“Typography is the visual component of the written word”

Matthew Butterick
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Introduction to Basic Typography Concepts & Principles
It’s what you see on your screen right now. It’s the visual aspect of the word. As soon as you write something down—on paper or digitally—you’re using typography. And assuming your content is engaging, whether or not you create impact and capture attention depends on your knowledge and mastery of the craft. In this document, we’re going to break it down. We’re going to compress years of working with typography in design to outline what we believe really matters. At the end of this, you’ll have a clear understanding of web typography in order to capture attention and create impact with your design.

As designers who’ve come from a print background and transitioned into the web world, we’re aware of how limiting the controls over typography formatting can be when working in web. However, those who are unfamiliar with design theory and the fundamentals of typography may not be aware of the tools available for tweaking and refining type on the web. In the past five years, great strides have been made to expand the library of fonts we can use online, giving greater access to formatting tools, such as the ability to use @font-face (https://css-tricks.com/snippets/css/using-font-face/) and enabling opentype features (http://blog.fontdeck.com/post/15777165734/opentype-1). The ability to use custom fonts, set columns, adjust the leading (line height), tracking (letter-spacing), and more has drastically improved the way we see type on the web. But this is only scratching the surface. There’s so much more we can do to take it even further.
2

Understanding Type Classification
<table>
<thead>
<tr>
<th><strong>Calligraphic</strong></th>
<th><strong>Calligraphic</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Zapfino</td>
<td>Typefaces based on letters made with a broad-nibbed pen.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Blackletter</strong></th>
<th><strong>Blackletter</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Blackmoor LET Plain 2.0</td>
<td>A script style of calligraphy made with a broad-nibbed pen using vertical, curved and angled strokes.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Serif</strong></th>
<th><strong>Serif</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Georgia</td>
<td>&quot;Feet&quot; or non-structural details at the ends of some strokes.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Sans-Serif</strong></th>
<th><strong>Sans-Serif</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Futura</td>
<td>A typeface without serifs.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Script</strong></th>
<th><strong>Script</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Edwardian Script ITC</td>
<td>Script typefaces are based on the forms made with a flexible brush or pen and often have varied strokes reminiscent of handwriting.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Decorative</strong></th>
<th><strong>Decorative</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Lovelo</td>
<td>While serified and sans-serif typefaces can often be used for text typesetting, there are a vast majority of fonts and typefaces whose legibility wanes when used in smaller point sizes.</td>
</tr>
</tbody>
</table>


**Figure 01 - Type Classifications**

For a look at a more historical classification table, [click here](http://dwarfplanetpress.files.wordpress.com/2010/04/historytable4.jpg).
Understanding the classifications and distinguishing features that make up a typeface will give you a better understanding of the situations and circumstances for using certain typefaces. Identifying distinct features such as serifs, stroke quality, and readability will help inform your choices. For example, when choosing a typeface for long body copy, you would likely look for a serif or sans-serif option. Slab serifs could also be considered, but you'd want to avoid scripts or blackletter as these are more difficult to read in long form. Understanding the difference is critical in selecting the right typeface and can dramatically change how someone interacts with your work.

**FONT VS TYPEFACE**

The physical embodiment of a collection of letters, numbers, and symbols is a font. When referring to the design of the collection (the way it looks) you call it a typeface. “Plantin Std” is a typeface, whereas “Plantin Std Bold Italic.otf” is a font. Although the two terms are used interchangeably throughout daily conversation, each term has a different meaning and, in light of improving our typography skills, it’s important to know what distinguishes one from the other.
Breaking down type anatomy can give you a better sense of each character within a typeface. This, in turn, can help you with your font choice on design projects. While there are a number of typeface components that you can learn, the most essential parts of the anatomy that any content producer or creator should know are baseline, x-height, cap height, ascender and descender. Study the Type Anatomy image in Figure 02 to help get a better sense of what these terms refer to, as understanding these as a whole will drastically help improve your font selections. Remember, typography empowers your content. It allows people to consume information. Understanding the basic principles of it is a building block to creating compelling content for your users.
“Evoke curiosity & emotion within the reader to make them want to read it ...
... **Readability** isn’t just solely about being actually able to read the text, it’s also about getting them to read the text.”

