

ALL PAGES ARE NOT CREATED EQUAL

BY DAN BRILL

GATHER ROUND, ALL YOU ASPIRING GRAPHIC DESIGNERS AND WOULD-BE graphic artists. Let's talk about making pages.

I don't mean making pages look pretty. I don't mean developing and executing a graphic communication strategy. Those are skills you should possess already — or will have with the proper training.

Creating pages in today's digital world means more than simply being able to design pages well. It means building files that work for their intended destinations, whether for print or for the Web.

As one who has seen far too many files come into this publication which were either badly constructed or downright unprintable, it seems to me that there isn't nearly enough emphasis in schools and graphic design environments on learning how to deliver pages that can be output first time, every time.

Not too long ago I was at a trade show here in Toronto. I happened to stop by a booth for the Association of Registered Graphic Designers of Ontario (ARGDO), where I picked up a pamphlet called *A Primer on Buying Graphic Design Services*.

ARGDO is an organization which was created in 1996 to "serve the best interests of both the graphic design industry and the public." According to its brochure, ARGDO's Registered Graphic Designer (RGD) designation assures clients that they are working with "an experienced and qualified professional who

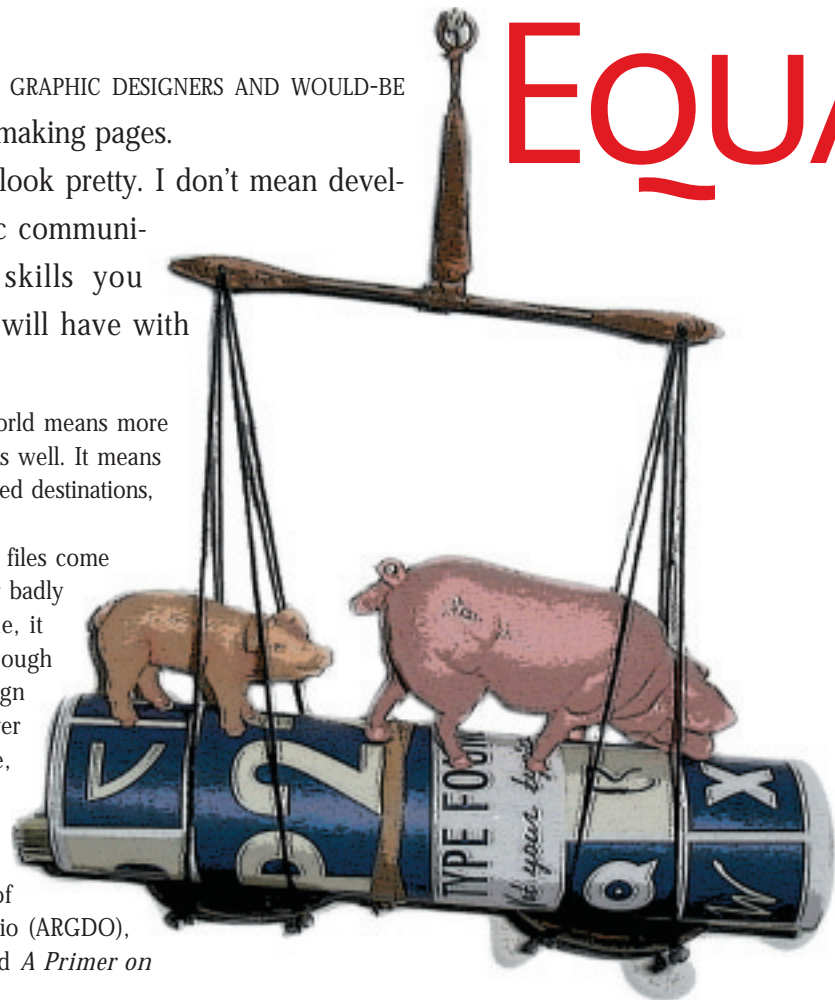


IMAGE BY DINAH TOLTON

is governed by the Rules of Professional Conduct of [ARGDO]. A designer's right to use the letters "RGD" may be granted only by ARGDO, a privilege protected by provincial law by virtue of an Act of the Ontario Legislature.

This is how ARGDO describes its discipline: "*Graphic Design is an interdisciplinary, problem-solving activity which combines visual sensitivity with skill and knowledge in areas of communication, technology and business. Graphic design practitioners specialize in the structuring*

and organizing of visual information to aid communication and orientation." Despite the mention of "technology" in ARGDO's description, I found it curious that not a word in its literature or on its website (www.argdon.org) is devoted to the subject of proficiency in digital skills.

ARGDO's pamphlet for buyers of graphic design services suggests they discuss projects with prospective designers in terms of time frame, fee structures and budget considerations. Yet if I was a knowledgeable client searching for a



JOHN WARNOCK, CO-FOUNDER (WITH CHUCK GESCHKE) OF ADOBE SYSTEMS AND THE INVENTOR OF POSTSCRIPT, MAY BE REGARDED AS ONE OF THE TRUE ICONS OF THE DESKTOP PUBLISHING REVOLUTION. ONE OF THE FEW CEOs OF A TECHNOLOGY COMPANY WHO WELCOMES TECHNICAL DISCUSSIONS, WARNOCK IS AN ENGAGING, ARTICULATE SPOKESMAN FOR BOTH ADOBE AND TECHNOLOGY ISSUES IN GENERAL. GRAPHIC EXCHANGE PUBLISHER DAN BRILL HAD THE OPPORTUNITY TO SIT DOWN WITH WARNOCK FOR A ONE-ON-ONE DISCUSSION THE DAY AFTER ADOBE STOCK HIT A NEW HIGH, WHICH FOLLOWED THE ANNOUNCEMENT OF ADOBE'S QUARTERLY EARNINGS. THE CONVERSATION COVERED A BROAD RANGE OF TOPICS.

