

## Printmaking Techniques

cambridge contemporary art stocks a wide range of prints which are made using a variety of printmaking techniques. These techniques will be explained in detail on this page. All techniques involve a stencil or a plate created by the artist to apply ink to paper. A print can be made from a single stencil or plate. Alternatively, a number of stencils or plates can be printed over one another to build up an image.

Printmaking is an extremely versatile medium. It allows artists to be experimental in their work, as numerous processes can be used to achieve a variety of finished effects. It also requires a great deal of skill and patience: as the image does not exist until it is printed, an artist may have to return repeatedly to work on the plate to ensure their intention is translated into the final print.

### **HAND-MADE ORIGINAL PRINTS VERSUS REPRODUCTIONS**

A clear distinction needs to be made between prints and reproductions. Many pictures that are sold as 'prints' or even 'limited edition prints' are in fact photographic reproductions of original artwork - good quality posters produced by an inkjet printer. An artist's original print, however, is a work of art in its own right, on par with a painting, drawing or sculpture. All the prints we stock are hand-made limited editions signed and numbered by the artist. They are not computer-generated reproductions; each print is an original piece of art. The quality of hand-made prints is far superior to that of reproductions. The artist-printmaker can spend weeks, even months working on a particular print edition in order to achieve the desired effects. The artist's signature is a guarantee of workmanship and artistic creativity.

### **Hand-made Original Limited Edition Prints**

An original print is produced by hand from a surface on which the artist has worked - such as a stone, wood block or copper plate, using one or more printmaking methods. This surface is intended by the artist to be a stage in the creation of the art work. Each printmaking technique offers a specific range of mark-making possibilities and is chosen by the artist because of its unique ways of communicating visually. The image is conceived by the artist as a print from the outset, it is not a photographic reproduction of original artwork that pre-exists in a different medium. Thus, the original work of art in this case is the print itself. As the application of colour and the amount of pressure that is applied is slightly different for each print, there will be subtle differences between the prints and each single print is therefore an original piece of art. An original print is by definition limited edition, since the printing medium – the plate or block used to make the print – simply wears away after a number of uses. Eventually the image will have faded so much that fine details can no longer print well. After the full edition is printed, the block, plate or stone is defaced in some way so that no more prints can be taken.

## **Reproductions**

A reproduction is a copy, either of a painting or of an original print, that is produced by a mechanical process in which the work is photographed and then printed by technicians on a commercial printing press. The artist originally chose a medium for the painting, e.g. watercolour or oil on canvas, and however faithful the reproduction, the medium has changed and the texture will be different. Reproductions are known by a number of different names: posters, fine art prints, or giclee prints (which means “spray” or “squirt” – it is a high quality form of inkjet printing). Reproductions are often signed and numbered as if they were artist’s original prints and some are even offered as ‘signed limited edition prints’ when sometimes even the signature is photographically reproduced. Applying the term ‘limited edition’ to reproductions, with each copy numbered and signed, is often a ploy used by publishers to suggest that the item has both an artistic and a financial value. It is misleading, since the first print in an edition is identical to the last and one can continue printing identical images indefinitely. The size of the edition is limited merely by switching off the machine at an arbitrary point..





Glynn Thomas lifting a print from the press

## Editioning and Artists Proofs

Once the plates or screens have been used to produce a certain number of images they are destroyed or cancelled and the prints are inspected, numbered and signed by the artist. In addition to the declared number of prints in an edition, the artist may print a limited number of further copies, generally not more than 10% of the edition. These are known as Artist's Proofs (A/P or E/A). If signed, and in some cases separately numbered, these prints have exactly the same value as others in the edition. All prints go through various printing and drying processes and are not necessarily numbered in chronological sequence, so number 1, in practice, is seldom the first one printed.