Matthew Butterick
Creating Impact with Simple Typography Improvements

Based on Erik Spiekermann’s Typo Tips
Avoid using shrunken capital characters in place of proper small capital (or small caps) characters. Shrunken capital characters are merely capital characters sized down to appear as small caps. The problem is when you simply size down capital characters, their strokes become thinner than the characters beside them. This makes the paragraph look “off”.

Going back to our type anatomy diagram, we can see that the reason a paragraph will look off is because uppercase characters rely on the cap-height instead of the x-height. This difference can ruin the flow of your text.

True small capitals maintain the same stroke as the rest of the text in the body. Instead of uppercasing your text on acronyms or abbreviations (which can make the text stand out too much), use true small caps instead. They tend to be included in their own font file.

An example of the difference between shrunken uppercase (wrong technique) and true small caps (correct technique) can be seen in Figure 03. You’ll notice the stroke changes between the two — and you can easily see how the shrunken uppercase looks “off”.
If you do decide to move forward with small caps on the web, you could use the following:

```css
font-variant: small-caps;
font-feature-settings: "smcp" 1;
```
**Figure 04** shows another example of the difference between uppercase and small caps.

<table>
<thead>
<tr>
<th>Uppercase</th>
<th>Small Caps</th>
</tr>
</thead>
<tbody>
<tr>
<td><a href="#">Text</a></td>
<td><a href="#">Text</a></td>
</tr>
</tbody>
</table>

SMART QUOTES VS. DUMB QUOTES

Before we get into the difference between smart & dumb quotes we’ve got to confess: even as designers we don’t always use the correct choice. However, choosing not to use them is very different from not knowing when to use them.

So what is a smart quote? They’re quotes that are (depending on the font) either curly or diagonal on the end.
“Smart quotes” instead of "dumb quotes". You’ll have to look really closely to see the difference. That goes for single apostrophe marks, too. There are ‘smart’ apostrophes and 'dumb' apostrophes.

Use smart “quotes” and smart ‘apostrophes’ when typesetting. In addition to “smart” and "dumb" quotes and ‘smart’ and 'dumb' apostrophes, there are prime marks.

They look like this ‘ and ”.

These are slanted versions of "dumb quotes" that are used for signifying feet/inches or minutes/seconds. If you’re really interested, you can read more about it on Jessica Hische’s Quotes and Accent website (http://quotesandaccents.com/)

On the web you could use the following for including smart quotes:

Keyboard Shortcuts

option+[ = “  option+shift+[ = ”
option+] = ‘  option+shift+] = ’
**Figure 05** shows an example of the difference between dumb quotes and smart quotes.

### Using Old Style & Lining Figures

Part of expressing ideas through written text requires that you use numeric symbols. How those numbers flow within the body of your text depends on your choice of old style figures or lining figures. Both can change the feel of your document.

Old style figures seem to blend better within a body setting, as some numerals have ascenders and descenders, maintain the same height as lowercase letters and rest on the baseline.
Lining figures on the other hand all rest on the baseline and have the same height as the capital letters. They’re more appropriate for lists and tables. You can learn more here. [You can learn more here](http://chronicle.com/blogs/linguafranca/2012/03/14/old-style-versus-lining-figures/)

You can see the difference between old style and lining figures below. Notice how the 3 dips in Figure 06 below the baseline and how each number maintains the height of the lowercase letters in the old style example. In contrast, notice how lining figures remain firmly planted on the baseline (no descenders) and maintain the height of capital letters.

**Figure 06 - Oldstyle vs. Lining Figures**

<table>
<thead>
<tr>
<th>Oldstyle Figures</th>
<th>Lining Figures</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>I have $1230.00 sitting in the bank today.</em></td>
<td><em>I have $1230.00 sitting in the bank today.</em></td>
</tr>
<tr>
<td>343.00 200.00 143.00</td>
<td>343.00 200.00 143.00</td>
</tr>
</tbody>
</table>

Typefaces used: Adobe Caslon Pro
Choosing between the two is a matter of preference, but you should take into consideration the context in which you’ll be using the font. For example, you can see the difference shown in Figure 07 in between the two styles in a paragraph setting.