DAN: First, let's talk about the Macintosh market. What kind of proportion and focus will there be on [Adobe's] product development for the Mac?

JOHN: We've consistently said that the Mac business is coming back, that it's been strong. We expect that the mix will probably stabilize

JOHN WARNOCK: Q&A WITH THE

around 60/40 between Windows and Mac. The worst quarter we had, in terms of Mac mix was 65/35—I think it was the third quarter of last year. Now, since the iMac was announced, and since the G3s were announced, that mix has stabilized around 60/40.

DAN: You've bought GoLive, and you've been acquiring other companies. Internal development appears to have not been as significant as what you have gone out and bought, aside from InDesign, which is the obvious exception. What is the future plan for product development? Essentially, are you looking to buy or build?

JOHN: We do both, and it's part of our plan to do both. Our run rate for R & D expenditures has always been around 20% [as a percentage of revenue]—forever—from the first days that Adobe brought out its PostScript devices to recently. It will sometimes ratchet up a percent or down a percent, but we try to keep R & D expenditures at about 20% and that's what we said yesterday at the press confer-

ence. In terms of acquisitions, we do look for technology acquisitions, where someone has built a great product like GoLive, and we feel that with our marketing distribution and our ability to bring the product into harmony with the user interfaces of the other products, we can gain advantage by doing that. So, we do both acquisitions and internal development.

DAN: Depending on...?

JOHN: Depending on the levels of expertise. InDesign clearly we did internally, because we had all the talent in-house to do page layout, so we did InDesign over the past five years as a ground-up development. Sometimes we can buy plug-ins for Photoshop to add value, or we can do them in-house—it depends on which is most economical.

DAN: Given that it took five years to bring InDesign to market, and given that Adobe appears to be taking over the entire printing and publishing market, can we count on you being able to turn around quickly enough when the market needs a

product, given the billion dollar size of the company now?

JOHN: The core tools and the machinery in the cross-platform stuff in the basic core graphics code, the basic text handling code—that's in a thing called core technologies. To bring out a new product is essentially doing something that depends on the core technology. That's a very well-developed piece of code that's been debugged for years and is very stable. InDesign for instance, gets all of its image import filters from PhotoShop. It gets all of its graphic import imaging from the vector graphics side from Illustrator. That's core code. It gets its basic text handling from CoolType, which we call our text engine. So the architecture for InDesign was built so that it could build in the various capabilities from other products to make the products work together in a seamless way.

DAN: What's Microsoft doing that has you concerned?

JOHN: We worry about Microsoft in that, if they get a very strong prod-



graphic designer, I would be asking questions like “What format will we use to exchange files?” or better still, “What referrals can you give me from a printer or prepress house?”

What’s the point here? Simple. Digital production workflows have changed the role of the graphic designer dramatically. Where once a designer could hand off to a graphic artist who would take care of mechanical production for the printer, now these two jobs have been merged. The designer is now also the graphic artist. And the designer must be

capable of not only designing well but also producing print-ready jobs with proficiency.

What this means is that computer skills form the backbone of a designer’s role. Knowledge of file construction and preparation is fundamental to being a good graphic designer. Familiarity with the various tools and techniques that standard graphics applications offer is both a prerequisite for success and a competitive advantage.

Conversely, a lack of competence with digital tools limits

FATHER OF POSTSCRIPT

uct at the low-end, they have a tendency to start at the mass market and then ratchet up to squeeze out the professional products. They have tried to squeeze on us on a lot of different fronts. Initially in 1989, they tried to attack the PostScript market with Truelmage—remember that? Truelmage was their version of PostScript and they shipped one commercial product, which was a failure. So they were not terribly successful, even though they tried to give away the code, to take over the PostScript market. Then they came out with PictureEditor, which is the competitive product to PhotoDeluxe. On a consumer level, PhotoDeluxe essentially got all the OEM business...in the picture business, we have substantially more market share than Microsoft. If Microsoft does come out with a successful product, then it is dangerous.

DAN: Is there one [product] in particular?

JOHN: There is one called PhotoDraw, that in my opinion is badly positioned...a reasonable product, but it’s not gaining the market share. We still have the brand, we still have the position. We are always aware of the competitive threats coming up.

DAN: When you look back at your days with Xerox at Palo Alto, how closely did the future from that perspective parallel what has actually

gone on? How closely has Adobe grown in developing from the original vision that you had?

JOHN: The vision was there, but what was never there was our expectation of the success that we’ve had. We thought that PostScript was absolutely a very cool technology. We thought that it had the potential to revolutionize the printing and publishing business, but we never dreamed that it actually would revolutionize printing and publishing, because it’s a huge, huge, huge industry! It was very hard in those days to project it becoming a standard across an entire industry, because all the companies I had worked for prior to that couldn’t even get niches, let alone standards. So getting a standard was a very, very big deal.

DAN: In terms of going forward from here—you are in your late fifties, and Mr. Geschke is of a similar vintage...

JOHN: (chuckling) Oh, no, he’s older!

Dan: Essentially you two guys have in your hands the future of the whole printing and publishing industry. What’s your plan, both on a personal and a corporate basis, for the legacy that you’re going to leave and the road map that you’re going to have to build? Adobe stock just hit \$76. You’re not suffering for money. I’m sure you’ve got a lot of things that will continue to inspire

you, but it’s not going to be that long before you’re going to be thinking about smelling the roses. John: I think when we got the hostile takeover attack from Quark last summer, the stock was down at \$24. Chuck and I looked at each other and said, “It is not going to end like this, that is simply not going to happen. We are not going to let that happen, we won’t allow it.” So, I think that in the past six months, we have become much more engaged in the business, both in an operational point of view and in a direction-setting point of view. I am very happy with the current management that’s under me. We have a very good co-ordinated executive team that works very well together. I am bound and determined that when I do retire, it is going to be an extremely strong company, with a very strong technical foundation and at least three years of very strong progression.

