

UNLEASHING PHOTOSHOP

When the first group of artists and designers went to Camp Adobe in 1989 at the invitation of Russell Brown, they didn't realize they were about to see a product that would ultimately revolutionize not only their immediate work but the entire graphic arts and publishing industries. Nor could anyone in the room be aware of the impact Photoshop would have on Adobe itself.

Photoshop represented a radically new direction for Adobe and its applications division. Unlike Illustrator, Photoshop was based not on PostScript curves but on raster pixels. Illustrator enabled artists to draw line art from scratch; Photoshop enabled photographers to work on images from other sources, such as those acquired from a scanner. And unlike Illustrator, which was emphatically homegrown, an outside party had developed Photoshop. No wonder Brown, Luanne Cohen, and other members of the creative team watched the Adobe "campers" carefully as they grappled with this new product.

Adobe needn't have worried. In time Photoshop would eclipse Illustrator in terms of popularity and overshadow even PostScript as Adobe's flagship product.

The Ph.D. Project

Photoshop began in 1987 as a private project of Thomas Knoll, a doctoral candidate in computer science at the University of Michigan. As a distraction from writing his thesis, he wrote a programming routine to display grayscale images on a black-and-white monitor. He showed the program, which he called Display, to his brother, John, who worked at filmmaker George Lucas's Industrial Light+Magic, the source of computer-generated special effects for movies such as *Star Wars* and *The Abyss*. Intrigued by Display, John asked Thomas to help him write a program for processing digital image files.

Thomas had gotten hold of a color Macintosh (intercepting one meant for his brother), so Display was now color capable. The brothers then expanded the program to include features that formed the foundation of today's Photoshop, such as soft-edge masks, tone and color adjustments, paintbrushes, plug-in filter support, and multiple file formats. It occurred to John that the software had commercial potential and, after convincing his initially reluctant brother, began to look for an outside investor to take the product into the public arena.



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to Mr. Warnock's
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should buy this.'"*

— Russell Brown



Adobe acquired Photoshop from John Knoll (top) and Thomas Knoll (bottom), who developed it while writing his Ph.D. thesis.

It was 1988, and a number of pixel-based painting and image-editing applications were on the market, among them SuperMac's PixelPaint and Letraset's ImageStudio, which later became ColorStudio. David Biedny, who consulted on all three of those products before making the leap to Photoshop, says that what made Photoshop different was how it approached images as mathematical constructs. "It's not about moving pixels around, which is what painting programs do, but it's about actually combining them together," says Biedny, who first saw Photoshop in 1988 and went on to coauthor the first book about it. "It's like a digital simulation of what you could do in a darkroom." Adds Clement Mok, who designed graphics for the Macintosh at Apple Computer and also consulted with Letraset, "When I first saw it I thought, Photoshop will kill ColorStudio. Photoshop's interface was much more intuitive, closer to the notion of MacPaint."

Knoll called a number of companies, among them Quark and Aldus, both of which had or were preparing competitive products. Adobe was interested but noncommittal, as it was looking at all the options on the market. Finally a small scanner manufacturer named Barneyscan agreed to ship the software as a tool for its scanner. The license for Barneyscan XP, as version 0.87 of Photoshop was known, had a limited duration, so John Knoll continued to look for long-term partners.

"Very early on we decided we'd like to have it," says Fred Mitchell, then director of business development and strategic planning, "but the Knolls said they were negotiating with other companies." Mitchell ran into John Knoll at the Macworld Expo in August 1988 and, impressed by what he saw, invited Knoll back to Adobe the following month.

Handshake Deal

In September 1988 Mitchell ushered John Knoll into a room where they were joined by David Pratt and Russell Brown, among others. Brown, for one, was excited. "I'd always wanted an image editor since playing with a Quantel Paintbox," says Brown of the first time he saw Photoshop. "Then John Knoll demo'd the Magic Wand. The fact that you could create a soft-edged mask! It blew me away." Brown had recently signed a nondisclosure agreement with Letraset over ColorStudio, but quickly recognized that Photoshop was the better product.

Warnock, deeply involved with applications and engineering, attended the demonstration but could stay for only 15 minutes. As Warnock was leaving, Pratt caught up with him at the door and asked him what he thought. "I think we should get it," Warnock said simply.

Brown's reaction was characteristically less reserved. "I ran, not walked, to Mr. Warnock's office and said, 'We should buy this,' and he said, 'We are.'"