<table>
<thead>
<tr>
<th>Oldstyle Figures</th>
<th>Lining Figures</th>
</tr>
</thead>
<tbody>
<tr>
<td>wwc tripled in 2013, and now has nearly 10,000 members in 10 countries, with a new city being launched every week. WWC is known for its weekly technical study groups and larger monthly events including tech talks, hack nights, and career trainings.</td>
<td>WWC tripled in 2013, and now has nearly 10,000 members in 10 countries, with a new city being launched every week. WWC is known for its weekly technical study groups and larger monthly events including tech talks, hack nights, and career trainings.</td>
</tr>
</tbody>
</table>

Typefaces used: Adobe Caslon Pro

Figure 07 - Oldstyle vs. Lining Figures

To add to the consideration, there are also tabular and proportional settings within OpenType fonts that can change how your text flows.

Tabular figures refer to a single character being the same character width. This is usually found on lining figures as they sit on the baseline and have the same height as the capitals.
Proportional figures have character widths based on the width of the character shape itself (including small white space around it). Proportional figures should not be used in charts and tables, since they won’t align in vertical columns. Instead, use monospacing as the numbers will align vertically in tables and columns. You can click here (http://www.fonts.com/content/learning/fontology/level-3/numbers/proportional-vs-tabular-figures) to learn more.

Again the choice is ultimately up to you, but considering your situation and your reader is key in making a document that captures attention and easily conveys the information that you’d like.

To alter between lining figures and old style figures on the web, you could use the following:

```css
font-feature-settings: "lnum" 1;
font-feature-settings: "onum" 1;
```
**USING LIGATURES**

Ligatures, like many of the typography aspects, stem from a time when the printing press was just coming into action. They were meant to improve legibility by preventing overlapping characters, and save time at the printing press by combining the characters that might otherwise touch or overlap. Combinations such as fi fl or ff are some of the more common ones.

In the age of digital publishing, the time saving obviously holds no weight anymore. But the legibility of your document still does — so understand what ligatures are, and choose when to use or remove them at your own discretion.

In order to improve the legibility of your text, ligatures don’t simply combine the two letters to make your document easier to read. Ligatures craft the two characters together into one seamless character, making that combination of characters far easier to read.

It may not seem like an important aspect when looking at the two words ‘fiddle sticks’ below, but you can imagine the impact ligatures might have over a very long article, white paper or when your text is large-size in a promotional website or document.
Take a look at the example in Figure 08.

![Ligatures on vs. Ligatures off](image)

Typeface used: Plantín Std

**Figure 08 - Ligatures**

To enable or disable them on the web you could use the following:

```css
font-feature-settings: "liga" 1;
```
TEXT ALIGNMENT

Text alignment is one of those typography aspects that can create a lot of challenges — especially on the web. Digital publishing software (Microsoft Word, Pages, etc) has built in alignment settings that are great for traditional word processing. Using flush left, right or center alignment is simple and straightforward.

But once you dive into the realm of web, with multiple programming languages, responsive websites and a constantly changing environment, or you decide to create more intricate forms of text based communication (think online magazines or newspapers, posters, etc), alignment becomes more of a challenge.

And the challenge typically comes from text wrapping around images or using justified alignment.

Justified alignment works by spacing out your text so that both sides of your text block have a straight edge. This can look really great with columned layouts, but comes with its own sets of downfalls. The most noticeable? The large spacing between characters, or the hyphenation of words on the right hand side of your text block.
Take a look at the example in Figure 09:

![Figure 09 - Justified Text Alignment](image)

As a rule, it’s recommended to use flush left or right alignment for general documents. Justified type requires a lot of tweaking and fine-tuning to get it correct and is often not worth the time. On the web, this problem is compounded as the ability to control rhythm and structure of type while avoiding rivers, orphans, or oddly tracked words is not something that can easily be controlled yet.
To align text on the web you could use the following:

```css
text-align: left;
text-align: right;
```

On the web there is no real, straightforward solution to fixing justified type yet. If you are required to use this setting, turn on auto hyphenations. You can use:

```css
hyphens: auto;
```
4

Applying Typography Principles to the Web
CHOOSING THE RIGHT TYPEFACE

Choosing the right typeface is like selecting the right outfit: it really depends on the context of the situation and the audience that you’re catering to. Just as you wouldn’t wear jeans and a tee-shirt to a black tie affair, so, too, do you have to choose the appropriate typeface for your audience and scenario.

