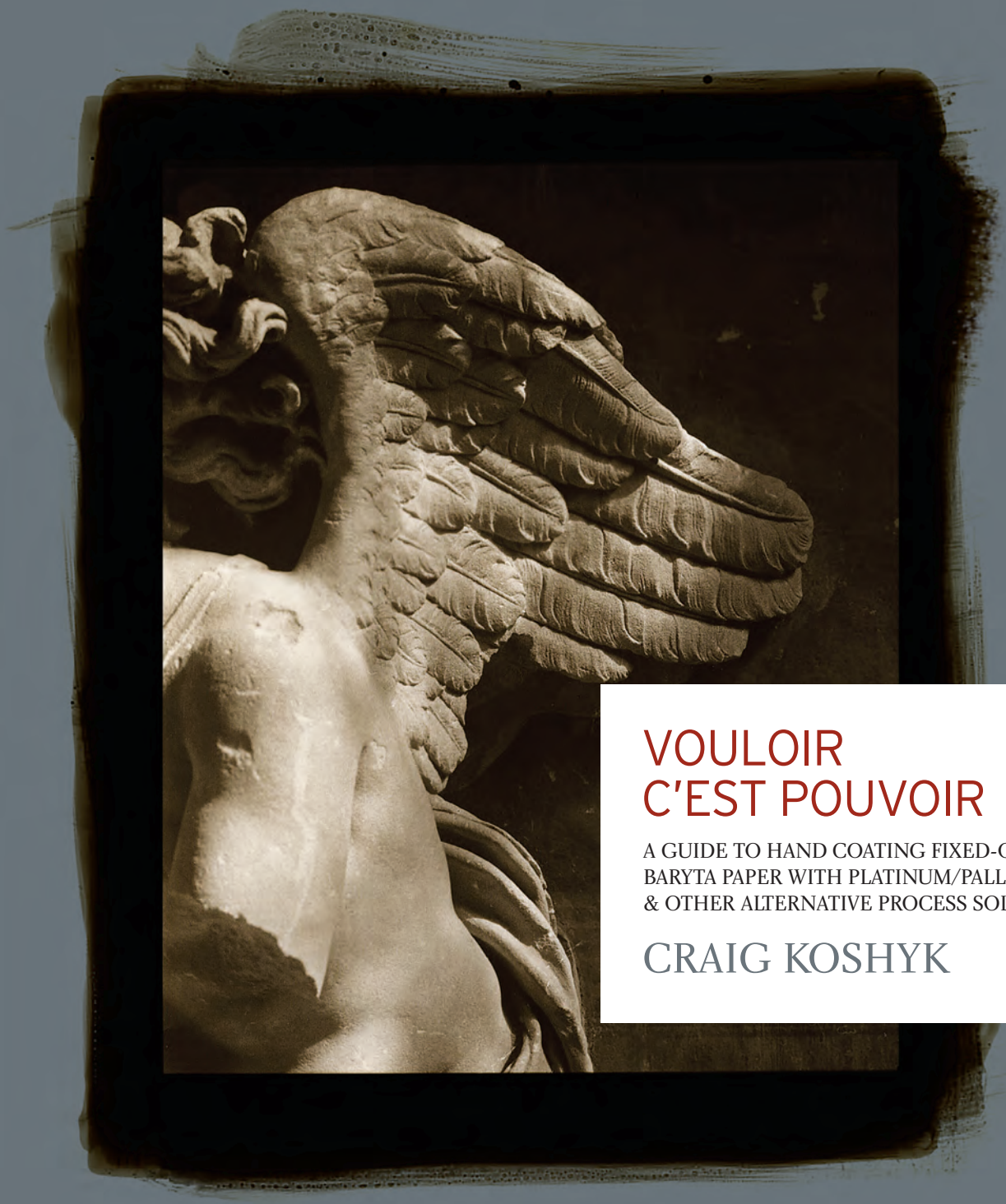

VOULOIR C'EST POUVOIR

A GUIDE TO HAND COATING FIXED-OUT BARYTA PAPER WITH PLATINUM/PALLADIUM & OTHER ALTERNATIVE PROCESS SOLUTIONS

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DOG WILLING PUBLICATIONS

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COVER PHOTO **"SAINT-TROPHIME"**
PALLADIUM (ILFORD MULTIGRADE IV)

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"VALÉRIE CHEZ ELLE" PLATINUM/PALLADIUM (ILFORD GALERIE)

to Valérie

As bright as the light of her sunny doorstep
where I made my first platinum/palladium print.

Preface to the 1st edition

This is a guide to a variation on a theme. The theme is the hand-coated platinum/palladium print. The variation is the use of a substrate once believed unsuitable for coating by hand. The instructions are intended to help anyone familiar with working with cotton papers learn to achieve even coatings of platinum/palladium solutions on baryta paper.

It was never my intention over the years of tinkering with this technique to find a replacement for the fine cotton papers I use to make alternative process prints. Nor is it my intention now to convince printers to abandon their tried and true cotton papers for baryta paper. My hope is that the use of my technique will widen the scope of possibilities for platinum/palladium print makers.

Preface to the 2nd edition

The first edition of this booklet was written in 1999 on an ancient Macintosh Classic computer that, I believe, was powered by a very athletic hamster running in a wheel. All my initial coating tests were done in an unfinished basement where the temperature and humidity conspired to make achieving a good coating next to impossible.

Since then, I have moved up to a bigger, faster "dual-core" Mac (powered by **two** hamsters, I suppose) and I print in a much warmer space with humidity to spare.

As a result, I have been able to include photographs of the coating procedure in this edition, and I've made a few adjustments to the technique, simplifying it somewhat. But my hopes have remained the same: to inspire alternative process printers everywhere to work with fixed-out baryta so they may enjoy the unique look it brings to alternative process prints.

Acknowledgements

I could not have developed my technique nor written this guide without the great patience of my wife, Lisa, who still puts up with my mad scientist hobby after all these years. My good friend, Bruce Monk, the only other alternative process printer within 500 miles of my studio, has been very helpful, listening attentively to my rants and offering sage advice and support. Gwenola Furic, the first person to whom I taught the method, helped me to believe that the prints I had made were not flukes. And she produced some beautiful prints to prove it. Luis Nadeau has been very gracious, sending me encouraging words, despite the fact that I proved him wrong about baryta paper. I am grateful to Carl Weese for his wise words and patience, and to Tony McLean for is infectious enthusiasm. Dick Arentz and Jeffrey Mathias have been very kind as well, viewing my work and offering valuable feedback. I am indebted to Tanya Savicky and Kevin Hill for putting up with me at the beginning, and to all my associates at PrairieView School of Photography for putting up with me now.