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## ETCHING





Glynn Thomas drawing on a plate

## Line Etching

The metal etching plate – copper, zinc or steel – is coated with an acid-resistant wax ground and the design is drawn through the wax with a fine needle. The plate is then immersed in an acid bath. The acid bites into the plate where the wax has been removed by the needle. The longer the plate is immersed in the acid, the deeper and darker the etched line will appear in the final print. A varnish is used to ‘stop out’ lines at various stages to prevent the acid from etching any further. The process of re-immersing and stopping out lines is repeated as many times as necessary to obtain a variety of depth.



Flora McLachlan

The First Leaves

etching





AP

The Sparrow's Spider

McKenzie

Julia McKenzie

Sparrows Spider

etching





V150

LONDON FROM PRIMROSE HILL

John Duffin

John Duffin

London from Primrose Hill

etching

## To Print an Etching

In order to print an etching, the plate must first be inked. The ink is rubbed into the plate, forcing it to collect in the etched parts, then the surplus ink is removed by wiping it with muslin cloth. An etching is printed on a printing press which is similar to an old-fashioned mangle. Dampened paper is placed on top of the plate (so that the paper can be pressed into the contours of the plate), which is then passed between the rollers which exert tremendous pressure. The ink which was held in the etched lines and texture makes contact with the paper because of the pressure of the rollers and so is transferred from plate to paper.





Printmaking demonstration with [Glynn Thomas](#) Cambridge at contemporary art on [April 24th 2016](#).

## **Aquatint**

Etching can only produce lines, so for a tonal effect the process of aquatint must be used. Aquatint enables the artist to achieve a wide range of colour tones. A fine resin powder is dusted onto the plate and fixed by means of heat. Each resin dot is acid-resistant; therefore, the acid eats away the metal in between each dot. The same principle as line etching applies; ie, the longer the plate is immersed in the acid, the deeper and darker the tone becomes. A complicated plate, therefore, can take several weeks to complete.





Karolina Larusdottir

Heavy Load

etching with aquatint





171/200

Shadows I

Brenda Hartill

Brenda Hartill

Shadows I

etching with aquatint





Linda Richardson

Sparrows

etching with aquatint



# Intaglio Etching

*Printmaking method where the action of a roller press forces the paper into lines sunk beneath the surface of a metal plate, squeezing ink from them so that it stands out in slight relief from the paper. Etching, engraving, mezzotint and techniques such as drypoint are all intaglio processes.*



Working drawing    Tracing    Drawing through wax ground    Line proof    Proof with aquatint



## Two etching processes explained



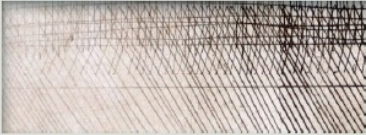
**Glynn drawing into the wax-covered copper plate with a needle**

**Line etching**  
The plate is covered with an acid-resist wax ground and the image is drawn through this on to the underlying copper with a fine needle. The longer the plate is immersed in the acid the deeper and darker the etched line will appear in the final print. A varnish is used to 'stop out' lines at various stages to prevent the acid from etching any further. N.B. The drawing on the plate is carried out in reverse – special care has to be taken with lettering!

If you look carefully at the test strip you can see the resin dots, which appear white. At the first stage the highlights are painted out with the stop-out varnish; it appears that one is working in negative. The plate is immersed in acid for a very short time to etch the first light tone, which is then retained by applying more varnish. This sequence continues until the last area is exposed to the acid for the longest time, which gives the darkest tone.

**Aquatint etching**  
An etching method that is very useful for colour printing as it enables the artist to achieve a wide range of colour tones. First, the plate is covered with a very fine powdered resin that is melted on the plate. Each resin dot is acid-resistant; therefore, the acid eats away the metal in between each dot.

**Line and aquatint etching test strips**  
The strips below show how long the plate was left in acid. It can be seen on the line etching test strip on the left that the original fine line has become wider and darker because of the width and depth of the acid 'bite'. The aquatint strip on the right shows how darker tones are achieved with a longer etching time.



