99 Layers and Counting

Topic: A review of the just-released Photoshop 6 and Illustrator 9.

Column first appeared: Dec.-Jan. 2000–1, *Electronic Publishing* magazine.

Source of this file: The author's draft as submitted to the magazine.

Author's comment: This was a time when trade magazines were losing whatever reputation for impartiality they once may have had, as the desire to avoid displeasing advertisers often trumped the desire to tell the truth about their products. My own column was unique in that I could attack whoever I wanted, thanks to the patronage of editor Tom McMillan. The rest of the magazine, however, toed the party line.

I once remarked at a trade show that a major vendor's product could only get 4 and a half stars from a trade magazine if it had a disastrous flaw. A 4-star rating, I opined, meant that the software didn't work at all.

This proved too generous. Quark 4 crashed continually, and often lost data irretrievably. So did Illustrator 9, which is reviewed here. Yet both got several 5-star reviews.

Combining discussion of this phenomenon with a favorable review of the just-released Photoshop 6 gave me the opportunity to add lengthy quotes assessing Illustrator 9, one from a magazine that accepted advertising, the other from *Design Tools Monthly*, which did not.

Remember, at the time of writing, web searches were basically nonexistent, and there were few useful online discussion groups. So this column gives an interesting flashback to when we had to be very careful about what information to accept. I posted it in 2013, in memory of *Design Tools Monthly,* which had just announced it was ceasing publication after 21 years of distinguished service.

This archive, to be released over several years, collects the columns that Dan Margulis wrote under the *Makeready* title between 1993 and 2006. In some cases the columns appear as written; in others the archive contains revised versions that appeared in later books.

Makeready in principle could cover anything related to graphic arts production, but it is best known for its contributions to Photoshop technique, particularly in the field of color correction. In its final years, the column was appearing in six different magazines worldwide (two in the United States).

Dan Margulis teaches small-group master classes in color correction. Information is available at http://www.ledet.com/margulis. Many other articles and edited threads from his appliedcolortheory group are available there or at http://www.moderncolorworkflow.com

99 layers and counting

How many times can a program be updated before the new features become superfluous—or until it becomes so unwieldy that major bugs are inevitable? Photoshop 6 and some less successful recent "upgrades" suggest answers.

The frowns and warping at the top of this ad are the work of Photoshop 6's useful new Liquify command, which allows exaggeration and distortion of detail. The box at right is what used to be PressReady, which was liquified by Adobe in late August.

Not all that long ago, I had to write a review of a just-released version of Photoshop, which had introduced a fascinating new feature: the ability to create pictures in layers, opening up infinite possibilities of piece-by-piece blending and experimentation in a nondestructive way.

Many people appreciated at the time that this was a very big deal, but almost nobody, myself included, appreciated quite how big a deal it was. Today, serious retouching revolves around the layers feature. New techniques of working with them are still being discovered. Often these involve layer on top of layer, each effect magnifying the last, all editable, all restackable, all groupable.

Even in the heady days when Photoshop 3 had just come out, it was easy to see how multiple layers could be useful. One to lighten, say, one to darken, another to add a shadow, another to correct color.

File size and processing time can get out of hand as the number of layers increases. Therefore, intelligent Photoshoppers look for ways to cut down on excessive layer use. Nevertheless, I myself once made a 15-layered file, and I've seen some very complicated jobs

that seemed to justify having 25 or even 30.

The question of how many layers a file *could* have has caused few sleepless nights because it's a lot more likely that one's system would crash or disk space would be exhausted before getting to the point that Photoshop would reject another layer. But there *is* an answer: 99 is the theoretical maximum, or, rather, it used to be the maximum.

Photoshop 6 shipped in October. High up in the list of new features is the elimination of this dreaded barrier. No longer are we limited to 99! We have been liberated!

Not all that long ago, I bought a software upgrade and, for the first time in my life, trashed it and went back to the previous version. I dropped $110 for Illustrator 7, thought its revised interface as incomprehensible as it was reprehensible, and went back to version 6. This deprived Adobe of upgrade revenue for version 8 as well, let alone this summer's Illustrator 9.

