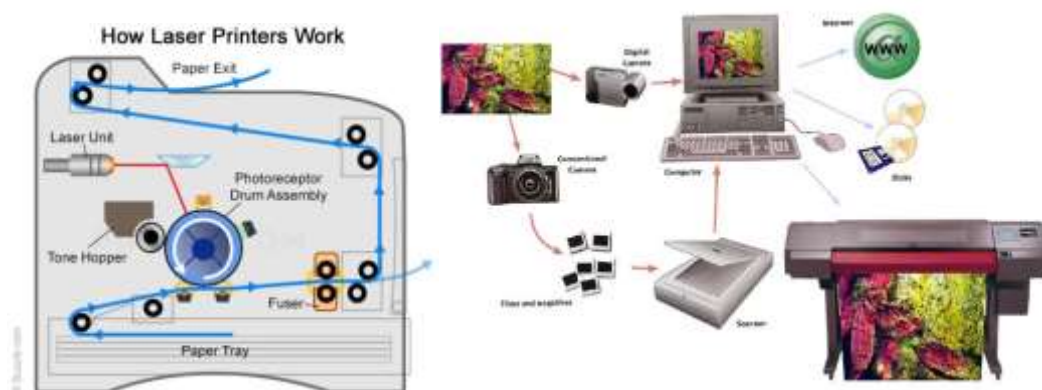
A type of printer that produces characters and illustrations by striking pins against an ink ribbon to print closely spaced dots in the appropriate shape. Dot-matrix printers are relatively expensive and do not produce high-quality output. However, they can print to multi-page forms (that is, carbon copies), something laser and ink-jet printers cannot do.

Dot-matrix printers vary in two important characteristics:

Speed: Given in characters per second (cps), the speed can vary from about 50 to over 500 cps. Most dot-matrix printers offer different speeds depending on the quality of print desired.

Print quality: Determined by the number of pins (the mechanisms that print the dots), it can vary from 9 to 24. The best dot-matrix printers (24 pins) can produce near letter-quality type, although you can still see a difference if you look closely.

LASER PRINTER ---



A type of printer that utilizes a laser beam to produce an image on a drum. The light of the laser alters the electrical charge on the drum wherever it hits. The drum is then rolled through a reservoir of toner, which is picked up by the charged portions of the drum. Finally, the toner is transferred to the paper through a combination of heat and pressure. This is also the way copy machines work.

Because an entire page is transmitted to a drum before the toner is applied, laser printers are sometimes called page printers. There are two other types of page printers that fall under the category of laser printers even though they do not use lasers at all. One uses an array of LEDs to expose the drum, and the other uses LCDs. Once the drum is charged, however, they both operate like a real laser printer.

One of the chief characteristics of laser printers is their resolution -- how many dots per inch (dpi) they lay down. The available resolutions range from 300 dpi at the low end to 1,200 dpi at the high end. By comparison, offset printing usually prints at 1,200 or 2,400 dpi. Some laser printers achieve higher resolutions with special techniques known generally as resolution enhancement.

In addition to the standard monochrome laser printer, which uses a single toner, there also exist color laser printers that use four toners to print in full color. Color laser printers tend to be about five to ten times as expensive as their monochrome siblings.



- Digital Art & Matt Painting.

Laser printers produce very high-quality print and are capable of printing an almost unlimited variety of fonts. Most laser printers come with a basic set of fonts, called internal or resident fonts.

In addition to text, laser printers are very adept at printing graphics. However, you need significant amounts of memory in the printer to print high-resolution graphics. To print a full-page graphic at 300 dpi, for example, you need at least 1 MB (megabyte) of printer RAM. For a 600-dpi graphic, you need at least 4 MB RAM.

Because laser printers are nonimpact printers, they are much quieter than dot-matrix or daisy-wheel printers. They are also relatively fast, although not as fast as some dot-matrix printers. The speed of laser printers ranges from about 4 to 20 pages of text per minute (ppm). A typical rate of 6 ppm is equivalent to about 40 characters per second (cps).



- Rose tinted Glasses Art Print (Digital Print)

CONTONE PRINTER --- A type of printer that uses a combination of dithering and printing at different levels of intensity to produce different colors and different shades of lightness and darkness. Unlike a true continuous-tone printer, contone printers can lay down ink at only a few different levels of intensity (usually 8). To produce the full range of colors that can be perceived by the human eye, they must also use dithering techniques. Many of the newer color laser printers are contone printers.

BILEVEL PRINTER-- A type of printer that can print only two levels of intensity for each dot - on or off. For monochrome printers, lightness and darkness (shading) is simulated through dithering. Bi-level color printers use dithering to produce a wide variety of colors. Most ink-jet and laser printers are bi-level. In contrast, expensive color printers, such as thermal dye printers, can apply ink at various levels of intensity. Such printers are called continuous-tone printers. A third type of printer, called a contone or multilevel printer can print at a few intensity levels (usually 8), but not as many as a true continuous-tone printer (usually 256). These printers use a combination of dithering and multi-level printing to produce different colors.

Artist are using now a days these printers for creating digital prints or computer generated Designs. These digital printmaking created new dimensions to artistic imaginations with the combination of hand created Drawings with computer generated effects or with photographic merger. Today artist are using quality Archival Sheets for digital printing.

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Digital Print with Photographic image



Checking Digital Quality by Artist



Monochromatic Digital Print



Digital Giclee Print



Wide Format Digital Printing



High Quality Digital Print



First Printing Machine by Johann Gutenberg - 1454