½ min 1 3 5 10 20 40 80 mins



0 20sec 40sec 1min 2 4 8 10 mins





Glynn Thomas examples of line etching and aquatint

## ‘A la Poupée’ Colour Printing

Small pieces of muslin are used to ink up various colours on the plate, and can be merged to give subtle colour variation. Each inking enables the artist to print one copy only at a time. Great patience and skill are therefore required to achieve the desired effect, especially for editioning as each etching must be inked up the same as its predecessor.





Artist's Proof

On the Cam

Glynn Thomas

Glynn Thomas

On the Cam

etching with a la poupée colour printing

## Drypoint

Drypoint is a form of etching which requires no acid. The drawing is scratched directly onto the plate with a very sharp tool. This gives the artist the freedom to use material other than metal for the plate. Any smooth non-absorbent surface will do, such as plastic (perspex is popular), glossy card or other metals like aluminium. Many artists use copper or zinc for drypoint, and then

combine drypoint with etching.

Because no acid is used, the metal that is displaced from the drawn lines is not dissolved as it is on an etched plate, but remains where it is thrown up on either side of the line. This is known as the 'burr' and is responsible for the soft fuzzy look of the drypoint, as ink is caught in the burr as well as the lines when the plate is inked. This burr is particularly fragile and is worn down quickly with each successive printing, particularly if a soft metal like aluminium is used. Therefore drypoints tend to be quite small editions.

Another characteristic of the drypoint is that the drawing is often more bold and less fluid than an etching. This is because scratching a line into metal is always to some extent a fight, whereas scratching through wax is as easy as drawing with a pencil. The technique's advantages is its directness, and that an artist can produce a plate at their kitchen table, needing no dangerous baths of acid.





Richard Spare

Tulip Trio

drypoint and watercolour







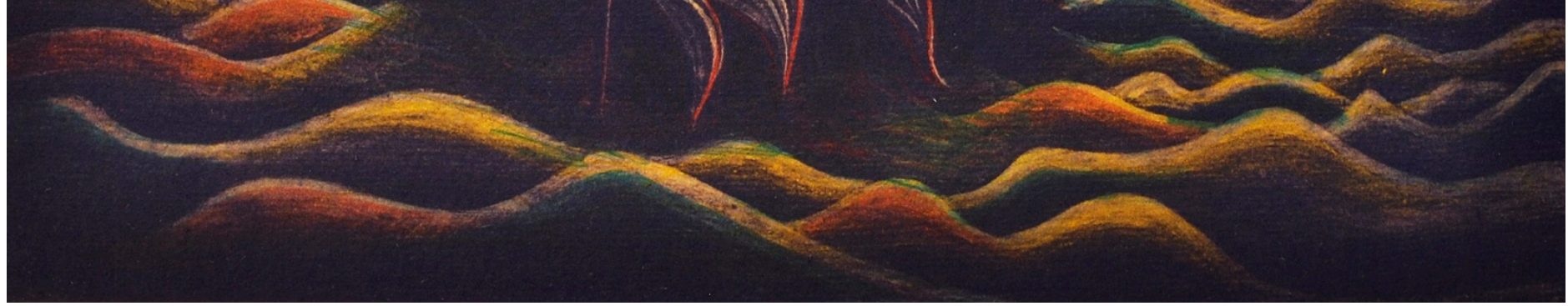
'Too glam to give a damn' Kay McDonagh

Kay McDonagh

Too Glam to Give a Damn

drypoint and etching





Trevor Price

The Story Book

drypoint and etching

## **Mezzotint**

Mezzotint is technically a drypoint method which allows for the creation of prints with soft gradations of tone. It was the first tonal method to be used, enabling half-tones to be produced without using line- or dot-based techniques like hatching, cross-hatching or stipple. The process involves indenting the metal printing plate by rocking a toothed metal tool across the surface. In printing, each tiny pit in the plate holds the ink when the face of the plate is wiped clean. The printmaker creates dark and light tones by gradually rubbing down or burnishing the rough surface to various degrees of smoothness to reduce the ink-holding capacity of areas of the plate. A high level of quality and richness in the print can be achieved.





