

## Text Type, No Hype

*Topics:* Hyphenation and justification settings.

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*Author's comment:* Makeready usually concentrated on color correction, but even the most image-centered retoucher occasionally has to set several paragraphs of text. Here are common-sense rules for tweaking hyphenation and justification settings to make it more legible.

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

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

Dan Margulis teaches small-group master classes in color correction. Information is available at <http://www.ledet.com/margulis>, which also has a selection of other articles and chapters from Dan's books, and hundreds of edited threads from Dan's Applied Color Theory e-mail list.

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# Text Type, No Hype

Want to make large blocks of text more readable, and save space at the same time? The key is manipulating the justification engine. Here's how to do it in QuarkXPress and Adobe PageMaker.

By Dan Margulis

When I was in college, the authorities were sufficiently neanderthal as to decree that no student, regardless of major, could graduate without having taken (and, worse yet, passed) two semesters of courses in the hard sciences. This requirement caused no end of wailing and gnashing of teeth. But course offerings being somewhat of a market economy, certain professors, realizing there was a considerable demand for such a thing, designed "science" courses specifically for those whose attendance was a matter of grim necessity and who really would rather not have had anything to do with the subject matter.

One such offering in the geology department was so bloodcurdlingly easy that it attracted a large percentage of student-athletes, hence its popular name, "Rocks for Jocks." The physics department, not to be outdone, concocted a course that included virtually no mathematics. It became known as "Physics for Poets."

A strikingly similar need exists today in publishing. Many desktop artists specialize in one graphic area, yet are called upon to produce work that involves some area in which they are highly uncomfortable. Designers and art directors who are happy as clams in page layout find that they need to color-correct an occasional high-resolution image as well.

**QuarkXPress's default H&J settings. For straight text, one is better off substituting the values recommended in this column.**

Now, however, let's consider the opposite situation: a person who has to produce "typeset" copy of reasonably high quality, yet who wouldn't know a kern table from a Cromalin and who is merely seeking a quick way to make a quantity of text type look more like it was set by an advertising agency as opposed to a high school newspaper.

Because the craft has over 500 years of tradition, there is more than a little snobbishness among its practitioners. Your typical Type Maven will suggest you undergo a ten-year apprenticeship, but this seems a tad impractical.

Many of us would prefer to just move onto a recipe. As this largely involves manipulation of the default spacing parameters inflicted upon us by the leading applications, the appropriate name for this column might be "Letterfit for Lummoxes." That seems a little undiplomatic, but more than that, it has only three words, whereas to start the recipe out, I need four.

## Assembling the Ingredients

A couple of ingredients are necessary for this recipe: a fairly substantial block of text type, and a copy of either QuarkXPress or PageMaker. If you are using something else, the same principles will apply, but you may have to use

slightly different numbers.

Some aesthetic items do have to be chosen in advance. And although they seem to be matters of personal preference, proper selections can circumvent later problems.

Choosing the typeface, considering that there are at least a thousand reasonable text alternatives on the market now, can take the connoisseur quite a while. For present purposes there isn't any need for such extravagance. Whatever you like will do—with one major exception.

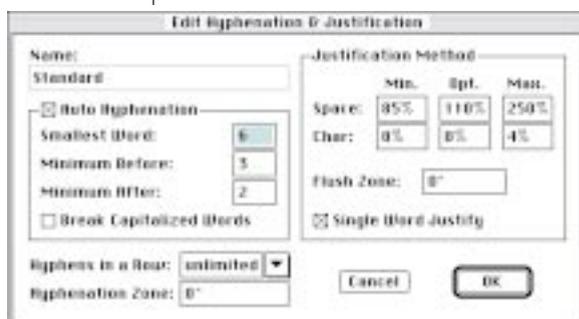
The headline for this column is in four different faces. Which would you choose for your job?