DAN: How much notice will you give?

JOHN: (chuckling) When I say three years of very strong technical progression, it’s at an upper trajectory!

DAN: You spent some time in Canada, back in the 70’s...you were in Vancouver for a while and you got a little taste of living here [in Toronto]. What are your memories of Toronto?

JOHN: Incredibly pleasant. My wife and I love Toronto...it’s one of our

favorite places to live. We love the people, we think it’s a great city. It has all of the good parts of New York and not the bad parts.

DAN: What is your personal perspective on the Canadian market and its importance in the whole world market?

JOHN: Well, in some sense I don’t even think about it in those terms. I know that essentially, Toronto is the publishing capital of Canada and it is the creative capital of Canada in terms of all the film and television work that is done here. So, my perspective in terms of the Canadian market is that Adobe’s customers are the creative types and the creative types are here. How big it is, is not as important as the quality.

DAN: What is the contribution of the Canadian market—and Canadians—to Adobe’s success?

JOHN: Well, we’ve looked at Canadians as being some of the aggressive early adopters of technologies. A lot of people are stuffy—Canadians aren’t! (laughing)

DAN: Do you recognize that Canada is a different country?

John: Oh, absolutely! I’ve lived here!

DAN: As you know, we’ve had a bit of a skirmish lately in the publishing sector over split-run advertising...

JOHN: No, I’m not aware of this.

DAN: Essentially what it boils down

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what a designer or artist can offer his or her clients. That's why if I was looking for a training course on graphic design, my primary interest would be to find out how much time and focus would be spent on learning applications and troubleshooting files ahead of how much instruction I would receive on the esthetics of design and layout. The bare truth is that teaching someone how to work effectively with fonts, graphics, color and layout is a great deal more difficult than teaching them how to build files properly.

ly. There are those who have an aptitude for design, and there are those who don't. And the fact is, design flaws are much easier to spot and revise than errors in file preparation and execution.

So, if I was a client, what I'd say to ARGDO is: show me how "RGD" guarantees me not just impeccable graphic design skills but an ability to deliver jobs that run smoothly — files that won't wind up costing me extra time and money through poor preparation or missing elements, jobs that

TEN SURE WAYS TO MAKE QUARK

1 DON'T INCLUDE FONTS AND/OR IMAGES.

If you don't include all your graphics, QuarkXPress (or PageMaker) will print low-res, 72 ppi previews, and Illustrator will print nothing. So whether it takes five floppies, two Zip disks, or a Jaz disk, all graphics used in your layout have to be included. (Collect for Output in Quark is great for this). And if your job is missing fonts, you might just wind up seeing a lot of Courier. Always include full type families: when you start picking and choosing, you're asking for mistakes. The safest bet is to use only PostScript Type 1 fonts. TrueType fonts, especially mixed with PostScript fonts, may cause problems on output, so ask your service bureau whether they accept them. Do not use Multiple Master or GX fonts. Generally they don't print.

Missing bitmap image and vector graphic; Courier has been substituted for the missing font in this caption.



2 USE LOW RES IMAGES.

72 ppi is fine for screen viewing, 150 ppi is good enough for printing to desktop printers, but for high end printing, the rule of thumb requires at least 1.5 times the intended line screen (some people also adhere to the "square of 2 rule" — 1.42 x lpi). That means if the job will be printed at 133 lpi, your image resolution must be set to at least 200 dpi. And don't think you can just take a low res image and have Photoshop magically turn it into a high res one. The data has to be there in the first place.



150 PPI, 150 LPI



72 PPI, 150 LPI

3 LEAVE IMAGES IN RGB.



RGB image in CMYK publication prints in grey scale

There is only one way for imagesetters to separate process color images, and that's if they are converted to CMYK. RGB images will print grey scale every time. So be sure to check your color settings before you send in your job. Preflighting programs like FlightCheck or PreFlight Pro are especially useful for catching this kind of error.

4 DON'T ADD BLEED.

If color extends to the edge of a page, it has to bleed off the page at least an 1/8". There's no getting around this one. If you forget to add bleed, chances are it won't get noticed at output, and when your job gets to bindery, someone just might make a decision to trim a little bit smaller rather than cutting along the edge of the color — and you won't be happy with that. Quark 4 includes a bleed setting in the Print dialogue box. Get accustomed to changing that from 0 to .125".

IMAGE AREA

wrong: no bleed

IMAGE AREA

right: bleed

5 SET TIFF BACKGROUND FILLS TO "NONE".

Only EPS images support transparent backgrounds. Do not set the background color of TIFF images to "None" in QuarkXPress (unless you have used a clipping path to define the image) or some TIFFs may print with jagged edges. Also, remember that a white background in a box takes less space than a transparent one, so don't change it to "None", if you don't need to.



TIFF with "None" background. Sometimes it works, and sometimes it doesn't; TIFFs are also not created equal...

don't result in film or plate reruns, or missed press dates.

And to graphics schools I say: give us graduates who have a strong grounding in basic application skills, an appreciation for working efficiently with digital tools, and a reasonable knowledge of the mechanics of the print process. Artistic flair is a bonus.

Ask any publisher or prepress service who deals with files day in and day out. They'll all say the same thing.

All pages are not created equal.

THE STORY OF A PAGE WITHOUT EQUAL

Let's look at what transpired with a page that was unquestionably not created equal — the cover of our last issue.

We set out to produce something that had rarely, if ever, been attempted before: an eight-color cover printed in Hexachrome (six-color) using FM (stochastic) screening, with two extra plates for gold and varnish.