This turns out to have been fortunate. Illustrator, that old reliable, has been overhauled. It has many exciting new features. One of the most exciting is, it doesn't work.

Save a file in Illustrator 9, and if you try to open it in the current version of the leading image-processing program, you get the message shown at left. Send it to a RIP, and a crash is likely. Use its Layers palette, and the layers might reorder. The critical Fill/Stroke commands are unreliable. Placed EPS

Could not open "Illustrator 9.eps" because the parser module cannot parse the file.

OK

It seems unthinkable to release an Illustrator upgrade whose files can't be read by Photoshop, but it happened. Save an EPS in Illustrator 9 and try to open it in Photoshop 5.x, and the message above appears. (Photoshop 6, which came out several months after Illustrator 9, can handle such files.)

files come in at the wrong sizes. Picture links vanish. Files and type get corrupted. Repeated freezes are reported. Illustrator 9 is, in short, a thing devoutly to be avoided.
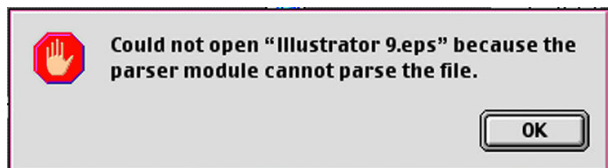
The end of the beginning?

This column is not meant to Adobebash; indeed, the development groups at that software giant are so autonomous that Illustrator and Photoshop might as well be products of different companies. Photoshop 6 is a solid upgrade, one that I would recommend that most users purchase. Illustrator 9 has enough provocative new features that I would recommend it, too, if only the program worked.

Something most unusual has begun to happen with upgrades, however, making them much more expensive than they nominally are.

Software companies have become addicted to that upgrade revenue. Adobe asked us for $200 apiece last year for Photoshop 5.5, and now would like $200 more for version 6 and $150 for Illustrator 9. Especially in the case of Photoshop, this represents a colossal amount of revenue.

The problem is, Photoshop is more than 10 years old and Illustrator is nearly 15. That distinguishes them from pure Web applications, which are

relatively new. A young product usually has flaws that don't become obvious until users have a lot of experience with it. In something much older, one seldom finds things that really and truly need fixing. But because upgrades need to be sold, features must be added. They tend by necessity to be features that benefit only a few users, such as the elimination of the 99-layer limit.

Worse, as the programs become more complex, they become less manageable from the coding point of view, and disastrous bugs become more likely. Illustrator 9 is the extreme case, but it's only the culmination of a trend.

Some upgrades are better than oth-ers, but to have one so bug-infested as to be nearly worthless is unheard of, or at least, it used to be. But in the last three years, we've had three, from three different vendors: Quark 4.0 in 1997, StuffIt 5 in 1999, and now Illustrator 9. Even Web-oriented products aren't immune: Adobe's recent GoLive 5.0, although not the insectarium that Illustrator 9 is, still has enough problems that macintouch.com, a respectable authority in these matters, advised, "We are not talking about bugs that were in 4.0 but not fixed. We are talking about new (and often quite serious) bugs introduced in 5.0 ... Yes, several readers have offered workarounds ...

[b]ut this is not sufficient for us to feel comfortable using GoLive 5.0 in its present version. We are hopeful that most of these bugs will be fixed ... In the meantime, we recommend avoiding GoLive 5.0. Getting its improvements is not worth putting your data at risk."

The entomology of Photoshop

It's a bad idea to starve Photoshop 6 of RAM. A reasonable minimum is 128MB. Abide by that, and my experience with beta versions is that the program runs smoothly, although there are a couple of gotchas in the wings, as well as a problematic interaction with Mac OS 9, which Adobe blames on Apple and Apple no doubt blames on Adobe.

There's nothing in the upgrade of such universal utility as the multiple undo introduced in Photoshop 5. But there are enough worthwhile things that most people will want to upgrade, even though not everyone is helped by every new feature.

