

# **Keep it Simple Stupid: Using Basic Design Maxims for Effective Communication**

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*This paper focuses on research results presented by Colin Wheildon in his book, *Type & Layout: How Typography and Design Can Get Your Message Across - or Get in the Way*. Wheildon's research was conducted over a nine-year period outside the laboratory, using people who actually consume the printed word. This paper reviews five of the design maxims Wheildon tested and cites opinions from other design and typography publications. Wheildon's design maxims aren't complex or new. On the contrary, they are simple design maxims that have been used for hundreds of years.*

## **The KISS Principle and Why It Should be a Design Principle**

The first time I heard of the KISS principle was in reference to Ted Turner. I read a book, *The Making of CNN*, that outlined the experience of creating the 24-hour news network. Whenever people would come to Turner with problems and reasons why this wouldn't work or that wouldn't work, Turner would tell the person to make it work and to keep it simple stupid!

This philosophy can be applied to all aspects of life and I believe it is advice that designers and technical communicators need to heed now more than ever.

## **What's the Point? Nobody Reads Anymore**

Reports during the last decade continually cite that literacy is experiencing a downward spiral - that nobody reads anymore. I propose that one contributing factor might be complicated design tactics. People may not be reading as much because the format in which we're presenting the words is making it difficult for people to read.

Surveys show that the typical American high school graduate has a reading skill level comparable to that expected of a sixth grader. With that in mind, it is our responsibility to make the process of reading as painless and undemanding as possible.

The desktop computer boom of the last 20 years has had many advantages in one respect, but it has displaced the art of typography and led us to stray from basic design maxims that typographers have used for centuries.

## **Transparent Design is the Goal**

"A design that looks exciting, but is nothing more than a beautifully painted square wheel!" A good design should be transparent. If a graphic design's goal is to increase literacy, such a design must aspire to a kind of statuesque transparency.

"Typography must be clear. At its best, it is virtually invisible! It must follow logic, the linearity of the alphabet, and the physiology of reading."

## Colin Wheildon and His Research

Colin Wheildon's book *Type and Layout* confirms that using basic typographical maxims when designing information improves readability and comprehension. Wheildon's nine years of research is the most comprehensive I was able to find.

Wheildon's father was a master printer in England. His family moved to Australia in 1950. He began his career in print journalism in 1954 and switched to TV and radio in the 1970s. Wheildon returned to print journalism in 1979 as the managing editor of a trade publication called the *Open Road*. One of his first projects was redesigning the publication.

Wheildon explains why he decided to conduct this research by writing, "In recent years I became a disciple of Edmund Arnold, a professor of mass communications at Virginia Commonwealth University in Richmond, Virginia. "Inspired by his common sense teachings, but alarmed by the fact that even he depended on field research, I was determined to subject some of those maxims to research," writes Wheildon.

### Five Design Maxims

This paper discusses five typographical maxims one should follow to increase readability and comprehension when designing publications, based on Wheildon's research.

- Use serif typefaces for body text (no smaller than 8 points and no bigger than 12 points)
- Design pages that follow reading gravity
- Use justified text
- Use regular sentence case instead of all capital letters
- Use any color for text as long as it's black

### Serif Text vs. Sans Serif Text

Serif typefaces are also called Roman typefaces because the serifs (the lines or curves at the bottom of the letters) appeared as marks that resulted when chisels were used to engrave letters onto Roman monuments. The serifs help readers decipher the words quickly.

Sans serif is derived from the French sans (without) - without serifs.

The results from Wheildon's study regarding the use of a serif typeface for body text are clear.

### Comprehension Level

	<b>Good</b>	<b>Fair</b>	<b>Poor</b>
Layout with serif type	67%	19%	14%
Layout with sans serif type	12%	23%	65%

People who had poor comprehension of articles set in sans serif typeface said they had difficulty holding their concentration. Sans serif body text requires much more effort from readers because they have to concentrate on deciphering the letters. This is an experiment you can try at home.

The book, *Desktop Publishing & Design for Dummies*, promotes the use of sans serif type for headlines and serif typefaces for reading text. “Sans serif type is noted for its legibility; readers will find it easy to locate and make out the individual letters of the headlines. Serif type is known for readability; the serifs form letter-to-letter transitions that help readers quickly decipher your message.” Wheildon agrees that sans serif typefaces should be reserved for headlines.

Another graphic design book for the masses promotes serif type for body text indirectly, which leaves the reader with a mixed message. “Readability studies have generally supported the theory that serif typefaces are easier to read in text form [than sans serif typefaces].”

The book then falls short by telling the reader to choose a typeface based on the feeling it conveys. “Serif faces make one think of earlier times and... sans serif faces makes one think of informality...”

I was encouraged to see that the *Journal of Graphic Design* devoted an entire issue to literacy. The opening editorial, “Design: The Quality of Encouraging Literacy,” reads “... designers create environments that, if they’re doing their job right, encourage people to read, look, and understand, which is a broad definition of literacy.” Unfortunately, the editor’s message was set in 6-point sans serif type. The page is elegantly designed and inviting, but the small sans serif type taxed my energy and strained my eyes.