Here are some questions to consider asking yourself when looking at different options:

- Are you designing for a high end product/service or are you designing for a family market?
- Is your audience demographic young or old?
- Is the situation you’re designing for formal or casual?
- Is it corporate or playful?
- In what context will your work be viewed? Tablet, desktop, mobile?

The typeface(s) you decide to use will help support your content. It will help capture attention and communicate your message in an effective way.

But this doesn't mean you've got to stick with the tried and true standards like “Helvetica” or “Times”.
While the context of your situation and the audience that you’re catering to is important, being able to breathe fresh air into your design and creating a new visual atmosphere through your choice of typeface(s) is equally important. Boring design is, well, boring.

“Good Typography supports & reinforces the message”

Matthew Butterick

LOOKING AT GLYPHS

An important part of choosing the right typeface is looking at a font’s glyphs. A glyph is a single character within a font set. With situational, demographic, and context considerations in mind you’ll want to think about how ligatures, old style, proportional & lining figures, stylistic alternates, fractions, ornaments, swashes and multi-language options fit into your font selection.

It sounds like a lot, but this can become exceptionally important if you intend to use the typeface on larger-scale projects where your project may require internationalization or is intended for
global use. Click here for an example of the glyphs for the font Proxima Nova Regular.

Keep in mind that in most cases, the font with more glyphs tends to be pricier than those with fewer glyphs, as it simply takes longer to produce.

If we look at two visually similar typefaces: Proxima Nova and Varela you can see that Proxima costs over $600 US on MyFonts whereas Varela is available for free from Google Fonts.

You can see the example in Figure 10:

![Figure 10 - Glyphs: Proxima Nova vs. Varela](image-url)
Stylistically these typefaces are similar. The difference is Proxima Nova exceeds Varela in terms of glyph count by a margin of more than 3:1, as well as providing far more weights and styles.

As a designer or developer, you’ll have more flexibility and resources to play with using Proxima Nova — but there is a cost associated with this flexibility. Ultimately you get what you pay for, but your choice should be based on the scenario in which you are using the typeface. A $600 choice now may save you from branding problems down the road.

**TYPE RENDERING**

When it comes to typography, the biggest downside of web technology is not having full control over the output of the final product as you would with print technology. But we’re in the digital age, so this is something that you’ve just got to consider and get used to.

Certain factors, such as rendering engines, operating systems, browser types and file-types play a role in how type is rendered. This can make for inconsistencies among experiences.
You can see an example in Figure 11:

But regardless of rendering issues, there’s still hope. There are many temporary solutions available that use Javascript and CSS to help standardize output. Both web and screen technologies are constantly evolving — browsers will continue rendering better and screens will only improve in clarity and sharpness. But until there’s a reliable output solution, you’ll have to consider type rendering in different formats.

There are a number of great resources to take a look including Type Rendering Mix (http://typerendering.com/) by Tim Brown and Bram Stein as well as Text-Rendering (http://css-tricks.com/almanac/properties/t/text-rendering/) over at CSS-Tricks.
DISPLAY VS. TEXT

Understanding the difference between display and text typefaces can help take your design to a new level. Display typefaces (e.g. Bodoni) are primarily used in headings or titles and are meant to call attention to and entice the reader into reading the main body copy. They’re primarily seen at large font sizes (18pt and higher) and often create a certain mood/feeling for the page.

Text faces (e.g. Verdana) are primarily used for body copy and are usually seen in small sizes, between 10pt and 18pt. They’re used in long blocks of text and they don’t call nearly as much attention as they seamlessly blend into the page.

You can see the difference in Figure 12:

Figure 12 - Display vs. Text
It’s best to avoid using display faces for body copy, as some of them have very drastic changes in stroke widths within each character. Doing so would either cause strokes to disappear entirely or appear very bulky depending on the weight. An example of this would be using the typeface Bodoni at a small size such as 14pt. As you can see in Figure 12, the thinner strokes nearly vanish, making it almost impossible to read. Now imagine reading an entire book of text like this. It could be quite difficult.