For me, but probably not for you, the killer addition is a command called Convert to Profile. This enables one to convert from one colorspace to another, or even from CMYK to CMYK, using traditional Photoshop menus.

This doesn't sound like much, but expert retouchers often change separation settings for a single image, opting for a nonstandard GCR, a different dot gain, or unusual black or total ink limits.

In Photoshop 5, one had to do this in CMYK Setup, which had a downside for those oblivious as I am. Namely, one would forget to change the setting back afterward, with lethal results for the next job. Convert to Profile, which is strictly a one-shot deal, eliminates this problem. The basic setting never changes.

There are more eyecatching features, but they fall in the same category: chances are, you don't need them, but if you're one of those who do, you'll be very happy in-

The Illustrator elephant is very like a rope

The complexity of today's upgrades can offer great benefits (try doing this graphic in Photoshop 5) but also blind one to their shortcomings. Here, from September, are the views of two publications on Illustrator 9. Only one, for what it's worth, accepts advertising. —DM

"With the release of Illustrator 9, Adobe delivers a knockout punch, including transparency and Web-focused features that just may change the way we think about vector illustration programs …

"Illustrator 9 maintains the smooth, intuitive interface found in all Adobe applications, and learning to use the new features is fairly easy. Today's design trends demand cool transparent effects … and currently no tool out there can do it better than Illustrator. You'll find enough features and improvements in Illustrator 9 to justify the cost of the upgrade even if you specialize solely in either Web or print design. And if you do both, your dreams just came true."
—*MacAddict* magazine

"It's now been more than two months since Adobe became aware of the large number of crippling problems with Adobe Illustrator 9.0, but has chosen not to address these issues publicly. Therefore, we continue to recommend not using Illustrator 9.0 for critical work until an update is released.

"Some of the reported problems include: Photoshop 5.5 won't open Illustrator 9 EPS files, conflicts with Adobe Type Manager, Font Reserve, Action Files 1.5.2 and Suitcase, clipping paths that change from version 8 to 9, text redraw problems, missing graphics when exporting to PDF, graphs that disappear when updated, documents that won't re-open, corrupted text, and imported EPS files that get garbled."
—*Design Tools Monthly*
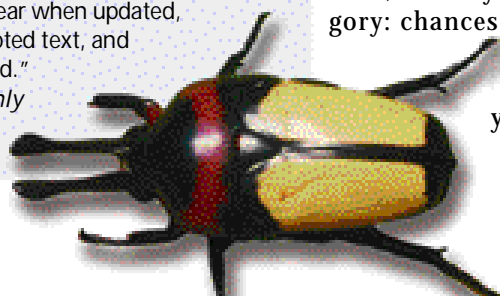
deed; each feature alone might well justify the entire upgrade.

I count 10 such features in Photoshop 6, not all of which will be discussed here. Exceeding 99 layers isn't included, but the sophisticated layer-handling options are. There are new effects (and effects can now be combined), easier ways to group layers, and what amounts to style sheets for future layers. These additions will be a godsend to those who often have to stack up lots of layers.

Features for the few

It's characteristic of recent upgrades for all programs to start to resemble one another. Illustrator's type tools, for example, have become strong enough to consider it a page layout application; the only thing that stops it from being considered this is an artificial limit of one page per job, and we can even get around that with an inexpensive plug-in from Hot Doors.

Similarly, as you might expect, Photoshop 6 adds new features that one would normally associate with programs such as Illustrator or QuarkXPress. Photoshop 6 type can have style sheets. And a shape tool has been added, enabling us to create ellipses, polygons, and various others.

This doesn't sound like much either—the specialized programs are still incomparably better at this. But in real life, it's a hot item. Not so much because we no longer have to go to the other programs for simple effects, but because Photoshop 6 enables us to output files that are simultaneously raster and vector.

Let me put that into English. Typesetting programs such as Quark or InDesign and illustration apps such as Illustrator or FreeHand output files with no specific resolution. They are mathematical descriptions that output devices will interpret optimally. It doesn't matter whether the output is going to be 2x3 inches or 20x30 inches.