Those of you who receive GRAPHIC EXCHANGE regularly will remember the cover image, featuring the digital art of



PAGES THAT WON'T PRINT RIGHT

BY LIDKA SCHUCH

6 USE SPOT COLORS IN A CMYK JOB.

Aside from hexachrome (which uses six inks but is very seldom used), there are only two color formulas for printing: CMYK (process color) and spot color. This applies to bitmaps as well as to vector drawings. In CMYK, duotones and RGB bitmap images will print as grey scale. Spot colors in vector graphics will separate to an approximate process color. Vice versa is even worse: CMYK bitmap images and vector graphics in a spot color publication will print only if spot colors used are Cyan, Magenta, Yellow or Black. Make sure that you provide bitmap images and vector graphics in the correct final output color mode.



Duotone image in CMYK publication prints in grey scale

7 EMBED YOUR IMAGES.

Draw programs (like Illustrator and Corel) allow you to embed images into a layout rather than link them. The technology is getting better and better, so embedding a TIFF image in Illustrator 8 may work, but try to do that with an EPS, then save the whole file as EPS to place it on a Quark page and you practically guarantee yourself a PostScript error on output! And remember that embedding *any* image in a draw program will increase your file size substantially. So, if you don't want problems, link images in QuarkXPress, don't embed.

8

USE HAIRLINES.

Remember hairlines? Now forget them. The new description of a hairline in Quark goes like this: "The thinnest possible line printable on a printing device connected to this computer." In other words: a one-dot variable width line. This means that on a 600 dpi printer, the width of a hairline is 1/600" and on a 2400 dpi imagesetter the width of the same line is 1/2400" – barely visible to naked eye. The same goes for straight lines in Illustrator or CorelDraw which have been filled instead of stroked. This will also produce a variable line, one dot wide.



QUARKXPRESS

Hairline
.3 pt width
.5 pt width

ILLUSTRATOR

Line with fill
.3 pt width
.5 pt width

9

JPEG YOUR IMAGES.

There are only two graphic file formats for the prepress environment: TIFF for bitmaps, and EPS for bitmaps and vectors. Remember, these file formats are like translators – they're needed only if you have to make the file available to another program. If you don't, leave your file in the native format (eg. Quark or Illustrator). And no, JPEG images and JPEG compressed EPS images will not print to most imagesetters, so don't be tempted to try!

10

SET CLIPPING PATH FLATNESS TO "0".

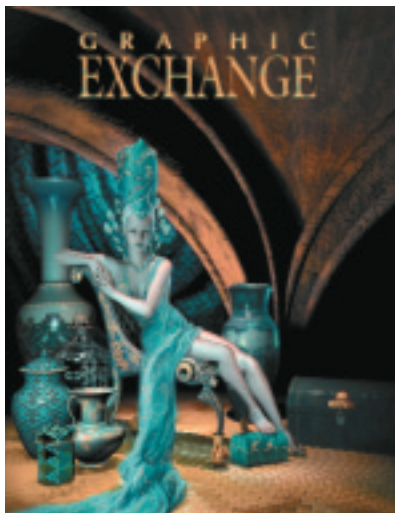


Set the flatness of your clipping paths to anything less than 3 and you're asking for a "PostScript limitcheck" error. Or if

you leave the box empty, the default minimum of .2 pixel is used and you can also count on generating a PostScript error. For imagesetter output, clipping paths in bitmap images should have a flatness value set at no less than 3.

Toronto artist Martin Murphy (for a dynamite tutorial on the creation of this image visit www.interlog.com/~mmurphy/queen-tut.html). However what you may *not* realize is that there were actually two versions of this issue mailed out.

It began almost two months before scheduled production, when I first started discussions with owner Dave Smith about running an eight-color cover on Image Plus Graphics' new 8-color press. Dave was interested in testing



Our April/May cover — printing this page proved to be a story in itself.

a job that went beyond the standard 4/4 work he was running, and I was interested in testing the potential expanded color gamut of Hexachrome and FM screening together. We agreed that I would provide final film which Image Plus would proof according to Pantone Hexachrome specs.

I put in a call to Richard Herbert, president of Pantone, and detailed the Hexachrome project to him, explaining that we planned to use Pantone's

HexWrench software, a *Photoshop* plug-in, to create the Hexachrome separations.

"Piece of cake," he said.

Then I mentioned that we would also be running stochastic screening.

"Hmmm..." he said. "I'd feel better if you just used conventional screening at a high line screen."

"Nope," I replied. "I want to push this as far as we can. Besides, *HexWrench* has CristalRaster (Agfa's FM screening) support built right in."

The day approached when we would be going to press. Martin Murphy's artwork was delivered to prepress expert Shane Steinman and he followed the standard method for creating Hexachrome separations using *HexWrench*, adding two extra channels for gold and a varnish. Then he sent the file to longtime ripper and digital output specialist Lerrick Starr for imaging on the Agfa Avantra 30E imagesetter at the Ernest Green & Son Tech Lab in Mississauga.

This was where we hit our first hiccup. The Avantra 30E is an economy model that doesn't include the firmware required to support CristalRaster screening. Nevertheless, we put in a call to Agfa Canada, and with some efforts on the part of their technical staff, the imagesetter was converted to a CristalRaster-enabled machine.

Lerrick output three sets of film, using all three CristalRaster compensation curves. Meanwhile, some of the folks at Agfa were getting nervous. "What if it doesn't work?" they

asked. "Relax," we said. "We'll make it work."

The film went over to Image Plus, where their top proofer carefully hand-mixed the Hexachrome colors and produced two proofs, which were delivered to me late that evening.

They looked terrible.

