

# GRAPHIC TRAPPHIC

F r o m C o n c e p t T h r o u g h P r i n t

## In the Realm of Physics: WHY IS THE COLOR DIFFERENT?

Sometimes buyers wonder why printers are unable to get the color "just right" on their projects. "Why," they ask, "can't the red on my brochure match the red on the transparency I gave you?" It's a fair question. But at times it is like asking, "Why can't a car go from Los Angeles to New York on 20 gallons of gas?" The questions are similar because their answers lie not within the realm of craftsmanship or effort, but within the realm of physics.

- ❖ Color is created by light. Light travels in waves, like water, and the human eye and brain can see some of those waves. We see very long waves as red and very short waves as violet, with other colors somewhere in between.
- ❖ Our eyes are extraordinarily good at seeing color; indeed, they are able to distinguish literally millions of different shades and hues. They are not, however, able to reproduce for others what they see for themselves. For this, we humans have created media like paint, dye, ink, and film. And if scientists could find ways to eliminate the limitations imposed on light waves by those media, we could then produce perfect color on press. (But by the same token, a car could get to New York on 20 gallons of gas if scientists could merely eliminate the limitations imposed by gravity and friction!)
- ❖ This means that at each step of the process - at the scanner where a transparency is separated into process colors, at the laminated proof where those colors are reproduced on film, and again at the press where they are printed on paper, some shades and hues may be lost.
- ❖ Today's high quality film can reproduce about 75% of the visible spectrum (the image you see on your transparency), and process inks on paper can reproduce about 25% of that same spectrum (the image you see on your brochure). So, though the technology is improving all the time, it is still true that sometimes your printer is simply stymied by the limitations of physics when he strives to make that red on your printed piece a perfect match for the one on your transparency.

## An Inside Look At Proofreading

This useful article was gleaned from a recent newsletter and warrants repeating. We all know the shock and disbelief we suffer when discovering a thought interrupting error in our special project.

Everybody at times finds themselves proofreading their mail, and suspects the proofreader isn't necessarily paying attention to his or her work. Scores of web sites have the same problem. Terrible spelling and common grammatical errors are high on the list. Of course, some of us do not pay attention to these little details, but entrepreneurs look for imperfections.

Do we all know how to proofread? Not necessarily. Looking for misspelled words is scarcely enough to polish your workmanship and neither is applying capital letters where needed. This is only touching the surface with the most common proofreading Do's. You might think a little differently the next time it's your turn to proofread.

1. **Always proofread when you are at your daily peak.** In other words, do not try it, if you are sleepy or distracted. You will definitely miss a number of errors. Proofreading requires concentration.
2. **Read the selection through and then read it aloud.** Read it to a friend and have them read it to you. Read it backwards. You'll be amazed at the errors in spelling you will encounter.
3. **Use your computer's spell checker, but do not rely on it.** Often, there are times the checker will find errors but the word meaning is different, such as "there" and "their". Use a dictionary to be sure of the correct meaning of a word.
4. **The thesaurus is helpful, but again the range of words are limited, a book offers a broader list.** Your choice of words does make a difference when others read what you have to offer, so go ahead and be choosy.
5. **Be sure all beginning letters of a sentence are capitalized.** Names of importance, within the sentence are a must to remember.
6. **Look for sentence fragments, run ons and match subjects with verbs.**
7. **Check those simple small words, such as: of, it, in, is, for, be, and I.** (I, should be a capital, regardless of where it is.)

Proofreading has a nature of time consumption and if you do not have the time, find someone that does. It will boost your sales because the piece will have the verbal impact you intended.

## LINKED TEXT + LAST MINUTE EDITS = CAUTION

When submitting multiple pages of text on disk where the text on all pages is linked together in your file, remember that a last minute change on one page (deleting or adding a word, etc.) may "flow through" and change line or page breaks throughout the document. ALL THE MORE REASON to provide an assembled dummy of your project so that the printer's prepress department, who is deleting or adding those words at the last minute, can easily check the rest of the document and make necessary adjustments.



