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The Monoprint: Techniques and Translations

Alice Kreit

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The Monoprint: Techniques and Translations

by

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Thesis Submitted
for
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5/18/1978
Approved
Dr. Robert H. Johnston, Dean
College of Fine and Applied Arts
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Perhaps my life is nothing but an image of this kind; perhaps I am doomed to retrace my steps under the illusion that I am exploring, doomed to try and learn what I should simply recognize, learning a mere fraction of what I have forgotten.

--Andre Breton, Nadja

The only criticism worth having at present is that which is spoken, not written--spoken over wineglasses and coffeecups late at night, flashed out on the spur of the moment by people passing who have not time to finish their sentences,...

--Virginia Woolf, G. Moore

for J and J
The Monoprint: Techniques and Translations

Introduction

Originally, it was my intention to construct a purely technical document, to serve as a useful tool in outlining a step one-step two set of processes. That I will most certainly do, while presenting a visual diary. But technique alone does not represent the sum total of my concern.

"It is taken for granted that the quality of any art work depends not only on the technical proficiency of the artist, but to a greater extent on the formal and expressive values he is able to project into the work." 1

My "formal and expressive values" (whatever that means) are not easily explained. But I do find it necessary to attempt some explanation here. Saying as much, this introduction might be titled, A Reason for My Art or What My Art Means to Me or Why I Art.

"'What kind are they? Vague things?'
"'Perhaps.'
"'Reflections of your soul?' my father asked.
"'A reflection of my eyesight.' Degas replied. 'We painters do not use such pretentious language.'" 2

At the risk of sounding pretentious, I would like to give some insight into 'my art'. Eventually, I will be more specific. So as to fulfill the obligations of this thesis, I will discuss different applications of the monoprint, and how it may be translated, by various means, into multiple print processes.

The artist, by my own definition, is, first of all, determined by a temperament or state of mind. Quite possibly the temperament elicits a creation. But between the artist and creation, frequently separated by vast seas of incompatibility, is the media: the means by which an unformed something becomes something else. And then perhaps, conceptually at least, something more.
In my work, I have tried to develop some integration between technique and idea—allowing the one to express the other.

Monoprints or monotypes, as they are sometimes called (I prefer the former, as 'type' implies something with a point size), have allowed me to develop a personal language, which is not manipulated by the various techniques and processes but determined by the very spirit of them. I now realize that with all the manual freedom the monoprint offers, it has a life of its own. And greater control comes from a patient acceptance of this fact.

It is no small consequence to me that in the past two years I have produced a body of work which complements an idea as well as a technique. Throughout the development of my thesis, it seems that I have been following a carefully drawn series of steps.

"...thought is like the keyboard of a piano, divided into so many notes, or like the alphabet...ranged into twenty-six letters all in order..." 3

At times the progression was vague and disjointed, but there always remained a thread of similarity, some recurrent theme from one piece to the next. Recognizing the factors that guide this elusive continuity becomes the obsessive idea. It sustains 'my art' and hints at a purpose somewhere just barely out of reach.

"The right art," cried the Master, "is purposeless, aimless! The more obstinately you try to learn how to shoot the arrow for the sake of hitting the goal, the less you will succeed in the one and the further the other will recede. What stands in your way is that you have a much too willful will. You think that what you do not do yourself does not happen."

..."What must I do, then?" I asked thoughtfully.

"You must learn to wait properly."

"And how does one learn that?"

"By letting go of yourself, leaving yourself and
everything yours behind you so decisively that nothing
more is left of you but a purposeless tension."

"So I must become purposeless on purpose?" I heard myself say.

"No pupil has ever asked me that, so I don't know the
right answer." 4

The work, quite obviously, is figurative. I believe that
discovering the art of the monoprint was a stroke of luck for me,
if not just a fateful result of a carefully developed direction.
Monoprints have increased my drawing vocabulary while allowing
me relative freedom from process. As a result, I have been able to
experiment with a wide range of compositional ideas. For the most
part, I was concerned with placing a figure in a space so that the two
created an eye-catching tension. The figure is always the dominant factor.
And even still more important, is the gaze or facial expression. This
becomes the life of the figure.

"Now, when I look someone in the eye, I always see the
center of the world there." 5

Though the subjects were never drawn from a model, they seem to
possess their own reality. They are self-contained, stoic. While some
sit as formal portraits, others are as oblivious to their
surroundings as they are to their physical presence. Perhaps, though
I am not certain, I am trying to represent the absolute aloneness of
the human soul.

"The world begins and ends with yourself. That's all there
is to it." 6

To say more than this about the nature of my work would seem
inappropriate to the purpose of this document.

"Every work of art is born for absolutely no reason
at all—unless it is because of the immediate sensation
of the present the artist feels when he looks reality in the eye." 7
Techniques

"A monotype is a unique, printed impression produced by painting a picture or design on a plain surface, such as glass or metal, and transferring it to another surface, such as paper or cardboard."

"A general description of a monotype is a work of art printed from a still-wet ink drawing made on metal or wood. The ink used is usually printer's ink or thinned oil paint, and the composition is printed by being run through a press or rubbed by hand. Though there are a number of variations in practice by contemporary artists (including drawing on the back of a paper which has been placed over an inked plate), the basic principle in producing monoprints remains the same. There are no raised lines or acid areas burned into the plate, and, therefore, the original drawing made in ink transfers itself and is consumed entirely in the finished work."

There are hundreds of variations of monoprint techniques. I will only discuss those which are illustrated in the plates that accompany this thesis. Further information can be obtained by consulting the bibliography.

Plates 1 thru 3 are examples of what I will call the 'Blap' method. This technique is the simplest of all as it does not require a press. It is best to use a heavier grade of paper. Delicate stock will not tolerate soaking or reworking. Presized watercolor or printing paper is ideal.