Shadow detail had turned to total mud. The black generation was far too heavy — up to 380% coverage in some places. Soft transitions from dark areas to light had turned into hard lines. Detail that should have been enhanced by the FM screening was gone. And to top it off, the rich predominant green-cyan which was out of CMYK gamut but which should have by my expectations made Hexachrome shine, had been transformed into a mundane cyan.

The next day, still baffled by this turn of events, I boarded a plane to California to attend the Heidelberg Digital Imaging Association users group meeting, leaving instructions to hold off printing the cover until my return.

Upon arriving in Anaheim, I was pleased to discover that Pantone was exhibiting in the mini-exhibition at the HDIA meeting. At the first opportunity, I approached Mattias Andersson, Pantone's top technical advisor, and explained our disappointing results.

"Let me see the file," he suggested. That evening I made a call back to Toronto and had a lower resolution version of the original artwork e-mailed directly down to California to Mattias' address.

The next morning, we viewed the file together.

Mattias performed the *HexWrench* transformation himself while I watched, and sure enough his preview demonstrated all the same characteristics as the proofs.

But in my usual fearless fashion, I decided to proceed anyway, opting to not believe what the proofing showed. We knew what we were up against and we would simply have to deal with it on press.

Upon my return, we went to press with the cover. Arriving in the pressroom for the press check, I was surprised to find the pressman standing on top of the press wearing a quizzical expression.

"What's the matter, Victor?" I asked.

"I don't know the laydown order," he answered. [*Editor's note: Laydown refers to the order in which the inks should be printed.*]

"Hmmm..." I replied — and handed him the freshly printed GRAPHIC EXCHANGE press sheet with the article on *HexWrench* that spelled out the laydown order.

And so we eventually started printing. Lo and behold, the green-cyan printed spectacularly — but the black ink was (predictably) far too heavy. But by cutting back drastically on the black and adjusting the cyan and green, we managed to get to a color that was almost okay, although

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FUJI GRAPHIC AD
NEW FILM

TWELVE TIPS TO BUILDING BETTER PAGES

BY LIDKA SCHUCH

1 USE A HIGH END GRAPHICS APPLICATION

Prepare layouts or artwork in a program commercially used in the graphic industry such as QuarkXPress, Illustrator or Photoshop. If you work in CorelDraw or PageMaker, better check with your output people to see if they do, too. Microsoft Word and WordPerfect are not graphics programs, so don't expect everybody to accept them. CorelDraw files don't always easily translate into Quark-friendly graphics, so don't expect a Mac/Quark based studio or service bureau to deal with them free of charge. And don't forget that there are lots of versions of the same program in use, so always make sure that your service bureau takes files in the version you use. For example, QuarkXPress 4 has been around for a while, but there are still incompatibility problems with some versions of imposition software – and other bugs – so many service bureaus prefer to get QuarkXPress 3.3.x files.

4 USE NATIVE PROGRAMS TO TRANSFORM GRAPHICS

Bitmaps should be resized and rotated in bitmap programs. If you do that in a page layout program, you not only lose quality, but also increase the file size and printing time. Fine lines in vector graphics may disappear if they are reduced too much. Remember, Quark scales everything proportionally, including line widths.

5 CROP GRAPHICS TO SIZE

Making PostScript describe what is invisible can't be a good idea. Crop your image in Photoshop to no bigger than the size you need. Whether in Illustrator, QuarkXPress or any other layout program, do not make little boxes that contain huge hidden images. And likewise, do not step and repeat little boxes with large images.

8 DELETE UNUSED FONTS

Ever had fonts showing in your file that weren't used? This happens if you have empty text boxes or empty text paths. In QuarkXPress, Find/Replace fonts, and in Illustrator use the amazing Edit/Path/Cleanup (I use it a lot!). Ghost fonts can also cause PostScript errors on output.

9 KEEP PATHS SIMPLE

All paths, whether drawn or traced, should ideally have one point for each change of direction. Tracing with tolerance close to zero results in lines that trace square pixels—which not only produces jaggies, but also slows printing times considerably and can possibly generate PostScript errors.

11 USE PICTURE BOXES FOR SHAPES

In Quark's tool box you have several picture box shapes and one text box shape for a simple reason. Empty picture boxes are smaller in size than text boxes. If you need to draw a shape, always use a picture box.

2 DELETE UNUSED MASTER PAGES AND BLANK PAGES

Deleting all unused Master Pages and blank pages from your publication will make your file less complex and therefore smaller in size.

3 CHECK PAGE GEOMETRY

Always use the measurement palette for positioning. You can use it like a calculator: add, subtract, multiply and divide. There is really no need to eyeball for positioning.

6 DELETE UNUSED COLORS, STYLE SHEETS AND H&Js

To make file sizes smaller, delete all unused colors, style sheets and H&Js from your palettes.

7 CREATE CONTROL MARKS PROPERLY

Draw and position crops, registration marks, fold marks, dielines, etc. Use Registration color, or make sure that correct color marks overprint each other so they print on every color plate. Standard width of a control mark is .3 pt. However, if you are designing a multi-page publication like a book, an annual report or a magazine, use the page size as trim size, and leave creating flats (multi-page impositions) to your service bureau.

10 USE SELF-DESCRIPTIVE FILE NAMES

Remember that other people may have to understand your file names, so use names which clearly describe the contents of your files. Use the proper file format extension—it makes it visually easier to find files.

WRONG: Business card
logo3

RIGHT: CAP>Bcard CMYK layout.qxd
CAP>logoCMYK.eps

12 PROVIDE HARD COPIES

Always send or fax printouts of both composite output and separations to your output service.

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COREL AD
NEW FILM

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there was nothing we could do about the harsh transitions. I went home to bed.

The magazine went through bindery and was delivered to our mailing house. And this is where the story takes an unexpected twist.