Using serif text for body text is the least we can do to promote literacy. Unfortunately, a project funded by the National Institute of Education (MA), *Guidelines for Document Designers*, doesn’t even address serif vs. sans serif typefaces. The book is set in sans serif, so I think I know the answer.

However, there is some agreement on type size. Use 8-point to 12-point type for reading text. Type is measured by points (the smallest unit of printing measurement) and there are 72 points in an inch.

You’ll notice that some fonts set in 8-point type look bigger than others that are set in 8-point type. Point size is determined by measuring from the top of the ascender to the bottom of the descender. Typefaces also have different x-heights (the height of the lowercase letter = x). Typefaces with tall x-heights look bigger than those with short x heights, even when their point sizes are identical.

## **Obey Reading Gravity**

Wheildon attributes the discussion of reading gravity to Edmund Arnold, typographer and teacher. Arnold Wheildon writes, “After a fruitless, six-month search for detailed research material, I decided to conduct my own research program into the comprehensibility of reading matter in an attempt to isolate and measure those type elements which, when used in apparently ill-considered ways, could deter, disenchant, or even antagonize the reader.”

Wheildon believes design should respect the linearity of the Latin alphabet and physiology of the act of reading (starting at the top left corner and working our way across and down until we reach the bottom right corner). In short, don't interrupt the flow of reading the words by placing graphics within the text. A reader goes to the pictures first. If they have to move their eyes up and down instead of following reading gravity, they become distracted.

Headlines should always be at the beginning of the text to cue the reader to "start here."

According to Wheildon's research, twice as many readers understand text presented in a layout that complies with the principles of reading gravity.

### Comprehension Level

	Good	Fair	Poor
Layout that complies with principles of reading gravity	67%	19%	14%
Layout that disregards reading gravity	32%	30%	38%

Respondents with high scores didn't comment on the design, but many people who scored poorly said they were conscious of having to find their way to the beginning of the story.

### Use Justified Text

Wheildon's love of justified text isn't shared by many. "Ragged right margins are less formal than even margins [justified text]," according to the NIA's *Guidelines for Document Designers*. Some designers describe the image of ragged right margins as friendly, informal, and open. NIA's publication also claims that ragged right margins are easier to read because the reader can quickly separate and identify each line.

Avoid justified margins when you're working with narrow columns because the uneven spacing between words can cause gaps (called rivers) that might distract the reader. It also takes more time to set good-looking justified text because you have to spend more time reviewing hyphenation.

Studies by Fabrizio, Kaplan, & Teal, 1967, found no difference in comprehension or reading speed between justified text and text with ragged right margins.

Other designers say the white space created by ragged right margins is esthetically appealing to readers.

The ragged right margin was popularized by the designer Eric Gill in 1930 to eliminate the need in book setting for uneven spacing to fill out the lines. Gill found a way to make his job more efficient for those last-minute revisions that are the rule in our business. Ragged right is generally accepted, but Wheildon's research shows that twice as many readers understand totally justified text than text that has a ragged right margin. Wheildon has no tolerance for ragged right's "sinister offspring" ragged left text.

## Comprehension Level

	<b>Good</b>	<b>Fair</b>	<b>Poor</b>
Layout with totally justified setting	67%	19%	14%
Layout with ragged right setting	38%	22%	40%
Layout with ragged left setting	10%	18%	72%

## All CAPS: Just Say No

There seems to be agreement about one design maxim -- don't use capital letters.

"...another typewriter holdover concerns the use of headlines set entirely in uppercase type. In a word, don't!"

Historically, capital letters and lowercase letters were separate alphabets. The one alphabet, the capitals (known as majuscules) was created by the old Romans as a form shaped by the chisel. The other alphabet, the lowercase letters, called minuscules, dates back to the time of the emperor Charlemagne - about A.D.800. Minuscule (lowercase) were the written letters made with a pen, complete with ascenders and descenders. The two alphabets were combined during the Renaissance.

Letters set in all caps are hard to read. When headlines are all uppercase, the eye is presented with a solid rectangle and recognizing the words becomes a task instead of a natural process.

### Perceived Legibility of Headlines

	<b>Lowercase</b>	<b>Capitals</b>
Roman old style	92%	8%
Roman modern	89%	11%
Sans serif	90%	10%
Optima	85%	15%

## Color

Contrast is the most important consideration. When it comes to text, "Use any color as long as it's black," says Wheildon. The old school believed that setting type in reverse (white text on black background) or over gray tints, forced people to read the copy.

Participants in Wheildon's research who read text printed in reverse, said they encountered a type of vibration - the lines of type seemed to move and merge into one another.

Don't be fooled by the first impression of colored text. Sometimes the novelty of a different color of text looks appealing - even elegant. But see how appealing it is when you sit down and try to *read it*. Even dark colors such as brown or dark blue strain the eye after several minutes of reading.

## Comprehension Level

	<b>Good</b>	<b>Fair</b>	<b>Poor</b>
Black on white	70%	19%	11%
Black on 10% black	63%	22%	15%
Black on 20% black	33%	18%	49%
Black on 30% black	3%	10%	87%
Text printed while on black (reverse)	0%	12%	88%

Incorporating these basic design maxims can increase readability and comprehension. And remember, when you're trying to explain that complex step the user needs to know, think KISS (Keep It Simple Stupid).

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