I had been drawing landscapes in other media which fell into the category of 'sky/foreground' definitions. These monoprints are of the most unrestrained work I have ever done.

As to technique: I first masked-out the format on a flat table top with small pieces of tape to accommodate the full-size sheet of paper. This I used as a guide for the registration of multiple printings. I then had ready a full palette of oil color to paint onto the table.
This done, the paper was "blaped" down within the bounds of the registration marks. I used gum turpentine to thin the paint for washy areas, and burnished the back of the paper with a spoon for added emphasis in areas where the paint was more stiffly or thickly applied.

The technique was in control of me. Each transferred image was more surprising than the last. The results were intoxicating in their energy, while demonstrating a valuable introduction to the monoprint. From these, I made the decision to try for greater control: more precise, predictable definition of subject matter.

Plate 4 belongs with this first series of monoprints (there are 26 in this series), but it is different in that it has been drawn on with soft pastels. Degas often used his monoprints as the first stage in the development of a drawing, particularly by using pastel.

Almost all of the rest of the monoprints I will discuss here have been executed in the same basic way; from the pulling of an impression from a drawing in printer's ink on a zinc plate.

The drawing is made by covering the plate entirely with ink and wiping some of it away to make a design (the subtractive method, or dark field manner); or it can be made by the direct application of ink to a clean plate with a brush or rag (the additive method, or light field manner).”

Degas called his monoprint impressions "desins faits avec l'encre grasse et imprimes"—drawings made with greasy ink and put through a press.

In Plates 5 thru 8, I began by beveling the edges of a zinc plate 3½" x 4" in dimension and polishing its surface with a fine grade of emery paper. By employing the subtractive method or dark field manner, I used a sharpened pencil, my fingers, paper and a small
piece of canvas to draw with into the surface. **Plate 8** is especially significant because it was with this print that I discovered a useful, new drawing implement: the Q-Tip or cotton swab. This allowed me to be more detailed in describing a space.

The consistency and quality of the ink did not concern me at this point very much. I was using a Vine Black etching ink made by Graphic Chemical and Ink Company. However, after working with this ink for an hour or so, its consistency became chalky and steadily more viscous. For this reason, I developed the practice of adding a small amount of burnt plate oil (grade 0 or 00) to retard the drying process of the ink. Following this, I then used a 6" soft gelatin brayer to roll the plate black.

It demanded a major change in approach when, after experimenting on a 3½" x 4" format, I began using a 24" x 32" zinc plate. As I had used the same piece of metal for over 30 of the small monoprints, so likewise I prepared the larger plate: following the same procedure of beveling the edges and carefully polishing the surface.

I had the idea to represent a figure or portrait within a structure which would remain constant throughout a series. **Plates 9 and 10** are two examples that represent this idea. The structural theme is described like the symmetrical portrait of a playing-card. Only in this case one face is dominant, the other only a vague reflection. **Plate 10** is intended to be a self-portrait.

**Plate 11** illustrates the playing-card structure also. It is significant in that I allowed the roller and ink distribution to create the structure for me. After I had sketched in the portrait above, I rolled over the image with a small brayer and transferred the shadow of the above portrait to the clean area of plate below (light
field manner).

In beginning the series, I found the size to be overwhelming in the creative possibilities it could contain. I could play around with the smaller plate with ease. I could hold it in one hand and completely change it from one minute to the next. With one motion I could roll it black or wipe it entirely clean. But the larger surface left me with a vast new area to consider and if nothing else, was awkward to work with. I used an 18" soft gelatin roller to roll the plate a uniform black. The ink drying became a problem on the larger surface, so I changed to graphic Chemical and Ink Company's Etching Black No. 514. It is of a more greasy yet loose consistency, and did not seem to get chalky. Drying still posed a problem however, so I continued to thin the ink with burnt plate oil as previously mentioned. I found that cheese cloth is useful for wiping areas of the plate clean. It also can be used to blot in textures and sensitively suggest areas of light and shape.

I tired of this thematic approach to structure and decided to return to figures that would relate in scale and placement to their space. The interior/exterior suggestions in Plates 12 and 13 evidence this change. From here, I moved into a short series of airy landscapes (Plates 14 thru 16). In an effort at greater tonal range, I began using a brush to paint in thinner. This created washy textures and shapes while further defining hard edges of black mass.

Plate 16 is one of very few of my monoprints that was sketched in the field. It is a scene I walk by everyday and see in a different perspective from my apartment window. I have sketched and painted
this view many times, throughout the seasonal changes of the year. This
monoprint is a personal favorite partly because of the factual aspect
of its subject matter. This way of seeing demands further
consideration. Currently, I am sculpting small figures in clay.
The subjects are still fabricated by the suggestive nature of the
material but, consciously at least, owe their origins more to
things actual. My recent monoprints and drawings also are under the
influence of this new tendency.

To continue, Plates 17 thru 20 are a return to the figure through
color. After experimenting with multiple printings and being
disappointed by the results, I decided just to paint on the surface
and determine the print from one pass through the press. This
was a more successful method of applying color as well as making the
subject easier to visualize and control. Just about any kind
of pigment is useable for this technique as long as it is not
too liquid or applied too thickly. Either of these mistakes will
almost certainly produce a messy press and blanket system
with a muddled print to match.

