

The term “five-tool player” in the sporting world identifies the athlete that so excels at every aspect of the game, he or she can enter anywhere and compete. The five-tool player understands the workings of, the psychology behind and the future of the game. The sport seems to course through his veins, dance with his thoughts and dwell in his DNA. Still enamored with the Friday night lights, he would



Meet Jon Cone, the five-tool player of digital output. Much has been written about this 49-year-old master printmaker. He’s been branded the “DaVinci of Digital Printmaking,”¹ the “Wizard of Ink”² and “one of the foremost experts on fine art digital printing.”³ His client list bespeaks his skill: Gordon Parks,

David Humphrey, Wolf Kahn, Altoon Sultan, Richard Avedon, Kiki Smith and Diana Michener. His contribution to the earliest

The 5-Tool Player of Digital Output

JON CONE

BY KAT SILVERGLATE

play without an audience or paycheck if the choice came down to money or leaving the field. True five-tool players are rare.

Has digital output been around long enough to produce a five-tool player? Someone who understands the history of printmaking that led to what we now call output? Is so adept at handling printers he can literally take them apart and retrofit them to suit the needs of a special job or project? Unsatisfied with CMYK and RGB, he writes computer code to surpass their limitations? So frustrated with ink choices, he makes his own and teaches others to load them in off-the-shelf, commercially available printers?

forms of digital printmaking through reconstruction of machines like the IRIS Printer, and his collaboration with cutting-edge artists to advance the earliest use of digital in fine art, are easy to document. Even his inventive Piezography products are seen by many as the ultimate solution for digital black-and-white output.

What the history books don’t yet contain is the legacy that John Cone longs to leave this emerging digital generation—an output philosophy that nears extinction in our quick-fix, one-size-fits-all, mass digital market.

¹ Screen Printing magazine, “Meet the DaVinci of Digital Printmaking,” by Eileen Fritch, July 1996

² Photo District News, “Special Report: Innovators,” by Nancy Madlin, February 1999

³ Photo Electronic Imaging magazine, “Inside Cone’s Head,” by Claude Jodoin, September/October 2002



Opposite page: Photographer: Tyler Boley (photo courtesy of tylerboley.com) **This page, top: Photographer:** Jonathon Singer **Title:** "Peony" **Year printed:** 2006 **Medium:** Proprietary IRIS inkjet process; For Jonathon Singer's work, Cone Editions created a unique IRIS inkjet process that produces a pure monochromatic tone on uncoated Japanese handmade paper. This is one of the images in the monumental *Botanica Magnifica*, a botanical study of rare floral species encompassing 10 hand-bound volumes. (photo courtesy of Cone Editions) **This page, bottom: Photographer:** Colleen Duffley **Title:** "Pear Study" **Year printed:** 2006 **Medium:** Roland inkjet (custom inks); Cone's current printer of choice is made by Roland and configured as a 12-ink printer using ErgoSoft's d'Vinci software. Rather than use six of his own inks and six of Roland's color inks, Cone formulated 12 custom monochromatic inks to push the envelope of how monochromatic images are printed. This ink system was designed specially for printing Colleen Duffley's portfolio of black-and-white images. The system is an advanced concept in split-toning using familiar photographic tones as well as artistically inspired tones. (photo courtesy of colleenduffleyphotography.com)

"I hate the word 'output.' Output is done by machines. Printmaking is done by humans. Output removes the creator from the formula. We are losing the point of the process when we call it output. The point is to take what is in the artist's soul—what he sees, feels, intends to convey—and make the machine obey until the image on the paper reflects the image in the artist."

What gives Cone the perspective to speak so authoritatively on output? The life that built this digital player is a living witness to where we've been, how far we've come and how far we still have to go in digital. A glimpse into the tools he's gathered along the way exposes a philosophy that few can share.

Tool 1: Big-Picture Perspective

A printmaking degree laid the foundation for Cone's perspective. "I spent my teen years in a dark-room," he says. "But I also loved drawing. Printmaking had elements of both. While I minored in photography, printmaking consumed my curiosity."

Ohio University's College of Fine Art taught Cone more than just the rules of ink chemistry and ancient technique. He learned deeper concepts about the printmaker's role. "The printmaker is the handmaid in the act of creation. He helps the creator of the art or photograph to make her own unique marks and tones and colors to express what is in her artistic soul. To do this, a printmaker must be such a master of the tools available for the job that he can, at any time, adapt a solution that satisfies the artist."

Cone laments the loss of this perspective in our digital output market. "I wish photographers understood better that printing is less about Photoshop and more about looking at output and seeing what it needs. They should spend more time looking at a proof, rather than the image on the monitor. Does the print reflect what you see, feel or want to communicate? If it doesn't, you need to understand your tools well enough to know how to adapt a solution."

Tool II: Inventiveness

If necessity is the mother of invention, Cone is the father. As far back as art school, Cone was inventing so-





lutions for output creations that existed only in his imagination. Wondering if he could use traditional printmaking techniques to make a print that mimicked a black-and-white photograph, Cone decided to separate the image into tones—shades of black and gray—and print each tonal separation on top of the other.

Cone wondered aloud to Mary Manusos, one of his printmaking teachers, “How am I going to show all these shades of gray?”

