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Web Typography: Let Your Words Speak

By Michael Geraci

Part One: The need for improved typography
Part Two: What the research says about typographical improvements

In the first part of this series on web typography, I made a brief and occasionally subjective case for implementing improved typography in one’s web-based content. Chief among the reasons cited was directly related to learner motivation and the cognitive overhead factor, which simply says that making things easier to read and scan for information, increases the amount of brain capacity the reader can direct at retention and comprehension. In this article, I will add a little weight to these arguments by making specific recommendations for web typography that are based on research (or in some cases, highly informed opinions) in the field.

Reliable and objective data in the field of web-based typography, specifically to find which typographical controls (typeface, leading, line-length, etc.) have the biggest impact on learning and retention, is not abundant. Multiple searches using a variety of subject-specific terms in Academic Search Premier and The Educational Resources Information Center (ERIC) databases return only a handful of articles that offer more than a casual reference to the role of online type. Limiting such searches to a post-2000 publication year (an arbitrary point in the Web’s history where the technology to control the presentation of type was accessible to designers) returns less than 30 results. That said, those in the field are adamant that conscientious typography can have a measurable impact on (no surprise) the readability of web content and (more importantly) the ability of the reader to comprehend and retain the content. Reader motivation is also a crucial consideration, but there are too many external factors in reader motivation (psychological, physical, emotional, etc.) that affect intrinsic motivation to engage with content to test reliably, but it stands to reason that text that is more readable, and therefore, more welcoming, will have a greater chance of being read regardless of the reader’s motivation level at that point in time.

Solid research does exist in this field, but in order to find it, one needs to broaden one’s area of inquiry to include more commercially oriented sources. Web marketing enterprises and advertising design brain trusts have spent more time than the academic community in
determining how to best utilize type for maximum impact. So, if we can assume that what’s good for the “pitch man” might also be good for the academician, we can take some steps towards understanding what it takes to improve our on-screen words.

The educational realm is not without its champions of type, the circa 2000 work of Bonnie Skaalid at the University of Alberta and the on-going writings of Sarah Horton at Dartmouth address the subject of type directly and pragmatically. The benefit of these authors is that they are writing from the perspective of educators in the context of constructivist learning. Especially useful, is Horton’s *Web Teaching Guide* (*Yale University Press, 2000*), a thorough and accessible reference for educators who wish to improve the reach and overall quality (not just typographical) of their web-based materials.

**The Recommendations**

*Typeface*

Typeface selection plays perhaps the most critical role in the readability of your online content, and it is one area where the web has taken a century of conventional wisdom and turned it on its ear. Print designers have almost universally opted for serif typefaces for texts and periodicals. This stems from the fact that serif typefaces, such as Times New Roman and Garamond, have been found to be more readable in a print format than their sans-serif counterparts, like Arial and Helvetica. Typographical wisdom states that the serifs in the letterforms act as visual aids, effectively guiding the eyes through the shape of the word. Because screen technology differs dramatically from print, especially in the resolution of the medium (print resolution is 12-30 times that of screen resolution), serif fonts are often found to be more difficult to read than sans-serif faces [1] especially with modern anti-aliasing (text smoothing) technologies employed by the latest Apple and Microsoft operating systems.

Wilson (2001), an e-commerce consultant found that 68% of 1,643 subjects preferred reading 12-pt. Arial to 12-pt Times New Roman on the Web. This result is readily supported in the design community:

*The variable boldness and fine extra strokes of the serif fonts, particularly at smaller sizes of body text, often appear pixilated and untidy. This is still the case even with the most modern anti-aliasing techniques.... On the other hand, the straight, low contrast, open strokes of a sans-serif font, such as Verdana, will always leave a good impression on-screen, (Hume, 2005).*

So if sans-serif type gets the nod for readability, then which faces are
considered best in class? Above, Hume mentions the golden face of the Web, Verdana. Verdana was designed for Microsoft, who wanted some super-readable fonts to come bundled with their Internet Explorer browser. The beauty of Verdana is that it is “hinted” — a technical process well beyond the scope of this article — which means that letters align to on-screen pixel grids with pin-point accuracy, yielding text that is always crisp, clean and readable even at smaller point sizes. Verdana is also a very safe font to use on the web simply because it has found its way onto the vast majority of personal computers thanks to the prominence of the Internet Explorer browser.

If Verdana doesn’t float your boat, there are a few other typefaces that share some of the characteristics that make Verdana so popular as a web font. Microsoft’s other font, Trebuchet, looks great on-screen and has a tad more flair than sturdy Verdana. Helvetica and its slightly more modern cousin, Arial, are also safe bets. There’s a new comer to the web-anointed sans-serif group: Lucida Grande is currently gaining popularity as a body font that exudes grace without sacrificing readability.

Type Size

Type size is more straightforward. Most research shows that readers prefer larger type for on-screen content versus printed content. Body copy in print media rarely exceeds 12-points, and often, especially in periodicals, is set at 9-points or smaller. Wilson’s aforementioned study found that 59% of subjects found 12-point Arial to be more readable than other typefaces set at 12-point. However, Verdana’s large x-height and open letterforms was the clear favorite (64%) when compared to Arial at 10-point sizes. The lesson here is that if you want to go with a slightly smaller text size, Verdana is your best bet. Conversely, Verdana may be too “airy” for use at sizes bigger than 12-point.

It’s clear that your selection of typeface plays a big role in what size you set your body text at. Typefaces with a larger x-height are highly readable when set at 10-point. This provides a solid
foundation for establishing default text sizes; on the web, the end-user, of course, has full control over display size. Today’s modern browsers now come with buttons on their toolbars for increasing and decreasing font sizes. A few modern browsers even allow the user to set minimum font sizes for all text. So it’s always a good practice to increase and decrease the browser’s font display sizes as you review your web pages to insure the best possible user experience at various font sizes.