Mychael Barratt

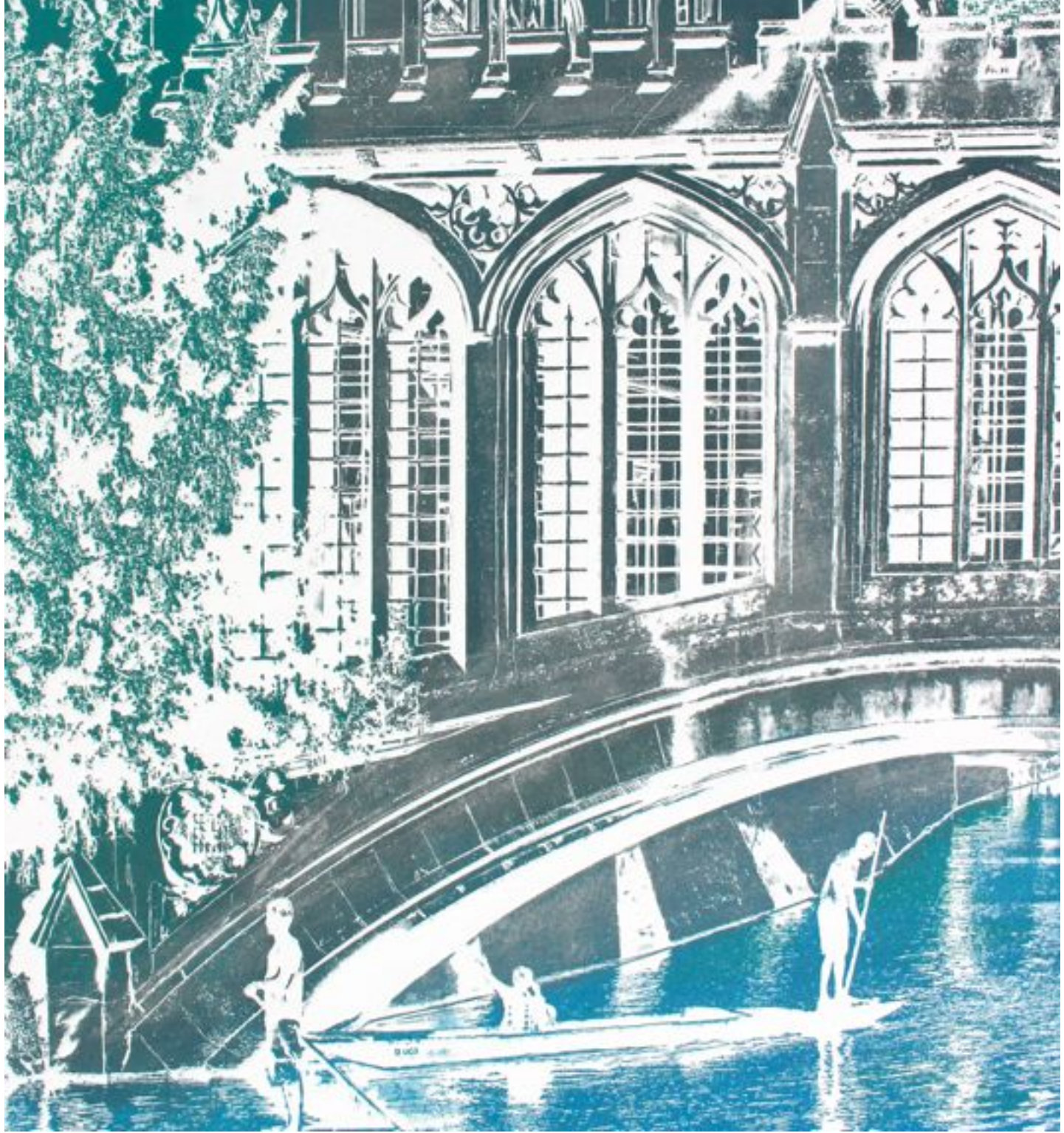
Leonardo da Vinci's Dog

mezzotint

## **Solarplate Etching**

A solarplate is a prepared, light-sensitive polymer surface on a steel backing. First, an image is created in opaque black ink on a transparent film (acetate or glass). The image is then placed on top of the solarplate and exposed by the sun or with ultraviolet (UV) light in order to transfer the drawn image to the plate. Exposure time varies depending on the time of day, season of year, and the geographic location of the exposing light source. After this, the plate is washed gently with ordinary tap water. The ink gently falls away leaving behind the raised relief image.





Jo Tunmer

Sighs of Cambridge

solarplate etching

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**RELIEF PRINTING**

Relief printmaking is a process where protruding surface faces of the printing plate or block are inked; recessed areas are ink free. Relief printmaking covers the techniques of linoprint/linocut, woodcut and wood engraving and the principles of these mediums are similar. An image is made by rolling a thin film of ink over the surface of the block and pressing a sheet of paper into contact with it. Any incision in the wood or lino, produces an area of white. For each colour printed a different block will be cut and the image produced by inking each block separately and printing them in turn.

## **Linoprint/Linocut**

Linoleum is originally a flooring material made from cork and linseed oil. Linoprints first started appearing about 1900 as illustrations for books and magazines. The nature of its relative ease of use (it is much softer than wood, so incising lines into it is easier), combined with the fact it is cheap and readily available, made it an ideal printmaking medium.



Niki Bowers highlighting the detail of her Winter Hares design carved into linoleum



Anita Klein

Rain



Niki Bowers inking up the linoleum sheet





Niki Bowers

November Starlings

linocut





Niki Bowers pulling the finished Winter Starlings print off the inked up linoleum sheet



Gail Brodholt

New Day Dawning

linocut