In Plates 17 thru 20 I used combinations of black printing ink
and oil paints to roll the background colors onto the plate.
If the color is too thin it will not roll easily over the surface.
The basic shape of the figure was then rolled out with any fairly
stiff black ink available. Lithographic inks are generally a bit
too tacky to manipulate with a rag or cotton swab. But an
etching ink such as Graphic Chemical and Ink Company's No. 514
Black will work nicely. Referring back to these four plates, the
ground color was rather loose but thickly applied. Consequently,
I used the stiff ink to define a dark, opaque shape with various size brayers. Then, by working with a combination of additive and subtractive techniques, I found it possible to build on transparent layers of color and shape. Plate 17 is one of the very first attempts at this technique. A few months and many monoprints later, Plates 18 thru 20 evolved. In Plate 18 I defined a background structure by using strips of masking tape. The tape remained on the plate for the final printing. This was a new subtlety that I continued to use in later prints. The tape can also be used as a mask for retaining white bands when the tape is removed, before printing, to reveal clean plate. Larger shapes may be masked from the roller also by cutting acetate stencils.

Plate 19 was worked in much the same way as was Plate 18. There was no masking tape used but I did use a piece of matboard with a straight, ink-charged edge to apply the horizontal lines. Matboard scraps can also be used in this manner to eliminate ink (see Plate 20).

Plates 21 thru 24 are all done in the dark field manner. There is nothing particularly significant about them other than their formats and similar treatment of subject matter. The element of format is very influential in determining the composition. It is also, I feel, a major device in developing a series of prints or drawings or any body of work that expresses not only growth and change but continuity. I seem to learn most by visualizing a new idea as a series, while considering the arrangement of shape and light within a limitless plane of space. Monoprints are a 'natural' for this way of working, because the residual plate automatically repeats its format.
Plates 25 thru 28 were all executed using a Lamp Black ink mixed from powdered pigment with a number 3 litho varnish (all made by Graphic Chemical and Ink Company). It allowed for a rich, velvety black that I'd been unable to achieve with any premixed ink. The reason for this is that commercially processed inks often have driers and fillers (like magnesium carbonate) which dilute the intensity of the pigment. The number 3 litho varnish also produced a stiffer ink. Though it is more difficult to manipulate, it will hold greater detail through the press.

These four prints exemplify some of my strongest work. Plate 25 is done strictly in the dark field manner, drawn with a piece of cheese cloth and a sharp 9H pencil. It is one of very few prints with more than one figure. Plate 26 has washy areas that were created by brushing on lacquer thinner. I prefer lacquer thinner to turpentine because it dries faster, thereby offering more control as a drawing device.

The next series of monoprints is a complete departure in technique. Plates 29 thru 31 are a return to the 'Blap' method mentioned at the outset of this essay. The difference is that I taped the paper to the edge of a format, masked or contained by strips of masking tape. This format existed for these prints, not on a metal table top as before, but on a sheet of glass. Instead of a presized printing paper of heavy weight (250 lb. Arches, for example), I used Strathmore charcoal paper which has a laid mold impression. This texture of the paper allows for washy effects to produce very painterly results. Because the paper is taped to one border, it is possible to do several over-printings, as the shadow of the printed image remains visable. The glass sheet
is not passed through the press. Instead, the printed sheet is
smoothed with the hand during the transfer process. It is necessary
to use fairly loose ink or paint so that the paper will absorb the
pigment without too much difficulty. Koshi (double-weight), a
handmade Japanese rice paper, is highly recommended for use with
this technique.
Translations

One day, after seeing some of my monoprints, Phil Bornarth said to me, "Alice, I think you're on to something here". He proceeded to suggest a whole range of experiments that became the focal point of my thesis.

I have taken what begins essentially as a monoprint and translated it to a multiple print process. There are several different ways this can be done. I will discuss the methods I have tried here.

Printing a monoprint onto a transparent surface such as Mylar (frosted) or acetate (frosted), can produce a working transparency that can then be contact printed to a presensitized surface.

Plates 32 thru 36 are translations of a monoprint, developed in the dark field manner and printed onto Herculean Frosted Mylar. Plate 32 was the first lithograph in which I employed this process. Before the ink was thoroughly dry, I brushed paint thinner over some of the densest concentrations of ink. Speaking of density, I should say a few words in praise of frosted Mylar. It has a much finer surface and is much thinner than frosted acetate. These factors allow for greater detail, less distortion and a shorter exposure.

In Plate 32, the thinner allowed for delicate washy textures which transferred accurately to the plate. This fine film produces the effects of a half-tone reproduction which can be examined with an eye-loop for correct exposure. Once the Mylar/monoprint is dry, it can be drawn on and altered further before being transferred photographically to a presensitized surface. The original transparency, when taped to a light table, can be used to make other transparencies for the consideration of multiple
printings and incorporating color.

I began Plates 32 thru 35 by first contact printing the major (monoprint) image to a Kodak Polymatic LP litho plate. This high quality litho plate consists of a uniform coating on grained, anodized aluminum. I have found that a two minute exposure to a mercury vapor, ultra-violet light source is, on the average, perfect for the quality of imagery produced on the Mylar/monoprint. After exposure and development, each plate was buffed with plate finisher and plate gum, then stored for later use. I proceeded to make two other transparencies on Mylar to accompany the major image plate already processed by the Kodak LP system. I used india ink (for plastic sheets), a felt-tipped marker and pencil as the drawing media. Each of these transparencies would represent a separate color. The first was exposed on a stone that had been presensitized with Lith-Kem-Ko (Lithographic Chemical and Ink Company’s diazo base) Wipo Sensitizer Base. The 23" x 31" image area required a 20 minute exposure lights (an arrangement of six 250 watt bulbs). It is necessary to have a sheet of glass to cover the entire image area. This will prevent the Mylar from curling or buckling on the surface and will allow for an even, in-focus exposure.

When the exposure time was complete, I then used Lith-Kem-Ko Red Lacquer Developer to complete the process before gumming and roll-up.

