

A Brief Guide to Printmaking Techniques

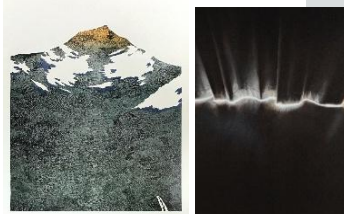
Woodcuts explained



Etchings explained



Lithographs explained



Silkscreens explained



To really understand the art of printmaking, you have to be a practitioner, which I am not. Out of necessity, however, I first wrote notes on the artists featured in the special exhibition *Intimate Dimensions* in 2016. While writing a text for the guided tours since, I have often felt like throwing up my arms. Printmaking techniques are diverse and complicated, and you can easily get bogged down.

Naturally, it is entirely possible to enjoy prints without knowing anything about how they are made, but knowing a little bit about printmaking techniques goes a long way. Many of the artists I have interviewed for the 2025 Guided Tour via email appreciate the strong element of crafts in printmaking.

I have put together this brief guide as a companion piece to the 2025 Guided Tour Artists' Talks: "Why Printmaking?" drawing on what I have learned from the artists over the years as well as the information I have gathered from the websites of major museums and art institutions. I hope you will find the guide helpful.

Michiko Okubo
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Notes:

*I have included in this guide the links to six YouTube videos on printmaking I made with Akiko Nakagawa in 2021. When you come across them, take a quick look to see how these artists make their prints.

*These videos can be accessed collectively also at the following site:

<https://cwaj-gallery.jp/printmaking-en/>

68th CWAJ Print Show



Why Printmaking?

This basic question is the main theme for the 2025 guided tours. I have asked the artists why they chose printmaking over other forms of art and furthermore why they chose specific printmaking techniques.

Printmaking as Opposed to Painting

In the 2025 Guided Tour Artists' Talks, many of the featured artists address this question, as a variable of the main question: "Why printmaking?" In contrast to painting, they often talk of printmaking being an indirect way of making art, in which you create an image on a matrix and transfer it to another surface like paper or fabric. The artists say this aspect has a great appeal to them. Some liken it to having an intermediary, which helps put distance between the creator and the creation. Others maintain that the time required to go through a series of complicated production processes serves the same purpose.

Four Major Printmaking Techniques: Relief, Intaglio, Lithography and Silkscreen

We have selected 22 prints for the 2025 Guided Tour. Here's a breakdown by technique: 7 relief prints (6 woodcuts and 1 wood engraving); 10 intaglio prints (6 etchings, 2 mezzotints, 1 engraving/drypoint and 1 drypoint); 3 lithographs; 2 silkscreens.

In **relief** and **intaglio**, the image part and the non-image parts are on different heights, though in opposite ways. In relief, the image is printed from a raised, inked surface. In intaglio, the ink is held in the recessed or incised grooves forming the image below the surface.

Lithography and **silkscreen** are called planography, a method using a flat surface. In lithography, a process based on oil and water repulsion, the image drawn on a flat surface with greasy materials is printed with oil-based ink after the surface is chemically treated to make the image area oil friendly and the non-image area water friendly. In silkscreen, when ink is forced with a squeegee, a stencil on a mesh screen blocks the ink from passing through the screen to paper placed below.

1. Relief

There are three major relief techniques: **woodcut**, **wood engraving**, and **linocut**. To make a relief print, you carve away non-image areas from a woodblock or a linoleum plate with sharp tools, leaving the image in relief. You then ink the raised image part, place a sheet of paper on top of it, and transfer the image onto paper by rubbing the back of the paper often with *baren*, a hand-held disk.

Baren: <https://art-design-glossary.musabi.ac.jp/baren/>
(Musabi is a short form for Musashino Art University)

1-A. Woodcut

In woodcut, you use a block cut vertically along the grain and gouge out unwanted parts with chisels and gouges. Many Japanese artists use water-based ink and washi paper as you see in the 2025 Guided Tour Artists' Talks: "Why Printmaking?"