Certain Mavens would have us eliminate the face of the word *No*, because it hasn't got serifs, the little horizontal bases on most of the letters in the other three words. While it is true that the majority of text type in this world is set in serified faces, there isn't any convincing evidence that sanserifs are harder to read or less attractive.

No, there is an odd man out, but it's the second word, not the third. In this sample, *Hype* is set in the most common serified face of all, Times Roman. The other three have a strong connection with *Electronic Publishing*. The word *No* is in Syntax, a lighter weight of our caption face. *Text*, appropriately enough, is in Kepler, as is the magazine at present. It used to be set in Caledonia (*Type*) before management realized that nobody could read it.

The reasons they couldn't are two. First, compare it to the other three. Notice how much skinnier the thinnest parts of the letter are? Nothing wrong with this; it's quite elegant, in fact. Provided, that is, that you plan to print with solid black ink on white paper. If you place this in any layout that involves color, those thin lines become an endangered species, because they are very small in comparison to the halftone dots that the colors are constructed with.

Also, notice the smaller x-height, which is the Maven's way of saying that the lower-case letters aren't as tall in



relation to the capitals as they are in the other faces. Furthermore, the descenders (those tails on the *y* and *p*) are relatively long. To make room for them, the capitals have to be a little shorter.

It all adds up to a face that needs to be set larger than the others if it is to be equally readable. It will thus take up considerably more room on the page. If you can afford that, fine. This magazine couldn't. It therefore printed the face in the size you see in the sample at left. That sent many readers reaching for their glasses.

**Before choosing a text typeface, compare it at large size to Times Roman. If your face has thinner lines, don't use it in a color layout. If it has a lower x-height, don't use it if space is at a premium.**

## A matter of preferences

In quality typography, there's no place for the space cadet. Weird spaces are unsightly and distracting. To keep the reader's attention on the text and not to the comical nature of your work, remember never to hit the space key twice. Not at the end of a sentence, not at the beginning of a paragraph, not in the middle of a table. And,

**Before finalizing the job, do a search and replace, looking for double spaces and replacing them with singles.**

Same way with the return key. In straight text, never hit it twice in a row. To separate one paragraph from another, issue a command, not an extra return.

And, unless your work is always perfect and clients have never been known to request changes in it, **define your spacing and indents in style sheets.** If you decide that the first line of each paragraph needs to be indented a skosh wider (skosh being a technical term that Type Mavens use to denote a unit of space of approximately three weenzies or .37 tads) or a hair more air (i.e., approximately 2.5 extra smidges) between paragraphs, it's a great deal less bother to be able to change all of them at once by altering the style sheet than it is to fix every single paragraph. A lot less chance for error, also.

But the biggest gain in terms of avoiding spacing problems, comes from correct usage of the programs' H&J—oops, that's Maventalk—hyphenation and justification parameters, Quark's implementation of which, including its wretched defaults, is shown on the first page.

These settings govern how the program decides where lines end, a more difficult process than it sounds. Let's follow it along, assuming that we are setting the text justified, meaning flush to both margins, as in the text you are reading, as opposed to rag right, flush to the left margin only, as in the samples on the next page.

The program knows how much space should be left for each letter of the typeface, and also the designer's idea of how wide the space between words, which the Maven calls the spaceband, should be. With that in

**Alexander Hamilton, writing in *The Federalist*, provides the text to sample the quality of hyphenation and justification using QuarkXPress's defaults, left, versus the values suggested in this column.**