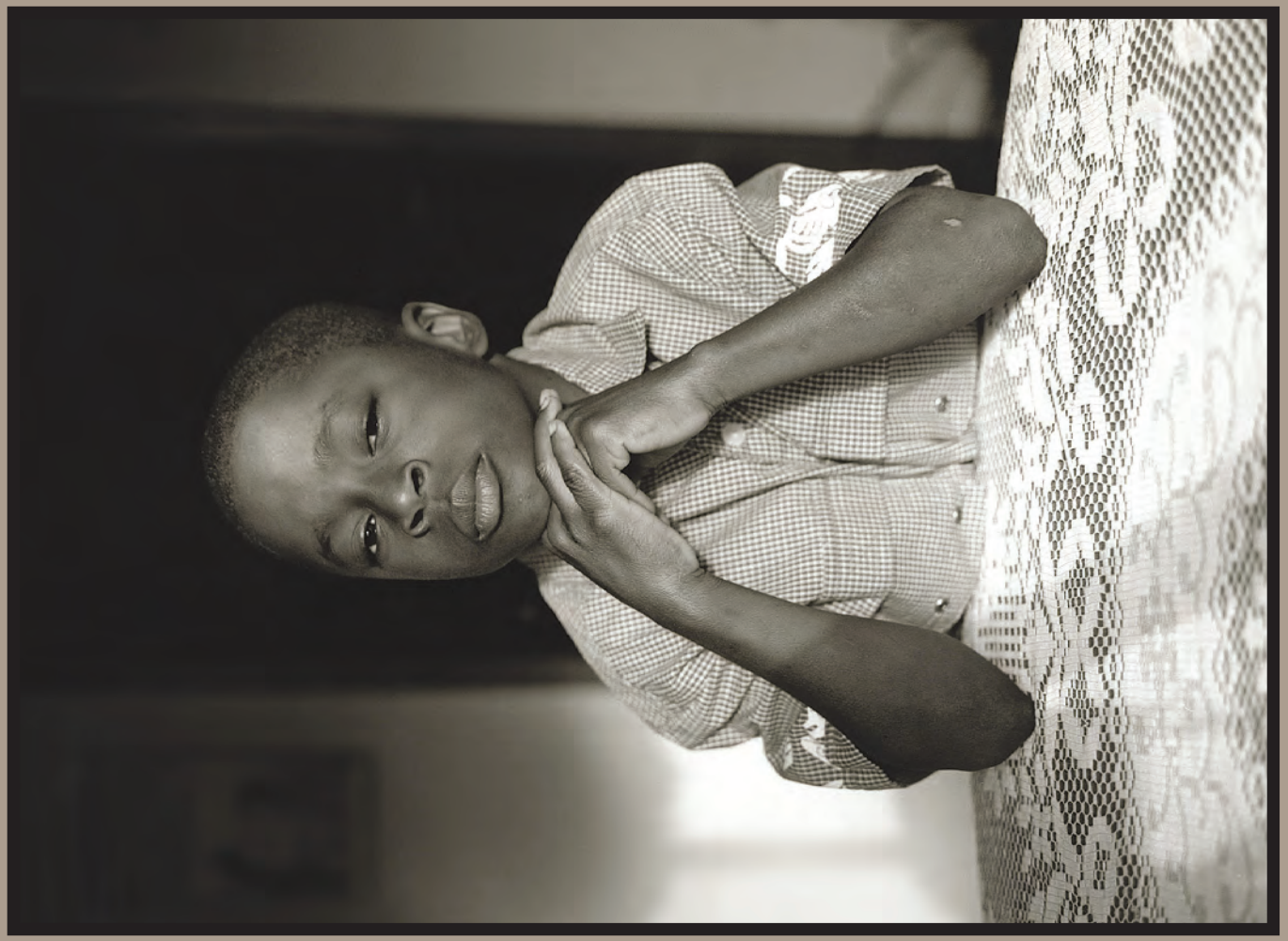
Warning

As with all activities that involve photographic chemicals, it is imperative that safe handling procedures be followed. Anyone attempting the techniques described in this text should be familiar with the basic concepts of traditional platinum printing methods and the safe and prudent handling of the chemicals involved. The author hereby denies liability for any subsequent injuries resulting from the use of the information contained in this guide.

"VENEZIA" PLATINUM/PALLADIUM PRINT ON COTTON PAPER (ARCHES PLATINE)

"VENEZIA" PLATINUM/PALLADIUM PRINT ON FIXED-OUT BARYTA PAPER (ILFORD GALERIE GLOSSY)

"KEZ" PLATINUM/PALLADIUM (ILFORD WARMTONE)



IN A NUTSHELL:

A quick and (hopefully) easy guide to getting an even coating on baryta paper

While it is my hope that everyone will read the entire text of this guide, I realize that there are some people (myself included, to be honest) that like to dive right in without a lot of preamble when learning a new technique. So, let's just cut to the chase, shall we?

Here are the essential steps in coating baryta paper with pt/pd or other alternative process solutions:

1. Tape a sheet of fixed-out baryta paper to a piece of glass sitting on a heating pad set to medium. Place your solutions and coating rod on the same pad to warm.
2. Measure your solutions into two equal parts, and pour the first part on the warm paper.
3. Work the solution over the paper with a glass rod 10 to 20 times, or until the colour of the entire image area is the same shade of orange/yellow. Make sure to use enough solution.
   Do NOT run out of solution on the paper, otherwise you WILL get streaks.
4. Transfer the sheet and paper from the heating pad to the table to cool.
5. As it cools, brush the liquid over the image area from side-to-side and top-to-bottom, until only small bubbles remain.
   Do NOT brush until all the solution has evaporated, otherwise you WILL get streaks.
6. Pass a plastic squeegee over the image area to remove any excess liquid.
7. Let the paper sit for a minute or two, then blow it dry with a hair dryer.
8. **Repeat steps 2-7, using the second portion of the solution.**
9. Expose
10. Develop
11. Clear
12. Wash
13. Dry
14. Enjoy!

"VENISE À L'AUBE" PLATINUM/PALLADIUM (AGFA MULTICONTRAST CLASSIC)

BACKGROUND

Over the last twelve years I have used a variety of cotton papers to make alternative process prints. For the most part I have been satisfied with the results. Occasionally, however, I wish for just a bit more sharpness, a little more depth in the shadows, or a greater overall dynamic range of tones.

Above all, I have often been frustrated by the fact that all my alternative process prints had a matte surface. Some of them absolutely glowed while wet but then lost a lot of their charm as they dried.

For many of my prints, a matte finish is exactly what I want. The subtle textures of the paper and the beautiful tones resulting from the image lying upon and within the cotton fibres produce a wonderful look. There are times however, when I prefer an image printed in silver gelatin on traditional fibre-based papers. It isn't for the image colour or tonal scale - I usually prefer the warmth of a platinum/palladium (pt/pd) print - but rather for the rich feel of the air-dried glossy surface of a silver gelatin print.

Once in a while, I would come across a reference to printers having attempted the application of varnishes, waxes and gelatin coatings to their images in order to achieve a glossier surface. These methods, however, are usually said to have been disappointing, or worse, actually damaging to the print.

In 1996, I was given several hundred sheets of very outdated baryta paper that had been stored for years in someone's garage. The paper turned out to be useless for normal photographic printing, but it got me thinking about using it as a substrate for platinum prints.

One day I fixed, washed and dried several unexposed sheets. I then attempted to coat the gelatin/baryta side of the paper with platinum solutions. The results were, to say the least, terrible. The paper's slick coating absolutely refused to absorb the solutions evenly. I could get an image on the paper, but it looked sickly, indeed. There were blotches where the solutions had been absorbed, clear spots where they hadn't, and brush strokes and bubbles visible everywhere. No matter what I tried, the result was the same: a garbage bag full of expensive platinum disasters.

