

PLATINUM Prints

FROM

DIGITAL Files

Explore classic analog
printing techniques for your
black-and-white images

TEXT & PHOTOGRAPHY
BY KERIK KOUKLIS

I developed my first roll of film and saw my first black-and-white print appear under the red light of a darkroom in 1972. I was 12 years old. My life would never be the same; I was hooked. Now, 44 years later, I'm still making prints in a darkroom, although my methods have changed.

The rise of digital photography as a tool for making photographs has resulted in a paradigm shift in the making of the photographic image. For roughly the first century-and-a-half of its existence, the word photograph was more or less synonymous with the word print. If you wanted to see what the camera saw, a print had to be made. Sure, there were color slides, but those too were physical objects that could be held in one's hand after being returned from the photo lab. You had to wait.

Once the quality of the digital image reached a high enough level, more and more photographers abandoned their darkrooms and the endless hours spent in the red light waving their hands and mixing chemistry to produce the magic that's the chemical photograph. They have traded that experience for hours staring at a glowing monitor, manipulating images on the screen using a whole new kind of magic. A combination



Pond, Shingle Springs, California (2015).



ABOVE: The digital negative's greenish color is the result of the mix of inks used to create the needed UV density. **LEFT:** The final print hanging to dry. *LastLight, Yosemite, California (2016).*

of hardware and software allows us to work with electrons and data rather than precious metals and chemistry. And this change was revolutionary, not evolutionary, in its dizzying pace.

Sure, there are still a few holdouts who only shoot film and only make prints in a darkroom, but that number continues to dwindle. Most old enlargers are given away, sold for pennies on the dollar or delivered to a recycling facility. However, from this revolution in image-making and the desire to hang onto the handmade

object, a new approach to photography has evolved and has become known as hybrid photography: the combining of digital and analog methods to achieve the goal of a handmade, chemically-processed print.

The digital negative, which is the link between a digital image and an analog print, was pioneered in the late 1990s by Dan Burkholder. His groundbreaking book, *Making Digital Negatives for Contact Printing*, published in 1999, laid the path for what has followed. At that time, inkjet printers weren't capable of creating

negatives with enough density to make prints in many of the so-called "alternative processes." These include platinum, palladium, cyanotype, Van Dyke Brown, gum bichromate and many more. These processes are only sensitive to ultraviolet (UV) light, and therefore can only be made through contact printing. Enlargers do not have the capability to put out enough UV light for these processes, so your negative must be the same size as your print.

Back then, we made digital negatives by taking files to a service bureau and having them output on an imagesetter, a machine that exposes a digital image onto lithographic film. This was an expensive undertaking. For example, a 16x20 negative cost roughly \$50 to \$75 for output. This was years before the first decent DSLR, so you were likely working from an original film negative as a starting point. A good drum scan would run \$30 to \$50. Do the math—it was a pricey way to work. At that time, I was primarily shooting large in-camera negatives, 8x10 through 14x17 inches. I would only make a digital negative if the original negative was damaged or had a serious flaw that would show in the print.

As the revolution progressed, inkjet printers improved by leaps and bounds, and photographers came up with clever ways to squeeze the needed UV density out of the printers to make prints with these processes. For me, the breakthrough was the Epson 3800, released in 2009. In my opinion, this was the first printer that made digital negatives that rivaled film negatives in quality. There were earlier

models that worked well enough, but the 3800 set a new standard. Since then, printers have continued to improve.

Today there are several dedicated systems for making digital negatives on the market. Some people take a DIY approach and use the Advanced Black & White mode (ABW) within the Epson printer driver to make their digital negatives. I use a program called Quad Tone RIP. This

application, written by Roy Harrington, was originally intended for making black-and-white inkjet prints from digital files and it works extremely well for that. QTR takes control of the printer away from the Epson driver and enables the user to control how each individual ink is used, to mix the colors to maximize UV density. The one drawback is that QTR only supports Epson printers, so if you have a different

brand of printer that you love, look to other systems for making digital negatives.

Since about 1990, my printing processes of choice have been platinum/palladium (Pt/Pd), and Pt/Pd combined with gum bichromate. The Pt/Pd printing process was invented by William Willis in the 1870s and patented commercially in 1879. By the turn of the century, platinum prints were very popular, valued for their beauty

PROCESS SUMMARY

Because they're primarily sensitive to UV light, platinum/palladium and many of the other handmade printing processes can be done without a true darkroom. All you need is a room with no window light, fluorescent lighting or other potential sources of UV light. Standard incandescent bulbs (if you can find them) or low-UV LEDs can be used to light your darkroom. Some people use yellow bug lights as safelights.