A well-constituted court for the trial of impeachments is an object not more to be desired than difficult to be obtained in a government wholly elective. The subjects of its jurisdiction are those offenses which proceed from the misconduct of public men, or, in other words, from the abuse or violation of some public trust and are of a nature which may with propriety be denominated POLITICAL, as they relate chiefly to injuries done immediately to the society itself. The prosecution of them, for this reason, will seldom fail to agitate the passions of the whole community, and to divide it into parties more or less friendly or inimical to the accused. In many cases it will connect itself with the pre-existing factions, and will enlist all their animosities, partialities, influence, and interest on one side or on the other; and in such cases there will always be the greatest danger that the decision will be regulated more by the comparative strengths of parties, than by the real demonstrations of innocence or guilt. The delicacy and magnitude of a trust which so deeply concerns the political reputation and existence of every man engaged in the administration of public affairs, speak for themselves. The difficulty of placing it rightly, in a government resting entirely on the basis of periodical elections, will as readily be perceived, when it is considered that the most conspicuous characters in it will, from that circumstance, be too often the leaders or the tools of the most cunning or the most numerous faction, and on this account, can hardly be expected to possess the requisite neutrality towards those whose conduct may be the subject of scrutiny. The convention, it appears, thought the Senate the most fit depository of this important trust. Those who can best discern the intrinsic difficulty of the thing, will be least hasty in condemning that opinion, and will be most inclined to allow due weight to the arguments which may be supposed to have produced it. What, it may be asked, is the true spirit of the institution itself? Is it not designed as a method of NATIONAL INQUEST into the conduct of public men? If this be the design of it, who can so properly be the inquisitors for the nation as the representatives of the nation themselves? It is not disputed that the power of originating the inquiry, or, in other words, of preferring the impeachment, ought to be lodged in the hands of one branch of the leg-

mind, it motors along happily, adding words to the existing line until the inevitable occurs and the final word does not fit. Faced with this difficulty, it can

☞ Smash the width of the spaceband in that line until the word fits.

☞ Expand the spaceband until the previous word hits the right margin.

☞ Smash the spaceband *and* the space between characters until the final word fits.

☞ Expand the spaceband *and* the space between characters until the previous word hits the right margin.

☞ Hyphenate the final word so that the first half fits, probably in conjunction with one of the four methods described above.

There are other alternatives, such as going back to the previous line and seeing if it ends with a short word that can profitably be brought down, or slightly narrowing the actual shapes of the letters to allow the final word to fit. Quark and PageMaker can't do either of these things.

The question is, how far should we allow the programs to go with the five steps they *can* take? It's pretty obvious we have to have *some* space between words, so we have to say there is a stop point beyond which the program shouldn't smash the spaceband.

QXP and PageMaker's treatments of these choices are virtually identical. We are to define the optimal spaceband, which the program will try first (and which will be the spaceband in use for the final line of the paragraph.) We also define the minimum and maximum acceptable width. Similarly, we are asked for minimum, optimal, and maximum spacing values for the letters. QXP's menu is found under Edit: H&Js, and PageMaker's is under Type: Paragraph Specifications>Spacing.

Wonder whether these settings are of any importance, or are of interest only to Type Mavens? Have a look at the two angled text settings on the facing page. Which do you think reads better? The one on the left employs QXP's defaults, which you see on the first page of this column; the one on the right the settings I am about to

suggest: **for wordspacing 75,95,150** rather than 85,110,250; **for letterspacing -3,0,15** rather than 0,0,4.

This explains the result. QXP's peculiar decision to fix loose lines by wordspacing (allowing only 4% letterspacing, as opposed to my 15%) accounts for the three very poor lines noted with red asterisks. My sample doesn't have any such absurdities, because I am allowing the spacebands to get somewhat tighter, and especially, because, unlike Quark, I am allowing letterspace to close up in certain cases.

When pressed for space, there's another huge advantage: the recommended method runs around four percent shorter. If that doesn't sound so huge to you, look at the samples again. The one on the left is in 10 point type, the one on the right in 10.4 point. Yet the line count is virtually identical.

Certain Mavens condemn minus letterspacing, but that's pretty doctrinaire. Can you even see where it's taking place in the right-hand sample?

One can go too far with this, of course. This present paragraph is set

with -5% letterspacing, which I find a little much. You may think it's acceptable once in a while. PageMaker's defaults do; they are 75,100,150 for wordspacing and, aggressively, -5,0,25 for letterspacing.