When my samples were delivered, I looked at the cover closely. Then I looked again.

It was missing the gold!

How could this be? I double checked my press sheets. Sure enough, there was gold all over them. I put in a call to the mailing house.

"Stop everything!" I said. "We have a problem."

Then I called Image Plus and reported my discovery.

"That's not possible," was all the production manager could say.

"It's not only possible," I replied. "I'm looking at it."

The explanation, as it turned out, was relatively low tech. Halfway through the run, the pressmen stopped to do a roller washup. When the press resumed printing, the gold plate "went blind", as it's called in the trade. Alas, the pressman was so occupied with making sure he held the color consistently that he failed to notice the missing gold.

And so it was that half the magazines were printed minus a gold plate — which might not have been so important

PREPRESS FUNDAMENTALS FOR CORPORATE

BY LERRICK STARR

I REMEMBER WATCHING EVIL Knievel's failed attempt to jump the Grand Canyon.

And equally brave are the human souls buried in the bowels of corporate HQ, trying to bridge that giant chasm between creative professionals and the Printing Trade.

I salute those whom by virtue of some in-born design sense, or a facility with other applications (or perhaps just plain bad luck) are burdened with the responsibility of producing printed material for their corporate masters. Reports and analyses peppered with graphs and charts, all for quick distribution — and with a shelf life of ten seconds. The results of a day's business which must be boiled down in an hour into a 12-page journal, rushed to a print shop, and ready for distribution the next morning.

There's not a lot of time for creativity in a production cycle that short.

But the gulf between corporate content creators and printers feels very much like the size of Knievel's Grand Canyon. Printers, in their traditional view, stand at the centre of their universe. All the other production processes surround them like the layers in a blackball candy being slowly sucked away.

In the days when prepress and print manufacturing were all part of the same coterie, everyone knew the rules, and lived by them. In that universe, the role of clients — previously well-insulated by photographers, writers, designers, production artists, and

analog film houses — amounted to the perfunctory duty of proof approvals or press checks. And if they signed off on the job and were later dissatisfied, the client's recourse was based solely on good will — a kind of indentured clientude.

This system worked well for the trade.

NEW MILLENNIUM WAY

Even though graphic artists today are in the thick of things, they receive less respect than ever from both corporate masters and printers. Why? Because they're not in the traditional loop where job information is passed between content creator and the print manufacturing process. The traditional corporate infrastructure where managers talk to managers may create an effective communication buffer between layers of bureaucracy, but it's also much like playing 'broken telephone', seldom allowing accurate pressroom information to be passed on to the artist.

We can't cure the communication shortcomings of big business with new in-house creative capabilities. But at least corporate clients can acquire grudging respect from their digital suppliers and printers by doing their best to deliver a properly prepared digital file, free of bugaboos.

WHAT TO SEND THE PRINTER?

Let's start with the source file to be used for imaging. You can send a printer:

- **Application files.** This is your application's native file. They typically have extensions like .qxd (*Quark*), .psd (*Photoshop*), .wrd (*Word*), etc. (there are probably dozens of other possibilities).
- **PostScript files.** You pretend that you're the prepress house and push print on your own job, but instead of going to an output device, you save the PostScript stream to a file. Typically this file has a .ps or .prn extension. Better get it right!
- **PDF files.** The Portable Document Format is finally maturing into a practical medium for digital file exchange. The release of *Acrobat 4* has removed many of the difficulties and work-arounds necessary in earlier releases. *Distiller*, with default press optimized settings, will create a PDF from just about any .ps or .prn file.

Warning: Don't use *PDFWriter* to create PDFs for prepress work. While it may create a PDF that looks good and reproduces well on the office printer, it will not contain all the information required for a job destined for commercial printing.

No matter which route you take, there are some basic things that have to be correct in order for film or plates to be imaged at maximum quality:

- fonts
- image density
- color mode

if not for the fact that it was mentioned prominently in the article in the issue describing the production of the cover. What to do?

To give full credit to Image Plus, they soon realized there was only one thing to do: put the magazine back on press.

Which now presented us with an unexpected opportunity: what, if anything, could we do to improve the cover?

"Let me do the separations *my way*," said Shane.

"Are you sure?" I said.

"Trust me," he said.

So, less than 48 hours later, through the efforts of both Shane and Lerrick, and without the benefit of any hard proof, new Hexachrome separations of the cover file were

produced, the file was re-imaged and stripped and put back on press.

This time it looked just as we had seen it on the monitor — soft vignettes, detail in the shadows, eerie skin tones — and by substituting a brighter gold, we managed to achieve a much richer effect.

And if you check page 17 of your last issue, you can read a complete description of the production — which will vary, depending on which version you received.

All pages are *definitely* not created equal.

I can't resist adding this footnote.

CONTINUED ON PAGE 30

COMMUNICATIONS

- completeness

And we can add these options:

- trapping
- imposition

TALK TO YOUR PRINTER

Rule #1. *Talk directly with your printer.*

Communication is the key to success. Determine his requirements for the work you're sending. Agree on:

- whether you are sending film, plates or a digital file (and in what format)
- printing line screen to be used
- imposition order (the correct placement of pages on the printed sheet so that they fall into place in the folded and finished job) for yourself or to provide your prepress shop
- digital or analog proofs for sign off
- contact person

Rule #2. *Give them what they ask for or risk delays in production.*

Any surprise before a scheduled press run is your guarantee that another job will go on press before your problem is fixed.

Rule #3. *If you're uncertain about any aspect of your job, call and ask your question.*

The conclusion you arrive at yourself through dedicated study will undoubtedly be wrong.

GET FONTS AND IMAGES RIGHT!

