

The Convergence of Design & Premedia

In the final analysis, design and prepress are undergoing a convergence—not a merger. They're getting much closer to one another, but there are still fundamental differences in their businesses and the added value each provides.

BY ALEX HAMILTON

Are the disciplines of design and premedia converging or colliding? Did PDF workflow kill the prepress star? Like it or not, many prepress tasks that were value-added services just a few years ago are increasingly under threat.

More and more, creative professionals and printing companies are absorbing traditional premedia roles. In many cases this results in poorly prepared files, increased error rates, and reduced efficiency.

Designers, in many cases, have not been properly prepared for their increasing workload and responsibility. Creative people are paid to do what they are trained to do—be creative. How can we help manage this evolution and minimize waste—all while improving our bottom lines?

A Quick Review

Before the desktop publishing revolution of the early 1990s, prepress trade shops had a much bigger role in print production. Designers of that era were much more reliant on outside services for their final product. These creative professionals, more versed in the specialized requirements of page production, were more likely to leave many of the print-specific tasks to the “experts.”

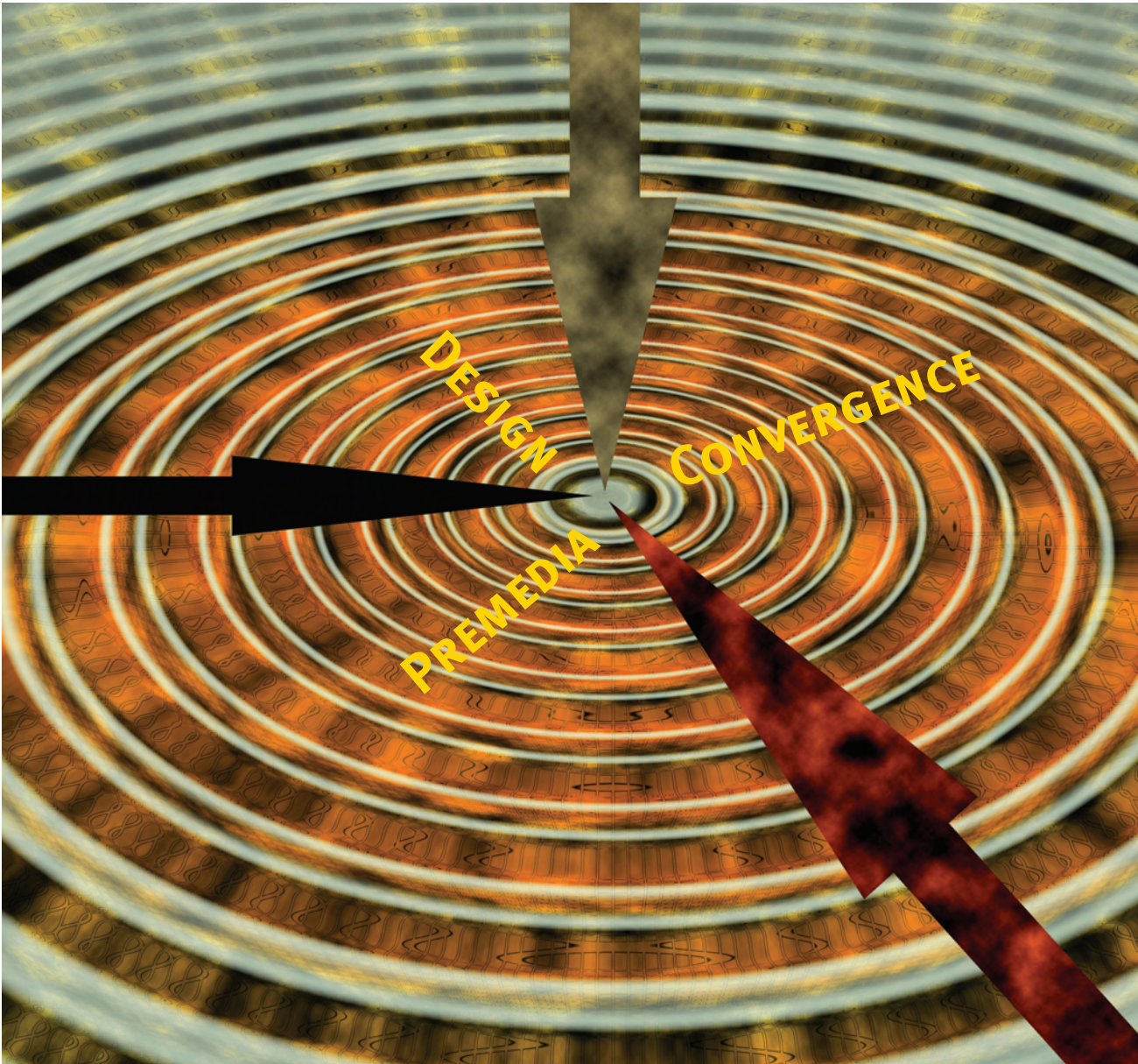
Typesetting, shooting images on graphic arts cameras, creating color separations (on a drum scanner if you were lucky), and page assembly were left to