I probably should have quit at this point. Instead, I tossed and turned for a few nights racking my brain, trying to understand why I could not get an even coating on the gelatin side of the paper. After much reflection and little sleep, I decided that I should try a few modifications of my coating technique and of the tools and chemicals I was using. Within a day or two, I had made some progress. The coatings were far from perfect, but I was getting fewer streaks, no blotches and very few bubbles. I was greatly encouraged. Then I received a book I had ordered months before. Written by Luis Nadeau and entitled *History of Practice of Platinum Printing,* it was the only book about the process that I know of that mentions baryta paper. On page 75, Nadeau mentions that the back of baryta paper may be used. Referring to the baryta side, however, he states:

> *fixed-out…and properly washed bromide papers, will leave a baryta coated support that could be used, at least in theory, though in practice all our experiments have proved disappointing. We tried various matte and glossy bromide papers, even one without baryta coating, and in all cases it was simply impossible to obtain an even coating. This is unfortunate as a baryta coated paper is highly desirable in cases where a high degree permanence is required.*

Well, that sure took the wind out of my sails! If a guy like Nadeau says it is impossible, what chance did a neophyte like me have to prove him wrong? Still, I had a stock of fixed-out paper and a bunch of platinum solutions left. Moreover, I couldn't forget that I had come close to getting a good coating in the last few days. So, back to the lab I went. I figured I would give it a few more days and if, or rather when, I failed, I would simply file the whole thing under "nothing ventured, nothing gained", and forget about it.

Every once in a while over the following ten years, in between shoots at the studio or printing for an exhibit, I would try to work out one more bug. I made just enough progress in each session to inspire me to continue trying.

fixed-out…and properly washed bromide papers, will leave a baryta coated support that could be used, at least in theory, though in practice all our experiments have proved disappointing. We tried various matte and glossy bromide papers, even one without baryta coating, and in all cases it was simply impossible to obtain an even coating.

– Luis Nadeau

In fact, fairly early on I actually did achieve a near perfect coating. Unfortunately, I did not keep very good notes, and spent several months afterwards unsuccessfully trying to repeat my success. Finally, after reviewing the entire method, and this time taking very detailed notes, I was able to come up with a technique that ensured an even coating every time.

I have now used this technique to print images as large as 11x14 inches on papers having glossy, semimatte and matte surfaces. They are as sharp as traditional silver prints and exhibit a d-max greater than anything I have seen on any other paper. They have the same rich surface as a silver gelatin print, but retain the subtle tones and image colour that is so prized in a platinum print. At last, I have found a way to create platinum prints that retain the glow I see when they are wet.

"ICON #4" PALLADIUM (ILFORD WARMTONE)

OVERVIEW

Coating baryta paper with platinum/palladium solutions presented me with a number of hurdles. Each required considerable tinkering (not to mention hair pulling and teeth gnashing) to overcome. There were four main areas that needed to be addressed:

CHEMICAL: **Did I need to modify the solutions I normally use to coat cotton paper? Did I need to add or remove something from them?** Platinum/palladium solutions consist of metal salts and ferric oxalate dissolved in distilled water. Alternative process printers go to great lengths to find papers that absorb the solutions easily and evenly. Baryta paper is not one of those papers. It seems to resist the absorption of solutions, at least at the beginning. Any liquid applied to a baryta paper tends to form beads upon the surface. Eventually, the beads will soak in, but not evenly. I needed to find something that would change this characteristic.

At the time of my first attempts I had just begun using a product called Tween 20 for coating cotton papers. This surfactant has been recommended for a while to pt/pd printers since it lowers the surface tension of a solution and thereby allows it to be absorbed more readily. When I first added a bit of Tween 20 to the solution I was using to coat a sheet of Arches Platine paper, the liquids soaked right through the paper and onto the back side. When I saw this, I realized that Tween 20 had a very powerful effect on the solutions and their relationship to the sizing agent in the paper. It turns out that this effect is one of the keys to getting alternative process solutions to soak into the gelatin layer of baryta paper evenly. As soon as I began to add Tween 20 to my mixture, my coatings on baryta paper became much smoother. But they were not perfectly even. Brush strokes, bubbles and streaks were still a problem.

"CUDDLE" PALLADIUM (ILFORD WARMTONE)

PHYSICAL: **What effect did heat and humidity have on things?** After a few months of stop and start attempts at coating, I began to notice that on warm, humid days my coatings were always somewhat better. However, I also noticed that , on those days, the initial absorption of the solutions was not a problem, but the final brushing was. Streaks would not appear until the very last of the solution was finally being coaxed into the paper. Stopping the brushing earlier was of no help; the remaining liquid simply soaked in unevenly, leaving a mottled look.

On cooler days, the opposite happened. It was the initial absorption that was the problem. The paper was much more reluctant to take the solutions when they were first applied. But the final stages of brushing were much better. I found that if I continued brushing while the paper was cool, I would reach a point where all the liquid was absorbed, but the brush was not causing streaks. If I stopped at this time and dried the paper, a fairly good coating was achieved, but seemed to have some unevenness caused by the initial reluctance of the paper to take up the solutions when they were first applied.

The answer here lay in working out a two-step coating procedure. The first part, the initial application of the solution, is done while the paper is quite warm. The second part, the brushing of the solutions, is done as the paper cools. As soon as I devised a method to first heat the paper, and then cool it down, I began to achieve very even coatings. The installation of a humidifier in my darkroom also helped tremendously. Coating was best when the humidity in my workroom was above 50 percent.

PROCEDURAL: **Coat with a rod? With a brush? Both? Neither?** And, while we are at it, just how many coats are best?

As in the case of warm versus cool paper, I found that both the coating rod and the foam brush offered something to the procedure, but were not enough by themselves. The answer here as well lay in a two-step coating procedure.

The first step in the technique is to coat a warm piece of paper with a warm coating rod and warm solutions. The second step is to finish coating with a foam brush as the paper cools.

In my experience, double coating the paper is a must. Applying two coats allows the paper to absorb much more solution, and will result in a richer print. A single coat almost always results in an anemic looking print.

The first step in the technique is to coat a warm piece of paper with a warm coating rod and warm solutions. The second step is to finish coating with a foam brush as the paper cools.