It is very important to note that the Lith-Kem-Ko Wipo Sensitizer Base and Red Lacquer Developer is a negative working process. Meaning that which is exposed to the light will print.
Though it is possible to manipulate the image area on the stone by further drawing and elimination, I have found this difficult with the LP plates. They require their own elaborate set of chemicals as do other positive working plate systems made by other manufacturers. I did, however, use those chemicals at my disposal to almost complete satisfaction. 12

In Plates 33 and 34 I exposed the Mylar/monoprint to a stone using the negative working process for the rust color in 33 and the positive working process of the LP plate which, as the major image plate, I printed last. By changing the kind of paper and color of ink with each printing, I derived a monoprint edition of 12 prints.

Plate 35 is a 3-color lithograph executed in primarily the same way as Plate 32.

I should mention here that surface tension existing between the Mylar (it is not an absorbent surface) and the plate, results in the texture pictured below:

\[\text{Mylar/Monoprint} \quad \text{Printed (Offset) Result}\]

This texture can be altered to a very slight degree by altering the consistency of the monoprint ink. A stiffer ink will decrease the size of the texture, while still producing the same over-all pattern.

The lithographs that appear in the list of plates which accompany this text were all printed by hand. However, the cut-out
example that appears on the preceding page, was part of an image printed on the Heidelberg Cord Einfarben offset litho press. This is one of the many technical options open to the printmaker/monoprinter.

**Plate 36** is a print made from one zinc plate that had been photo-etched using a Mylar/monoprint for the transparency. Like the LP plates, this is a positive working process. In other words, what is in ink on the Mylar/monoprint will be what etches and retains ink when the plate is printed after processing and etching. I presensitized the zinc plate with Kodak KPR 3 photo resist. I then contact printed (printed side as emulsion side down) the Mylar/monoprint to the plate using a one-minute exposure to a mercury vapor ultraviolet light. The figure was the result while the background was reworked using line-etch and aqua-tint. The plate was printed in two colors by selectively wiping and by using cards for ink application.

**Plate 37** is the result of printing a monoprint onto Glossy Coated Charbonnel Transfer Paper. I used Graphic Chemical's Etching Blue-Black for the monoprint ink. When the ink was dry, I transferred the image to a pregrained aluminum litho plate. The plate was then processed as described in the Tamarind Book of Lithography.

**Plates 38 and 39** are examples of the most direct of all the monoprint-to-multiple print translations I have discussed thus far. For these, I manipulated softened, black litho ink on a sheet of clear acetate. It is then developed in much the same way as a monoprint on a zinc plate (dark field or light field manner). I rolled sections of the plastic sheet black and used a piece of cheese cloth to subtractively develop a face. In both of
these plates I included my own hand-print as in Plates 25 thru 28.

When the acetate monoprint surface was completed to my satisfaction, I placed it face down on an aluminum litho plate and ran it through the press. The transfer will be perfect if the amount of ink on the acetate is minimal and if the ink is not dry. In fact, I suggest that the transfer be made as soon as the drawing is completed. Once the transfer is made the plate can then be drawn into with other lithographic materials. There should be no delay in processing the plate once the transfer and drawing are completed. If the litho ink from the monoprint transfer is allowed to dry, it will be very difficult to wash-out the image in the clean-plate stage of processing. The final results can produce a striking harmony between monoprint and lithograph.

Plates 40 thru 42 are a few examples of how the monoprint can blend with more conventional printing processes. They are not translations of a process, but rather variations on a theme.

In Plate 40 the figures are torn separately from an editioned print and collaged onto a marbleized background. Marbleizing is a monoprint technique of another variety than those previously discussed. It is used by book publishers in developing decorative end-papers such as the piece pictured on the next page. This can be done by dropping oil base paint in a shallow tray of water. The oily pigment will float on the surface and can be swirled to produce an endless variation of pattern. When paper is set lightly on the surface and then lifted, the oil color will have transfered to its surface.
Plates 41 and 42 are different stages of the same print. I began by etching a figure into a ½" thick steel plate (18" x 24"). In taking a first proof, I executed a monoprint in the face of the figure by using a cotton swab, dampened with thinner. The resulting print (Plate 41) is more monoprint than etching. Plate 42 is a print from a later stage in the plate's development. This print is more etching than monoprint as only a few wiped strokes in the body of the figure are not retained by a bitten surface.

To return to the more formal translations of monoprint to editioned print, there are two methods I've yet to discuss. Plate 43 was developed from a monoprint (dark field manner) that was photographed onto a piece of graphic arts film by using a copy camera and shooting at 100% through a 200 line half-tone screen. The resulting image was then contact printed to a Kodak LP Polymatic plate and printed on an offset press.

Plate 44 is a print from a photo-etched copper plate. It was made possible by following the photo-etching procedure in using the same 200 line copy film reproduction used for Plate 43.
Conclusion

I have tried to demonstrate the progression of thought process which evolved from a single source: the monoprint. In comprising a visual diary, I have illustrated various techniques of the monoprint and how the life of the medium can be translated to other, multiple print processes.

The versatility of the medium makes it a thoroughly unique expression for any artist to try. In the transfer of a drawing from one surface to another, certain effects can be produced that can be duplicated in no other way; effects which are subtle, varied, and beautiful. The monoprint to multiple print translations can produce an exciting harmony when the particular strengths and disciplines characteristic of each process are combined.