As for setting text faces at display sizes, this is entirely possible and is often done. However, don’t forget that the purpose of display faces is to grab your reader’s attention and entice the reader to read the body copy. By using a text face at that size, you typically lose out on the impact factor. You can see an example in Figure 12, where the text face “Verdana” is used as a display face. As you can see the strokes don’t vary much in width and there’s a definite loss of emotion or impact when compared to the display face “Bodoni Std”.
WORKHORSE TYPEFACES

Now there are various typefaces that work well in both display and text situations, often called “workhorse typefaces”. They’re the unicorns of the typography world — perfectly readable at small sizes and still able to capture attention and create impact when seen at larger sizes.

An example would be Source Sans Pro. It is Adobe’s first open source typeface, designed by Paul D. Hunt, which includes various stylistic sets and weights, and comes packed with tons of glyphs. It’s a free typeface that is heavily supported and very flexible.

You can see an example of Source Sans Pro in Figure 13. Notice how the display text looks great and captures attention, while the text or body is also very legible and looks great at smaller sizes.

Figure 13 - Workhorse Typeface

Source Sans Pro

Hello World

48pt

Hello World

14pt
There are benefits to using a workhorse typeface over using both a display and text face. Versatility within your design, simplicity, and the cost of licensing are all pros. The cons are you forego strong contrast and variation within your design, and there is the potential for over-popularity. You can imagine that if a typeface looks good in both situations, many designers will opt for it.

While the easy path may seem like the best path, it’s important to remember that each category of typeface is designed for a purpose. Whether it is designed for display, text, or both, each typeface should be respected and used according to what it was created for. Fail to do so and your design may suffer from decreased readability or lack of emotion and impact.
Mastering Typography for Maximum Impact
SPACING OUT TYPE

A key component to any good design is spacing. It can affect the readability of your work. It can make titles and logos stand apart from the rest of your design, or it can make them fade into the background.

Achieving good spacing within your type takes patience and requires the ability to look at both the small and big pictures. You must observe the white space between each character while maintaining a good rhythm across the page. Spacing is absolutely crucial in regards to readability, as you do not want to get to the point where characters and lines are overlapping. On the flip side, you don’t want so much spacing that the characters and lines look disconnected.

Spacing is fluid and the same settings will not apply across all projects, so you must learn to adapt to the situation. Therefore, it’s best to assume you cannot apply the same letter-spacing or line-height across the board. Try to aim for optimal readability by adjusting letter-spacing, kerning, line-lengths, and more.

TRACKING/LETTER-SPACING

Tracking/letter-spacing refers to spacing affecting the overall density and texture of a word or block of text.
By adjusting the tracking, you have the ability to fix certain spacing issues that appear when using default settings. You’ll also have the ability to provide a different viewpoint by allowing certain instances of text to either appear ‘open’ or ‘tight’.

It is best to not go too drastic with the tracking/letter-spacing of your body copy as both compressed and expanded blocks of text can become difficult to read. You do have far more room to experiment, though, when it comes to your display text — especially if you want to change the style or appearance for emotional or focal impact. Keep in mind, readability is not solely about being able to read the text, but to make the reader want to read it.

You can see an example in Figure 14. Using the same typeface for both examples, you can see the difference in feel based solely on tracking adjustments:

![Figure 14 - Tracking](image-url)
To adjust tracking on the web you could use the following:

```html
letter-spacing: -0.01em;
```

**KERNING**

Kerning is a term applied specifically to the spacing adjustment of two particular characters to correct for visually uneven spacing. Although tracking and kerning are often mistaken for each other, they are vastly different principles.

You can see an example in Figure 15. Although the spacing between all characters is equally set, your eye picks up on the visual unevenness between the ‘K’ & ‘E’, the ‘R’ & ‘N”, and the ‘I’ & ‘N’. Kerning is used to correct that.
Kerning often requires much more skill and time to master, as you’re balancing the overall text by adjusting the space between only two characters. Although it would be great to apply this technique to large bodies of text, this is often unrealistic.

It can and should be considered for important eye catching text, such as a company name, headline text, or title text for example.