Rule #4. *It is imperative that you include your fonts with your job, or risk type reflow.*

In the PC world, fonts are not quite the issue they are on the Mac side. Corel created a de facto standard in PC fonts with its collection freely distributed with *CorelDraw*.

Macs are different. There are many versions of Mac fonts by different type houses.

It is technically illegal for you to share your fonts. However the folks who license fonts have, to this point, looked the other way if the font is to be used solely to output your job. Be warned, you could be charged with copyright infringement for sharing fonts if the font house decides to make an example of you. Insist that your provider delete fonts after use and that if they want your business they must buy them.

Rule #5. *Never deliver a scanned image (photograph or gray scale) at less than 300 ppi (dpi) at 100% or a line art scan (bitmap) at less than 1200 ppi (dpi) at 100%; always use TIFF or EPS formats for images; shun JPEG, BMP, PICT, etc.*

Line screen (lpi, lines per inch) is the effective resolution of the press as it relates to the images that will be printed. Think of a laser printer — 1200 dpi is better and crisper than 600 dpi. Typically, 150 (or more) line screen is best quality, 133 is good quality and anything less is newsprint quality.

You need enough information in the image file for it to print right. For 150 line quality presswork, your images have to be 300 ppi (dpi). Use 266 ppi for 133 line, and 200 ppi with 85-100 line for the lowest quality re-

production. These values correspond to the line screens that large, medium and small presses are capable of printing reliably (although many exceptions exist), for which there is a direct correlation to the visible quality and detail of your photos.

Recognize that a 2" x 2" image at 300 ppi enlarged by 200% in a page layout program yields an effective resolution of 150 ppi (double the size, half the resolution). But there has to be 300 ppi in the image at its final size. So either make the 2" x 2" image 600 ppi (not preferred) or change it to 4" x 4" at 300 ppi in an image editing program.

However there is no advantage in trying to manufacture more detail in a photo by bumping up its resolution. It doesn't work.

A word on image manipulation in a page layout program: don't. Ideally, all image manipulation should be done in an image editing program and placed at final size in the layout.

Skewing, rotating, or asymmetrical resizing in a page layout program causes a raster image processor (RIP) to break into a sweat. There are things you can do to images in *CorelDraw* which can cause a RIP to seize, or worse yet get bogged down interpreting bad PostScript code — while you are billed by the minute for run time.

So avoid the temptation to skew and stretch in your layout.

CONTINUED ON PAGE 30

PAGE 28
APPLE DBL PG SPRD
RPT APR/99

PAGE 29
APPLE DBL PG SPRD
RPT APR/99

CONTINUED FROM PAGE 27

Shortly after coming off press, I forwarded samples of both versions to Pantone. They responded by asking me if I would sign a non-disclosure agreement concerning their newest product, still in beta: *HexImage*, a replacement for *HexWrench*.

I respectfully declined.

It seems fairly apparent to me that Pantone wasn't unaware of the deficiencies in its Hexachrome separation software. And if you go to the Pantone website, you will now find a special offer on *HexWrench* — was \$499, now \$99.

ALL PAGES ARE CREATED EQUAL

And what's the point of *this* story?

Well, sometimes even when you think you know what you're doing, and you think you've taken every precaution to make your page right, relying on all the expertise you can find, the printing process may still conspire against you.

Printers live in a world geared to production. You can flag your problems and your special pages all you want, but once film (or plates) come out, all pages *are* equal in the eyes of the printer. A page is part of a form, half of a sheet, part or all of a press run. And all sheets are created equal; in the end, they all need to be plated, printed and delivered.

CONTINUED FROM PAGE 27

GET THE COLOR RIGHT

Rule #6. *Images must be CMYK for four color process printing.*

Using RGB, indexed color or LAB color is not correct. Printing has its own way of defining color. CMYK is the acronym for its color space and each letter stands for one of the primary colors in that space — cyan, ma-

genta, yellow and black.

Many PC application programs only generate RGB information. If this is the case, your prepress shop should be advised that the job will be submitted in a format requiring color conversion for press.

CHECKING YOUR COLOR WORK

Rule #7. *If a photo looks good on the office printer, it probably won't look good on press.*

If you are using an office color printer to proof your work then you should be sure to understand this rule. How can your printing possibly look *that* good on press? Your printer isn't a press. If you're running color management software, you may or may not come close, but always pay for a proper digital or analog proof unless you're willing to accept almost any level of quality.

Rule #8. *If colors look brilliant and the*

SOME HANDY CHEATS TO GET YOU BY

CHEAT #1. Create spot color jobs with C and M.

Sometimes an application (often on PCs) does not support named spot colors. Instead you select your color visually from a color palette. Sometimes in addition to the visual palette, Cyan, Magenta, Yellow and Black (K) are named colors. The trick is to use K for black, C for your next spot color, and M for your third color. Create the entire publication substituting Cyan or Magenta for the colors you would prefer. While the job will not look correct in your printouts, simply substituting Cyan or Magenta on press with your desired spot color puts everything right.

Do not use Yellow for a spot color plate unless it contains only solid ink coverage. Yellow moirés against the other colors and is entirely unsuitable as a spot color substitute.

CHEAT #2. Avoid cut and paste between programs.

It's always better to export graphics as EPS files with previews and place them in the target publication.

CHEAT #3. Use numeric values for line weights.

Many PC page layout programs have you set your line weights visually. Those line weights are device dependent; that is, they will change in thickness depending on the printer's resolution. A 1 point line that looks like 1 point at 300 dpi will be considerably thinner when printed on an imagesetter at 2400 dpi. Always punch in a numeric value for line thicknesses and never thinner than one-half point! If your page layout program does not allow you to set this value, send a test page to your prepress shop and check it for yourself. Tints (screens) may also be a visual choice. You can't depend on them to look the same in the printed job. Test your tints mixed in with the line weight test and save yourself a little aggravation.