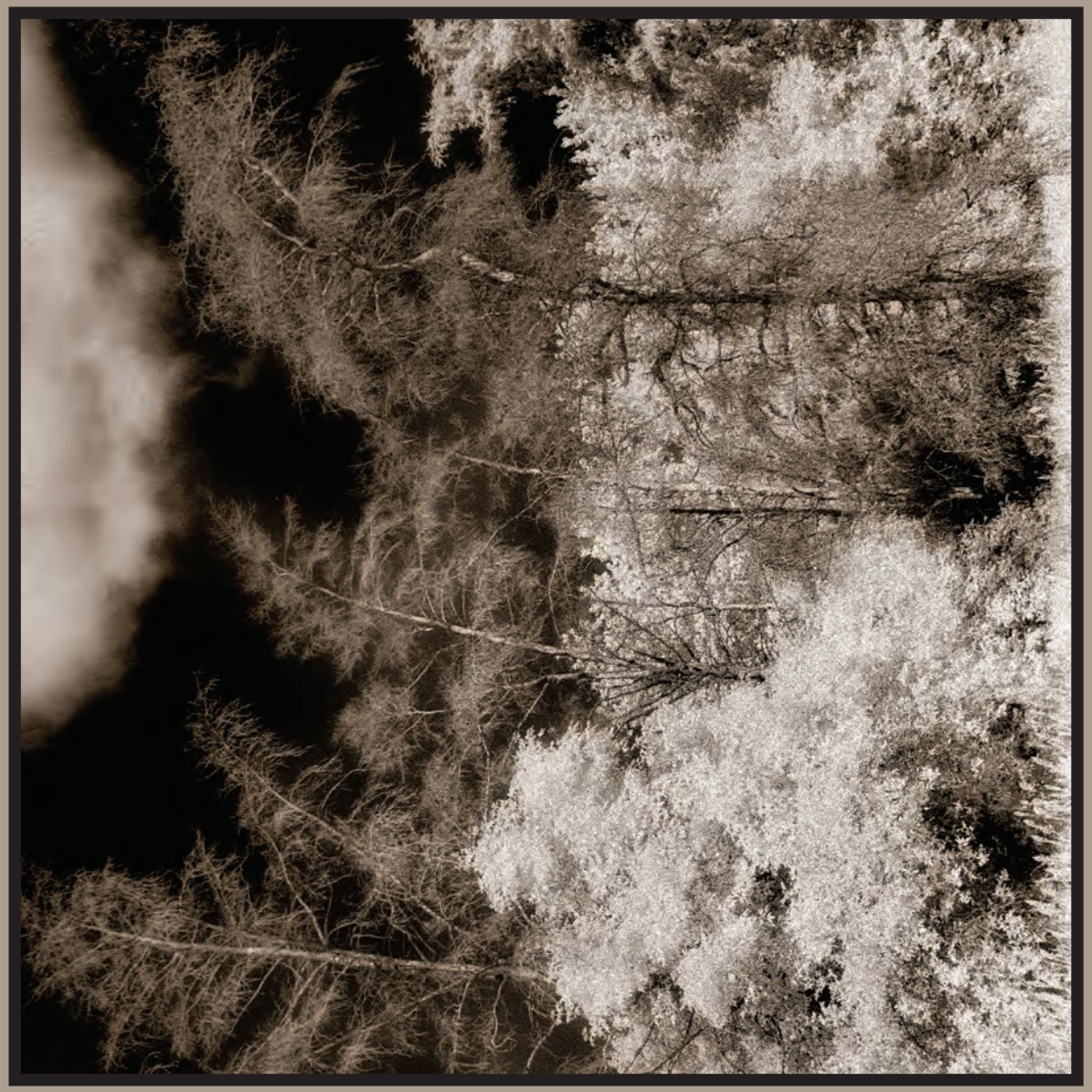
MENTAL: **Unlearning a few golden rules.**
Hand coating cotton papers to make alternative process prints is a favorite pastime of mine. Thanks to the help of some great books by Luis Nadeau, Sullivan and Weese and Dick Arentz, I have come to learn the technique fairly well. I have also come to develop a consistent way of working. While working out the bugs of coating baryta paper, I found that I had to unlearn

"LA RIVIÈRE SALLE" KALLITYPE (ILFORD GALERIE)

a few things. For example, when working with cotton paper, I try to keep the number of passes I make with the coating rod to a bare minimum. As you will see below, however, for coating baryta paper, I recommend way more passes than would be advisable with cotton paper. Looking back, it seems like a minor point, but at the time I was locked into thinking that overusing the rod would lift the nap of the paper and result in an ugly coating. It took me a while to realize that this did not apply to baryta paper with its smooth supercoating. My old habits were hard to break. They ended up costing me many sheets of paper and many millilitres of solution.

I mention this since I believe it is important for anyone attempting my technique to see it as related, but not identical, to coating cotton paper. If you come across a problem area, consider your own well-worn ways of working and thinking. The solution may be to work and think "outside the box".

"BABA'S FARM" PLATINUM/PALLADIUM (ILFORD ILFOBROM)



EQUIPMENT AND CHEMICALS

BEFORE YOU MAKE YOUR FIRST PRINT, YOU WILL NEED:

1. **All the stuff you already have to make pt/pd prints on cotton paper (trays, tongs, thermometers, gloves, etc.).** If you have never made a pt/pd print on cotton paper, I suggest you consult *The New Platinum Print* by Sullivan and Weese, or *Platinum and Palladium Printing* by Arentz before attempting this procedure. In my opinion, it is best that you learn the classic method of hand coating cotton paper and the intricacies of the developing out platinum process before trying my technique.

2. **All the chemicals and solutions you use to make pt/pd prints on cotton paper.**

3. **Tween 20.** Many pt/pd printers already have this item on hand and use a diluted solution of it to aid in the coating of cotton papers. It is available through Bostick & Sullivan and other chemical supply houses. In addition to the ingredients used in making a traditional print on cotton papers, the sensitizer absolutely must contain a sufficient amount of the surfactant Tween 20. It is the action of this product, together with the proper coating technique, that permits the solutions to be absorbed evenly into the gelatin layer of the baryta paper.

4. **A glass coating rod.** Glass rods specifically made for hand coating are available from Bostick & Sullivan and Photographers' Formulary. Known as "Puddle Pushers", they come in sizes up to 15 inches wide. I have a few puddle pushers, but I also make my own version. I buy glass tubing from a local shop that makes neon signs. For a couple of dollars, they are more than happy to cut me any size piece I need. I take two pieces of tubing and glue them one on top of the other with epoxy. One piece serves as the handle, the other as the coating rod.

5. **Foam Brushes.** The ones I use are quite inexpensive and sold in paint stores and art supply shops. Try to find brushes that are made with fairly dense foam; they usually have a wooden handle. Some of the newer and cheaper ones I have seen are made with a plastic handle and have very open-pored foam. I find that they are not sturdy enough and that they tend to absorb too much solution.

"PARIS À L'AUBE" PLATINUM/PALLADIUM (AGFA PORTRIGA)

6. **A sheet of 3/8-inch plate glass, at least two sizes bigger than the sheet of paper you will be coating.** You will tape the paper to this sheet of thick glass for the entire coating procedure. You can also use foam core or other materials such as thick plastic or acrylic. As long as it is smooth and will hold some heat, it should be fine.

7. **An electric heating pad, just like the one you use to ease your aching back.** They can usually be found for a couple of bucks at a second hand store. Make sure it works and heats fairly evenly over its entire surface. I once had a set of electric heating pads that came with a waterbed. They were thermostatically controlled flat plastic units that were about 18 inches square. I now regret throwing them out; I think they would have worked well for this technique. Just remember that the idea here is to somehow heat one of the sheets of glass. In a pinch you could always just heat the glass by blowing on it with a hair dryer set to maximum heat. The glass will probably stay warm long enough to finish the first step of the procedure.

8. **A plastic squeegee.** I use one that is designed to clean shower doors. Try to find one with a plastic blade. Rubber blades tend to leave a bit of the rubber behind when you press hard while squeegeeing.

