

<http://heupel.com/eclectic/2003/09/16/try-asking-a-typographer/> (January 2008)
Try Asking a Typographer

For some reason there is a story currently running through email and a number of sites. They all begin with:

RDIAENG.

Accodrning to a rscheearch at an Elingsh uinervtisy, it deosn't mtttaer in waht oredr the ltteers in a wrod are, the olny iprmoetnt tihng is taht frist and lsat ltteer is at the rghit pclae. The rset can be a toatl mses and you can sitll raed it wouthit porbelm. Tihs is bcuseae we do not raed ervey lteter by it slef but the wrod as a wlohe. ceehiro.

This has sparked quite a bit of discussion. Some of it centers on who the actual researchers are—UC or Cambridge or whatever. The research done by the psychologists that is often cited as a source for this was on the cognitive ability to unscramble and restore reversed speech—a very interesting subject to be sure, but not the same as what is happening here. Lots of commentary is the “Wow that’s neat” type, while some people try to figure out the outer bounds of conditions that this works within. Fortunately there is a source for many of the answers to such questions: typographers.

Typographers have long held that reading, at least of western languages, is not done letter-form by letter-form, but rather by seeing the shape of the words through whitespace and contrast. Psychologists studying writing systems and how we read and learn have a long history of research that supports this. Psychological and physiological research has gone so far as to measure exactly how our eyes “read” a page and then the lines and words.

After reading the “image” of the page (which can give us clues as to content and context) we begin reading the lines with our eyes fixating on each word for very short durations of 50 to 200 milliseconds. In this short time we are able to recognize a span of about 20 letters. In English language natives this is 4-5 letters left and 14-16 letters to the right of focus. We don’t read the actual letters in this time frame but rather we read the color—the contrast created by the internal weight and shape of the letters—and shape of the word. Our eyes usually skip over single and two letter words, and even many three letter words, unless they are set in a manner to draw attention to them— such as using a different type face or CAPS for abbreviation. We still “read” those short words but it is a cognitive function of reading from context as opposed to our eyes focusing on the word. Our eyes revisit longer words, or those that are unfamiliar or foreign. Only with the unfamiliar or foreign words do our eyes revisit a word repeatedly to follow and allow letter by letter reading of the word.

The net result of all the psychological and physiological research is that we read the shape of the word—a premise that typographers have accepted and operated from for hundreds of years. More, we mainly recognize the word shape by it’s top half. A traditional typography exercise involves reading a passage of prose in which the bottom half of each line was masked out. Reading speed and comprehension generally does not suffer at all. The exercise is repeated with the top half masked out—the passage is usually rendered illegible. From experience typographers know that the word shape can vary somewhat and we can still recognize the word both from the retained shape and through context. Even when the shape is altered enough to prevent the initial recognition, cognitively we are able to fill in the blanks from context. We could even change the letters used in the interior of words and maintain legibility—by taking care to maintain the shape and as much of the contrast of the original letter. This would be easier to accomplish in some type faces than in others, sans-serif in general would be easier

than serif.

What does present us with difficulty is setting words or entire passages into “hard to read” type faces. Try reading a long passage set in an italic or SMALL CAPITALS type. Or maybe you would prefer to read an entire article in gebrochene Schriften (Black Letter or “Gothic”). Each of these affects legibility, though in each of them the individual letter-forms are easily and perfectly recognizable when viewed alone. Small capitals (or the ALL CAPITAL INTERNET YELLING FORM — ugh!) is actually the least readable of the three examples—all word shapes become rectangles, the only variance is in length. In black letter and italic faces the word shapes are changed enough to slow reading speeds significantly—in order to maintain comprehension at least – although after a little time reading in them we are able to speed up a little. If first and last letter being in the correct position was all that mattered for reading a word, in other words, if we read a word by the first and last letters only– not by shape, then we should be able to read text set in small capitals as well, and as fast, as we read any other text. The first and last letters are critical aspects of the word shape. Interior letters affect shape also, just not to the same degree.

Granted it is a very interesting exercise when you first encounter it. I remember a number of years ago when a typography professor first introduced this one to the class I was in. He observed our reaction and commented that when his typography professor first showed him this one in a class over 30 years before, his reaction was the same. It may not be new, but it is neat.