She inspired him to think outside the box, “You can make ink out of anything. Ask yourself, what would make gray or silver?” Cone doesn’t remember whether she suggested graphite or if he thought of it, but the idea blossomed into his first monochromatic printmaking system. “I made my own ink by grinding bars of graphite and mixing it in different parts with a clear base. I think I had 21 dilutions of ink in the end.”

Tool III: Pioneering Spirit

Cone realizes now that this experience laid the foundation for

Photographer: Carl Weese **Title:** “Dawn, Shepaug River at Steep Rock” **Year printed:** 1998 by Jon Cone **Medium:** IRIS Digital Platinum, custom inks. Jon Cone’s first quad-black inkjet system was developed for the IRIS 3047 printer in 1995. DigitalPlatinum when used in collaboration with Carl Weese was able to produce prints which mimicked the Ziatype printing-out-process. The split-tone evident in this print moves from silvery cool highlights into chocolate brown shadows. DigitalPlatinum predates Cone’s well known Piezography products by 5 years, yet printed without visible dots. (photo courtesy of carlweese.com)

his later development of inks and systems for black-and-white printing. Early digital printers created black and white by mixing color with black ink to create the illusion of a black-and-white print. Drawing on his college experiment, Cone took the color ink out of IRIS printers first, then later Epson printers, and replaced them with black and dilutions of gray.

“I was frustrated by the limitations early inkjet printers gave for black-and-white output,” he explains. “By relying on color to create black and white, they didn’t come close to replicating a darkroom print. What I have been trying to do with my digital black-and-white products is to preserve traditional photographic values.”

Tyler Boley, a corporate and fine art landscape photographer and custom printer in Seattle, was an early adapter of Cone’s products. Using Cone’s PiezoTone inks in an Epson printer, Boley won a 47-inch, high-definition, slim-projection TV and first prize in the 2005 JVH Technical Digital Fine Art Contest. “Jon’s an artist and printmaker himself. He has one of the most respected print shops

in the country and had his own gallery in New York. That gives him great insight into what makes a fine print," says Boley.

While printer manufacturers are now expanding their printers to include more variations of black and gray, Cone was offering this option to photographers as far back as 2000 with his first Piezography BW inks. Cone's ink systems allow photographers to remove color ink cartridges from their printer and replace them with blacks and shades of gray for a true monochromatic experience.

His system has grown as printers have expanded to include more ink slots. With the introduction of his Piezography K7 Neutral inks, Cone now offers a seven-ink system with 100% pure pigment that has neutral grays so that tone in the print is dictated solely by the paper, not by the ink.

Tool IV: Visionary

Cone sees incredible unused potential in digital printmaking.

Above: Photographer: Carl Austin Hyatt **Title:** "Tide Pool" **Year printed:** 1998 **Medium:** IRIS Digital Platinum, custom inks; Hyatt was invited to collaborate on the DigitalPlatinum process Cone invented to imitate his style of platinum printing. This quad-black ink system was capable of imitating a variety of platinum and palladium processes by using one black, two intermediary midtone inks, and one highlight ink. The inks and software tables for the printer were invented by Jon Cone. (photo courtesy of Carl Austin Hyatt)

Below: Photographer: Jon Cone **Title:** untitled **Year printed:** 1977 **Medium:** silkscreen; In 1977, as a university printmaking student, Cone created a process that he believes led to his invention of a quad-black ink system 20 years later. The photograph of the horse and jockey was separated into densities, which Cone printed using dilutions of ink he made with graphite. The concept of density separation is very similar to today's quad-black inkjet printing. In this example there are only six inks. Eventually, Cone used 21 separations and 21 inks to create the illusion of a photograph. This was the first ink Cone ever formulated. (photo courtesy of Jon Cone)



"What I really long to do is build a digital printer from the ground up," he says. "I've spent my career taking printers apart to make them perform in new and unusual ways. I want to build one from the ground up that gives the consumer more options and more control."

Cone is currently working on a private commission project for an artist who wants a custom-made digital output solution specially designed for the art. Cone has modified a Roland printer, loaded it with 12 custom inks, and created a custom process to perform to the liking of the artist. The details of the project are confidential.

Others come to collaborate with Cone the master printmaker.


Cone's experimental print studio in Vermont is a monument to his philosophy that machines are merely a tool in the artist's hand, not the other way around. The three-story studio is filled with machines that have been retrofitted to create output. Artists and photographers from all over the world come to learn everything from a basic foundation in digital output to black-and-white technique. Others come to collaborate with Cone the master printmaker.

Tool V: Approachable

Few understand the depth of Cone's digital knowledge better than Colleen Duffley, cover photographer for *Traditional Home* and *Metropolitan Home* magazines. When the commercial advertising world went digital, Duffley was desperate to learn quickly. "I had 20-plus years in this business but knew nothing of digital. Everybody said the same thing—if you want to learn from the best, you need to call the man in Vermont."

Cone told Duffley what to order and then showed up on her doorstep to put it together. "My computer, scanner, printer and monitor were in boxes when he arrived. He rolled up his sleeves, assembled it, calibrated it, profiled my papers and gave me the digital education of a lifetime. He even did my website."

Duffley laughs as she recounts her encounter with Cone: "I had the Ansel Adams of digital in my studio, and I didn't even know it."

To learn more about Jon Cone, his products or his workshops, visit his website at www.piezography.com or his online store at www.inkjetmall.com. 

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