



from Digital Fine Art magazine Spring 1999

## Photography's New Wave

by Leela Moore



Photography has always involve an acute balance between science and art. As the science of photography and printing has advanced over the years, so have the rewards for the artistic photographer. Now, with the recent introduction of new black-only ink sets and new software, digital fine art photography is poised to become the newest leap forward in black-and-white photographic history.

Traditional photographic materials are disappearing for a variety of reasons, including their negative impact on the environment. At the same time the new digital processes are replicating the look and feel of fine black-and-white printing while minimizing environmental concerns. Another advantage of digital printing is its repeatability. It is very difficult to duplicate the extensive burning and dodging that must be done on each silver or platinum print. Digital corrections are stored with the picture and are easy to duplicate when producing a fine art edition. In addition, digital printing also allows a far wider range of papers to be used than in the past. The advanced tonal qualities of the new inks and processes enable digital printmakers to truly emulate traditional black-and-white photographic prints.

The new inks and software are especially effective in combination with the increased grayscale capacity of the IRIS 3047G printer, which has twice the effective or addressable resolution of its predecessors. Recently, the G printer has been especially successful in the creation of four-color black-and-white prints. It allows specific tonal control, rendering more subtle shifts in the mass of each drop of ink, producing the effect of continuous tone photography on paper. Now, with the new black-only ink

### PRODUCT PAGES

- [Piezography® BW](#)
- [PiezoTone™ inks](#)
- [Cone Black & White Timeline](#)
- [Museum Printing Services](#)

### MORE INFO PAGES

- [Only Comprehensive solution](#)
- [Archival Carbon-black ink choices](#)
- [QuadTone printer profiles](#)
- [Exhibition quality prints](#)
- [Longest dynamic range](#)
- [Repeatable print on demand](#)
- [Palladium quality no toxicity](#)
- [Piezography®BW FAQs](#)
- [Testimonials](#)
- [Purchase Online Now](#)

### RESOURCES

- [ConeTech B&W Timeline](#)
- [Technical Support](#)
- [Shows and Exhibitions](#)
- [Studios offering Medium and Large Format Piezography printing.](#)



sets, the results are even more dramatic.

Past concerns about creating prints with the correct look and feel through digital printing have faded as new inks, papers, and coatings have been developed. The issue of longevity has also been addressed with the new ink formulations, which are being professionally tested by Wilhelm Imaging Research.

## **DigitalPlatinum**

The first new advance is a dynamic set of inks from Cone Editions Press of East Topsham, Vermont, which has introduced a digital approximation of the colors of palladium, platinum and selenium black-and-white photographic prints. The inks are composed of four full-tone blacks with differently hued colorants, which Cone refers to as "multi-monochromatic continuous tone printing." The tones produced by these inks are quite black, but as they lighten they take on apparent color to produce warm, cool, or neutral tones as desired. In the same photograph, a printmaker may choose warm highlights and cool shadows, as indicated by the artist.

Jon Cone, president of Cone Editions, says, "Traditional platinum printing requires great skill, exposure to toxic materials, and enormous expense. To produce a traditional platinum edition is an expensive and laborious process. Also, large format traditional platinum prints are no longer being made, due to the withdrawal of specially prepared large format films and papers by the specialty vendors. With DigitalPlatinum Giclee we're not only able to produce as beautiful a process as in the traditional way, but we can also print up to 35 x 47 inches on a wide variety of art papers and do it on demand. I believe we have made a new digital medium available to a large segment of the photographic community that was unable to take advantage of traditional platinum printing because it proved too expensive to be practical."

Control of tonal variations with the right software is critical in achieving the desired print quality. Cone publishes AtelierGiclee software to create his own patterns of ink dispersion, or "dithering" for the printer and to control the levels of gray in each color. The Iris printer is capable of 2,000 addressable gray values for each color. Cone's printer driver works out of CIElab color space and delivers up to 512 distinct percentages of gray for each of the four inks. This results in an increase in the apparent

resolution to the point that film grain will be noticed in a print before you can see the effects of any matrix dither. In addition, his Gray Tone software module enables anyone to produce dynamic black-and-white prints with a multitude of tonal variations. The color tones are viewed on screen when adjusting the mixture of inks to arrive at gray color hue.

Photographs are scanned into the Cone Editions' system as original prints or up to 20 x 24 inch negatives, then manipulated on a Mac or PC computer. The system requires a computer to act as a server. This computer and its software can control a variety of printers, including Iris, Epson, HP, Encad, Fujix and a host of other inkjet printers, including the new micro-piezo large format printers like Roland and Mimaki.

"It's a very alive process," says Cone. "As you use it, the software creates the effects of optical interaction that photographers are accustomed to but with an infinite number of variations. The results are delicious and, for the first time, indistinguishable from other photographic processes."

About half of the business at Cone Editions is in producing photographic prints, both color and black-and-white. The remainder is in original digital printmaking projects, such as the printing for the Gordon Parks exhibit at the Corcoran Gallery in Washington, D.C. The costs for DigitalPlatinum are substantially higher than for color giclee prints, up to twice as much, due to the intense computations for color balancing and cost of the inks.

Cone, who moved from New York to Vermont in 1989, is especially proud of his software. It includes an optional Postscript RIP (raster image processor) and the Uni Tone module for producing a wide range of black-and-white effects with a four-color CMYK ink set. This can be used to produce effects like sepia, warm gray, and cool gray.

The DigitalPlatinum inks are currently being tested by Wilhelm and are expected to outlast most color photographic processes and last 100 years before noticeable fading begins.