*For images and more details:

Woodcut: <https://art-design-glossary.musabi.ac.jp/woodcut/>

Woodcut tools: <https://art-design-glossary.musabi.ac.jp/chisel/>

To produce a color woodcut, you first carve the outlines of a design on a block, which is called a "key block," and transfer the design outlines from the key block onto all the block surfaces required to produce your work—you sometimes use both sides of a block. You print one color with one block. On each block, you carve away all unwanted areas, leaving raised parts for a specific color. When you print, registration—aligning multiple color blocks—is crucial. And as water-based ink prints only faintly, you often have to print twice or three times to give enough body.

The video below shows how SEKINO Yowsaku makes his exquisite woodcuts:

<https://youtu.be/MgBi-p8hQ58>

To create his *Cosmos and a Dragon Vase*, Sekino printed 21 times, applying one color each time and using 14 blocks in total. Why the discrepancy between the two numbers? Because he sometimes carves two different parts of the same block—four such cases with this piece—or both sides of a block.

1-B. Wood Engraving

"Wood engraving is a type of woodblock printing in which a block of wood with a hard surface, made by slicing a tree into rings, is used for the printing block. This block can be carved with intricate details using a burin" (Musashino Art University).

*For more details and images:

<https://art-design-glossary.musabi.ac.jp/wood-engraving/>

<https://art-design-glossary.musabi.ac.jp/burin/>

Woodcut and wood engraving are both forms of relief printing. To make a woodcut, you carve away non-image areas and ink the raised design part to print. Wood engraving shares the same procedure, but there is a slight difference. To make a wood engraving, you don't gouge out unwanted areas, but incise lines to create a design, leaving the unengraved surface in relief to receive the ink. You could say that the incised lines that print "white" form the design with the unengraved surface that prints "black."

People often mistake a wood engraving (relief printing) for a copperplate engraving (intaglio printing). You can easily get confused, even when you know that the incised lines in a wood engraving show up white in a finished print whereas in a copperplate engraving, they will be inked (more about this in the intaglio section). Just keep in mind that the white parts are created by incising lines in a woodblock with a burin, a steel cutting tool with a wooden handle.

Wood engraving uses the end-grain block. It is hard and smooth, ideal for intricate work, but the size of the block is limited by that of a tree trunk, thus the relatively small size of a wood engraving.

You will find a number of wood engravings at the 68th CWAJ Print Show. Most notably, #71 by KOBAYASHI Keisei known for his large-sized, superb wood engravings with large white spaces. Others in the 2025 show include MORIYAMA Kayoko's print #102, OTAKA Hiyori's print #128, SAITO Ryota's print #137 (included in the 2025 Guided Tour Artists' Talks: "Why Printmaking?"), SATO Miho's print #143, and TAKEMURA Ken's print #171 (wood engraving/woodcut).

1-C. Linocut

As in woodcut, you create a design by carving away unwanted areas, but instead of a woodblock, you use a plate of linoleum. HIROTA Raifu, a long-time contributor to the CWAJ Print Show, says that he uses a regular linoleum sheet sold as a floor covering.

Hirota makes a vividly colored linocut by using only one plate.

HIROTA Raifu: <https://youtu.be/4IZM2qlegVk>

*MOMMA Hidemi, included in the 2025 Guided Tour, also uses a single screen to create her multicolor silkscreen.

2. Intaglio

"Intaglio: A general term for metal-plate printmaking techniques, including etching, drypoint, engraving, aquatint, and mezzotint. The word comes from the Italian *intagliare*, meaning "to incise" or "to carve." In intaglio printing, the lines or areas that hold the ink are incised below the surface of the plate, and printing relies on the pressure of a press to force damp paper into these incised lines or areas, to pick up ink" (MoMA, Museum of Modern Art). In preparation for printing, you force ink into the incised or recessed areas and then wipe the surface clean.

Here's a five-minute video by Phil Sanders, director and master printer at the Robert Blackburn Printmaking Workshop, a program of The Elizabeth Foundation for the Arts: <https://youtu.be/VRwWJyy24So>

In this video, Sanders walks you through the production processes of drypoint (non-acid method) and etching (acid method).

In **intaglio**, there are two sub-categories: **non-acid** and **acid methods**.

2-A. Non-acid methods include engraving, drypoint, and mezzotint. Each produces prints with different characteristics.

