But how is that done…..?
What does that mean?

You don't have to know about printmaking techniques in order to enjoy what you see but if you are curious or if you need to explain it to someone else the following notes may help. (For more details see book list below and **Publications** section)

INTAGLIO

The word comes from an Italian verb meaning to cut. It is the general term for printmaking where marks are bitten or etched into a metal plate. Ink is worked into the incised lines (into the grooves) on the plate. The surface is carefully wiped clean, and the pressure from the printing press forces the dampened paper into the inked lines to achieve the printed result. The pressure also shows at the edge of the plate. This indented edge is known as *the plate mark*. If you can see 'a plate mark' then what you are looking at is probably an etching. (However some makers of reproductions mimic this effect.)

Drypoint. The metal plate has been drawn on directly. The scratched marks have a rough edge (a burr) and these hold ink too, usually resulting in a slightly furry line. Drypoints can be made successfully on copper, zinc, aluminium, steel and acetate. The pressure required to print a drypoint effectively also damages the plate by flattening the burrs. Consequently drypoints are often made in small *editions* though steel will stand up to the pressure for a longer time.

Etching. The piece of metal (often copper but other metals are used) is covered with a waxy surface, then the drawing is done with a needle which in effect removes the waxy surface leaving the metal exposed (but not intentionally scratched). When this is immersed in the diluted acid the acid bites into these parts of the metal making the grooves that will hold ink for printing. The amount of time in the acid bath affects the depth of *the bite* and this alters the strength of the printed line. The plate will often need to be etched in the acid bath a number of times in order to create a surface that is varied and interesting when printed. This progressive layering of marks is a characteristic of etching, and it is this potential that makes it such a wonderful medium for drawing. Etching is a wonderful medium for experiment and it is possible to have a different technical starting point.

Aquatint. A piece of metal can be made to hold ink in broad areas by treating it first with a resin dust. This will melt onto the plate if the plate is heated. When the plate is put into diluted acid the metal around each grain of resin is etched. These broader areas which hold ink can produce tones, a bit like watercolour, hence the name.

Mezzotint. This method is related to drypoint and metal engraving because these techniques do not involve the use of acid. The first task is to make the whole of the metal plate capable of holding ink. Indentations are made all over it with a serrated tool (called a rocker), so that it feels similar to fine sandpaper. * When ready to start the image-making the plate will print a smooth velvety black. The forms are made by burnishing areas smooth so that no ink is retained and the white of the paper is revealed. And in between smooth and rough there are all the variations of grey. Sometimes the resulting image may look photographic but this is an illusion created by the smooth modulations of grey. (*There are other less laborious ways to simulate a mezzotint effect.)

Engraving. The word engraving is often used to refer to many kinds of printmaking from metal or wood. Very few living artists specialize in metal engraving. A v-shaped groove is cut into the metal with a graver or *burin* and the curls of the material are thrown up and scraped away. This results in more sharply defined lines. Copper is the best metal for engraving. The finished plate is printed on dampened paper in the same way that an etching or drypoint is printed. Very hard wood and other composite materials can used for engraving but see below, *relief printing*.

Collagraph Most people will understand what is meant by collage. A collagraph plate is made by fixing and sticking surfaces together to create a textured object flat enough - not more than 2mm - to go through the rollers of an etching press. This surface must retain ink effectively and must be well enough fixed together so that it can withstand the process of printing. Ink can be rolled onto the relief (raised) surfaces and rubbed into the indented surfaces. Any materials can be used and inventive artists have made collagraph plates from cardboard, wood, glue, metal fragments, grit and dust, feathers, cloth, varnishes, string, dried plant material etc. Possibilities for experiment are limitless.

Chine collé. This refinement has become a Japanese specialism (though not a Japanese invention). It involves printing on delicate translucent paper and Japanese *gampi* is often used. As the inked plate goes through the press the lightweight paper – resting exactly over the image area on the plate - is bonded to the heavier weight paper which is normally used for printing. (A light coating of rice starch paste or wheat starch paste on the back of the gampi makes for a strong and permanent bonding). Why go to this trouble? Because the fine gampi paper is very receptive to the ink and produces an exact impression with a slight silky sheen. Also the warm tone of this thin paper adds

glamour to the image. It is a nuance which may be missed unless the viewer is very observant.
Chine collé is also used to add colour to a free form design by bonding lightweight coloured papers to areas of an image by the method described above.