Photoshop, on the other hand, is traditionally a pixel editor. Its images do have a fixed resolution.

This causes no problem with typical pictures. But if for some reason a picture has to intersect with type or some kind of line graphic, it can become very awkward.

Type doesn't have to be resolution-independent, but if we assign a resolution to it (as we would have had to do in every past version of Photoshop), type as smooth as that on this page would require at least six times the resolution of the pictures.

That sad fact has eliminated many design elements such as the bugs and shadows against the rounded box and type on the facing page. If this entire graphic is made in previous versions of Photoshop, it has to be at very high resolution. Six times normal resolution means a file size 36 times as large as usual. In this case, that would be right around 250MB.

The alternative—exporting the individual bugs with clipping paths and pasting them on top of graphics made elsewhere—is a pain to execute, particularly because of the shadows. Scitex systems have always been able to make this kind of effect easily, but until now, it's been a major pain in Photoshop.

The solution—and I think it's the biggest advance in Photoshop 6—is to save the pictures as they always have

Matching a Photoshop 5 color workflow

The coercive color-management approach of Photoshop 5 has been discarded in Photoshop 6, in favor of a kinder, gentler, and altogether more sensible and responsible one. Four separate PS 5 dialogs have been combined into one, making things easier to control. The ability to retain somebody else's profile when we work on their file on our machine is a major enhancement and might provoke some people to reconsider their general opposition to profile-based color management. But if all you're looking for is a quick way of making Photoshop 6 behave like Photoshop 5, here's the recipe.

● Open Photoshop 5, and choose File: Color Settings > RGB Setup. When the dialog box appears, click "Save" and store the contents somewhere.

● Ditto, assuming that you're using the "Built-In" option, with Photoshop 5's File: Color Settings > CMYK Setup. After saving the file, go to the "Dot Gain" setting. If it reads "Standard," change it to "Curves" and click the mouse there. When the dot gain curves show up, click "Black." Write down the curve values you find there.

● Close Photoshop 5 and open Photoshop 6. Go to Edit: Color Settings. Click the "Advanced Mode" on; if you want, after completing these steps, you can turn it back off.

● Under Working Spaces: RGB, click whatever's there and choose, from a list of options, Load RGB. And load the RGB Setup you saved from Photoshop 5.

● Similarly, click Working Spaces: CMYK and load the CMYK Setup from Photoshop 5.

● Under Working Spaces: Gray, choose "Custom Dot Gain" and change the curve to whatever you found in the black curve in Photoshop 5's CMYK Setup.

● For the Color Management settings and everything below them, unless you think you know why you should do otherwise, stick with what's shown at right.

● Hit Save so that, if necessary, you can enjoy the Photoshop 6 innovation of restoring every last color-related setting in one fell swoop.   —DM
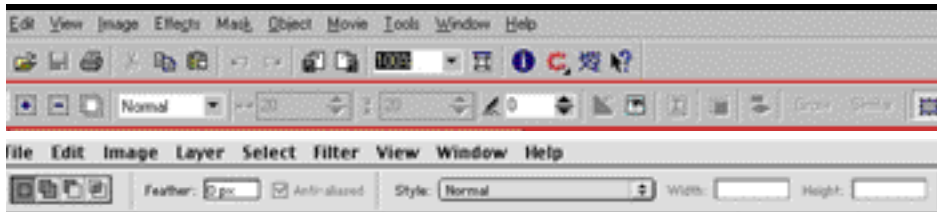
The new Photoshop 6 menu bar interface (above) adopts the look of Corel's PhotoPaint (top). Note the similarity in the selection method box icons at left.

been, but to save the line graphics as resolution-independent vectors.

Imitation is the sincerest form
The most obvious Photoshop 6 change is shown above. Toolbox options now live in a menu bar at the top of the screen, as opposed to floating palettes.

