

Reader Centered Design

by Gunnar Swanson

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I BELIEVE IT'S EASIER TO THINK WHEN YOU'RE RELAXED so before I bore you with talk of ergonomics you should curl up in bed with a good book. Is there a *Complete Works of Joyce Carol Oates* book available? Bring along a dictionary just in case you want to look up a word; the *Oxford English Dictionary* would be a good choice. I like the single volume with the magnifying glass but the full-size set would be okay.

Some of you may not sleep alone in a king size bed and a few of you may not bench press 300 pounds so you might already be wishing for something lighter (in actual, if not figurative, weight.) The giant book format that is so satisfying sitting on your coffee table and displaying large photos to four of your friends at a time would be a lousy one for a book to take on an airplane. The French phrase book you tuck away in your jacket pocket should not be the model for a mathematics text (unless it's *The Idiot's Guide to Cheating on Trigonometry Tests.*)

The size of a book is partially determined by the number of words the author wrote but it must also be formed by how it will be used. Who will be reading the book? Under what lighting conditions? How will it be held or how far away will it be? Will the reader need to do something else while using the book?

The term "ergonomics" is usually associated with the design of chairs, tools, and computer interfaces. The term brings to mind injury prevention or work productivity but ergonomic design is taking into account the physical realities of the people who will be using the object you are producing. And like designs for chairs, tools, and computer interfaces, there is no single solution that is right for all users and all uses.

In the case of a book, ergonomics goes farther than asking whether a book is too heavy to lift, too small to use, or too big to fit in a pocket. Every aspect of a book has implications for practical use. Page and type sizes affect how the reader holds a book and page size and thickness affect how pages turn, thus how reading is interrupted. Margins frame a page and help set a mood but they also provide a place to hold the book and turn the page without covering the type.

Ergonomic design applies to book publishing by assuming that the way people use a book should be related to the limitations and convenience of human beings rather than the convenience of a designer or publisher. Book designs are easier to change than the length of a person's arm or the way an eye moves when reading.

Ergonomics is part of a movement that is often called User Centered Design. UCD is about thinking of people and their actions rather than concentrating on objects. Although there is a lot of debate about terminology, some designers use the phrase "Experience Design" to indicate that they are dealing with a user's actions and aesthetic experience. Whether you call it ergonomics or experience design, the development of reader-centered attitudes is vital to book design. Stop thinking of a book as a collection of an author's words. A book may be that, but more importantly it is an experience for a reader.

Imagine how people will use your book. Who are they? Why are they reading? What do they want? Where will they be reading your book? What else will they be doing?

Ask people how they use similar books. What bothers them? What makes the books useful or pleasurable? Don't accept this as a laundry list of rules. Think of it as a door to your readers' experience with your book. Look at every aspect of design from the standpoint of how the book will be used and what part each design choice will play in that use.

Binding has a great effect on use. A cookbook needs to sit with a spread open in a way that a paperback novel does not. A computer manual that needs to sit flat on the small open area of a cluttered desk might call for Wire-O binding so a single page stays put; a reference book that should slide nicely in and out of a shelf and sit with the spine clearly readable could make that same binding seem to be a disaster.

Of course not all practical aspects of book design are issues of ergonomics. A book that will be opened and closed many times over the years needs an even sturdier binding than one that will likely be read once and then left shelved, for instance.

Paper choice is a use issue and, as always, there is no right choice for all users and uses. Cost is always a consideration and overall weight and bulk have obvious ramifications for the user but paper has a big impact on the way people can use your book. The stiffness of paper interacts with the page dimensions and binding to determine how easily pages turn. A paper stock that is white and smooth enough for good reproduction of photos could give readers of large amounts of text a headache. The lightweight smooth paper that might be great for portability and clean reproduction in a tourist guide might allow too much show-through for some other sorts of books.

Type choices have more to do with ergonomics than most people imagine and

(need I say it again?) context is everything. A typeface and type size that reads easily on cream colored soft-surface paper one might choose for a novel can be distracting in its crispness on the coated white paper of an illustrated manual. The type that seems to be a reasonable size on the wide column of a large page might break sentences into too-short segments if used with the narrower columns of a small page or a page with multiple columns.

Not all of such interactions are obvious in a designer's studio or a publisher's office. Different sorts of books are used under different conditions. A book that is likely to be read in the low light of a bed or a subway might call for better contrast or larger type than one that would be read in bright office light. A devotional book might be held particularly close and given full attention while an auto repair manual might be read at some distance while the reader struggles with carburetor adjustment, resulting in a need for larger type in the latter. Different books are used by different people. The ideal type size for a book on probate taxes might be a bit larger than the ideal type size for a Christina Aguilera autobiography.

Reading patterns also affect type choices. A typeface that might not be optimal for sustained reading may be a good choice for subtitles, captions, recipes, instructions, or other material read in shorter bits.

Choices of type arrangements are also ergonomic issues. The fact that most books are composed as single columns means the line lengths are a bit longer than they might be in a magazine and much longer than the lines in a newspaper. The reader's eye can get lost traveling from the right edge of a line back to the left of the next. A small vertical error during this return trip can cause a skipped line or a repeated one. Smaller pages, larger margins, or multiple columns can make a shorter path for the eye to travel, lessening the chance of getting lost.

Larger type adds greater vertical distance, lessening the likelihood of the eye getting lost. Larger type of course, also lowers the number of words that will fit on a page. A bit more leading (the extra space between lines of type—named for the strips of lead that used to be used to add the space in letterpress printing) can add to the vertical without having quite as much impact on word counts as larger type would. Adding leading instead of enlarging type avoids breaking the flow of reading as often by keeping a larger number of words on each line.

Even the writing creates a typographic context. People are more likely to be comfortable with shorter line lengths when reading simpler sentence structure. Longer sentences and/or longer words may call for more characters per line.

The arrangement of type can create a visual organizational structure that makes the reading experience easier for the user. Drop caps, italics, boldface, or small caps for the first line of a chapter or section can send a clear signal about where the eye

should go, for instance. Type choice and arrangement can identify the location of a particular bit of information. Type use can integrate or divide different material. The same techniques can be used to serve some predetermined notion of what a book should be like or they can be used to make life easier or more rewarding for readers.

Overall visual structure should be based on the tasks of the user. Often that means accommodating continuous reading but many books are specific tools. A cookbook, for instance, should list ingredients before the recipe so the user can be prepared. The recipe should be on one page (or no more than one spread) because people with butter and flour on their hands really don't want to grab paper. The type should be large enough to be read by someone holding a pan while the book is sitting on the counter. It should be clear enough to be understood before the sauce burns.

A specialty publisher may get by with a set of rules. If you intend to do nothing but cookbooks, the paragraph above might be a start for your culinary design Hoyle. For most of us a more elaborate approach is probably useful.

Each book should be designed not by a set of rules of book design but by the needs of the readers of that book. Talking to real readers of your books will tell you where you're going right and where you'll want to improve your books' ergonomics. If you can watch people using the books you can, as Yogi Berra said, observe a lot just by looking.

To start out I'd suggest taking a cue from the world of interactive design: Invent readers, give them lives and personalities and remember that you're designing the book for them. If you find yourself having insane conversations where you're saying things like "No, Gladys would want bigger type. Her eyes aren't as good as they used to be and the light isn't very good at the kitchen table where she'd look at a book like this" then you know you're on the right track.

Maybe the type would end up the same size if you said "This book skews toward an older demographic so the type should be larger" but demographics don't read books. People do. Remembering that is what ergonomics—let's call it reader centered book design—is all about.

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