RELIEF PRINTING

After the design is cut away, the block is inked with a roller on the raised surface. The paper is laid on the surface and pressure is applied either by hand or in a press to produce the print. Linocuts, wood engravings and woodcuts are made in this way and other modern materials (such as vinyl) can be used. An etched metal plate can be printed in this way by rolling ink across the surface. William Blake printed in relief from metal.

Wood engraving. See engraving above. The end grain of the wood is used. The white parts of the design correspond to the parts cut away. Very refined detail and effects of texture can be achieved in wood engraving. Colour engravings may require separate blocks for each colour. As end grain blocks from hard wood are small, to make bigger engravings small blocks must be joined.

Woodcut. Historically, the first method of printmaking. Wood is cut away with knives or chisels on the long-grain side of the wood (plank) producing the characteristic black line on a white background. Colour can be introduced by cutting more wood away to print the remaining relief wood, or part of it, with a different colour. Usually the printing of colours goes from lightest to darkest and, after each session of cutting, the woodblock is registered and printed again on top of the previous printings. Colour woodcuts can also be made using additional matching blocks or pieces cut to the shape of each required colour. The famous Japanese woodcuts of the *ukiyo-e* tradition used the separate blocks process and this was undertaken by a group of specialists working together.

Linocut. A twentieth century popular alternative to woodcut. Often introduced into secondary school artrooms, linocutting may consequently be underestimated as an art medium. Picasso and Matisse made masterpieces using this process. Lino does not print with the grain marks typical of wood but its even texture allows great freedom and fluency in cutting. Lino can also be etched using caustic soda. The results can be exciting but caustic soda is a hazardous substance and great care is needed

Contemporary artists often use techniques in combination - for example an etched plate on top of a woodcut - and then identification of methods becomes more difficult.

PLANOGRAPHIC PROCESSES

The printing surface is a flat plane - neither cut into nor built up.

Lithograph. The design is made with a greasy crayon or brush dipped in *tusche*. After subtle etching with dilute nitric acid which fixes the drawing, the non-image areas are made wet. The rolled on printing ink will adhere only to the drawing (grease and water do not mix). Traditionally a smoothed lithographic stone was used but currently a metal plate (zinc or aluminium) is more likely. Paper and plate (stone or metal) are run through the lithographic press. A separate plate is needed for each colour used and careful registration is very important.

Silkscreen or Stencil Silkscreen is the most common stencil method used today. Silk, nylon fabric or metal mesh stretched over a frame, is screened with ink resistant stencil, bonded to the silk. With the frame screen side down and the paper beneath, ink is forced through, with a squeegee, to form an image on the paper below.

NOTE

There is a great deal more to all of these methods than is described above. There are a number of specialist books on various aspects of printmaking. And the use of computer programmes has introduced many more techniques not listed here.

NOT DESCRIBED HERE: photographic processes, digital processes
(see separate pages).

Some books with more detailed descriptions:

Susan Lambert	Prints - Art and Techniques	V & A Publications	2001
Bamber Gascoigne	How to Identify Prints	Thames & Hudson	1988
Carol Wax	The Mezzotint - History & Technique	Thames & Hudson	1991
Tim Mara	The Thames and Hudson Manual of Screenprinting		1979
Various authors	Each on a separate technique	A & C Black	2003 to the present.

Some are listed in the **Publications** section.

Printmaking Today - quarterly journal - regularly includes notes on contemporary techniques used. Subscribe online at www.printmakingtoday.co.uk

Peter Ford and Christine Higgott
OFF-CENTRE GALLERY, Bristol
Prepared for Royal West of England Academy OPEN PRINT exhibition 2004.
Revised for ORIGINALS 2005
Revised for this website 2006

