

Madison PhotoPlus the Photo Summit **e-Photo Newsletter**

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Hi!

Birth of the Negative

August is a vacation month for many of us, and the editor of this newsletter is taking a month off from writing this missive. Here is a column from a much better writer, Herb Keppler, who probably knows more about photography than any one else alive. Our regular newsletter will return in September. Enjoy!

The Dumbing Down of Photography

Herbert Keppler

If you look up the word "camera" in the Oxford English Dictionary, you may be surprised that one of its principal meanings is a room and that Leonardo da Vinci in about 1450 described the use of a room for creating pictures. Take one dark room, make a hole in the wall through which light can enter, and on the opposite wall will appear an exact scene outside the hole but reversed and upside down. Arabs with holes in tattered tents witnessed the same phenomenon, and it well may be that in 2000 BC or earlier Egyptian pharaohs and lowly Nile Valley toilers experienced the same thing.

In the Beginning

In the 1700s, some bright carpenter discovered that you didn't need a whole room to create the phenomenon, that a small box with a lens on one end and a piece of ground glass or tracing paper at the other end would yield an even better image. Yet another bright fellow came up with the clever idea of interposing a 45° mirror within the box that could throw a right-side-up image atop the box, so that architects and artists could trace the images to produce true perspectives and forms. The device was known as a camera obscura (dark box) and looked very much like a somewhat bulky single-lens reflex of today.

Taking the next step drove amateur and professional scientists and chemists crazy. How could these wonderful images seen on the camera obscura be made permanent? In the early 1800s, it was discovered that silver nitrate would darken when exposed to light. (At first the silver nitrate was exposed to a fire to see whether the heat would cause the darkening. The scientists found that it was the light from the fire and not the heat that did it.) The next obvious step was to place a sheet coated with silver nitrate into the camera obscura. But everything was reversed in the image that took form.

What was light became dark and when the sheet was exposed to light outside the camera obscura, the entire image faded. It took more time before experimenters realized they had created a negative of the image and that it could be preserved if coated with a solution similar to today's hypo.

A Matter of Preservation

While the early 1800 images still exist, the entire photographic industry has concentrated on giving us better and better ways of making even the humblest of print film negatives and commercial photofinishing nearly archival. If negatives fade, there are chemical, optical and electronic ways to make the images sparkle again—and even better. Prints that have faded because they have been exposed to light can be reprinted using the original negatives. If consumers insist on nonfading prints, platinum, carbonyl or Ilfochrome can take care of it. I have Kodachrome slides from 1937 and my file drawers contain all my black-and-white negatives with contact prints. My children never get tired of browsing through them. Preserving film images and filing them so you can find them is a fairly simple matter.

Evolution of the Image

Preserving images isn't the only thing that concerned photo technicians over the years. There was image quality. While roll film users continued shooting in black and white during the late 1930s and the early 1940s, roll film grunged its way upward slowly, beginning with poor color printing. Kodachrome burst on the scene in 1936-1937 with 35mm, 828 roll, 8 and 16mm movie film, and for pros, sheet film. Fantastically brilliant and colorful, almost grainless color slides sent amateurs out to buy projectors and projection screens. The most avid disdained the 40x40-inch beaded screens in favor of 60x60-inch matte screens that best showed off the exquisite detail possible with Kodachrome. The enthusiasts invited viewers who had the misfortune to be caught in a projection show to poke their noses right up close to the screen to see the detail and sharpness, even at the picture corners. The camera and lens makers didn't let the enthusiasts down. Cameras were precise and lenses ultra sharp.

Then along came video camcorders and reasonably good print film, plus fast and inexpensive photofinishing, first with 3.5x5-inch prints and later 4x6 prints. Projection and screens died. Despite the far superior color and brilliance of 8mm movies, camcorders provided far cheaper movies, instantly and far more conveniently playable on the home TV.

So we lost (out) on movie film and processing, but look what a bonanza we have had with print film! The ever-increasing exposure latitude and quality of high-speed print films plus the magic of digital lab processing have cut the percentage of unacceptable color prints to a minimum. Film manufacturers had learned that virtually all consumers wanted brilliant, riotous color prints, inaccurate though color might be. Only a tiny percentage of consumers asked for larger prints, and those usually requested 8x10, not realizing that part of their images would have to be chopped to fit.

What about subject sharpness and detail? How much do most consumers really need for a 4x6-inch print? Or even an 8x10 or 12? Camera and lens manufacturers have only recently begun to discover that perfectly adequate SLRs and low-priced 28-80mm or greater zoom lenses can be offered competitively in vast quantities. At the same time, the smaller group of pros and advanced amateurs still requiring top-quality equipment pay at the usual prices and often higher.

And Now for Digital Imaging

Despite its undoubted attractiveness and success, digital imaging is still raw and wet behind the ears, in my opinion. How do you store images? Most people use their hard drives. What happens if the hard drive crashes? All is lost. Store images with some company's blandishments on the Internet? How long will the company last? Keep images on the memory card? Memory cards can become corrupt and be as useless as a piece of cardboard, even if you handle cards with great care. In our experience, data recovery programs seldom work. CDs are also subject to corruption, either defective in manufacture or deteriorating thereafter. Various electronic storage devices? What are their warranties?

What are pros doing? Backing up doubly or even triply—one CD at the office, others in various locations, including an electronic storage device. A pro photographer I know complains (or is it bragging?) that he has spent more money on electronic image storage than on his picture-taking equipment.

The Trade-Offs

Putting aside the present arguments about tonal picture quality, digital vs. film, what about sharpness and detail? For convenience purposes most amateurs and many pros forgo using maximum sharpness and detail photo quality from their digital cameras in favor of JPEG compression. There are different levels of compression depending on how big a print the user might wish to make. A 6 megapixel camera and minimum compression might provide 3,008x2,008 pixels

which, with the rule of thumb to divide these numbers by 200 to get maximum print size, would allow the consumer a 10x15-inch enlargement (although there are some electronic means of increasing this somewhat).

A film camera aficionado could readily point out that in this competition for print size and quality a \$100 35mm camera would blow a \$1,000 digital camera out of the water. A digital camera technician would counter by enquiring how big an enlargement the photographer really needed for his purposes? Even for a pro, a 10x15-inch image could be printed nicely on most magazine double-page spreads. Shoot film and the consumer must give up all the conveniences that a digital camera provides.

So at present, among perhaps other questions, we have no guaranteed permanent digital image storage and there are final digital image size limitations.

Want everything digital solved? Go to sleep for 20 years like Washington Irving's Rip Van Winkle, then wake up and all will be resolved. And while dreaming, you might think kindly of those shoeboxes crammed with photo and negs.



This article appeared in the July, 2004 issue of Photo Industry Reporter, which is not a consumer magazine. The normal readership is manufacturers, importers, wholesalers and retailers. I hope you enjoyed this change of pace.

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