Those values are very similar to mine, and much better than QXP's. They should probably be less aggressive in cases less onerous than the relatively narrow columns of a magazine. Most other times we can fit more words in the line, and the more there are, the easier it is to make things work by adjusting the spaceband only.

**If your layout calls for a dozen or more words in a typical line, increase your minimum values in both wordspacing and letterspacing, to perhaps 85% and -2%.**

## The hyphenation headache

We don't use hyphens because they are aesthetically pleasing themselves, or because they aid legibility. Quite the contrary: we use them as a last resort, to avoid something even less desirable. Quark's failure to grasp this simple

## Color Redux: Enter Photoshop 5.0.2

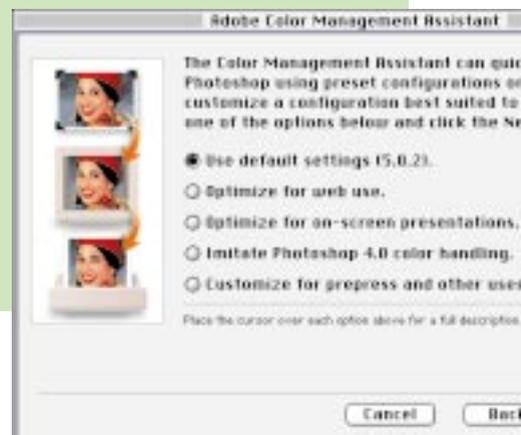
The troubled tale of Photoshop 5 took a new twist in late October, with the release of Photoshop 5.0.2, a reasonable shot at repairing some of the misunderstandings of and the market damage caused by the May Photoshop 5 release. The free upgrade can be downloaded from [www.adobe.com](http://www.adobe.com).

5.0.2 (there isn't a 5.0.1, at least not in the United States) squashes several annoying bugs pertaining to the way that Photoshop rasterizes type. If you are one of the people who want to take advantage of the major new type capabilities of Photoshop 5, definitely download this patch at once.

The color changes address the biggest problems of the original release, but don't help those who have already gotten Photoshop 5 to work. The disastrous default of changing RGB colors automatically as soon as a file is opened has been given the burial it deserves. Similarly, although the Web-friendly, print-hostile sRGB is officially still the default, it's unlikely that one will use it by mistake: a new color management wizard (inset) steers most users away from it.

The unusual dot gain setup of Photoshop 5, in which the same numbers yield different separation results than in Photoshop 4, hasn't changed. Nor does 5.0.2

offer color benefits to anybody who has figured out how to use (or rather, not to misuse) Photoshop 5. But it does make it less likely that a novice user will inadvertently screw up files. Whether this will be enough to change the minds of those who have, because of the color issue, avoided Photoshop 5, remains to be seen.—DM



Such will be the relation between the House of Representatives and their constituents. Duty, gratitude, interest, ambition itself, are the chords by which they will be bound to fidelity and sympathy with the great mass of the people. It is possible that these may all be insufficient to control the caprice and wickedness of man. But are they not all that government will admit, and that human prudence can devise? Are they not the genuine and the characteristic means by which republican government provides for the liberty and happiness of the people? Are they not the identical means on which every State government in the Union relies for the attainment of these important ends? What then are we to understand by the objection which this paper has combated? What are we to say to the men who profess the most flaming zeal for republican government, yet boldly impeach the fundamental principle of it; who pretend to be champions for the right and the capacity of the people to choose their own rulers, yet maintain that they will prefer those only who will immediately and infallibly betray the trust

## MAKEREADY

**When copy is set ragged right (flush to the left margin only) standard H&J settings (left sample) cause too many hyphenations and an overly loose look. The settings recommended in this column produced the cleaner-looking sample at right, which also runs a line shorter. The text, also from *The Federalist*, is by James Madison.**

width is somewhere between the two extremes? Hyphens should still be rare, but now and then a behemoth like *interdisciplinary* will creep in and if we can't hyphenate it this will be very ugly indeed.