## Woodcut

The art of printing from wood blocks was the first method of printing for text and images. Woodcutting is a method of relief printing from a block of wood cut along the grain. The block is carved so that an image stands out in relief. The relief image is then inked and paper placed against its surface before being run through a press.





Robert Greenhalf

Bullfinches and Woodpigeons

woodcut

**Wood engraving**

Wood engraving is usually done on the end grain of a block of boxwood, which is very hard, and so extremely fine detail is possible. The print is made by engraving the reversed design or picture to be printed into the mirror-smooth surface of a block of endgrain wood. The block is rolled up with ink (on its top surface) and printed onto paper. The cuts that were made into the wood therefore come out as white, the remaining top surface which gets inked, as black.



Angie Lewin

Dandelion Track I

wood engraving

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## SCREENPRINT/SILKSCREEN/SERIGRAPH

Screenprinting was developed in the 1960s and was originally a purely commercial technique. It became a common artistic medium after it was used by Pop artists including Warhol and Lichtenstein.

The screen is a piece of gauzy fabric, usually polyester or silk, stretched over a wooden or metal frame. Selected areas of the screen are blocked out either by hand painted liquid fillers, paper or photographic stencils. Ink is then squeezed evenly through the open mesh by means of a rubber blade or squeegee onto paper. A new screen must be prepared for each colour used.

Colour is generally strong and bright, and contained within well defined areas. The inks can be opaque or highly transparent.



Ian Scott Massie

Blea Tarn and the Langdale Pikes

screenprint





Carry Akroyd

Four Crested Grebes

serigraph





Angie Lewin

Island Summer

screenprint

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## LITHOGRAPHY

Lithography relies on the principle that oil and water do not mix. It was developed as a commercial printing technique, but it became very popular with artists in Paris towards the end of the nineteenth century, who were attracted to lithography for its painterly freedom and possibility of a wide range of graphic effects.