9. **Fixed-out baryta paper.** I have used just about every brand available to me here in Canada, and most work well. The only papers to cause me some problems that I haven't yet solved are Agfa Portriga Glossy and Agfa Multicontrast Classic. Both papers tended to lose most of the glossy finish in the shadow areas of the print. The highlights and mid tones were fine. No other paper did this. My preference in glossy surface papers is for Ilford

FB Warmtone or Forte Polywarmtone FB. I like the paper base colour and find that the surfaces are relatively easy to work with. The Forte paper is also made from a slightly thicker paper stock that I like. For a matte surface I use Ilford Multigrade IV matte. Ilford Galerie also works very well. I have made prints on some 20-year-old Ilfobrom matte and they are quite nice. Semigloss papers work, too, but are, in my opinion, the least desirable of the surfaces since they often lack the depth in the shadows of the gloss surface and are not as sharp as matte papers. That being said, among the semigloss papers I have tried, Ilford semimatte and Kodak Ektalure papers work best.

10. **A negative.** Any negative that prints well on hand-coated cotton paper will print well on hand-coated baryta paper. In addition, some negatives that are not well suited for cotton paper can yield excellent results on baryta. Since hand-coated baryta paper usually prints with slightly higher contrast than cotton paper, a lower contrast negative can be used. In addition, more contrast agent may be added to the solutions when coating baryta paper.

Any negative that prints well on hand-coated cotton paper will print well on hand-coated baryta paper. In addition, some negatives that are not well suited for cotton paper can yield excellent results on baryta. Since hand-coated baryta paper usually prints with slightly higher contrast than cotton paper, a lower contrast negative can be used.

Much of the graininess and mottling that occurs when more than just a hint of a contrast agent is used on cotton paper simply does not occur on baryta paper. When I print lower contrast negatives, such as those from Polaroid Type 55 film, I am able to get very smooth prints with no graininess or mottling, despite the addition of more chlorate than I would dare use if I were coating cotton paper. Other contrast agents such as hydrogen peroxide or Na2 Platinum may be used as well, with much less chance of graininess showing up in the print.

"VENISE AU CRÉPUSCULE" PLATINUM/PALLADIUM (ILFORD MULTIGRADE IV)

Recently, I have begun using negatives produced by a desktop inkjet printer. On cotton paper, they are nearly indistinguishable from prints made from analogue film negatives. On baryta paper, however, they do not hold up quite as well. Since prints made on baryta paper are much sharper than those made on cotton paper, any digital artifacts present in the negative are more obvious. Glossy baryta paper is particularly unforgiving. Any banding from the printer or coarseness from the substrate, no matter how subtle, will be visible on this type of paper. But I have had very good results printing digital negatives on semimatte and other types of baryta paper that have a certain texture, or tooth, to the surface. Any roughness or texture serves to soften some of the very finest details in the negative in much the same way that the rougher surface of cotton paper does. In a way, these textured papers offer some interesting possibilities. While they may not be the best option for in-camera negatives, they do offer the possibility of combining all the advantages of printing on baryta paper with the power of photo editing software such as PhotoShop.

"DENISE" PLATINUM/PALLADIUM PRINT FROM A POLAROID TYPE 55 NEGATIVE (ILFORD GALERIE)
THIS WAS MY FIRST SUCCESSFUL PRINT ON FIXED-OUT BARYTA PAPER.

SETTING UP THE WORK AREA

I suggest you set up your work area in this order: At the beginning of your line, on a counter or table, place your heating pad and a sheet of 3/8-inch glass on top of it. Place your solutions and coating rod on the pad as well, using another sheet of glass or a ceramic floor tile. Next to the heating pad, you will need a clear area on the table about the same size as the pad. You will be transferring the glass sheet to this area to cool as you work through the second part of the procedure. Make sure to have some paper towels or rags handy to wipe off the excess solution at the end of the coating procedure.

THE PAPER

Prepare the paper for coating by first removing the silver from the gelatin layer. You do so by fixing the unexposed paper as you would a normal silver print in a non-hardening fixing bath. Obviously, this step is not necessary if you are using the new uncoated baryta paper mentioned above.

In the darkroom, under a safe light, I prepare sheets of baryta paper by first placing them in a tray of room temperature water for a minute or two. Next, I transfer them to a tray of a non-hardening fixing bath. I fix the blank paper as I would a silver print. The sheets are then rinsed and washed. I do not use a clearing agent at all during this stage. Since I use the same clearing agents to clear the final print, I do not want to risk having any traces of them in the paper prior to coating. When your paper is dry, you may wish to flatten it if it is very curly. If it is just a bit wavy or slightly curled, you may choose to leave the flattening until the final print is made, since the paper will be wetted and dried again during the process.

begin

MAKING YOUR FIRST PRINT

THE SENSITIZER MIXTURE

The sensitizing mixture used to coat baryta paper is similar to the mixture used to coat traditional cotton papers. It contains a ferric oxalate solution, with or without the contrast agent of your choice, in a ratio appropriate for the negative being printed, as well as the platinum and/or palladium salt solutions. The ratio of ferric oxalate solutions to metal solutions is 1 to 1, the same as for printing on cotton. In addition to the ingredients used in making a traditional print on cotton papers, the sensitizer must contain a sufficient amount of the surfactant Tween 20. It is the action of this product, together with the proper coating technique, that permits the solutions to be absorbed evenly into the gelatin layer of the baryta paper.

In addition to the ingredients used in making a traditional print on cotton papers, the sensitizer absolutely must contain a sufficient amount of the surfactant Tween 20. It is the action of this product, together with the proper coating technique, that permits the solutions to be absorbed evenly into the gelatin layer of the baryta paper.

Finding the correct amount and dilution of Tween 20 will take a certain amount of trial and error since different papers and brushes may react differently to different dilutions. A good starting point is to begin with a 20 percent solution of Tween 20, making up 20 percent of the total amount of solution to be used.

NOTE: I suggest you make a 4 x 5 inch print for your first attempt. You may wish to start with matte paper since you are more likely to get a good coating with less effort and frustration at first. Until the technique is mastered, it is probably best to stick to smaller print sizes. Coating larger pieces of paper is harder to do, and much harder on the pocket book.

Use any negative that is suitable for the platinum/palladium process. It should have the appropriate contrast range for a more or less "normal" mixture of solutions. In the instructions that follow, I will give the measurements of solutions in drops. Normally, there are approximately 14 drops per millilitre. You should test your dropper first, however, since different droppers will produce differently sized drops.

1

Step One:
Coating the Paper

In two shot glasses or small bottles, add the following to each:

5 drops of ferric oxalate solution
1 drop of contrast agent
3 drops of platinum solution
3 drops of palladium solution
3 drops of diluted Tween 20 (20% solution)
Total: 15 drops*

* The total amount of solution you will apply is 30 drops since you must double coat the paper. That is why you are adding solution to two shot glasses or bottles.

2

Step Two

Place the shot glasses or small bottles containing the coating solutions, as well as your coating rod, on the glass sheet which is warmed by a heating pad. It is important that the solutions and the coating rod be warm before you coat. If they are cool, streaks or spots may appear in your coating.