Fortunately, an effective, if kludgy, solution exists. QXP lets us specify the minimum number of letters before and after a hyphen. Its default, 3 letters before and 2 after, is scorned by the Maven because it permits a lot of lines starting with *ed* and *ly*. You should reverse these settings.

But in the case we are talking about, you should go further. **When setting wide measure copy in QuarkXPress, rein in the hyphenation engine by specifying a minimum of 4 letters before and 4 letters after the hyphen.**

The idea behind this, obviously, is to drastically reduce QXP's opportunities to break words, limiting it to cases of dire need. On this page, I only see three cases that would be allowed under this rule, two of which involve the same word. (If you aren't allowed to hyphenate *hyphenation*, you're in big trouble. Ditto for *unconventional*.)

PageMaker, annoyingly, doesn't let us do this. For the wide-measure copy we've been talking about so far, this doesn't really matter; PageMaker, quite properly, sees if the line can fit using minimum and maximum word space before resorting to hyphenation. But the inability to specify number of letters before and after the hyphen (up and down, the Maven would scornfully correct me) is a most disagreeable complication in another type of work.

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### Ragtime, and its consequences

The balance of power between these two programs shifts completely when we dispense with the traditional uniform right margin.

Certain words carry emotional baggage. *Ragged* sounds like it refers to the arguments of those who designed the color features of Photoshop 5, and *justified* like it alludes to those who expressed certain reservations about them. When Mavens condemn the use of ragged type, one wonders whether they are using common sense, or reacting to the sound of the words.

Granted, if you are publishing a book, a mass-market magazine, or a newspaper, I'd definitely suggest that you justify your text type. For that matter, I'd recommend you use a serif typeface, and for exactly the same reason: anything else is so unconventional in that context that it may distract the reader.

For other purposes, however, there's nothing that credibly suggests that ragged text is either less legible, or less attractive, than its justified equivalent. Use it if you like, therefore, but be aware of how it will impact the settings we've been talking about so far.

In fact, it will make four of them irrelevant. The minimum and maximum word space, and minimum and maximum letterspace, are now so

concept causes difficulties for the hyphen-hater, as you should be.

Remember the five-step procedure for deciding how to end a line discussed on Page 22? Those five steps are pretty much in the order that Type Mavens would like them to be tried, with hyphenation being last.

Quark's idea is to try it *first*.

For narrow copy such as this, we are going to have a lot of hyphens no matter what. For anything wider (and sometimes even now), this method is sheer madness. Notice, for example, the stupid hyphen that ends the very next line.

Imagine that instead of a three-column format, we are running the type all the way across the page, in a single column seven inches wide. In that case, there would be no excuse for even a single hyphen: with so many words (and, therefore, spacebands) in a line, very small adjustments in each spaceband would suffice. We'd never have a loose line.

Accordingly, PageMaker would never give us a hyphen. QXP would give us just as many as it does in the narrow copy. Bad, bad, bad for legibility, and entirely pointless.

Granted, in such a case we could (and probably should) turn hyphenation off altogether, but what about the more likely scenario, where the

much window dressing. Since lines now run to a random length, there is no point in either spacing them out or smashing them.

With those options out of the picture, control of hyphens becomes less important, because we don't need as many of them. In justified text, we prefer a hyphen to a really short line. In ragged mode, every line is going to be short anyway, so we need not be so finicky. A really short line is acceptable. A really, *really* short one is not.

In QXP, that makes life very easy. **Employ the same hyphenation settings in ragged that you would for wide justified text: minimum of 4 letters up, 4 down before the program is allowed to break words.** This means that only very long words get hyphenated, so that only very short lines get avoided.

PageMaker's omission of this control is inexcusable. The Maven would sooner have his quote marks point the wrong way as allow a two-letter hyphenation in ragged copy, but there's no foolproof way of prohibiting it.