At the moment it’s difficult to adjust kerning on the web, but there
are ways to achieve this either using manual settings or by using default settings if you’re interested.

When choosing between the two, remember that using the manual kerning approach (optical kerning) isn’t fully supported across all browsers yet. It can still behave buggy at times. The results however, are vastly improved over the default kerning settings (metric kerning), so it’s something you’ll have to keep in mind when choosing which technique to follow.

**DEFAULT KERNING SETTINGS**

In CSS, the optimizeLegibility value of the text-rendering property not only enables kerning, but also enables ligatures and other typographic features. The challenge is, it isn’t an official CSS property and so can behave buggy at times. To enable kerning in all browsers with kerning support, you’ll have to use a combination of the text-rendering and font-feature-setting CSS properties. And in order to write forward-compatible CSS, you’ll need to write your CSS to include the font-kerning property (None, Normal, Auto).
On the web you could use the following:

```css
text-rendering: optimizeLegibility;
font-feature-settings: "kern" 1;
font-kerning: normal;
```

**MANUAL KERNING SETTINGS**

Manually adjusting the kerning within your text is far more complicated than it seems. You currently have to use javascript to break apart the text you’re targeting. Once broken down into individual blocks that contain one character, you can then adjust each block’s spacing using CSS.

**Figure 16** is an example of well done manual kerning;

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Manual Kerning

**KERNING**


**Figure 16** - Kerning
Again, this approach is only recommended for use on display text, headlines (on editorial work), or unique instances where the type is very important and noticeable. Although manual kerning is somewhat hackish to use at the moment, it not only offers the best results — as you are in full control over the spacing — it also allows you to manipulate each character's rotation, positioning and more. You get far more power and control, but will most certainly have to sacrifice time.

Finally, do keep in mind that this technique does add extra load to your page, so only consider using it on key elements.

**LINE LENGTHS**

When it comes to readability, maintaining optimal line lengths is critical. In reading long forms of body copy such as articles, stories, or descriptions, if a line of text is too long, the visitor’s eye will have a hard time focusing on the text. The sentence will initially appear daunting to read and the reader will have to continually find their position when jumping between lines. On the flip side, if a line is too short, the eye will have to travel back too often, thus breaking the reader’s rhythm.

As we refine our methods of responsive web-design, we’ll need to try and optimize line length as it relates to both the device at hand, and how we read. Here are a number of recommendations for crafting line lengths:
RECOMMENDED LINE LENGTHS FOR BODY TEXT

- Desktop: 60–75 characters per line
- Mobile: 30–40 characters per line

For desktop, **66-character** line lengths are ideal for a single column and **40-50 characters** for multi-column copy.

You can see an example of how optimal line lengths look (and read) based on different devices in **Figure 17**:  

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**Figure 17 - Line Lengths**

**Desktop (Body: 80 characters)**

In Part three of this four-part series, Sally Chan shares key ideas and personal reflections from her favourite talk at the recent DesignThinkers Conference.

*Hosted by the Association of Registered Graphic Designers (ARGD), the event brought together thought leaders in visual communication, creative processes and strategic design thinking.*

**Bruce Nussbaum on Creative Intelligence**

For this year’s DesignThinkers, I was particularly looking forward to Bruce Nussbaum’s breakout session, Creativity = Strategy, where he shares key insights from his book, Creative Intelligence: Harvesting the Power to Create, Connect and Inspire. What was interesting about this talk was that professional RGD delegates were given the opportunity to invite a client to attend. Since Nussbaum’s insights are applicable for a broad audience from different industries, it was a good chance for clients to understand the value of design and appreciate how the design process can benefit their businesses.

Nussbaum was one of Design Thinking’s major advocates, but famously declared that it was dead in 2011 and proposed a new conceptual framework called Creative Intelligence.

He believes that everyone is born creative, a characteristic not limited to gifted individuals. Creative Intelligence is something we must learn to develop and make use of. It’s about making the right connections, understanding what’s meaningful to people and embracing unexpected outcomes.

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**Mobile (Body: 40 Characters)**

the value of design and appreciate how the design process can benefit their businesses.

Nussbaum was once one of Design Thinking’s major advocates, but famously declared that it was dead in 2011 and proposed a new conceptual framework called Creative Intelligence.