2-A-a. Engraving

You incise lines into a copper or brass plate to create a design using a burin, a steel cutting tool with a wooden handle. The laborious process requires skill and stamina. The deeper the cut, the thicker the lines. You use parallel or cross-hatched lines to produce tonal areas. Sharp, crisp lines characterize an engraving.

*KONNO Noriko combines engraving and drypoint to create her print that adorns the Catalogue Cover of the 68th CWAJ Print Show.

2-A-b. Drypoint

To create a design, you scratch the surface of a plate (copper, zinc, aluminum, or plexiglass) with a sharp needle, leaving a burr—a rough, raised ridge of metal displaced along the edges of an incised line. The burrs thrown up on either side of the incised line hold ink, and produce soft, velvety, and fuzzy lines, a major characteristic of drypoint. Drypoint is often used as a complimentary technique to other intaglio methods.

*NISHIMURA Ryo is unique in creating a print by using only drypoint. (His print #109 is included in the 2025 Guided Tour.)

2-A-c. Mezzotint

You first prick the entire surface of a metal plate with a rocker, a tool with a curved, toothed blade. By passing the rocker back and forth repeatedly across the polished metal in many different directions, you create thousands of hooked burrs that will hold ink. (If inked and printed at this point, the mezzotint will print in deep, velvety black.) You then create an image on the roughened plate by scraping and polishing burrs away in varying degrees, thus making certain areas smoother so that they will hold less ink and lighter tones will emerge in a print. You use a burnisher to produce delicately intermediate tones, and a scraper to create sharp lines quickly.

Mezzotint relies on soft gradations in light and shade, rather than lines, to form an image. The image emerges from a process that starts with darkness and evolves into light.

Here is a short video featuring OMORI Hiroyuki: <https://youtu.be/YZ52CpGnFaU>
Omori shows the production processes of mezzotint from start to finish.

KOBAYASHI Jinan's mezzotint, #70 *Time of Silence-Chinese cabbage*, has soft, velvety blacks and rich, subtle tonal gradations from black to white. IKUTA Koji's color mezzotint, #47 *[A Kingfisher in Flight]*, achieves the same effects in multiple colors.

Note: *The English title in square brackets indicates that CWAJ members translated it from the original Japanese.

2-B. Acid methods include **etching** and **aquatint**. Etching creates clearly defined lines while aquatint produces tonal effects that mimic watercolor. Among other techniques are a variant of aquatint called **lift-ground** (or **sugar tint**) that allows you to paint a design with a brush, and **photo etching** that uses photographic means instead of an etching needle to create a design on a metal plate.

2-B-a. Etching

In etching, you first cover a copper, zinc, or brass plate with waxy material called ground typically made from a combination of wax, resin, and asphalt (or bitumen) to create an acid-resistant coating. (The grounds can be a solid ground applied to a heated plate or a liquid ground that is brushed or poured on.)

You draw a design by scratching through the protective ground with an etching needle. When you submerge the plate in an acid bath, the acid eats away at the exposed metal, creating recessed lines or grooves that will hold ink, and thus exposing the design. The longer the plate remains in the acid, the deeper the lines will get, resulting in heavier lines or darker prints.

While engraving is the physical process of cutting lines into a surface, etching is the chemical process of burning lines into a surface with acid.

2-B-b. Aquatint

In aquatint, you dust a metal plate with powdered rosin (a type of resin) which is a granular and acid-resistant material. The rosin, when heated, melts and adheres to the plate, forming a granular pattern. When you submerge the plate in an acid bath, the acid “bites” around each of the rosin particles, creating a granular network of etched pits on a metal plate, which holds ink to print as tonal areas. By varying the duration of the acid bath, you can achieve different shades and tones, creating a look similar to a watercolor painting.

2-B-c. Lift-ground (or Sugar Tint)

This method is one of the variants of aquatint. In this technique, sugar is mixed with substances that dry quickly and dissolve in water such as gouache or gum arabic. With this sugar solution, you can draw with a brush or pen on a plate. When the drawn image is dry, you cover the plate with a thin layer of acid-resistant ground or varnish, then immerse the plate in warm water. The water dissolves the sugar mixture, causing it to expand and lift the hardened ground off the plate, leaving the drawing uncovered. When you submerge the plate in an acid bath, acid then bites into this drawn area, now left unprotected, and the design is etched into the plate.

