

## A Study on Legibility and Fast-Reading

It is not a secret that the average person considers their electronic devices, either the computer, mobile phone, or tablet, indispensable items in their lives. It serves as an extension of our bodies, one that allows us to keep a constant connection with the world. For better or worse, that connection reshaped the way we retain information. Access to overloads of content, in addition to the usage of short text-blurbs, when writing emails and text messages, transformed us into lazy readers. By now, we are only familiar with concise, easy to follow information, so when in the presence of an extensive written piece, our brain is not capable of internalising everything at once, preferring to skim through. As Nicholas Carr put it, "Once I was a scuba diver in the sea of words. Now I zip along the surface like a guy on a Jet Ski."(Carr, 2020)

In this context, there is great value in understanding which typefaces are the most legible and which ones favor a faster reading experience since those factors could determine whether a reader will dare skim through the text or not. Every minute counts when appealing to busy readers, especially when there are technologies such as "Time to Read" by Amazon, which estimates the reading time of a book or text. Therefore, I intend to use this piece of writing to determine what makes a typeface legible, what are the ideals of legibility for the screen, and if those technics have an impact on a faster reading experience.

First, we will start by determining what legibility is. For Allan Haley, Director of *Words & Letters* at *Monotype Imaging*, It could refer to "an informal measure of how easy it is to distinguish one letter from another in a particular typeface." (Haley, 2020) A known typographic ideal says that the most legible typefaces are "transparent to the reader." (Haley, 2020) Similarly, in an essay titled *The Crystal Goblet*, Beatrice Warde, an American typographic expert who was the publicity manager for the Monotype Corporation and editor of the *Monotype Recorder* and Newsletter, compares typography and its content to a song in an unknown language. She writes that, while listening to foreign music, the brain disconnects from the search of meaning and focus solely on the pleasure of the melody. In an equal exercise, "Type well used is invisible as type," so it becomes an "unnoticed vehicle for the transmission of words." (Warde, 1930)

In this case, an example of a legible typeface would be Helvetica. Created in the 1950s, right after the second world war, it represented rationality and the "need to make things more democratic."(Helvetica, 2007) Its construction follows strict rules that ensure neutrality and allows the characters to resemble each other. The most striking characteristics are the character's tall x-heights, making them easier to read from afar, and the tight spacing between the letters. It is the "default typeface on most computers," possibly, making Helvetica "the most used typeface in the world." (Son and Tankard, 2001)

On the other hand, some argue that it is not the best typeface for reading. Charles Nix, the director of Monotype, the current holder of Helvetica's licensing rights, argues "the letters scrunch together" (Nix, 2019) at smaller sizes and the kerning is not even. Since most streaming platforms that offer mobile devices' apps use the default system typeface, Apple users would end up reading subtitles and close captions in Helvetica. However, back in 2014, Apple substituted Helvetica with San Francisco, a typeface inspired by its precedent. Comparing the two, instead of having round characters like Helvetica, San Francisco opted for vertical lines, ideal at creating space between letters, increasing its legibility in smaller devices like the Apple Watch.

Another signal of a legible typeface, according to Allan Haley, would be its "big features"(Haley, 2020), referring to "open counters and large lower case x-height." (Haley, 2020) These features increase the white space within the letters, making their strokes widely separated to reduce ambiguity. San Francisco follows these features and, that is why it so so effective even in the smaller of screens. However, from the perspective of the typographer and developer Tal Leming, it "isn't perfect." (Leming, 2015) He uses the example of the number "6", which has a looped top half that can cause the eye to mistake it for an "8." The same happens with the "c," meaning that, in less optimal viewing conditions like late-night reading or a higher distance from the screen, the viewer might have more difficulty identifying the character.

An example of a typeface with open counters is Lucida Grande, a humanist sans-serif typeface released in 2000. Its most known implementation is on the user interface for the macOS between 1999 and 2014, and in other Apple software such as Safari. Contrary to San Francisco, it derives from the Renaissance humanist typefaces that emulate the strokes of the calligrapher's pen. Consequently, it has higher contrast between its thick and thin strokes, looking lively and less robust. Yet, Allan Haley defends that legibility means restrained visuals and that the most legible typefaces are "not excessively light or bold." (Haley, 2020). Lucida Grande's thin strokes differ approximately 70% to 75% from its thick ones, while Helvetica, for example, only differs roughly 90%. This difference is only noticeable in bigger text displays, so when applied to smaller devices, it translates into textural differences that could put at stake legibility. Maybe, it is the reason why Apple replaced it for Helvetica Neue, the font used on the iPhone, as the software typeface back in 2014.

Now that we have established parameters that could define the legibility of a typeface, we need to understand if they relate to readability, especially according to our current reading patterns. Between 2006 and 2008, Don Tapscott and his company nGenera Corporation conducted a study in which they interviewed nearly 6,000 *Net Geners*, a title given to the generation that grew up surrounded by digital media, to evaluate the effects of internet use on the young. They concluded that this is a generation to whom "speed is normal" (Tapscott, 2009), which reflects on the way they read, as well as a preference for skipping around a text in search of relevant information instead of reading the content from the top to bottom. However, this tendency seems the norm among internet users, independent of the age group. In *The Shallows: How The Internet Is Changing The Way We Think, Read and Remember*, Nicholas Carr gives the example of Bruce Friedman, who blogs about the usage of computers in medicine. In a post, he reflected on the impact of the internet on altering his mental abilities. He notes he lost his skill to absorb long articles, both on-screen and print, so now he mostly skims through. In the book, Carr explains this phenomenon as the result of a hungry brain, "demanding to be fed the way the Net fed it" (Carr, 2020), quickly and thoroughly.

Therefore, typography has to adapt to the demands of an impatient audience and their new reading patterns. There have been some experiments on this front, one of them being Type Snap, a typographic solution created by Masato Nakada which "allows viewers to move parts of letterforms around to make dynamically shifting words." (Grant, 2015) The concept relies on the power of the brain to recognize characters by their portions. The system claims to be able to communicate faster and reduce the space needed to write a sentence by cutting letters in half. However, during the first term, I worked on something similar. I programed a method of combining fragments of letters to create abbreviated words.

Similarly, I intended to rethink the way we consume information but concluded that pertinent information could lose its meaning, making this system unreliable.

Some other experiments (Morrison and Noyes, 2003) showed a preference for Times New Roman as the ideal font for skim-reading. As a typeface so widely used, people go through words fast without having to reflect on its shape. Additionally, having a moderate x-height ensures it is legible on most screens, although, in smaller sizes, the serifs could compromise its effectiveness.

However, apart from its familiarity, there is not much evidence on why skim-readers prefer it. The truth is that there is a lack of studies that look at the relationship between type and this new form of reading since it was a shift that happened recently. But one idea is clear. It altered how the brain retains information to the point, as Carr writes in *The Shallows*, "the linear literary mind," the one that came about after Gutenberg's printing press may "soon be yesterday's mind." In its place will come one that needs lots of information "in short, disjointed, often overlapping burst - the faster, the better." (Carr, 2020) And communication design needs to adapt to these shifting times by coming up with solutions that respond to the new demands of readers.

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