CHEAT #4. In PageMaker, set the resolution for the target device at the same value your prepress shop uses.

This will help avoid type reflows.

CHEAT #5. Always test your job on a PostScript printer.

Printing the file to a PostScript printer at your office is a good test of the integrity of the file — sort of a hard copy preflight. Printing to any other type of printer is not a test of your file's integrity and may mask hidden problems.

CHEAT #6. Distill your files through Acrobat Distiller.

Whether or not you intend to supply a PDF for output, distill it anyway. Acrobat Distiller is a CPSI conforming interpreter so if it distills, looks right on screen, and prints to your PostScript printer, then it is likely to print without problems.

Printing is a manufacturing process, and as content creators, let us never kid ourselves into thinking that print production managers have the time or interest to check every individual part of every print job. It's enough just to keep those presses rolling. Match the proof, finish the job.

Which brings us back to my opening remarks: the process starts with page creation. And that page has to be 100% right — 99% just isn't good enough.

So what's the first responsibility of a good graphic designer? To "communicate effectively"? To "structure visual information"? To "enhance products"?

Nope. The first level of accountability for any designer is the last step in the process: to deliver a job that prints right.

And in this respect, both clients and printers expect that all designers should be created equal — but, sad to say, they're not. *

boss loves the way it looks, you probably forgot to convert the color images from RGB to CMYK.

Never send your images as RGB unless you have made the service bureau aware ahead of time, or you're printing in Hexachrome (wide-gamut six color printing) and intend to have the conversion done by your trade house.

But also be aware that the RGB to CMYK conversions performed by some image editing programs can make pea soup from ambrosia. When in doubt, leave it to the experts.

STRIVE FOR COMPLETENESS

Rule #9. *If you don't embed your graphics and images, some or all will not make it to the prepress house.*

QuarkXPress links images by design; *PageMaker* by choice. When confronted with the options of either linking or embedding graphics in *PageMaker* (or in any program that offers this choice), embed them — AND include the originals separately. It's called insurance!

You want the graphics embedded to prevent forgetting one. You want the backups in case the embedded version needs to be edited.

Belt and suspenders, right?

So be sure to pack up all your originals and corollary job materials. This should include:

- native application files
- all image files
- all graphics files
- all fonts
- a hard copy of the job, preferably in color

- an imposition as supplied by the printer
- emergency contact numbers

Although contrary to the established credo, these rules even apply to PDFs, if you want your job to be bulletproof.

And finally:

Rule #10. *Don't go to press with less than the whole job.*

Graphic arts tradition says that a printer will never start working on your job until it all arrives.

I CAN'T GET NO RESPECT!

Corporate content creators can get respect from printers and prepress houses by doing two things:

- Pay attention to the details of your file construction and learn how to get it right the first time;
- If you know that your file is deficient in some way, pass on those details to your prepress people.

Where uncertainty exists, ask your provider to preflight your file and advise you of any errors and/or omissions.

Set up a job report sheet and take the time to detail the job specifications and its shortcomings wherever you can identify them.

Clients who proactively work to solve their prepress problems can expect respect from the trades.

The provision being, of course, that they pay their bill. *

LERRICK STARR IS A PREPRESS CONSULTANT AND VETERAN RIPPER WHO SPECIALIZES IN PC-BASED WORKFLOWS. HE CAN BE CONTACTED VIA E-MAIL AT LSTARR@ERNESTGREEN.COM.

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Web: <http://www.iaod.com>

Full time programs:
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Colour Management and Control; Colour Measurement and Control; Design Synthesis; Disk Preflighting; Lithographic Troubleshooting; Mac for PrePress Imaging Operators; Mac to Pre-Press Links; Mac Suite Level 1; Mac Diagnostics; Print Level 1: Print Production Basics; Print Level 2: Colour Reproduction Troubleshooting;

Print Level 3: New Age Print Production: Statistical Process Control for Prepress; Understanding and Evaluating Colour; Understanding Digital Pre-Press
INDIVIDUAL APPLICATIONS: Adobe Illustrator; Adobe Photoshop; QuarkXPress
Designing a Website
INDIVIDUAL APPLICATIONS: Macromedia Director Level 1; Macromedia Director Level 2

ONTARIO COLLEGE OF ART & DESIGN

100 McCaul St Toronto ON M5T 1W1 Tel: 416-977-6000 Fax: 416-977-4080 Web: www.ocad.on.ca

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Macintosh: An Introduction: Creating and designing Web pages; Customized training available

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e-mail: studio_l@istar.ca
Web: http://home.istar.ca/~studio_l

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INDIVIDUAL APPLICATIONS: Adobe Illustrator; Adobe Photoshop; QuarkXPress; Macromedia Director; Web Page Design (Adobe PageMill, BBEdition)

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DELIVERY TECHNOLOGY
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AN OVERVIEW OF INTERNET TECHNOLOGIES
STRATEGIES FOR A WEB PRESENCE
WEB SITE IMPLEMENTATION AND MANAGEMENT
Animation: 3D Studio Max; Creation and Management Tools for a Dynamic Web Site; Creating Educational Multimedia for Children; Digital Imaging and Photoshop; Instructional Design for Digital Media; Introduction to Multimedia Authoring; An Introduction to VRML; Scripting Multimedia

YORK UNIVERSITY

Liaison and Advising Office Faculty of Fine Arts 213 Centre for Fine Arts York University 4700 Keele St

North York ON M3J 1P3 Tel: 416-736-5135 Fax: 416-736-5447
e-mail: finearts@yorku.ca
Web: www.yorku.ca

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active Media; The Image (Communication); In-
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ion.cotr.bc.ca/institut.htm

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