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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.

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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.

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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.

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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. *

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"I really enjoyed your recent article on font management." D.L.

"Thank you for teaching Illustrator — I really enjoyed the class." C.S.

TRAINING

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"Thanks again for teaching me." Evergon

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DIGITAL PREPRESS

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"I really enjoyed your seminar and I found it quite enlightening." A.

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"Your teaching methods allowed me to become more efficient in preparing for production and prepress and cut down the cost to suppliers." L.D.

DESIGN

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