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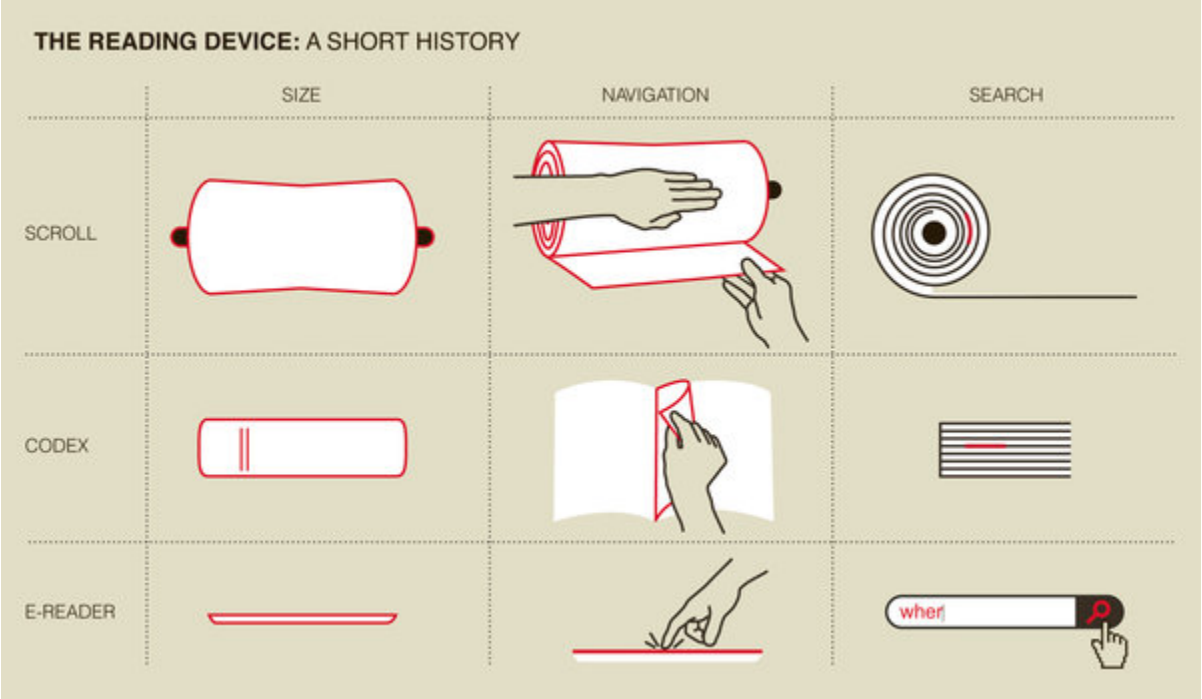
From Scroll to Screen

by LEV GROSSMAN • SEPT. 2, 2011

The Mechanic Muse



Something very important and very weird is happening to the book right now: It's shedding its papery corpus and transmigrating into a bodiless digital form, right before our eyes. We're witnessing the bibliographical equivalent of the rapture. If anything we may be lowballing the weirdness of it all.

The last time a change of this magnitude occurred was circa 1450, when Johannes Gutenberg invented movable type. But if you go back further there's a more helpful precedent for what's going on. Starting in the first century A.D., Western readers discarded the scroll in favor of the codex — the bound book as we know it today.

In the classical world, the scroll was the book format of choice and the state of the art in information technology. Essentially it was a long, rolled-up piece of paper or parchment. To read a scroll you gradually unrolled it, exposing a bit of the text at a time; when you were done you had to roll it back up the right way, not unlike that other obsolete medium, the VHS tape. English is still littered with words left over from the scroll age. The first page of a scroll, which listed information

about where it was made, was called the “protocol.” The reason books are sometimes called volumes is that the root of “volume” is volvere, to roll: to read a scroll, you revolved it.