3

Step Three

Using masking tape on all four corners, attach an 8 x 10 inch sheet of fixed-out baryta paper on the sheet of glass. After a minute or two of sitting on the glass, the paper should be nice and warm.

4

Step Four

Take the coating rod and place it at the top (or the side) of where you want the image to appear on the paper. Holding the rod in place with one hand, take the shot glass containing the solutions and quickly pour them out near the center of the rod where it meets the paper. This is very much like rod coating on cotton papers.

You should work the rod side-to-side a bit until a bead of solution runs the length of the rod. Once the solution is distributed the length of the rod, you can begin to pass it from top-to-bottom (or left to right, depending on the way you work), from one end of the image area to the other. You will notice that where you first poured out the solutions onto the paper, a darker area appears compared to the area created by the first few passes of the rod. This is normal, and will serve as a guide to knowing when to quit passing the rod over the paper.

I have always understood that, with cotton papers, it is important to move the rod across the image area no more than is absolutely necessary, lest the nap of the paper be raised. When I coat cotton papers, I limit myself to four or five passes, at the most. With baryta paper, I pass the rod from top-to-bottom, 15 to 20 times. As you pass the rod back and forth over the warm paper, you will notice that the area being coated will take on a darker and darker orange colour, until it is the same colour as that area where you first poured out the solutions. When the entire area is evenly covered with the same depth of colour, you are getting near the point at which the paper should be transferred to the cool sheet of glass.

You absolutely must have a good bead of solution in front of the rod at all times. If it runs out, you will get streaks and spots.

There should still be plenty of solution left at this point, though. The bead you began with will have been reduced by more than half, but there will still be a certain amount of liquid being pushed around. This is very important. You absolutely must have a good bead of solution in front of the rod at all times. If it runs out, you will get streaks and spots.

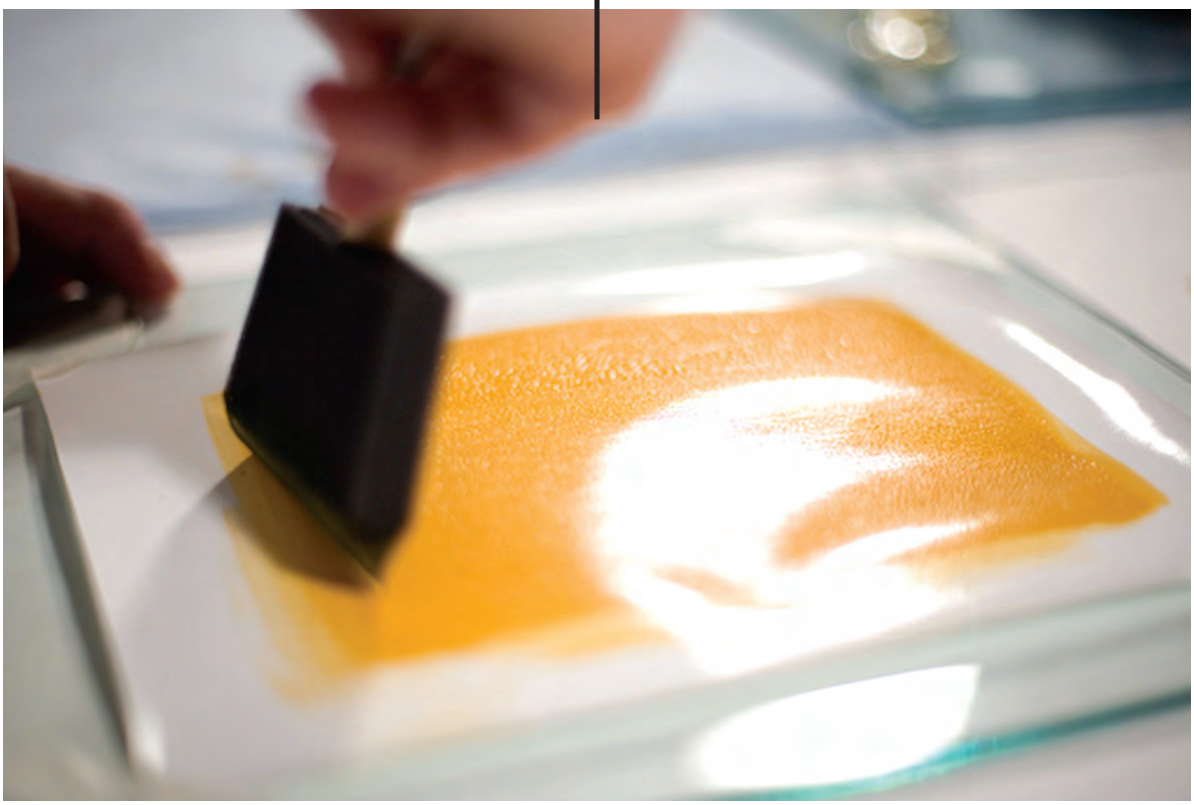
Make a final couple of passes with the coating rod and finish up by lifting the rod off the paper in mid-stroke. The excess liquid will pool on the paper near the middle of the image. If there is no excesss solution, you have not mixed enough.

5

Step Five

Quickly take the glass with the paper still taped to it off of the heating pad and place it onto a flat surface that is at room temperature. Place your coating rod aside and pick up a clean, dry foam brush. Immediately begin to brush the solution that is pooled in the middle of the paper using a top-to-bottom then side-to-side motion. This, again, is quite similar to coating cotton paper with a brush. The difference is that you will continue to work the solution for much longer than would be advisable with cotton paper. You should also be more aggressive in your brush action, both in speed and in pressure. The exact technique of brushing is not easy to describe. However, if you remember that you do not have to have the same delicate touch with baryta papers as you do with cotton papers, you should do fine.

It took me a while to perfect my technique. I believe half the battle was unlearning the techniques I use for cotton paper. So, go ahead and brush in a fairly rapid manner, applying enough pressure to bend the foam tip of the brush. You will soon see that the solution changes to a light sort of foam. Keep brushing. As you brush, you will notice that the bubbles of the foam will get smaller and smaller. Remember to brush from side-to-side and up and down within the image area. Once you have reached the point where the foamy solution is made up of very small bubbles and the paper seems to be absorbing no more solution, make one last side-to-side or top-to-bottom set of passes with the brush. There should still be a small amount of solution on the paper. The brush must still glide over the paper with very little friction. Do not continue brushing until the very last bit of solution has evaporated. If you do, you will get streaks.



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Step Six

Take up your squeegee and make one pass from top-to-bottom or from one side to the other. You can apply a fair amount of pressure to the squeegee since you want to make a clean sweep of the foam that remains on the surface of the paper. Wipe up the excess foam that will collect at the bottom or side of the image area with a paper towel. You can hold the paper at an oblique angle to a light source to make sure that your squeegee pass was a clean one. Any streaks, spots or missed areas will result in a less than perfect print. You can try another pass with the squeegee if you missed a spot, but more often than not this will make things worse. If you cannot get a good clean pass with the squeegee, it could be that the blade is less than perfectly straight or flat. In this case, you may wish to put the paper on a thin piece of foam or a towel before squeegeeing. This will help the paper mold itself better to the contours of the squeegee blade, and hopefully result in a cleaner sweep.