specialized departments. Creative color retouching in this era was relatively limited by the technology available. Does anyone remember the scary process of dot etching?

At the beginning of the digital age, new problems arose. Early prepress workflows were based largely on PostScript or a proprietary color electronic prepress system (CEPS) format like TIFF/IT or Scitex CT/LW. Because of the proprietary nature of these systems, file interoperability and exchange were challenging while color management was a given.

The PostScript page description language revolutionized how pages were imaged. There were few controls, however. Images, generally, were not color corrected, early screening technology wasn't as sophisticated as today, and fonts were often missing, among a host of other issues. In many cases, imposed flats were still only created by traditional stripping. As a result, designers relied heavily on trade shops. Because of the specialized equipment and skills, few entertained the idea of bringing page production in-house.

PDF, in its first few iterations as a file format, was confined to the on-line & CD-ROM documentation arenas; few were using it for print production. Not only did the broad nature of the PDF specification cause problems, it had to be converted back into PostScript for final output. Because of issues such as these, early prepress systems did not support PDF



PDF Grows Up

So, what has happened?

First, the publishing and printing industries outgrew the limitations of analog workflows. Not only did computer-to-plate (CTP) and digital proofing eliminate steps in the workflow, the economics changed, too, as the web and electronic media have put intense pressure on cycle time in print media. And, of course, high-speed networks have enabled everyone to share files.

PDF matured, too, as Adobe and other suppliers in the industry addressed shortcomings. A critical advance came with the ISO standard PDF/X in 1999, and the now widely adopted PDF/X-1a standard that clearly defines what is required and what is forbidden in a print production workflow. Tech-

nologies for making, preflighting, modifying and processing PDFs gained traction. Today, every prepress system supports PDF (and PDF/X) as an input file format, and PDF-based workflows are used virtually everywhere.

It was these incremental additions and improvements that have enabled everyone to take advantage of the benefits promised by PDF. The ability to easily share files between designers, publishers, ad agencies, prepress trade shops and printers has been a major advantage.

Because PDF is a stable visual format, review/approval decisions can be moved upstream to minimize time-consuming rework. By moving the error checking to the initial step of file creation, cycle time can be compressed.

OPPORTUNITY

Although standards such as PDF/X-1a enable a streamlined print production workflow, it's taken a while to get all the parties on board. Printers and pre-media shops still receive a significant volume of native application files, as well as PDFs made from Word, PowerPoint and other applications not suited to high-end printing. Even in "our" world, direct export from applications such as InDesign, Illustrator and

QuarkXPress can make the PDF generation step appear simpler than it is. Combined with the frenetic pace, it's only natural that mistakes occur. Finally, while increasingly rare, there are still legacy file formats such as CT/LW and TIFF/IT in use.

New Rules of Engagement

We all know that the old programming idiom still holds true today for a file and its resultant printing: garbage in, garbage out. Although many production tasks can be done using DTP applications during the file creation stage, that does not mean they will be done correctly. It's not a matter of talent, but one of expertise and training; today's designers simply haven't been trained in the vagaries of print production.

Color management is a good example. In the old days of Crosfield and Hell scanners, the scanner people worried about resolution, UCR/GCR and whether the color

was "good enough." Now, it has been thrust upon the designer and it's more complicated than it first seems. Take color separations: the default color setting to convert an RGB image to CMYK in Photoshop is SWOP, but the vast majority of printing is done on sheetfed and, increasingly, digital presses.