The artist draws onto the surface of a traditional limestone slab or zinc or aluminium plate with an oil based medium which can be a lithographic pencil, crayon or chalk, or a special liquid called tusche which is applied with a brush. The drawing can then be rubbed or scratched away in places to give a variety of effects.

The areas on the printing surface which have not been drawn on are treated with gum arabic and nitric acid to make them receptive to water. The original drawing is then dissolved away but leaves behind an oily layer on the surface. After wetting the entire surface, oil based printing ink is applied with a roller. The ink forms a thin layer on top of the oily drawn areas only, being repelled by the wet areas. When the paper is placed against the surface and put through a press, the lithographic print is created.





Carry Akroyd

Four Kites

Lithograph





Sarah Duncan

1.3 Seconds

lithograph







Clare Curtis

Barbara's Garden

lithograph

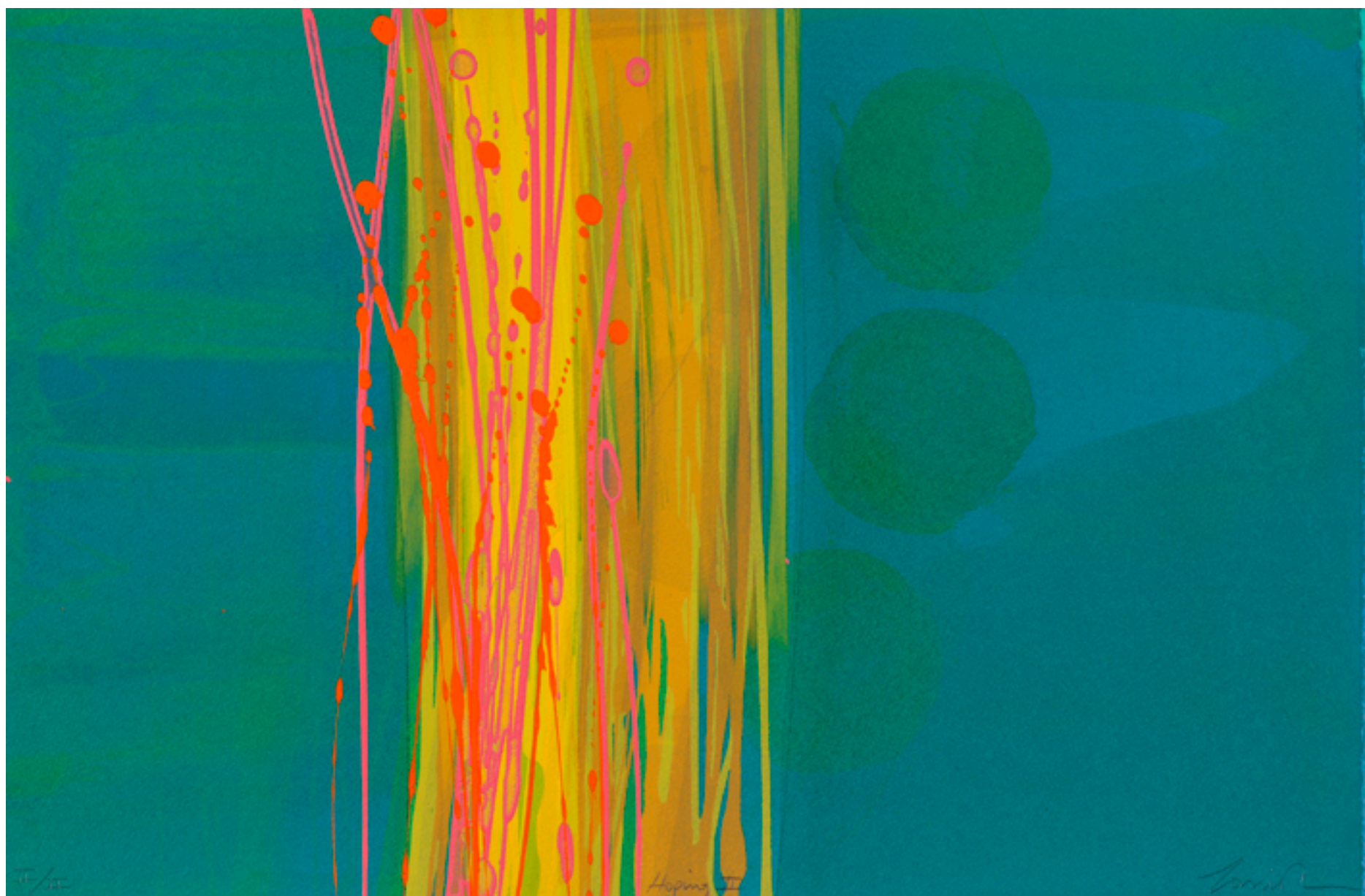
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## **MONOPRINT AND MONOTYPE**