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Step Seven

After squeegeeing, you are ready to dry the paper. But first, let it sit for a couple of minutes before you blow it dry with a hair dryer set on low to medium heat. The colour of the coated area will intensify as it dries. When drying is completed, the coated area should be a dark orange/yellow.

So, there you are. You now have the first coat applied. The second coat is applied and dried in the same manner as the first. When you are done coating and drying the second coat, the paper is ready to be exposed.

A) Exposing the Print

The coated baryta paper is exposed in the same manner as cotton papers. Two things are worth mentioning, however. The paper has a tendency to curl, so a contact printer which exerts a strong pressure is required to keep the paper and negative pressed flat together. And, printing times are longer. They can be up to three times longer than the same print on cotton paper, although this will vary with the type of baryta paper used, the solution ratios and the light source. But count on at least twice the printing time compared to the same print on cotton paper.

B) Developing the Print

I recommend using a warm potassium oxalate solution since it is a very active developer and will keep the printing times reasonable. It also produces what, to my eye, are the nicest tones and image colour. Other developers work well, but tend to require more exposure. I have even developed pt/pd prints and Kallitype prints in a 30 percent solution of MSG (monosodium glutamate). The prints had a very nice warm tone, but the developer was slightly less active than ammonium or sodium citrate developers, and the printing times were fairly long for pt/pd. For developing Kallitype prints, though, I found MSG to be a good choice, especially since it is inexpensive and easily available from stores that sell Asian foods.

I also recommend that the developer be poured over the paper to develop the image. The freshly coated, dried and exposed baryta paper tends to curl, and can be difficult to slip evenly and quickly into a tray full of developer.

With certain papers, coatings and developers, the development of the image can be fairly slow. I have had images take up to two minutes to fully develop when a room temperature developer was used. Most will develop very rapidly, however, in a manner similar to prints made on cotton paper. This may be an area that merits further investigation. Brush development or glycerine development techniques may be worth trying since the developer already has to penetrate the gelatin layer before the image appears in the future.

C) Clearing the Print

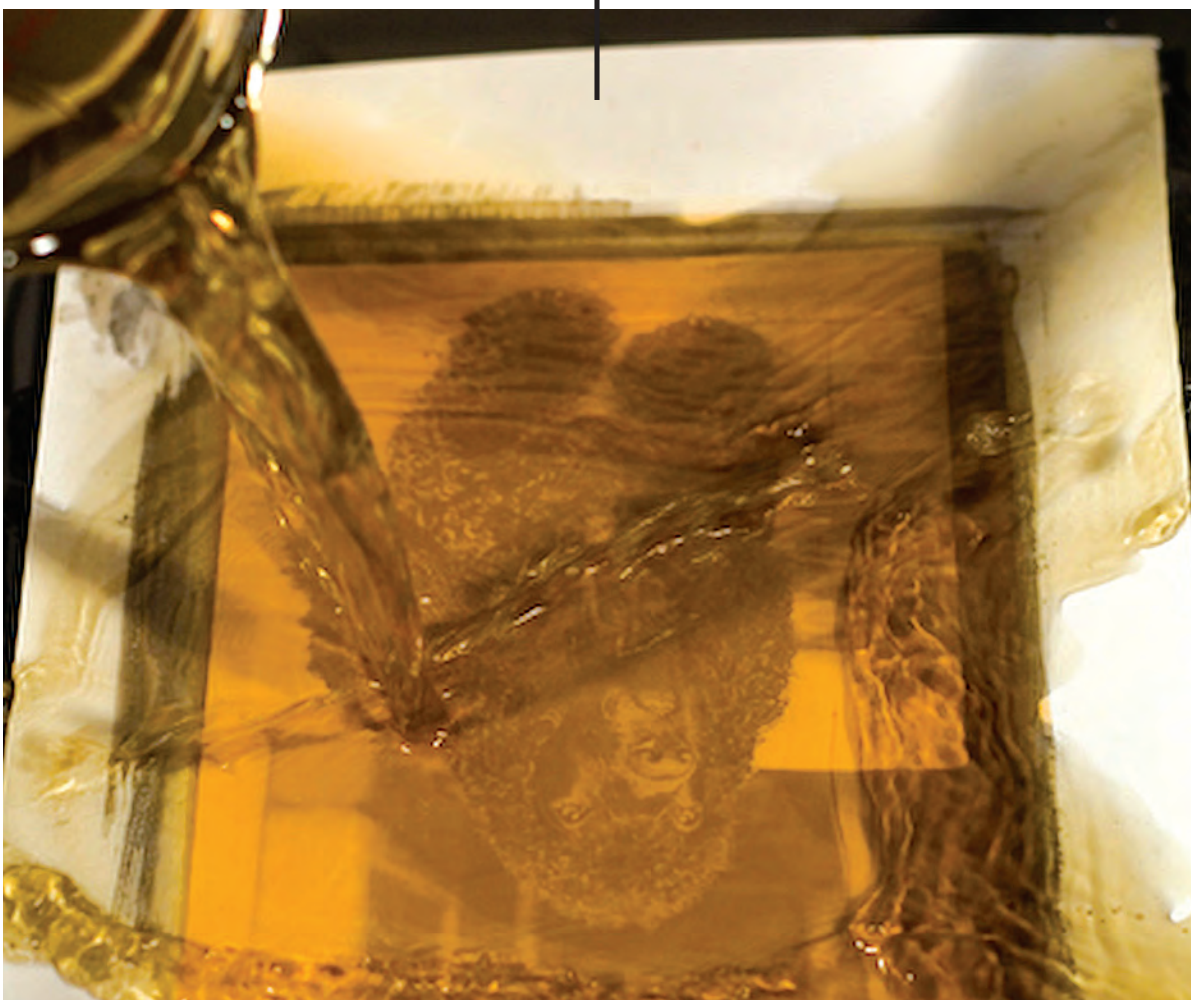
I use Ilford Washaid mixed 1 to 8 with water as a clearing agent. I find that it is the most effective clearing agent for my prints on baryta paper. I have also used Kodak Hypo Clearing Agent, as well as Bostick & Sullivan's EDTA Clearing Agent, with good results. I clear prints in three separate clearing baths for five minutes in each bath.

D) Washing the Print

It is probably best to wash prints on baryta paper longer than those on cotton paper. I have a hunch that the gelatin coating may be a bit more reluctant to give up those things we wish to remove from the paper before we dry it. I wash my prints in a print washer for 45 minutes. I give them a final bath in distilled water just before I hang them to dry.

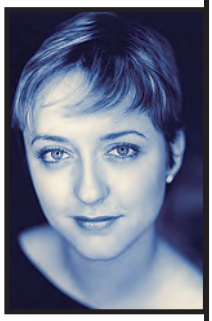
E) Drying the Print

Take care not to squeegee the print before drying it. The surface is extremely delicate and can be scratched or abraded by a squeegee. I usually just pull the print from the distilled water bath and then hang it to dry. Once dry, you can flatten the print as you would a regular fibre-based silver print.