With 24-hour turnaround from designer to printer increasingly commonplace (at least as an expectation), it's imperative that supplied files be complete, correctly assembled and ready to print. Similarly, as print run lengths decline, it simply isn't feasible for printers to manually intervene in files; opening a file is tantamount to throwing away the profit margin on the job.

As a result, all parties need to be absolutely clear about their roles and responsibilities. Many of the complaints about PDF are related to management decisions about the workflow, not the file format's ability to support a particular capability.

Among the issues that must be addressed are workflow considerations: If trapping is required, who will perform it and at what stage in the workflow? Where will RGB images and graphics be converted to CMYK? How will overprinting be honored through the workflow? If layers (optional content) are present, where will the file be flattened and by whom?

What about repurposing: Will the PDF files be reused for any other purpose (eBooks, archival, etc.)? What is the impact of a raster vs. vector based PDF file on repurposing?

Workflow automation: Where will PDF streamline the print process? Where can JDF or other metadata job-ticketing formats automate the workflow? What, if any preflight certification process can be implemented to eliminate redundant checks by the printer?

When looking toward the workflow of tomorrow, with concerns such as automation, repurposing, and Internet friendly distribution, PDF (and PDF/X-1a) is an important building block. By working closely with the experts in a print production partnership, successful transformation can be achieved.

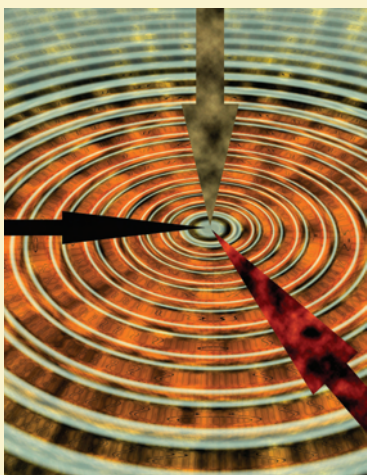
Standards: Now More Than Ever

With technology enabling and economics dictating that designers perform an increasing number of production tasks, the need for all parties to adhere to standards has never been greater. PDF/X-1a is a good start, but even a perfectly made file can't solve every issue.

Intent is one of them. Take a four-color ad: theoretically the same PDF/X-1a ad file could run in a newspaper such as *USA Today* and a magazine such as *Architectural Digest*. But such an approach is not likely to yield best results—at least in one of the publications—due to the different printing processes.

This is where the next level of standards comes in. The Ghent PDF Workgroup (GWG) is an international organization made up of graphic arts users, associations and suppliers that was formed in June 2002 to develop best practices for print-publishing workflows.

From the outset, GWG members agreed that all specifications would fully comply with and build on PDF/X. Specifications cover a wide range of printing



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applications, from ad delivery in magazines and newspapers on heatset and coldset web presses, commercial sheetfed work, and flexo and offset package printing. The resulting recommendations and specifications are making it easier for increasing numbers of professionals around the world to successfully create, process, and exchange graphic arts files for numerous applications.

The GWG does not suggest changing the PDF/X-1a file format. It just says that there should be ways to assure that a PDF/X-1a file is created to specifications that assure the final job is printed as intended whether, as mentioned above, on newsprint or glossy paper.

The GWG also advocates implementing an audit trail to track files after they have been preflighted. In other words, if a preflighted file is edited, we must be able to ascertain if it still is ready for print and, if not, why.

Many vendors support the Ghent PDF Workgroup specifications. They may not all have the same approach, but their goals are in agreement. If nothing else, you should at least see if this process makes sense for you and your clients.

As with any process change, the evolution should be carefully managed. Before modifying any workflow, all partners should be in agreement about responsibilities and content. Clear communication of the change, coupled with parallel testing is a must to ensure a smooth transition.

The Impact of PDF/X-4

Just when things seemed to be stabilizing, technology is throwing another curve ball: Layering and transparency, among others, are used by an increasing number of designers, for creative effect and for applications such as multi-language publications.

Take layers in Adobe Photoshop. Yes, designers have found them and know you can add layers for creative effects. The problem comes when they try to flatten the image and make a binary file. These are far more complex files than were generated from Photoshop 5.0. The layers, vignettes and gradients in Photoshop look great on the monitor, but might not look good on press.

The PDF/X-4 standard supports layering and transparency, but I'd suggest that if you don't need transparency and layering, you'd be safer to limit your print options to PDF/X-1a, where fewer things could go wrong.

