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Jon Cone Black-and-White Epson Printmaking Workshop

by George DeWolfe

It's quite an unlikely location for one of the most innovative and creative digital printmakers in the world: East Topsham, Vermont, a picturesque New England farm community where the Fairlee Diner, the closest early morning (520) restaurant, is located 11 miles away. I'm eating breakfast looking at Jon Cone's Quadtone Workshop syllabus, preparing myself for the day's projects.



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Cone's workshop and Cone Editions press are just past the center of town (five or six buildings), past a small stream, and up a hairpin driveway.



The converted post-and-beam barn that houses the workshop and facilities belies what is to come. Inside, the workshop space is open and airy. Digital printers, computers, scanners, cutting tables, and office equipment fill the barn from one end to the other - Iris and Epson 3000 printers humming like a quiet symphony.

"Nothing is rehearsed," says Cone, "we prefer to work straightforwardly on projects for students and let them find their own way." This marks the opening of three days of exhausting work in Photoshop, scanning, and printing your own pictures, and applying the techniques taught by Cone, Bill Bergh, and Larry Danque.

The Black-and-White Epson Printmaking Workshop explores the full gamut of black-and-white reproduction using both color and quadtone inks from an Epson 3000 printer. The workshop is thorough.

Cone begins with a discussion of imaging environment. He argues the importance of using the publishing industry standard, D50, or 5000k, as the viewing conditions and suggests a darkened room for working. All monitors and lights are at 5000k.

Next, and most importantly, Cone has students set their monitor profiles using ColorBlind Prove it! software. With the separate screen calibrator he neutralizes the RGB guns and the computer's video card to read correctly. Prove it! is especially useful where many monitors have to be calibrated for the same viewing condition. Following this Photoshop's RGB, Grayscale, CMYK, and Profile Setups are configured for the quadtone process. He has invented an ingenious way, through the CMYK

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and Grayscale setups, to give a WYSIWYG B&W grayscale image preview on screen.

Cone feels that establishing the Dynamic Range of the paper is the first step after calibration. Establishing the Dynamic Range of the paper allows us to fit the exact point of 0% white, 100% black, and coordinate the gray tones in between. It's sort of like fitting the negative to the correct contrast grade of paper. By adjusting the curve correctly, you also prevent bleeding from too much ink laydown.

Testing for Dynamic Range

1. Open Photoshop and the Test Chart Image.
2. Print the image through a Quadtone workflow.
3. Determine at which step a maximum black first appears.
4. Open Curves dialog box and adjust output to equal the percentage you saw on the printed test chart. Save the curve.
5. Print again. The 100% black step should be solid black and 98% or 99% should be just visible above it. You should see the 100% black s a just barely discernible rectangle.
6. Look at the 1%-5% scale and make sure dots or tone print up to 0% and 0% is pure paper white.
7. When you print an image, apply the saved curve and the image will print at maximum density with solid black.

The next day is spent learning to print black and white with color archival inks. We trudge through the complexities of ICC profile creation, editing and printing through Colorblind MatchBox, a profiling, creating, and printing software. Cone says he used too many curves one day and one person rebelled in a previous workshop, so the training we're going through is almost totally visual, to make it easier to understand. The results, beginning from Cone's Digital Platinum exhibits, are stunning.

Lastly, we get to work extensively with Cone's Piezography software, a watershed Quadtone printing software with paper profiles that makes curve-plotting history. Cone has taken a carbon pigment based ink and profiled it so the image runs through an Epson 3000 printer without dots in the high values. The process changes a 720 dpi printer into a 2,160 dpi printer instantly.

It would be ungracious of me not to mention the two other instructors in the workshop, Danque and Bergh. Bergh is the chief technical person who answers all your questions about Piezography and Epson printers. Danque is the "man on the scan" who operates most of the high-end equipment, mostly the Heidelberg 3400 Drum Scanner (\$100,000 at your local Wal-Mart). Danque is also a terrific innovator in Photoshop. The following describes how he uses History Brush to evade masking - a simply fabulous technique.

History Brush Technique

The History Brush allows us to accomplish any manipulation in Photoshop by semi-masking the object and allowing us to use a soft brush to blend the area precisely. It's sort of like backward masking, but it allows us more freedom and cuts down on the time masking requires. The History Brush doesn't do away with the need to mask altogether, it just allows us to accomplish the same purpose in a different and easier way.

1. Select very roughly the area you want to change. Be sure to include ALL of the area.
2. Apply filter, action, curves, levels, or other Photoshop technique to the

selected area.

3. Open the History Palette and make a Snapshot by clicking on the second icon on the bottom of the palette.
4. Undo the techniques you applied in #2 by dragging them to the trash can.
5. Assign the History Brush to the Snapshot by clicking the square on the Snapshot history.
6. Select History Brush on tool bar.
7. Apply correction using the History Brush.

The Quadtone printing process has been around for years in the offset-printing industry. Four different printing plates are run in succession, much like the four-color CMYK process, except all the colors are different tones and densities of black. The combination of scanned high-quality black-and-white negatives and prints and Quadtone inksets enabled us to produce archival prints from an inkjet printer much the same as we once did with silver and platinum media. The Quadtone print produces a quality that preserves the light and tonal values of the subject more effectively than traditional prints. The image somehow looks more real.