In order to make appropriate digital negatives, you'll need to calibrate your system, taking into account your process of choice, monitor, printer and your UV light source. This can be the most painstaking part of the workflow, but once calibrated, printing becomes much easier and more efficient. The following applies to the platinum/palladium process, with crossover to many of the other processes.

- 1. Making the photograph.** Whether you shoot film or digital, you want to capture as much of the tonal range of a scene as possible. With digital, this may require HDR techniques, but I rarely need to resort to that in the types of light in which I like to photograph.
- 2. Digital Processing.** Process your image as you normally would, but include a step to convert to black-and-white. There are many ways to do this in Photoshop and Lightroom. Once you're calibrated, you'll need to pay close attention to upper highlight and lower shadow values as the glowing screen can easily fool you on either end of the tonal scale.
- 3. Negatives.** I make my negatives using QTR and print onto Pictorico OHP transparency film.



Coating fine art paper with the platinum/palladium solution. Photo by Carol Kouklis.

- 4. Chemicals.** Platinum/palladium is a relatively safe process compared to processes that include dichromates or volatile chemicals like those used in wet plate collodion. Still, safe and proper handling and disposal of the materials is just being smart. You should work in a well-ventilated room and wear appropriate protective gear like goggles and gloves. There is a wealth of information on the Internet about managing chemical hazards. The process is also quite easy to do. With a calibrated negative and the proper paper and chemistry, the rest is child's play. One of my kids made and sold her first print when she was 13.

- 5. Exposure.** I use both a homemade UV source containing 12 four-foot fluorescent UV tubes and a Nu-Arc Plate Burner. Exposure times in my UV box are in the six- to

eight-minute range. I've recently heard of people making their own UV light sources with strips of UV LED lights. You can also print using the sun, but it will be unpredictable and will become frustrating in no time. Commercially produced UV sources are also available.

- 6. Processing.** The developer I use for platinum/palladium is potassium oxalate. When the print is placed in the developer, the image appears almost immediately. Development is complete in less than a minute. Leaving it longer has no discernible effect on the print. The print is then cleared first in a solution of disodium EDTA, then two baths of Heico Perma Wash or Kodak Hypo Clear. There's a final wash of 15 to 20 minutes. The prints are then hung on a line until damp, then placed face up on drying screens for final drying.



Dogwood Blossom, Yosemite Valley, California (2016).

and permanence. Platinum and palladium are two of the most inert elements in existence, which provides for the archival stability of these prints. With the onset of World War I, platinum family metals were hard to come by in the U.S. and platinum papers had to be imported from Europe. By 1941, commercially produced platinum papers were no longer available.

Contemporary printmakers who desire the unique and beautiful qualities of this process create their own printing paper by mixing the light-sensitive chemicals and coating their paper by hand. Many printmakers thrive working this way, gaining both technical control and personal satisfaction from this handmade approach to photographic printmaking.

The process involves mixing small quantities of a sensitizer solution (ferric oxalate) with solutions containing the platinum and/or palladium metals. This mixture is then applied to fine rag paper or other media, using either a brush or a glass rod, which evenly spreads the solution across the paper. Once dried, the paper is exposed to UV light in contact with a negative the size of the desired print. After exposure, the print is developed, cleared of residual chemicals and then washed.

I worked this way for many years, with in-camera negatives made from increasingly larger view cameras up to 12x20 and 14x17 inches. Now that most of my prints are made from digital negatives, my prints have gotten much larger (I print up to 20x30 inches), and my camera much smaller. I currently use a Sony a7R II for digital work, which has more than enough resolution to make digital negatives of



Two Birds, Placerville, California (2015). From a digital negative, originally shot on 120 film.

that size. I've also recently begun shooting 8x10-inch film again and have been printing directly from those in-camera negatives. Yes, I use my largest camera to make my smallest prints. Go figure.

Now is perhaps the best time in the history of photography to be working in this medium. While we lament the loss of classical films and papers when they go

away—most recently Fujifilm FP-100C instant film, for example—modern tools provide us a link to the early days of photography and enable us to use these beautiful processes to produce our work.

The digital negative has been the major factor in the revival and increasing popularity of the historical “alternative” processes. Papers specifically designed for these printing techniques are now being made by Hahnemühle, Legion Paper, Arches and others. In my nearly 30 years working in these processes, that's a first. For many of us, sending data to an inkjet printer just doesn't scratch the creative itch in the same way that creating a handmade print in the darkroom does. **OR**

Kerik Kouklis is a fine art photographer, educator and printmaker from Northern California. His work has been exhibited widely and he has taught workshops in alternative processes for nearly 20 years in various locations around the U.S., Canada and the U.K. See more of his work at www.kerik.com.