It is the great misfortune of this art that it is a child of both painting and printmaking and as such, exists in Limbo somewhere between the two. I hope that the results of my thesis demonstrates that the monoprint deserves more serious consideration than it has received in the past.
Footnotes


12 Ibid.

13 See Appendix B for Lithographic Transfer Process to Stone, Phil Bornarth-Bruce Porter, 1974.
The Plates
Monoprint  Untitled  3½" x 4"  1977
Monoprint  Untitled  3½" x 4"  1977

Plate 8
Monoprint  Self-portrait  24" x 32"  1977
Monoprint  Untitled  24" x 32"  1977

Plate 11
Monoprint  Untitled  24" x 32"  1977
Monoprint Untitled 24" x 32" 1977

Plate 18
Monoprint  Untitled  9" x 9½"  1977
Monoprint  Jules Champfleury-Nadar  18" x 24"  1977

Plate 30
Monoprint  Charles Baudelaire-Nadar  18" x 24"  1977
Lithograph  Untitled  1/10  23" x 31"  1977
Lithograph  Untitled  1/5  24" x 30"  1978
Intaglio  Untitled  1/5  18” x 24”  1977
KODAK POLYMATIC Litho Plate

GENERAL DESCRIPTION
KODAK Polymatic Litho Plate LP is a presensitized, positive-working, subtractive litho plate for use on all conventional lithographic presses. It is designed to produce predictable, high-quality performance. It can be hand- or machine-processed and produce quality printing from a wide range of line or halftone positives. The plate is available in a wide variety of sizes and in several thicknesses ideally suited for:

- A great number of printing applications (web and sheet-fed presses)
- Short- to medium-length pressruns
- Long pressruns (with baking)
- Color proofing

MAIN CHARACTERISTICS
The KODAK Polymatic Litho Plate LP consists of a uniform coating on grained, anodized aluminum. The exposure time is relatively short, and the subtractive process is quick and easy. The coating is a photosensitive polymer which is made soluble when it is sufficiently exposed to the high-intensity light sources normally used in platemaking. The plate has a strong visible image after exposure. During development, the exposed areas are removed. The unexposed polymer provides the ink-carrying surface of the plate. This durable polymer is formulated to have excellent ink-carrying and ink-releasing capabilities. It is designed for processing at room temperature or in a range between 20 to 24°C (68 to 75°F). A liquid tusche is available for making small additions by hand and repairing minor image defects. Deletions are made easily and quickly by using a specially designed deletion fluid. A special developer is required for use with this plate.

ROOM-LIGHT TOLERANCE
Handle and process the plate under yellow or gold fluorescent lamps (40-watt, at 5 feet or more). With 50 footcandles of light, the room-light tolerance is as follows:

<table>
<thead>
<tr>
<th>Type of Lamp</th>
<th>Tolerance Before or After Image Exposure (NOT Both)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gold or Yellow Fluorescent</td>
<td>4 hours</td>
</tr>
<tr>
<td>Tungsten Fluorescent</td>
<td>10 minutes</td>
</tr>
<tr>
<td>White Fluorescent</td>
<td>1 minute</td>
</tr>
</tbody>
</table>

Image color may change with less exposure to room light than the tolerances indicated above. This color change will not affect plate performance.

PLATE HANDLING AND STORAGE
The “LP” Plate should be handled only under yellow safelight. Exposure to white fluorescent light changes the image color of processed plates to a purple. This change in color does not affect performance on the press. Redevelopment of the plate at any time after processing, however, will damage the plate.

Handle plates by the gripper edges or sides to prevent contamination. Avoid kinking or abrasions. Greater protection is provided by keeping the interleaving sheet on the plate until it is positioned in the vacuum frame.

Work on clean, flat surfaces, and store opened plates in a cool, dry area. When a container of plates is opened, leave the plates in the container and keep them in a drawer or cabinet that is lighttight, cool, and dry. Store unprocessed plates away from room illumination.

EXPOSURE
For best results, use a high-intensity light source that is strong in ultraviolet energy, such as metal halide, carbon arc, or pulsed xenon. The vacuum-frame light sources should be centered and should give uniform coverage to the plate. Expose the plates in a reliable, vacuum-type contact frame.

The KODAK Control Scale, T-14 (14-step), is recommended to determine the proper exposure. Based on the development conditions stated under DEVELOPING (see page 2), the correct exposure for halftones is indicated by an open Step 3 recorded on the processed plate. An open Step 2 is the minimum requirement for adequate exposure of the nonimage area. One-half the exposure time will subtract two open steps; twice the exposure time will add two open steps in the plate image recorded by the T-14 Scale.

EXPOSURE FOR A ONE-PIECE POSITIVE
Use a single image exposure as described above. Most unwanted dirt particles can be avoided in background areas by using a burn-out exposure, a diffusion-sheet exposure, or deletion fluid.

EXPOSURE FOR A STRIPPED-UP POSITIVE FLAT
Use either of the following techniques:

- Make two exposures to the plate, one as an image exposure producing an open Step 3 on the plate, and the second as a “burn-out” exposure equaling the duration of the image exposure. You will need to protect the image areas of the plate during the second exposure with a burn-out mask.

- Make an image exposure to the plate with a diffusion sheet covering the flat. If the exposure is such that the diffusion sheet will be used for only part of the exposure, the diffusion sheet should then be positioned on top of the vacuum-frame glass rather than under the glass frame. The exposure time should be long enough to produce an open Step 3 on the plate from a KODAK Control Scale, T-14. (An increase in exposure is required with the addition of a diffusion sheet.) Combinations of image exposures and diffusion exposures can be used to produce good results while eliminating cut lines.
EXAMPLES OF EXPOSURE

The following times for the main image exposure should produce an open Step 3 on the plate from a Kodak Control Scale, T-14:

- **Metal Halide** ........................................... \( \frac{1}{2} - 1 \frac{1}{2} \) minutes
- **Carbon Arc** ............................................... 1 - 4 minutes
- **Pulsed Xenon** ........................................... 1 - 3 minutes

**NOTE:** Exposure time varies with size and type of lamp, and with the distance of the light from the plate.

CHEMICALS AND EQUIPMENT

The following materials are recommended for use with the Kodak Polymatic Litho Plate LP:

- **Kodak Polymatic LP Developer**—for dissolving and removing the exposed polymer.
- **Kodak Polymatic Plate Finisher**—for use in the plate room when desensitizing the nonimage areas and preserving the plate.
- **Kodak Polymatic Plate Preserver**—for removing residual ink from the plate, desensitizing, and preserving the plates on or off press.
- **Kodak Polymatic Holding Gum**—for gumming plates on press when ink removal is not wanted. For short holdovers only.
- **Kodak Polymatic LP Deletion Fluid**—for removing unwanted image areas.
- **Kodak Polymatic Tusche**—for making small additions by hand to the image areas and repairing minor image defects.
- **Kodak Polymatic Plate Cleaner**—for correcting the image surface and for correcting scumming or similar conditions in the nonimage areas.
- **Kodak Polymatic Plate Wash**—for removing ink from the plate.
- **Kodak Polymatic LP Developer Applicator**—soft, plush subtractive developing pad for hand processing.

PROCESSING AREA

Process the plate on a table or bench top covered with absorbent paper such as newsprint. KEEP THE PROCESSING AREA FREE OF WATER OR OTHER CONTAMINANTS.

**Machine Processing:**

Recommendations for machine processing in the Kodak Polymatic Plate Processor, Model LP30, are available. For machine processing information, see your Kodak Technical Sales Representative or write Eastman Kodak Company, Dept. 662C, Rochester, N.Y. 14650.

DEVELOPING

Develop the exposed plate with Kodak Polymatic LP Developer. DEVELOPING TEMPERATURES RANGE BETWEEN 20 to 24°C (68 to 75°F).

**WARNING:** Rubber gloves and safety glasses should always be worn when handling any of the Kodak Polymatic Litho Plate LP chemicals. Read precautionary information on bottle.

Use a clean, dry Kodak Polymatic LP Developer Applicator. The applicator can be washed and reused for several weeks. However, after washing, the applicator must either be thoroughly dry before reuse or be rinsed thoroughly with fresh developer to get rid of the water. *(Water and used developer retard the effectiveness of the developer. See the last paragraph of this section for proper treatment of the developer applicator after processing a plate.)* Use at least 3\( \frac{1}{2} \) ounces of developer for plates 16 \( \times \) 20 inches (40.6 \( \times \) 50.8 centimeters) or smaller. For larger sizes, use additional developer as indicated in the table below. Always use ample amounts of developer; distribute developer immediately and evenly over the surface of the plate. Too little developer can cause uneven development. Keep the plate uniformly wet with developer. Minimum developer volumes and developing times are given in the table below.

<table>
<thead>
<tr>
<th>Plate Size</th>
<th>Minimum Developer Volume</th>
<th>Typical Development Time (Minutes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inches</td>
<td>Centimeters</td>
<td>Fluid-ounces</td>
</tr>
<tr>
<td>16 ( \times ) 20</td>
<td>40.6 ( \times ) 50.8</td>
<td>3( \frac{1}{2} )</td>
</tr>
<tr>
<td>27 ( \times ) 30</td>
<td>68.6 ( \times ) 76.2</td>
<td>5</td>
</tr>
<tr>
<td>40 ( \times ) 48</td>
<td>101.6 ( \times ) 121.9</td>
<td>10</td>
</tr>
<tr>
<td>*47 ( \times ) 60</td>
<td>119.4 ( \times ) 152.4</td>
<td>13( \frac{1}{2} )</td>
</tr>
<tr>
<td>*58 ( \times ) 77</td>
<td>147.3 ( \times ) 195.6</td>
<td>20</td>
</tr>
</tbody>
</table>

*When a large plate is processed by two persons, the length of development time should be decreased to the time needed to develop a plate approximately one-half the size.

Example: Development time for a 47 \( \times \) 60-inch plate processed by one person = 3\( \frac{1}{2} \) minutes
Development time for a 47 \( \times \) 60-inch plate processed by two persons = 2\( \frac{1}{2} \) minutes

Hold the developing pad over the plate and pour about one-half (but not less than 2 ounces) of the recommended amount of developer over the pad, soaking the pad and allowing the excess developer to flow onto the plate. When starting with a dry pad, use 2 ounces (60 ml) more than the above recommendations to allow for wetting of the pad.

Develop the plate uniformly, avoiding heavy pressure or extensive rubbing. Begin developing at one corner of the plate, and move the processing pad back and forth across the length and width of the plate with straight, even strokes and medium pressure, each time overlapping the strokes by about one-half the width of the pad. After the plate is covered in one direction, alternate the direction of swabbing after each complete coverage until development is complete. During development, the exposed colored photopolymer is dissolved and removed from the plate. Continue development for 1 minute longer than the time needed to clean up the background, but not less than the minimum time recommended in the table. About halfway through the process—earlier, if the pad tends to drag—add the balance of the developer.

If the exposure is correct, an open Step 3 will be produced in the T-14 Scale at the recommended development times. Excessive development should be avoided because it can damage fine highlight dots.

After developing, squeegee the spent developer from the plate and the pad onto waste paper, away from the processed plate. (A buildup of spent developer in the pad will result in incomplete development.)

**KEEP DEVELOPER CAPPED WHEN NOT IN USE.**

WASHING

After removing all possible spent developer with a squeegee, transfer the plate to the sink and thoroughly rinse both sides of the plate with running water at 16 to 27°C (60 to 80°F). Remove excess water from both sides of the plate with a sponge or squeegee.
FINISHING

With a separate, clean developer applicator or sponge, apply an amount of Kodak Polymatic Plate Finisher (full-strength) to thoroughly coat the entire surface of the plate. Finish for a time at least equal to one-half the development time. Thoroughly work finisher into the plate.