Although this menu bar is more efficient, it doesn't make my list of compelling reasons to buy. But one component of it does. We can now change the position of an image element by typing in numbers, as has long been the case in, for example, Quark's measurements palette. So, if something needs to move four points to the right, we can move it that precise amount, as opposed to the by-guess-and-by-gosh method of dragging it somewhere close with the mouse.

The new bar is a bow in the direction of Corel PhotoPaint, which has had something similar for years. To the extent that Photoshop's stranglehold on the professional market has competition, it's PhotoPaint—although not

if you read Adobe's press releases.

Those releases indicate that Adobe does recognize that there's competition, but from a program that has had simultaneous vector-raster output for a while now, Macromedia's Web graphics program, Fireworks.

As unlikely as this comparison seems, it reflects a valid concern: in the Web world, Adobe is getting its clock cleaned by Macromedia's suite of Dreamweaver, Fireworks, and, especially, Flash. Adobe's competitor to

Flash, LiveMotion, showed up way too late. That segment of the market is now gone forever.

GoLive, which competes with Dreamweaver, has more of a chance. And Photoshop, or more accurately the ImageReady module of Photoshop, is a potent competitor to Fireworks.

The difficulty is, the Macromedia Web apps mesh well. The Adobe suite members have some difficulty working with each other—or in some cases working at all.

The beginning of the end?
Adobe was quite tardy in realizing this threat. Even as late as mid-1998, when

The gotchas of Photoshop 6
Outright bugs aren't the only problem to torment unsuspecting upgraders. Perhaps more dangerous is what cognoscenti know as the *gotcha*—something that looks like the right thing to do, or at least inoffensive, but turns out to have unpleasant consequences. Here are four to beware of in Photoshop 6.

● If you don't want to use color management but aren't willing or able to use the procedure outlined in the box on the previous page, beware of what looks like the obvious alternative, loading Photoshop 6's U.S. Prepress Defaults and then turning color management off. Those defaults install Adobe RGB, which is a very different animal from the RGBs most people use, and will cause you no end of trouble if you start interchanging RGB files with them. If you'd like to stick with Adobe RGB (it's good if you aren't particularly skilled and like bright, pleasing colors, not so good if you have prepress experience) you have to take the plunge and keep color management on. If you don't want to do this, change it to Apple RGB or ColorMatch RGB.

● The TIFF specification has received a number of new options, which fortunately can't be activated without going into Edit: Preferences>Saving Files. If you encounter TIFFs that behave strangely or seem to be of an odd size, it's probably because somebody has lit this powderkeg and saved a layered TIFF, or one compressed in JPEG or, worse, ZIP format. If you use these features yourself and then send these weirdo TIFFs to a service provider, God knows whether they will be processed successfully, but Adobe doesn't. Using these mischievous options is, in my view, asking for trouble. If you need them, stick to another file format.

● If you use Mac OS 9, you might find yourself mysteriously losing disk space. When Photoshop 6 crashes, it can leave large "temporary" files, which OS 9 is supposed to dispose of gracefully at a later time but doesn't. In the past, they've lurked in an invisible folder called "Temporary Items." Some shareware utilities delete the contents, but they don't seem to check the location where Photoshop 6 saves its detritus, which is an invisible folder called "Cleanup at Startup." The OS is supposed to delete all these files when the Mac is rebooted, but apparently some 9.x versions do and others don't. If this appears to be a problem, you can use ResEdit or a similar utility to make the folder visible and delete the files manually, but chances are some less burdensome fix will be made available soon.

● If you habitually put clipping paths in TIFFs, be careful: most versions of QuarkXPress won't honor them anymore. For the moment, create the TIFFs in earlier versions, or save the files as EPS.   —*DM*

Photoshop 5.0 came out, ImageReady was a separate application. Processing Web images does require features not needed in the print world (such as, being able to slice a graphic into segments of differing resolution, something that Photoshop 6 does rather well).

Pictures are nevertheless pictures, which is why Adobe elected to kill ImageReady as a separate product and instead crowbar it into Photoshop 5.5. The union was quite clunky. Photoshop 6 integrates ImageReady a bit better, but there is still the flavor of their separate pasts. Improving this will be a priority for Photoshop 7.