## Inform the Printer: CROSSOVERS REQUIRE PLANNING

Crossovers are type, rules, art or photographs which continue from one page of a bound brochure or magazine across the gutter to the opposite page. Ideally, these images will line up precisely and their color will not vary from one side of the crossover to the other, even though the two sides may have been printed on different forms at different times. Thus, crossovers require extra precision in layout, printing and folding. This is why you should make your printer aware of critical crossovers before getting a quote on a project. Both quality and price can be affected. Quality may be affected because it is easier to control crossovers on smaller signatures. For example, if you are printing a 32 page brochure with critical crossovers, your printer should engineer the project to fold as four or eight page signatures rather than as sixteen page signatures. Since this affects the cost of the job, you will want everyone quoting on it to know about those crossovers so that you get true "apples to apples" comparisons on competing quotes.

## Don't Trust Your Monitor: ADDITIVE VS. SUBTRACTIVE COLOR

A basic reason the colors you see on your monitor are not necessarily those you see on press is that the monitor uses "additive" color (RGB) while ink on press uses "subtractive" color (CMYK). Additive color involves the use of colored lights. It starts with darkness and mixes red, green and blue light together to produce the other colors. When combined, these additive primary colors produce the appearance of white. Subtractive color, on the other hand, involves colorants and reflected light. It uses cyan, magenta and yellow pigments or dyes to subtract portions of white light to produce other colors. When combined in equal amounts, pure subtractive primary colors produce the appearance of black. It is good for designers to remember that it may or may not be possible to reproduce on paper the colors they are seeing on their monitors. Thus, they should always refer to ink-on-paper samples such as PANTONE swatch books to judge what specific colors are actually going to look like when printed. We have created a useful tool; our "Tint Chart" which shows actual CMYK color swatches. You can use this chart to determine with confidence, what colors will look like when printed in CMYK.

## What It Means to You: DOT GAIN ON PRESS

Though they appear to be continuous bands to the naked eye, images printed on paper are actually made up of thousands of tiny dots. These dots are also in the film used to create the printing plates, but when they become ink on paper, the ink spreads as it is absorbed by the paper. This spreading is called "dot gain." (Dot gain is one reason why proofs do not show exactly how a project will look on press, because the proofs are not affected by dot gain.)

The amount of dot gain is greatly affected by the kind of paper being used. With offset printing, gain can range from 5 percent for sheetfed printing on premium coated paper to 40 percent for web printing on newsprint. But because dot gain is a predictable occurrence, not a flaw, prepress services can estimate how much gain to expect with a given paper and style of press and make necessary adjustments to compensate for it.

Some computer software used for graphic design may offer dot gain control by allowing a choice between coated and uncoated paper. You should resist using that option, however, because dot gain is affected by variations in paper surface far more complicated than the simple distinction between coated and uncoated. Gain is also affected by screen ruling and by press and ink features, so it is best to have the printer, who knows your job thoroughly, make the adjustments for dot gain.

Dot gain relates mainly to halftones and separations, but it also affects line art and screened areas. For instance, dot gain may mean that fine lines on small type fill in when the type is reversed or that fine rules seem too wide or uneven. Screens may also print darker than you intended. Always advise if you are concerned, the printer can adjust if extreme dot gain is anticipated.

## Avoid a Big Headache: STYLIZE FONTS CORRECTLY

You are preparing a document to send on disk to your printer and decide to highlight part of its text by switching, for instance, from standard Helvetica to an italicized or bold version of that font. There are two ways to do this.

- ❖ The **right way** is to actually switch from one typestyle to another - from Helvetica to B-Helvetica Bold, for example. The **wrong way** is to merely "stylize" the standard font by clicking on an icon offered within your program's toolbar or style menu.
- ❖ **Here is why doing it the right way is so important:** The equipment which converts the information on your disk to film for printing cannot interpret stylized fonts properly. In fact, when that equipment sees stylized fonts, it often automatically defaults to a Courier typestyle, resulting in wasted time and, ultimately, wasted money.
- ❖ Below is an illustration showing the **right** - and **wrong** - ways to change text fonts.

**RIGHT WAY** (Click on the correct font in the "Font Menu")



**WRONG WAY** (Do not click on the style icon in the style menu.)



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- Feel free to forward this newsletter to anyone who may benefit; they can subscribe at [graphictraphic@progressivegraphics.com](mailto:graphictraphic@progressivegraphics.com)
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