Remove the excess plate finisher and buff the plate dry with a clean, dry cheesecloth. (Buff uniformly and smoothly to eliminate finisher streaks.)

NOTE: Remove all residual chemicals from the back side of the processed plate before stacking or hanging.

Kodak Polymatic Plate Finisher is recommended for plate-room use only.

ADDITIONS AND IMAGE REPAIR

To make small hand additions and repair minor image defects on the plate, use a fine brush and Kodak Polymatic Tusche. Apply the tusche on dry, uninked, and unfinished plate areas. Be certain that the finisher is completely removed where tusche is to be applied. Use the tusche sparingly and let it dry completely; then refinish. Before the brush dries, clean the wet brush with Kodak Polymatic LP Developer and rinse with water.

NOTE: The tusche does not work as well if the plate has been inked. All residual ink and gum must be removed from the areas of the plate to be tussched.

DELETIONS

Instructions for using Kodak Polymatic LP Deletion Fluid:

A. Before the Plate Goes to Press—

1. Develop and squeegee the plate, then wash and squeegee the plate in the normal manner. Apply Kodak Polymatic LP Deletion Fluid to the area to be deleted. With a swab, brush, or other convenient applicator, rub or swab the image area with the applicator until the image disappears. Wipe the deleted area with a cotton wipe soaked with Kodak Polymatic Plate Finisher to remove the residue from the deleted area. Place plate on clean, absorbent paper on a dry table. Finish as described under FINISHING.

2. When it is desirable to delete multiple images, paint Kodak Polymatic LP Deletion Fluid on the images to be deleted and allow to set for a minimum of 45 seconds after the last application of deletion fluid. Then wash the entire plate with running water for approximately 1 minute, swabbing the deleted area while washing, and squeegee. Place the plate on clean, absorbent paper on a dry table. Then finish as described under FINISHING.

NOTE: If there is any deleted image remaining, repeat the deletion step.

B. After the Plate Has Been Run on a Press—

Sheet the ink from the plate and remove the remaining ink by using a wet wash or by applying Kodak Polymatic Plate Preserver. Buff the plate dry. Apply Kodak Polymatic LP Deletion Fluid with a swab, brush, or other convenient applicator to the areas to be deleted. Using a clean wipe soaked with Kodak Polymatic Plate Preserver, wipe the deleted area so as to remove the residue from the remaining image area. With a clean cotton pad wetted with preserver, work into deleted area and buff dry; then resume printing.

PRESS

Use any conventional lithographic ink and acid fountain solution. The recommended fountain solution pH is 4.0 to 5.5, or lower if needed. On the press, open the plate with normal start-up procedures.

The Kodak Polymatic Litho Plate LP has excellent ink receptivity under normal press conditions. If poor ink receptivity should occur, stop the press and remove the ink from the plate with Kodak Polymatic Plate Preserver. Wet the plate again with water before start-up.

For removing the ink from the plate on the press, wet-wash the plate with Kodak Polymatic Plate Wash or with a litho solvent that has been found to be compatible with the plate.

RECOMMENDED SOLVENTS

Some acceptable solvents are:

- Kodak products designed for the "LP" Plate
- Mineral spirits
- Stoddard solvent
- Lithotine

HARMFUL SOLVENTS

Some strong solvents have been found to cause detrimental effects on Kodak Polymatic Litho Plate LP. Some of the following chemical classes may be present in readily available proprietary press solvents and may be harmful. This list may not be complete.

- Alcohols (undiluted)
- Alkaline cleaners or fountain solutions
- Aromatics
- Chlorinated hydrocarbons (i.e., methylene chloride)
- Esters (i.e., ethyl acetate)
- Ketones (i.e., acetone and methyl ethyl ketone)
- UV ink solvents and some UV inks

HOLDOVERS—RERUNS

For holdovers up to 1 hour, no gumming is needed. For holdovers up to 8 hours, when it is desirable to leave ink on the plates, use the following procedure:

1. Kodak Polymatic Holding Gum diluted 1:1 or a solution of gum arabic (1:1 dilution of 14° Baumé) should be applied to this plate with a sponge or with a clean, soft cloth.

2. Buff the plate down (lightly) in a conventional manner.

3. Use the normal start-up procedure for reopening the plate.

For longer periods or for future reruns, treat the plate as follows:

1. Sheet the ink from the plate, or wet-wash it with Kodak Polymatic Plate Wash or with a litho solvent that has been found to be compatible with the plate.

2. Using a clean cloth, apply Kodak Polymatic Plate Preserver over the entire plate surface to make sure of complete removal of the ink and the preservation and protection of the nonimage area.

3. Buff the plate dry with a clean, dry cloth.

PLATE CLEANING

The specially designed surface of Kodak Polymatic Litho Plates has excellent resistance to scumming and other related surface problems commonly encountered with
procedure designed to provide good on-press performance:
1. Expose the plate normally as outlined in the instructions.
2. Develop the plate as outlined in the instructions.
3. Wash the plate thoroughly. *Developer, deletion fluid, or fingerprints remaining on the plate can cause sensitive conditions in the nonimage areas.*

NOTE: Handling the plates by the edges with dry, clean gloves will avoid the possibility of fingerprints, which may adversely affect press performance.
4. *Remove excess water with a damp fine-grain sponge.* (Do not use excessive pressure or scrubbing during this step, and do not use a squeegee.)
5. Allow the plate to dry.
6. BAKE the PLATE using the following recommendations:

<table>
<thead>
<tr>
<th>Uniform Oven Baking Temperature</th>
<th>Baking Time (minutes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>225°C (437°F)</td>
<td>10</td>
</tr>
<tr>
<td>235°C (455°F)</td>
<td>10</td>
</tr>
<tr>
<td>240°C (464°F)</td>
<td>8</td>
</tr>
<tr>
<td>245°C (473°F)</td>
<td>6-7</td>
</tr>
<tr>
<td>250°C (482°F)</td>
<td>5</td>
</tr>
</tbody>
</table>

NOTE: Baking temperatures less than 225°C (437°F) will not provide full benefits for wear or for solvent-resistant characteristics.