According to Mitchell, the reaction from other parts of the company was less definite. “There wasn’t as much enthusiasm around the company, but Warnock was really interested in it. He saw its potential. We had seen other image editors, and we saw real talent in the Knolls. Tom Knoll was a genius who wrote very precise code.” The deal was sealed with a handshake in the fall of 1988 and a contract was finalized the following spring. “We were very lucky it didn’t fall into someone else’s hands,” Mitchell says today.

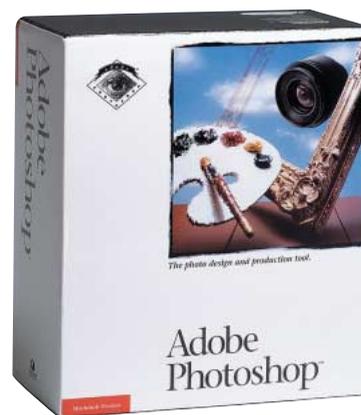
But Adobe did not buy the software. It licensed it from the brothers, who would receive royalties on units shipped with a guarantee of no less than \$250,000 over the first two years. “That was a huge amount of money then,” Mitchell says. In hindsight such a deal seems ludicrously low considering Photoshop’s phenomenal success, yet Adobe’s initial plans for Photoshop were less ambitious.

Adobe saw Photoshop as an add-on to, or a subset of, Illustrator and therefore another way of selling more PostScript. “Everyone thought it was great program to promote PostScript and printing,” says Brown. “We didn’t know the influence it would have.”

“At the time we acquired Photoshop the Mac had one megabyte of RAM and a 20-megabyte hard disk. You could keep maybe six images on your machine,” remembers Warnock. “I had seen the big Scitex and Hell machines used to do color imaging, and then they bring in this little toy program. I thought we’d sell 250 per month, max.”

Digital imaging was a relatively new business, but what Geschke and Warnock soon realized was that more people take photographs than draw line illustrations. Moreover, in the favorable climate of a desktop publishing revolution, Photoshop cut across a growing category of hardware devices as well. The market for scanning devices was starting to develop, with optical sensors improving in quality while declining in price. Color monitors and printers were becoming ubiquitous, too. Following Moore’s law, personal computers were becoming faster, more powerful, and less expensive with each successive release. Photoshop was poised at the nexus of desktop publishing, computer imaging, and traditional photography.

“Photoshop surprised everybody,” says Pratt of the program’s immediate success. “It was going to be a subset of Illustrator, but it addressed a market that brought in other markets.” For example, he notes that in the late ’80s no one at Adobe anticipated that the *New York Times* (and every other newspaper) would routinely use Photoshop to touch up its black-and-white (and, later, color) images, or that several years down the line Photoshop would be used to make graphics for a little-known experiment called the World Wide Web.



Adobe Photoshop’s first toolbar.

ADOBE AND THE DIGITAL IMAGING REVOLUTION

No one expected Adobe Photoshop to take off the way it did—not people within Adobe, not the photography community, not the prepress industry, not even the digital artists who recognized immediately that the new software was a notch above any other pixel-based product they'd seen. Today, no aspect of publishing has been untouched by Photoshop, and the juggernaut rolls on with its consumer version, Photoshop Elements.

FIRST LOOKS

Adobe first caught my attention at a New York Macintosh users group. Someone showed me a print from an Apple LaserWriter. Later I called Geschke to ask him about it. He really knew what he was talking about. I told the Knolls they should take Photoshop to these two guys [Warnock and Geschke] because they would get it.

David Biedny, digital artist

Throughout the '80s, photo retouchers used Scitex and Paintbox workstations that cost \$300,000. High-end computer imaging cost \$1,200 per hour, so to retouch an image cost \$20,000 to \$30,000 for a project. I went out and bought an entire Mac system for \$24,000. I paid for it with one job.

Jeff Schewe, photographer

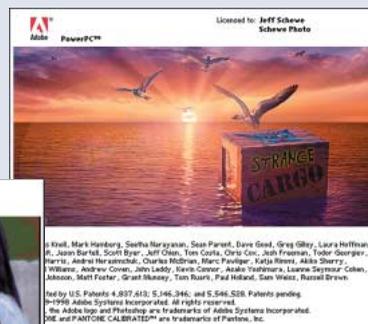
When Photoshop came out, imaging studios got rid of all the Quantels in the basement.

Bert Monroy, digital artist

PHOTOSHOP EVOLVES

When adjustment layers came out I almost fell to my knees in thanks. Layers gave us the ability to try out a color or tonal correction without changing the original file.

Katrin Eismann, digital artist



The splash screens for beta versions of Photoshop were often quirky works of art themselves.