Scrolls were the prestige format, used for important works only: sacred texts, legal documents, history, literature. To compile a shopping list or do their algebra, citizens of the ancient world wrote on wax-covered wooden tablets using the pointy end of a stick called a stylus. Tablets were for disposable text — the stylus also had a flat end, which you used to squash and scrape the wax flat when you were done. At some point someone had the very clever idea of stringing a few tablets together in a bundle. Eventually the bundled tablets were replaced with leaves of parchment and thus, probably, was born the codex. But nobody realized what a good idea it was until a very interesting group of people with some very radical ideas adopted it for their own purposes. Nowadays those people are known as Christians, and they used the codex as a way of distributing the Bible.

One reason the early Christians liked the codex was that it helped differentiate them from the Jews, who kept (and still keep) their sacred text in the form of a scroll. But some very alert early Christian must also have recognized that the codex was a powerful form of information technology — compact, highly portable and easily concealable. It was also cheap — you could write on both sides of the pages, which saved paper — and it could hold more words than a scroll. The Bible was a long book.

The codex also came with a fringe benefit: It created a very different reading experience. With a codex, for the first time, you could jump to any point in a text instantly, nonlinearly. You could flip back and forth between two pages and even study them both at once. You could cross-check passages and compare them and bookmark them. You could skim if you were bored, and jump back to reread your favorite parts. It was the paper equivalent of random-access memory, and it must have been almost supernaturally empowering. With a scroll you could only trudge through texts the long way, linearly. (Some ancients found temporary fixes for this bug — Suetonius apparently suggested that Julius Caesar created a proto-notebook by stacking sheets of papyrus one on top of another.)

Over the next few centuries the codex rendered the scroll all but obsolete. In his “Confessions,” which dates from the end of the fourth century, St. Augustine famously hears a voice telling him to “pick up and read.” He interprets this as a command from God to pick up the Bible, open it at random and read the first passage he sees. He does so, the scales fall from his eyes and he becomes a Christian. Then he bookmarks the page. You could never do that with a scroll.

Right now we’re avidly road-testing a new format for the book, just as the early Christians did.

Over the first quarter of this year e-book sales were up 160 percent. Print sales — codex sales — were down 9 percent. Those are big numbers. But unlike last time it's not a clear-cut case of a superior technology displacing an inferior one. It's more complex than that. It's more about trade-offs.

On the one hand, the e-book is far more compact and portable than the codex, almost absurdly so. E-books are also searchable, and they're green, or greenish anyway (if you want to give yourself nightmares, look up the ecological cost of building a single Kindle). On the other hand the codex requires no batteries, and no electronic display has yet matched the elegance, clarity and cool matte comfort of a printed page.

But so far the great e-book debate has barely touched on the most important feature that the codex introduced: the nonlinear reading that so impressed St. Augustine. If the fable of the scroll and codex has a moral, this is it. We usually associate digital technology with nonlinearity, the forking paths that Web surfers beat through the Internet's underbrush as they click from link to link. But e-books and nonlinearity don't turn out to be very compatible. Trying to jump from place to place in a long document like a novel is painfully awkward on an e-reader, like trying to play the piano with numb fingers. You either creep through the book incrementally, page by page, or leap wildly from point to point and search term to search term. It's no wonder that the rise of e-reading has revived two words for classical-era reading technologies: *scroll* and *tablet*. That's the kind of reading you do in an e-book.

The codex is built for nonlinear reading — not the way a Web surfer does it, aimlessly questing from document to document, but the way a deep reader does it, navigating the network of internal connections that exists within a single rich document like a novel. Indeed, the codex isn't just another format, it's the one for which the novel is optimized. The contemporary novel's dense, layered language took root and grew in the codex, and it demands the kind of navigation that only the codex provides. Imagine trying to negotiate the nested, echoing labyrinth of David Mitchell's "Cloud Atlas" if it were transcribed onto a scroll. It couldn't be done.

God knows, there was great literature before there was the codex, and should it pass away, there will be great literature after it. But if we stop reading on paper, we should keep in mind what we're sacrificing: that nonlinear experience, which is unique to the codex. You don't get it from any other medium — not movies, or TV, or music or video games. The codex won out over the scroll because it did what good technologies are supposed to do: It gave readers a power they never had before, power over the flow of their own reading experience. And until I hear God personally say to me, "Boot up and read," I won't be giving it up.

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