The best option is to open up Type: Hyphenation and fool with the Hyphenation Zone setting. By default, it's half an inch, meaning that if the line will fall within half an inch of the margin, PageMaker won't try to hyphenate it. If it should fall half an inch plus a skosh, we may be presented with a two-letter hyphenation. So the best of the bad alternatives is to **hike PageMaker's Hyphenation Zone value to three-quarters of an inch or so.**

As for wordspacing, minimum and maximum no longer have meaning, now that we no longer have a uniform right margin. Every spaceband will get the same, optimal value.

That very uniformity argues in favor of a smaller optimal space than in justified copy. Tight optimal wordspacing in justified copy can look highly horsy next to the inevitable occasional widely spaced line, such as the third one of this paragraph.

And why is that third line so ugly? Hyphenation rules in the English language are rather illogical. QXP and

PageMaker rely on built-in dictionaries, supplemented by a set of rules for unfamiliar words.

*Wordspacing* is an example of such an unfamiliar word. It isn't in the dictionary, so QXP is guessing, and it guesses wrong: it thinks it can only be broken before the *-ing*, missing the obvious *-spacing*. You will notice that it also misses the obvious break point in *letterspacing*.

**If your text contains brand names or other technical words that may not be in the program's built-in dictionary, check how they break, and, if necessary, add them to the program's list of hyphenation exceptions.** In QXP, one checks a word by highlighting it and going to Utilities: Suggested Hyphenation.

If I weren't leaving the default settings alone to prove a point, I'd have already checked these two words and entered them into my QXP exception dictionary, which already includes, among others, the brand names *BinuScan*, *EverSmart*, and *Microsoft*, and other graphic terms such as *deselect*, *grayscale*, *megabyte*, *mezzotint* and *newsprint*, not to mention *makeready*.

As for letterspacing, much the same reasoning applies. In justified text, especially if the column width is narrow, we can't help the occasional oddly spaced line. It makes sense to have the last line of each paragraph—the only one in which the optimal spaceband will almost certainly appear—fall somewhere in the middle. Furthermore, a line with very tight letterspacing and very loose wordspacing is a lot like watching somebody down a hot fudge sundae while stirring skim milk and NutraSweet into his coffee.

These considerations are irrelevant where both letterspacing and wordspacing are uniform, as they are in ragged setting, and therefore a tighter letterspace is appropriate.

**Don't use the same style sheet for ragged copy that you would for justified. Set optimal spaceband to 90% and optimal letterspace to -4%.**

Note the impact of these changes in the samples on the facing page. The

one on the right is smoother, shorter, and has only one hyphen instead of half a dozen.

Note, also, that the page is designed so that the sample type is on a white background and the rest of the page has a color. This is the opposite of the way things would normally be laid out. But a colored background—or colored type, for that matter—reduces legibility. Upon encountering such a layout, the Type Maven automatically increases the minimum letterspace and spaceband to try to gain some of it back. I'd suggest you do the same.

### The mailman cometh

Every Monday, I stagger into my office under the burden of several dozen magazines. This is a tribute to the electronic revolution. As costs of production keep getting lower, the number of printed products keeps increasing. It wouldn't be too surprising if, in that massive pile, certain articles or ads that you yourself had a hand in producing may appear.

Your odds of capturing my attention, and that of hundreds of thousands of persons in similar positions, have accordingly gotten quite a lot worse. So much to read, so little time; so much temptation to chuck the whole thing and surf the web instead.

A sad situation, but that's the real world. And that, not the social advantages of being known as a Type Maven, is the real argument for making our type as legible as possible—for voting for the versions on the right sides of the settings shown here.

I grant you, the difference isn't huge, but it's there, and it's significant. With so much incentive for the audience to turn elsewhere, it seems crazy to make them work any harder than necessary to read what we have to say. A skosh of effort is all it takes.

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