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Closely related to PDF/X-4 are RIPs that support native PDF processing, which are now becoming commonplace in the printing industry. That might lead some people to say, "That's great. Now, I don't have to care how a PDF file is built!"

Sorry. You still need a preflight process. Missing fonts are still missing fonts. RGB images are still RGB images that must be converted to separations.

OPPORTUNITY

A PDF engine just means there are fewer conversions to do when the RIP creates a bitmap for the platesetter or digital print engine; someone still has to decide on which CMYK plus spot colors will be required.

Focus On the Business

We need to at least broach the subject of what this means to your business. This publication and a number of IPA conferences and initiatives have reported on new business opportunities.

If you are receiving files, where do you make your money? Not in preflight, there are too many tools available for the designer. How do you maintain profitability? Focus on what you do well—things that cannot be done by designers. There are just some tasks that you will always do better and faster.

Printing, in one form or another is one answer. Creative retouching is another. Photo manipulation is a challenging and time-consuming task that few designers have mastered—nor will they, given the myriad demands they already cope with. Trade shops that offer image manipulation and optimiza-

tion are more likely to build a stable profit center.

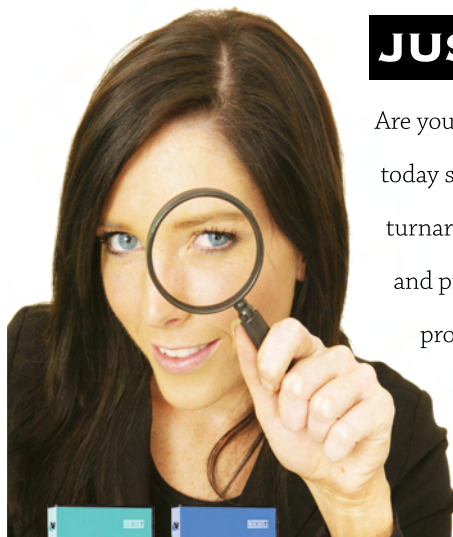
Another area of expertise is repurposing. Many prepress departments help to create content and images for other areas; most often the web. It gets complicated for designers between Adobe Illustrator vector files to EPS or GIF or JPG or high-resolution TIFF files. Going one step further, automating a Digital Asset Management (DAM) system to manage creative assets for agencies and brand owners is an attractive service. Prepress departments are still best to create, and maintain a DAM, keeping the brand owner and all its partners with a structured means of finding and using files.

Data management for variable-data printing is another area that may offer potential—with or without the printing. Marketing initiatives are increasingly “granular” and prospects and customers are being targeted ever more selectively. However, many corporate databases are either not sufficiently refined or simply not organized to support print-based one-to-one marketing programs. Prepress/pre-media companies are ideally positioned to take on

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projects requiring data mining, database hygiene, and integration with DTP page layouts.

Another thing that prepress companies do well is trafficking—from years of experience of sending films and proofs. That is an expertise that many ad agencies are lacking and will continue to need.

It is my (and many others') opinion that companies that focus solely on prepress services are in danger. Now, another source of revenue is dying: proofing. Whereas this was once a major source of revenues for trade shops, publishers and agencies are increasingly bringing this in-house. The adoption of virtual proofing—now in its infancy—will certainly increase over time further eroding traditional proofing.


Be more creative about tasks you can do, not the tasks that will be embedded in the next release of Adobe Creative Suite or QuarkXPress. The challenge will be to identify and leverage services where skill and expertise are the economic drivers, not tools and technology.

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getting much closer to one another, but there are still fundamental differences in their businesses and the added value each provides.

Like their counterparts in other industries, designers are being asked to do more work in less time. They may not want to handle prepress production, but it's now their responsibility. For those of us on the prepress/premedia side, it's time to help them regain time to be creative people. Make sure their file preparation and preflight upstream tools are dialed in so their documents can be delivered as locked-down PDFs ready for printing when they reach you or the printer.

It's your job to squeeze more out of less. Expecting a person trained in graphic design to master the arcane details of file assembly, font metrics and color, just because they own a well-configured Mac, is no better than asking a scanner operator or stripper to design an ad.

Yes, the realities are that there is a convergence, but there are still natural responsibilities that will remain where they are—at the design shop and the prepress department. 

REALLY EASY

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