**Line Length**

There is no CSS property to control the line length of your body copy per se, however text is typically set in a block-level container such as a table cell or a “div” (a 2-dimensional area, or division, of the page), therefore, the physical width of the text container establishes the line length of your body copy.

A few studies that reviewed typography in terms of its impact on text readability and/or reader motivation generally agree that shorter lines of text have many advantages over longer ones. Horton, Lee and Boling, and Torgerson all found that lines of text should not exceed 78 characters (about 12 words) on the web. Many of these studies specifically recommend 65 characters as a “target” line length. If you set your default font to 11-point Verdana, this would mean that your text container would be set at 400 pixels wide – that’s easily less than 40% of the width of a typical user’s monitor. As an illustration of this, Interface uses a 415-pixel wide container for content (the default text is 11-point Verdana).

The issue with longer lines of text relates to eye-tracking studies that show, from a readability perspective, that readers’ eyes tend to “get lost”, or mis-track, as they return to the left-side of the page at the end of lines with increasing frequency as line length increases. From a motivational point of view, the reasoning is that users are more sensitive to the width of paragraphs than they are to the vertical height of our pages, of course, it doesn’t hurt that on the web, the actual height of our pages is not easily discerned once it extends beyond the lower edge of the browser window.

**Leading**

The vertical distance between lines of text has been shown to have a major impact on readability. This relates back to the eye-tracking studies mentioned above. As the space between lines decreases, more mis-tracking occurs by readers, this is directly related to the property of line-length. The rule of thumb with leading is that it should be proportional to both the typeface in use and the line length. That is smaller typefaces and/or longer lines of text demand greater line spacing.

Leading is often measured as a factor of the height of your character set. All fonts have a “height”, the vertical height of the type as measured from the baseline (the invisible line upon which all the characters rest) to the top of the tallest character. A leading of “1” would mean that
the bottom of one line of text would touch the top of the succeeding line. Default leading in both word processing applications and Web browsers is 1.2, thus there is a space between lines of text equal to 20% of the height of the current font. This is a setting that clearly has ties to the print medium, which rarely transfers to the online environment.

Studies performed after the year 2000 recommend line spacing around 1.5. In fact there is great support in both the research and the design community for setting leading at 1.5 [1][2][3]. If you’re reading this at the default settings for Interface than your enjoying line spacing set at 1.5.

Justification

There is wide agreement in the research and design communities on the alignment of web-based text: Left aligned with a ragged right edge. In Western culture, we are trained from the beginning to read left-to-right, and part of this process is the visual mechanics of returning to the left margin at the end of every line. When that left margin is not consistently aligned, readability suffers and we are more prone to make errors. For this reason, even single paragraphs of text should not be center or right-aligned.

While CSS controls allow us to fully justify our text, it is not a recommended practice. A large percentage of print media opt for fully justified text because it creates a cleaner, more balanced presentation of text. However print publishing software uses an extensive hyphenation dictionary, and it is through the flexibility of delicate hyphenation that fully justified text is achieved. Unfortunately Web browsers, to date, contain no hyphenation systems, so in order to achieve a fully justified presentation of text, word spacing is manipulated. This practice works against readability since the flow of the eyes through the text is interrupted by inconsistent spacing. This is especially true when text blocks are set with shorter lines, and therefore, less opportunities to adjust word-spacing, the result is large gaps between words that are not only hard to read, they also look very unprofessional (figures 1 & 2).

![Fully-justified text in a 350 pixel wide container](image)

Figure1
Quick Hits

There are a few other typographical controls that CSS gives us command over. There is almost 100% agreement in the research and conventional wisdom that these are not beneficial to body copy and, instead, are more directed at the setting of headlines, sub-headings, and labels.

Letter case: Always avoid setting body copy in all caps. Besides being interpreted as shouting in electronic environments, TEXT SET ENTIRELY IN UPPERCASE IS NOTORIOUSLY MORE DIFFICULT TO READ because words lose their specific shape when set in uppercase, thus working against our visual memory of words [4].

Word spacing and letter-spacing: While it is tempting to experiment with the space between our letters and words, this practice clearly runs counter to the design and intent of the highly skilled typographers that created the typefaces we use. Every letter in a typeface has a predefined “pad” based upon its geometry and that of the letters directly adjacent to it. As Hume says, “…if you think your text needs spacing and tracking manually, then you have probably chosen the wrong typeface for the job.”

Bold and italic styling: Use bold text for emphasizing and/or highlighting single words or phrases, do not use it as a paragraph-wide style. The readability of the slanted letterforms used by italic text styles suffers on-screen, therefore, it is best to use italics sparingly in body copy; reserving them for the conventional uses such as when you are listing the titles of texts.
Our next installment will introduce you to Cascading Style Sheets, and demonstrate how to set all of the aforementioned text properties in your HTML documents.

Cited:


References:


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5 THOUGHTS ON “WEB TYPOGRAPHY: LET YOUR WORDS SPEAK”

kuchnia
on January 30, 2014 at 7:09 AM said:

Awesome talk! Thank you so much for hosting Great.
seriale

on February 1, 2014 at 3:53 AM said:

Take a 10-minute break during by the hour that you simply study. Produce a schedule that I could stay with it.

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on February 3, 2014 at 1:46 AM said:

good work, i enjoy reading your post. Maintain the nice work.

plotki

on February 3, 2014 at 1:55 AM said:

Take a 10-minute break during by the hour that you study. Create a schedule that I could stay with it.

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on February 4, 2014 at 10:27 AM said:

Great blog proper here! Additionally your website loads up very fast! What host are you the usage of? Can I get your associate link on your host? I wish my internet site loaded up as simply as yours lol