"CIEL PARISIEN" GOLD TONED KALLITYPE (KENTMERE VC)

OTHER ALTERNATIVE PROCESSES



"ALEX" CYANOTYPE (ORIENTAL SEAGULL)

"STARFISH" CHRYSOTYPE BY TONY MCLEAN

I suspect that most of the iron-based alternative processes will eventually prove workable on baryta paper. I have made Cyanotype, Van Dyke Brown and Kallitype prints without any modification to the method described in this guide. Artist Tony McLean of England has successfully applied the method to making Chrysotype prints. He very kindly sent me one of his first efforts. The print is stunning. In fact, it has inspired me to one day have a go at Chrysotype printing myself.

The various printing-out methods of platinum/palladium printing (Ziatype, Malden/Ware Method) have proven, to me at least, not very adaptable to this technique. My attempts, however, were few and half-hearted. It may just be a matter of time before someone works out a method for these processes as well.

I am looking forward to hearing of the adaptations and improvements that will surely come as printers experiment with their favourite process on baryta paper.

I invite correspondence by email at *craig.koshyk@gmail.com* from anyone working with any alternative process on baryta paper. I hope to update future editions of this guide with notes regarding the successes or failures of other processes.

"FEN" PALLADIUM (FORTE POLYWARMTONE)

TROUBLE SHOOTING

The most common problems you are likely to encounter involve streaking, spotting or unevenness in the print or on the surface of the paper. Problems of this nature are more likely to appear, not only because of the nature of the baryta paper itself, but due to the fact that a successful print requires a double coat of solutions applied by both coating tube and brush. As my mother would say: "There are many a slip between cup and lip."

PROBLEM: **Streaks within the image or on the surface of the paper.**

POSSIBLE CAUSE: Insufficient amounts of solution on the paper at the time of the coating rod or brushing step.

SOLUTION: When applying the solutions with a coating rod, the rod should glide over the surface smoothly. At no time should you feel any resistance. There should always be a bead of liquid where the rod meets the paper. Also make sure that the paper is warm, but not hot. If the temperature of the paper is too high, the solutions will evaporate too quickly, and you will be left dragging dried residue over the paper.

Make sure the brush moves easily over the surface of the paper as well. Any resistance, especially if you hear a squeaking sound, can indicate that you are pulling and pushing too little solution across the image area. This will result in either streaks in the image, or marks caused by abrasion to the paper surface itself.

You may want to increase the total amount of solution you are applying to the paper. You can do this by adding more of the pt/pd and ferric solutions. You may, however, wish to save a bit of money by simply adding some distilled water to the mix. Start with adding an amount equal to 10 percent of the total amount of solution. This will give you a bit more liquid to work with, and should make coating easier. I have found that adding too much water, however - anything above 25 percent - results in a lowering of d-max and overall contrast.

Finally, remember that with glossy paper especially, a small light near your coating area is a very useful tool. Use it often to check your coating as you apply it. Simply tilt the paper, or bend over, so that the light strikes at an oblique angle. As you view the surface you will be able to see any streaks or lines forming.

PROBLEM: **Spots in the print.**

POSSIBLE CAUSE: Foreign materials in the solution or on the paper. (I had a heck of a problem with cat hair for a while.)

SOLUTION: You may want to keep a can of compressed air handy to blow the surface of the paper clean before coating. Keep your coating rod and brushes absolutely clean and as free of dust as possible.

PROBLEM: **Pink spots that appear as you are applying the first coat with the rod.**

POSSIBLE CAUSE: These spots seem to be related to the temperature of the solution, paper and coating rod.

SOLUTION: Make sure that all are at, or near, the same temperature. Having a piece of heated glass big enough to hold the paper, rod and bottles of solutions is a big help. A coffee cup warmer is also very useful to keep the solutions warm. I have found that if I warm the paper and the solutions, but not the rod, I get pink spots.

Another cause of potential problems, especially spotting, is fixed-out paper that has not been adequately washed, or washed in water that may have left residue that reacts with some of the chemicals. Rinsing the fixed-out sheets of baryta paper in a bath of distilled water with a bit of Photo-Flo may prove helpful in areas where the water is hard and tends to leave residue on the paper. This step may be necessary both at the beginning of the process, when you are preparing the sheets to coat, as well as at the end, just before you hang the developed, cleared and washed print to dry. Also, beware of paper that has "gone bad" due to poor storage over the years. While you may be able to find out-of-date baryta paper - often for free - it can sometimes be less of a bargain than it seems. Some paper simply goes bad. I have had several batches of cheap or free paper that had become blotchy with areas that looked like fog or barely visible stains in the emulsion. These papers invariable turned out to be useless for coating. The fogged or stained areas immediately showed pinkish stains as soon as I tried to coat them. I now bite the bullet and use fresh paper. Ilford papers have proven to be the most consistent and easiest to coat.

Make sure the brush moves easily over the surface of the paper as well. Any resistance, especially if you hear a squeaking sound, can indicate that you are pulling and pushing too little solution across the image area. This will result in either streaks in the image, or marks caused by abrasion to the paper surface itself.

PROBLEM: **Unevenness, odd coloration or metallic sheen in the surface finish, especially with glossy papers.**

POSSIBLE CAUSE: Usually related to the developer. I have noticed a rainbow-like pattern, resembling oil in water, in areas of some prints that have been developed in potassium oxalate developer at, or below, room temperature. A metallic sheen in the deepest shadows and on the print edge also can occur for the same reason.

SOLUTION: Use the developer at 35-50 degrees Celsius. You may also observe some black run-off from the image area during the development or washing stages. Washing the print in cool water seems to help, as does passing your hand gently over the surface of the print in the wash to get rid of any metals that are not forming part of the image but are simply stuck to the surface of the paper. It is also probably a good idea to replace your developer more often than you would when working with cotton papers.

"CHARTRES" PLATINUM/PALLADIUM (ORIENTAL SEAGULL VCFB)

RESOURCES

Despite the seemingly tsunami-like effect that digital imaging is having on traditional analogue photography, the interest in alternative photographic methods and techniques continues to grow. In fact, thanks to the internet, there are now more resources than ever available to anyone who wishes to explore them.

Books

Arentz, Dick. *Platinum & Palladium Printing*. 2nd ed. Boston: Focal Press, 2004.

Arnow, Jan. *Handbook of Alternative Photographic Processes*. New York: Van Nostrand Reinholt Co., 1982.

Crawford, William. *The Keepers of Light*. New York: Morgan & Morgan, 1979.

James, Christopher. *The Book of Alternative Photographic Processes*. New York: Delmar, 2002.

Nadeau, Luis. *Encyclopedia of Printing, Photographic and Photomechanical Processeses*. Fredericton: Atelier Luis Nadeau, 1989.

Nadeau, Luis. *History and Practice of Platinum Printing*. 3rd rev. ed. Fredericton: Atelier Luis Nadeau, 1994.

Stevens, Dick. *Making Kallitypes: A Definitive Guide*. Boston: Focal Press, 1993.

Webb, Randall and Martin Reed. *Spirits of Salts*. London: Argentum, 1999.

Weese, Carl and Richard Sullivan. *The New Platinum Print*. Available through Bostick & Sullivan (www.bostick-sullivan.com).

Links

www.alternativephotography.com
www.apug.org
www.bostick-sullivan.com
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