He believes that everyone is born creative, a characteristic not limited to gifted individuals. Creative Intelligence is something we must learn to develop and make use of. It’s about making the right connections, understanding what’s meaningful to people and embracing unexpected outcomes.

*Most creative innovations come from someone*

Listed in the image above are old concepts that Nussbaum relates with a list of new concepts. To summarize, he proposes five creative competencies to practice Creative Intelligence:

1. **Knowledge Mining**: Immerse yourself in searching you want to learn more about. To get the deepest and richest information, you must invest yourself in
For further reading on optimal line lengths, take a look at:

“Readability: the Optimal Line Length”
(http://baymard.com/blog/line-length-readability)

“A More Modern Scale for Web Typography”
(http://typecast.com/blog/a-more-modern-scale-for-web-typography),

“Choose a comfortable measure”
(http://webtypography.net/2.1.2).

LEADING/LINE-HEIGHT

Leading or line-height refers to the distance between the baselines of successive lines of type. The term ‘leading’ refers to a time when the printing press required placing strips of lead between lines of type to space the lines apart. The name has stuck ever since.

Adjusting the line-height or leading is another important aspect of typography. It aids in the flow of reading. It gives your eye enough room to focus, pick out blocks of text and flow through your body of text.

By default, the line-height on the web is 1.5. This allows for just enough space to wrap back around to the beginning of the next
line without getting lost. However, all typefaces are not created equal, and their character spacing, weight, and shape should be taken into consideration.

**Figure 18** an example of ideal leading/line-height paired with different font-weights:
CONSIDERING RESPONSIVE

Scaling type size according to the width of the device or frame is important, but keep in mind you’ll need to scale the line-height, as spacing is relative to all the elements on the page.

CONSIDERING FONT-WEIGHT

The darker the shade of text, the greater the line height should be. Do not overwhelm your reader with a block of black text. Match the flow of the rest of the content on your page by taking a step back and looking at the overall page density in order to provide a more enjoyable reading experience.

On the web you can adjust leading/line-height with the following:

```css
line-height: 1.5;
```
6

Mastering Type
The ability to use different typefaces and vary them depending on your situation or project is a great skill to have. But it’s meaningless if you don’t understand the nuances of each and how to use them effectively together.

Each type family has its own spacing, letterform, DNA, history and special characteristics that make them unique. Typefaces have a rich background, and when you take your time to research them it can really help you understand where, when and how to use them in combination with another type family.

There are other aspects of typeface that we did not touch upon, but do explore them in the ‘Recommendations’ section, or as you come across them throughout your designs.

Mastering type and building your own unique palette takes time. Keep interested, experiment and be open to great ideas. Good design awaits and great typography is a tool to help you get there.
“Typography is not a math problem with one correct answer”

Matthew Butterick
Recommendations

READINGS

Jason Santa Maria - On Web Typography - http://www.abookapart.com/products/on-web-typography

Ellen Lupton - Type on Screen - http://www.amazon.ca/dp/161689170X

Butterick’s Practical Typography - http://practicaltypography.com/

VIDEOS

Jason Santa Maria - On Web Typography - https://vimeo.com/34178417


Off Book: Type - https://vimeo.com/27205502

Linotype: The Film - https://vimeo.com/15032988

A Brief History of Title Design - https://vimeo.com/20759580

Font Men - https://vimeo.com/88318922

TOOLS

Typecast - https://vimeo.com/15032988

Type Scale - http://type-scale.com/

Lettering.js - http://letteringjs.com/
Kern.js - http://www.kernjs.com/
Typekit - http://typekit.com/
Typeplate - http://typeplate.com/

RESOURCES
Typography.com - http://www.typography.com/
Myfonts - http://www.typography.com/
LostType - http://www.losttype.com/
The League of Moveable Type - https://www.theleagueofmoveabletype.com/
Typekit - https://typekit.com/
Google Fonts - https://www.google.com/fonts
Font Squirrel - http://www.fontsquirrel.com/
Fonts.com - http://www.fonts.com/
FontSpring - https://www.fontspring.com/
Font Deck - http://fontdeck.com/
WebType - http://www.webtype.com/
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