These techniques produce single prints where no two are the same. Although images can be similar, editioning is not possible. The two main methods of making monoprints and monotypes are known as additive and subtractive. The additive method forms an image by building up layers of pigment on the printing plate. Each colour might be printed separately or several colours might be applied at the same time. The subtractive method starts with a plate covered in a thin layer of printing ink, from which the artist will remove areas of ink with brushes, sticks, rags or other tools.

Although the terms monoprint and monotype are often used interchangeably, they actually are two distinct techniques. A monotype is essentially one of a kind: it is a single printed image which does not have any form of matrix; no part of the print can be repeated. When doing monotypes, the artist works on a clean and unetched plate. On the other hand, a monoprint has some form of basic matrix: there is always a pattern or part of an image which is constantly repeated in each print. Artists often use etched plates to make up part of the image or an object such as lace or

leaves to add texture to a series of prints.

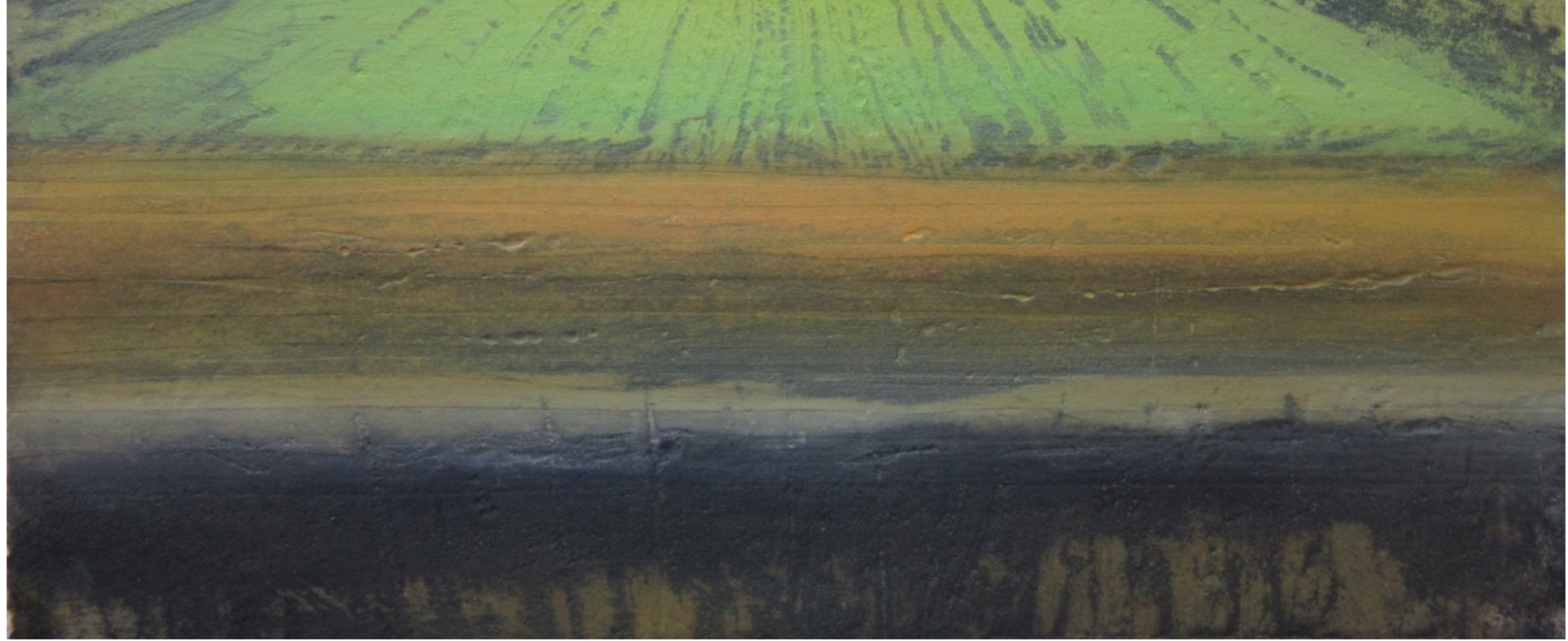


Charlotte Cornish

Hoping II

monoprint





Iona Howard

Winter Fen IV

Carborundum and monoprint



Charlotte Cornish

Hoping I

monoprint

Charlotte Cornish on her new monoprints, 'Hoping I' and 'Hoping II':

*"When making monoprints, I directly paint ink onto an open mesh silkscreen and then use a squeegee to pull the ink through onto the paper. I often print several layers in this way on to each monoprint. After the prints are dry I then paint directly on to the print with acrylic paint. The background printed marks and the surface painted marks create a dynamic which combines the qualities of both my paintings and prints. "*

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## **COLLAGRAPHY**

The term collagraph is a loose one, meaning a print made from a collage. At its most simple, collagraphy can involve covering a plate with glue and drawing onto it with any implement. When dry, it is inked, wiped and put through a press.