I stayed with Photoshop 2.5 for a long time even after version 3, with layers, came out. I liked the idea that I had to make a decision and stick with it. That's when men were men and boys were boys, because once you made up your mind, that was it. It was macho to have to commit to an image state.

Glenn Mitsui, designer and artist

I was stunned by the alpha channel. It gave me a nondestructive way to work with images. You could always get back to where you were.

Lynda Weinman, author and designer

When I opened my first image using the new Duotone feature, I instinctively reached for the phone and dialed Ansel Adams. He'd passed away eight years earlier, but I know he would have gotten in his Cadillac and driven up here to see it.

Stephen Johnson, landscape photographer

FAVORITE FEATURES

I had been an airbrush artist, so seeing the use of the airbrush in Photoshop was big for me. I could

get smooth, soft tones and gradients much closer to what I was used to getting with traditional tools.

Bert Monroy

Before type could be anti-aliased in Photoshop, I remember fixing type edges by hand with the Eyedropper and Pencil tools. It was nuts.

Lynda Weinman

As I worked with higher-resolution images I kept pushing for Photoshop to accept larger image files. Finally Mark Hamburg said, "It's only you and the CIA that want a 30,000-pixel limit."

Stephen Johnson

IMPACT ON PHOTOGRAPHY

For a number of years, the photographic community was very hostile. I was lecturing in Santa Fe about Photoshop. This guy calls out: "Do you call yourself a real photographer?" And I said yes. He was really upset about the sea change he saw around him.

John Lund, photographer

If Ansel Adams were using Photoshop—and he would be using Photoshop, without any doubt—he'd only be using 25 percent of it.

John Paul Caponigro, author and photographer

I've always thought of my digital photography not as photography but as an accessory of my computer. The image is immediately a computer graphic. No matter what it is, I can always make it what I want it to be. That's very freeing.

April Greiman, artist and photographer

SLICING AND DICING

Photoshop is the Cuisinart of imaging. No matter where it's coming from, Photoshop can deal with it.

David Biedny

I've even seen a tattoo artist use Photoshop to show customers what a tattoo will look like on their bodies.

Jeff Schewe

THE CREATIVE PROCESS

I end up with things I couldn't do in traditional media. I'm not simulating anything. I'm integrating everything, traditional and nontraditional media. The dramatic thing is that it pushes you in directions you could never go with paint.

Sharon Steuer, illustrator and author

I like the unpredictable factor of working in Photoshop: the possibility of not having anything particular in mind, just setting out on a digital journey—what mistakes, what accidents, what can happen when you aren't attached to a product or a result. You can have a creative dialogue in this environment.

April Greiman

When I'm working with Photoshop I am carried into the process by listening to the image. Each image has its own voice, and if you listen to the image, the image will tell you what to do.

Katrin Eismann

The computer and Photoshop eliminate the barrier between imagination and execution. It's possible to make any vision into photographic reality.

John Lund

PERSONAL EPIPHANIES

Without Photoshop I don't know where I'd be. It allowed me to have a niche very early. We had a comfort level with it in Seattle that gave us a leg up on the rest of the country really quick.

Glenn Mitsui

When the IRS attached my account in 1991, I took my portfolio of the Photoshop work I'd done and showed it to the IRS auditor. He said he'd never seen anything like it and gave me another year.

John Lund

Which day did I realize that Photoshop had changed everything for me? The day I realized

“Every published picture we see today has had something done to it in Photoshop.”

— John Lund

I would never shoot another roll of black-and-white film because I had so much more control by converting it after the point of capture. The day I realized all the colors were up for grabs, that I had a painter's palette in a photographic rendition. The day I realized that the color theory I had been trained with was based on qualitative terminology, like complementary colors, and that I could assign numerical or quantitative values and advance it even further. The day I realized I could change proportions. The day I realized that composition was completely up for grabs, the day that taking elements out of pictures became more important than putting them in, the day that I could make seemingly natural effects like fog or rainbows or stars, and on and on. What I look forward to is that next breakthrough.

John Paul Caponigro

IMPACT ON THE INDUSTRY

Photoshop was the source of revolution in several industries: prepress, motion pictures, fine arts, image making. It was the basis on which the battle of the pixel was waged.

Jeff Schewe

Photoshop revolutionized not only graphic design but the whole design field as well.

April Greiman

The impact of Photoshop is like a tsunami running through pop culture. It's made an elite technology democratic. There isn't an aspect of visual culture that hasn't been or won't be impacted.

John Paul Caponigro

Photoshop was the best deal Adobe ever got.

Frank Romano, Rochester Institute of Technology

Acrobat statues balance outside
Adobe's Mountain View offices.