**BAKING RECOMMENDATIONS**

When a developed KODAK POLYMATIC Litho Plate LP is properly heat-treated, the result is a hardening of the image which produces two major benefits: (1) the image is much more resistant to damage by chemicals, including UV inks, and (2) the run length is appreciably extended. However, any residual coating, fingerprints, or other foreign matter which can be affected by heat if left in the nonimage areas will tend to remain there and cause unwanted ink receptivity. Therefore, extreme care must be used in processing and handling the plate if the best results are to be obtained. Excessive heat can damage either the coating or the metal. Lesser amounts of heat or shorter baking times may result in a reduction of the benefits indicated.

Following is the recommended process:

1. Remove the ink by one of the following methods:
   a. With the ink and dampener rollers up, sheet the ink from the plate.
   or
   b. Wet-wash the plate with KODAK POLYMATIC Plate Wash or with a litho solvent that has been found to be compatible with the plate.
2. Sponge the plate with water; then remove the excess water.
3. With a dry cloth, apply KODAK POLYMATIC Plate Cleaner to the problem areas and rub vigorously. The plate cleaner will remove remaining ink, eliminate scumming, and reduce the discoloration associated with scumming. Sponge the plate with water to remove the plate cleaner; *Do not let plate cleaner dry on the plate.*
4. Apply KODAK POLYMATIC Plate Preserver to the treated areas and buff dry, using a dry cloth.
5. Sponge the plate with water and restart.

**NOTE:** In no case should POLYMATIC LP Developer be applied to a plate after initial processing has been completed.

**DISPOSAL RECOMMENDATIONS FOR PROCESSING CHEMICALS**

For hand processing, we suggest working on layers of newsprint, which can then be discarded for solid-waste disposal or incineration.

We recommend that any used processing solutions which are returned to drums or Cubitainers should be removed by a liquid-waste-disposal agency. Such containers should be clearly marked, indicating that the contents should be handled with care as caustic materials.

Since the developer has a high oxygen demand, any disposal of plate processing chemicals to sewers should be evaluated in relation to local codes. The processing solutions are biodegradable and amenable to biological treatment through normal municipal sewer systems, and do not harm plumbing. The processing solutions should not be discharged into septic tank systems or surface waters such as lakes or streams.

Type for this publication was set photographically on Kodak materials.

Printed in U.S.A. with KODAK Litho Plates

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Kodak Canada Ltd./Graphics Markets/Toronto, Ontario

Kodak POLYMATIC Litho Plate LP

Kodak Publication No. Q-220

4-76 CX Minor Revision

Printed in the U.S.A.

KP 17625

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Appendix B
LITHOGRAPHIC TRANSFER PROCESS TO STONE

Recommended procedure: Drawing is made on Everdum
transfer paper with ink solution of Kowé Rubbing Ink and
turpentine. Drawing may be developed with litho crayon
as well. Erasure may be made by wiping the
paper with turpentine. Avoid any water contact
to the paper surface.

Transfer Process: Stone ground to F.
1. Clean dry stone warmed by flooding with hot water.
2. Drawing mounted to stone (drug, side down) to stone by
press pressure.
3. Back of drawing dampened evenly with clean sponge and
water.
4. Mylar sheet covering drawing fixed between drawing
and press padding. (2 litho and thin base
paper sheet.)
5. Pass through press under pressure three times.
6. Examine back surface of transfer paper after removing mylar
sheet pleased to noticeably less on dampness and
LITHO TRANSFER PROCESS (CONT.) BORNARTH - PORTER

the drawing fairly visible through the paper. If not repeat dampening and re-run through press.

7. Peel off transfer paper carefully.

8. Apply rosin and tale. Apply very light etch (e.g. 4 drops nitric in 8 oz. gum) leave on stone 10 minutes.


11. Roll up stone.

12. Roan and tale. Apply standard etch according to darkness of drawing.

13. Apply standard procedure for printing.
Related Bibliography


Laliberte, Norman and Mogelon, Alex. The Art of Monoprint: History and Modern Techniques.

Rasmusen, Henry. Printmaking With Monotype.

Janis, Eugenia Parry. Degas Monotypes.
To
Fred Meyer, Chairman

From
Sandra Williams

Date
May 1978

Subject

I find Ms. Tread's thesis important in that it explores an area little used in printmaking. Her work is strong and the report is thorough and informative.

I recommend that this thesis be accepted.

Lawrence Williams
To
From
Date
Subject

Judd Williams

5/10

I would be willing to approve this. Their book.

Good job.
I recommend the acceptance of the thesis "The Monoprint: Techniques and Translations" as satisfying the requirements of the Master of Fine Arts degree.

It is a good, substantial work.

Yours truly,

Fred Meyer

Approved
Dr. Robert H. Johnston, Dean
College of Fine and Applied Arts
5/18/1978
April 20, 1978

Prof. Fred Meyer, Chairman, Graduate Studies
Norman Bate, CFAA
Thesis: Alice Kreit

I herewith recommend that the Thesis entitled "The Monoprint: Techniques and Translations" by Alice Kreit be accepted in support of her candidacy for the degree of Master of Fine Art in Printmaking.

It is my opinion that this is an excellent report and discussion and is of a caliber equal to the prints that constitute her Thesis effort.

Norman A. Bate
Prof. Printmaking
and Illustration