Collagraphy can also be a collage process, using materials as diverse as cardboard, fabric, gesso, glue, string, sand, carborundum grit, and found objects. These are built up on the plate which is then inked and passed through a press. A collagraph's particular effect is a result of the various textures of the objects used and the different way each discharges the ink onto the paper.

Artists attracted to the medium tend to use a variety of techniques, often using two or more methods at the same time. Collagraphy is essentially an experimental medium, and most artists develop their techniques through a process of trial and error.



1/50 VE

'Fractured'

Claw Manatee wood

Clare Maria Wood

Fractured

collagraph and copper leaf



Vicky Oldfield

Favourite Wildflowers

collagraph





Hester Cox

Signs of Spring

collagraph

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## **CARBORUNDUM**

The artist mixes together carborundum grit (finely ground silicon carbide particles) and a strong glue into a paste. The image is then painted or drawn with this paste onto a plate (a smooth surface such as Perspex) and allowed to dry.

The plate is inked and printed in the same way as an etching, but the ink sticks in the areas where the carborundum mixture has been applied and the rest of the plate is wiped clean. The gritty texture of the carborundum will hold ink to varying degrees depending on the grade and the consistency used. The carborundum is printed on a printing press which is similar to an old-fashioned mangle. Dampened paper is placed on top of the plate (so that the paper can be pressed into the contours of the plate), which is then passed between the rollers which exert tremendous pressure. The ink which was held in the carborundum grit makes contact with the paper because of the pressure of the rollers and so is transferred from plate to paper.

Artists take advantage of the possibilities of the direct and painterly approach that this method

allows. The technique is usually used to produce large prints.



[Iona Howard](#)

Wicken Fen I 1/1

Carborundum and monoprint

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