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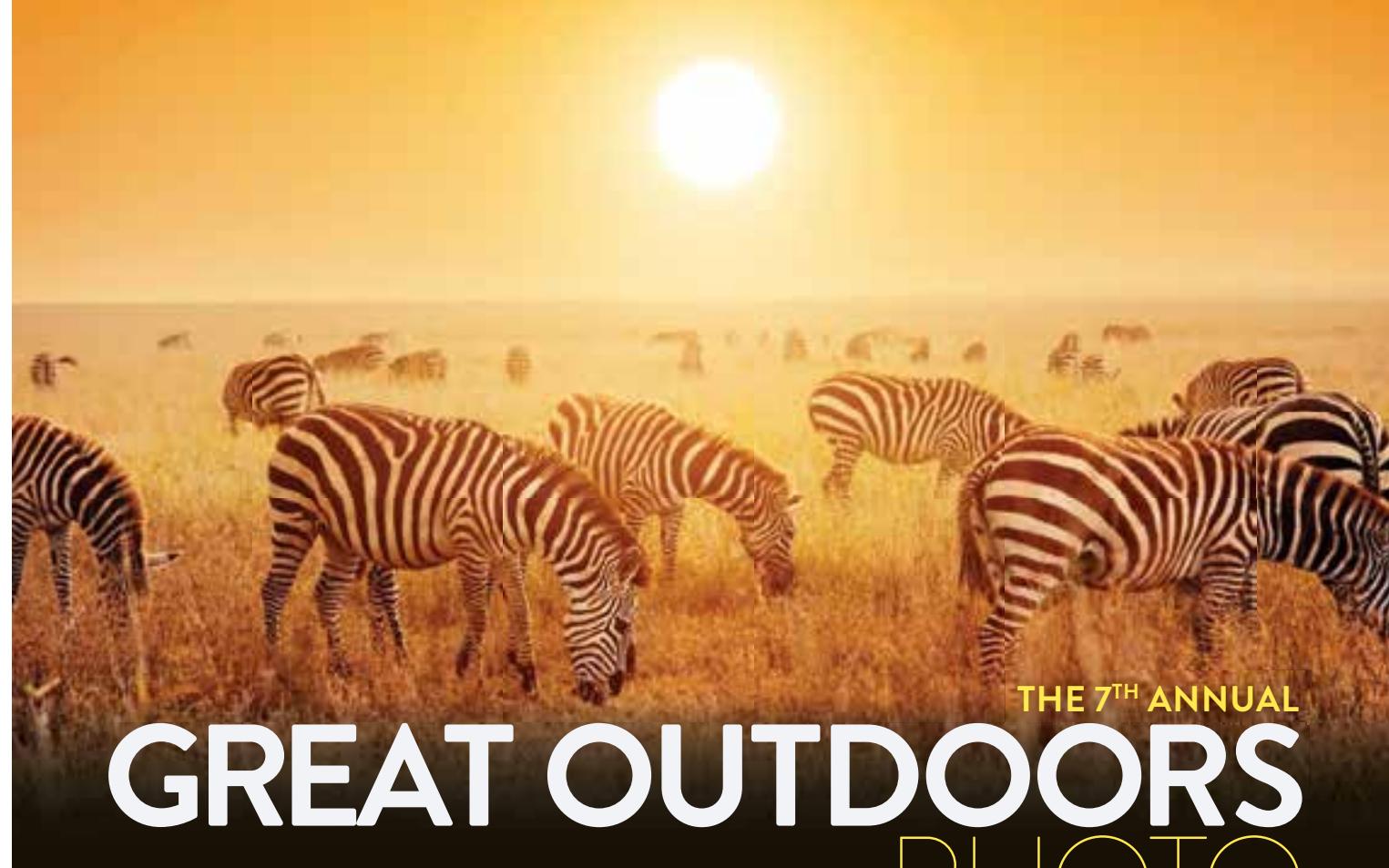
Bostick & Sullivan, bostick-sullivan.com. Premier supplier of all things alt-process: chemistry, paper, equipment, etc. I've been working with their materials for decades. Great customer service.

Photographer's Formulary, stores.photoformulary.com. Supplier of chemistry, paper and equipment for most processes. They also have a great workshop facility and an extensive workshop program.

(I've been teaching there for many years.)

Artcraft Chemicals, artcraftchemicals.com. Supplier of chemistry for most of the alternative processes, specializing in wet plate collodion.

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