Which brings up the questions that now must be asked of all upgrades: when, why, and how stable?

For the first time, Photoshop 6 allows users to reposition and resize items based on typed-in values, rather than by eyeballing them into place.

In late October, Tim Gill, the co-founder of Quark and main architect of QuarkXPress, left the company. There is still talk of a Quark 5.0 one of these days, but the firm has not demonstrated recently the capability to write functional code. Quark 4.1, the current version, more or less does the job, but it took several maintenance upgrades following the disastrous 4.0. Probably the majority of professionals still use 3.3, which if true is astounding, considering that no one has been able to buy 3.3 for the last three years.

Mr. Gill's departure calls Quark's future competence into question even further, if possible. Meanwhile, what are we to make of the Illustrator 9 experience? It looks to me as though both Illustrator and GoLive were rushed into release for competitive reasons without adequate testing.

It doesn't take much to make an upgrade worth $200 to a professional. What turns people away is the thought of tens of thousands of dollars of damage caused by software that would challenge a professor of entomology, such as Quark 4.0 and Illustrator 9, or that has devastating interface changes, such as Illustrator 7 and Photoshop 5.

I take nothing away from responsible upgrades like Illustrator 8, Flash 4 and 5, FreeHand 8 and 9, Photoshop 6, or even InDesign 1.5. But in a frightening proportion of recent upgrades, one can practically hear the barking coming from inside the package.

I am not being old and crotchety about this, either. It's a new phenomenon. Until 1997, there was perhaps one upgrade, FreeHand 4, as poor as some of the ones mentioned here. But now, we seem to have companies too hungry for income and too quick to release the upgrades that are too complex for their programmers to code.

So, forget Illustrator 9, but buy Photoshop 6. The question is, with all this garbage floating about, do you dare trust me? Do you really want to be the first one on the block to experiment with *any* upgrade?

This is a question that a lot of software executives should be asking themselves, before they commit to eliminating a 99-layer limit in another 18 months.

PressReady: the upgrade that wasn't

Only a year after its introduction, the plug has been pulled on PressReady, Adobe's software RIP that was designed to accept CMYK input and drive inkjet printers with it, thus enabling contract proof-like quality on very inexpensive desktop devices. The death-dance of this product was rather unusual.

A rumor that this might be happening surfaced in late July. This outraged supporters of color management because PressReady was seen as a bellwether for the universal adoption of ICC color management—which, glorious day, has been just around the corner for as long as anyone can recall.

C. David Tobie, a prominent advocate of color management, asked for clarification in an open letter to Adobe. He wrote, "[PressReady] has furthered the progress Photoshop 5 began in making an ICC-based, color-managed workflow an affordable, understandable reality for a wide range of users. Its simplicity, low cost, and ease of use have made it the de facto standard for graphic designers, small prepress facilities, and other low-overhead locations. The question is no longer 'can this facility afford and manage a color controlled proofing system?' with the most common answer being no, but simply 'is this facility capable of supporting the complexity and expense of an industrial-grade proofing system, or do we recommend PressReady instead?' with a PressReady recommendation being the most frequent solution."

To that and other user and press inquiries, Adobe perplexingly made no reply, fraying tempers considerably. Finally, nearly a month later, a spokesman posted a laconic announcement on Adobe's user forum, confirming that "for business and resource reasons" all PressReady development has stopped: what product there is will still be sold and supported, but version 1.0 is the last one, and no new printers will be supported. This, of course, makes PressReady an orphan as soon as the present generation of printers is phased out.

Political correctness aside, some people liked PressReady. If it gave them better proofs, why not? Like any other 1.0 release, it had its share of problems. Like any other 1.0 release, users were asked to invest time in working around them in anticipation of further development, of better things in the future. That not enough people apparently bought the program is no excuse for having pulled the rug out from under the pioneers so quickly and so cavalierly. —DM