The term sugar tint refers to the resulting tonal effects created by this process, while lift-ground describes the mechanism of lifting the ground off the plate to create the image.

TAKAHASHI Fumiko's print #165 and YAMAMIYA Litzco's print #198 are created using this technique.

2-B-d. Photo-etching

You can apply this technique to create a detailed image on a plate. First, you coat a metal plate with a light-sensitive emulsion or use a pre-sensitized plate that comes precoated with the emulsion. You then place a transparent film positive on the plate and expose them to UV light. The emulsion in the areas exposed to the light becomes hard while the emulsion in the unexposed areas remains soft, which will be washed away with water, revealing the metal surface. Now the plate is ready for an acid bath with the design part left bare for the acid to eat away.

Photo-etching is also used in other forms of printmaking. I will come back to that later.

IKEDA Ryoji's print #46 is made using photo-etching.

3. Lithography

The term lithograph, which is derived from the Greek words for stone (litho) and drawing (graph), means a lithographic print whereas the word lithography signifies a technique used to produce a lithograph.

In stone lithography, you first grain the stone to create a textured surface that is porous and receptive to both grease and water, essential for the printing process after chemical treatment. Today, however, aluminum plates are more widely used than stone since they are lightweight, durable, and flexible. An artist often uses a ball-grained aluminum plate that has a surface similar to a grained stone.

You draw an image on a grained stone or a ball-grained plate with greasy crayons or a greasy black liquid called tusche. Next, you "bond" the image to the stone or plate by spreading a chemical mixture across the surface—the design is now oil friendly. You then dampen the surface with water, which adheres only to the blank, non-greasy areas—the non-drawn (grease free) part is now water friendly.

You wipe away the original drawing with a solvent. A ghost-like trace of the image is left on the surface of the stone or the plate.

To print, you spread oily lithographic ink with a roller, which sticks to the greasy image part, but not to the non-image part, areas protected by the film of water. You place damp paper on this prepared surface and run the plate or stone and the paper through a press to transfer the image.

Lithography's complicated production processes are hard to grasp and even harder to explain. The following website gives a concise, step-by-step explanation. You don't have to take it all in, but it will help you get a feel for lithography.

<https://www.metmuseum.org/about-the-met/collection-areas/drawings-and-prints/materials-and-techniques/printmaking/lithograph>

(The Metropolitan Museum of Art)

You can also quickly look through the following videos.

Stone lithography: ICHINO Yu <https://youtu.be/-0yovTalZPg>

Lithography: SONOYAMA Harumi <https://youtu.be/DjautpJkyNY>

Ichino's video demonstrates how to fix the image drawn by greasy materials to the grained limestone. Sonoyama's video shows the process of photo etching as well as that of lithography involving multiple plates.

In relief and intaglio, you carve or incise a design, but in lithography, you draw it on a flat surface and fix it chemically. Lithographs often look like drawings or paintings. Sonoyama says he chose lithography because lithographs look least like prints.

The 2025 Guided Tour features three lithographs: #64 by KAWARAI Yasuyuki, #156 by SONOYAMA Harumi, and #159 by SUZUKI Tomoe.

4. Silkscreen

Like lithography, silkscreen is a form of planography, a process that uses a flat surface to print. While lithography achieves this through the interaction of oil and water, silkscreen uses a stencil placed over a mesh screen to block ink from passing through.

You first stretch a sheet of mesh tightly over a wooden frame to create a screen. In silkscreen, you block non-printing areas by placing a stencil on the screen. You can make stencils by using paper, screen filler, which hardens when dry, or photo stencil, which works the same way as photo etching.

You use a squeegee to press ink through the unblocked areas of the screen directly onto paper placed below. Silkscreens typically feature bold, hard-edged areas of flat, unmodulated color.

In print #98, Momma Hidemi uses screen filler with a brush to block ink from passing through. In print #19, Fukumoto Yoshihide uses screens coated with light-sensitive emulsion and films on which images are drawn, and exposes them together to UV light to create his stencils.

Momma's video shows how she creates her vibrant silkscreens, using only one screen and layering each color after adding more detail to the screen with screen filler that acts as a stencil. The technique is called the reduction method as the image area is progressively reduced.

<https://youtu.be/3vj5OfZB0bM>