**Type Builds Character   
by Erik Spiekermann**

Ever since people have been writing things down, they have had to consider their audience before actually putting pen to paper: letters would have to look different depending on whether they were to be read by mainly other people (in official documents or inscriptions), just one other person (in a letter), or only the writer (in a notebook or diary). There would be less room for guesswork if letter shapes were made more formal as the diversity of the readership expanded.

Some of the first messages to be read by a large number of people were rendered not by pens but by chisels. Large inscriptions on monuments in ancient Rome were carefully planned, with letter drawn on the stone with a brush before they were chiseled. Even if white-out had existed in those days, it would not have helped to remove mistakes made in stone. A bit of planning was also more important then, since stonemasons were sometimes more expendable than slabs of marble.

Graphic design and typography are complicated activities, but even the simple projects benefit from thinking about the problem, forming a mental picture of the solution, and then carefully planning the steps between.

Scientists have not been content with just calling the human face “beautiful” if it meets certain ideals, or “ugly” if it doesn’t. They had to go out and measure proportions of nose to jaw, forehead to chin, and so on to establish why some faces are more appealing than others.

Typographers and graphic designers often choose typefaces for the very same reason they might fancy a person: They just like that person. For more scientifically-minded people, however, there are specific measurements, components, details, and proportions to describe various parts of a letter. While these won’t tell you what makes a typeface good, they will at least give you the right words to use when you discuss the benefits of a particular face over another. You can say “I hate the x-height on Such-a-Gothic” or “These descenders just don’t work for me” or “Please, may I see something with a smaller cap height?” and you’ll know what you are talking about.

While metal letters could be made to any width and height, digital type has to conform to multiples of the smallest unit: the pixel. Every character has to be a certain number of pixels wide and high. This is not a problem when the letters are made up of 600 pixels per inch, as is the case with modern laser printers—those pixels are not discernible to our eyes, and we are happy to believe that we are looking at smooth curves instead of little squares fitted into tight grids.

On screens, however, only 72 pixels make up one inch. We could see each and every one of them if engineers hadn’t already found ways around that. Computer screens, however are not where we read all of our type these days—phones, smartphones, even microwave ovens all have displays. Most screen displays are small and simple, which means black on greenish gray. And the type unmistakably consists of bitmaps: this means that an 8-point letter is actually made up of eight pixels. If we allow six pixels above the baseline, including accents, and two below for descenders, that leaves only three or four pixels for a lowercase character. Despite these restrictions, there are hundreds of bitmap fonts, each unique by a matter of a few pixels, but enough to prove that typographic variety cannot be suppressed by technological constraints.

Rhythm and contrast keep coming up when discussing good music and good typographic design. They are concepts that also apply to spoken language, as anyone who has had to sit through a monotonous lecture will attest; the same tone, volume and speed of speech will put even the most interested listener into dreamland. Every now and again the audience needs to be shaken, either by a change in voice or pitch, by a question being posed, or by the speaker talking very quietly and then suddenly shouting. An occasional joke also works, just as the use of a funny typeface can liven up a page.