

ByteNoise

The Digital Revolution, Part Two: E-books

It's an important but often overlooked fact that people have a tendency to group several ideas together, then have trouble separating them again. Various media such as books and records are good examples of this, although there are other, more important examples too, from religions to political parties.

Let's concentrate on media for now, as the invention of the computer and the Internet has revolutionised all media that can be digitised, such as text, images, sound recordings, and video footage. Books, photos, albums and films are all on the verge of drastically changing form as they become digitised and freed from their limiting physical forms. Let's specifically focus on books, as they were the first to make the transition into their new form.

First, let's look at what a book is: a form of communication. It's a good idea to communicate your ideas to other people, and to let others communicate their ideas to you. This is how society becomes more than the sum of its parts, by free communication of ideas and trade of tangible things.

A particularly efficient way to communicate your ideas to many people is to write them down on a piece of paper. Since the invention of the printing press, it has been possible for one person's ideas to reach countless other people. The form this

communication takes is called a book, and it's another good idea.

Of course, you already know what a book is, but if you sit down and really think about it, books have a pretty hazy definition. They combine several different ideas.

Some of these ideas are central to what a book is, such as the idea that it's a collection of many words grouped together to make a single point or tell a single story, or a collection of shorter such works. It's something written by one person or a handful of people, and given to anywhere from hundreds to millions of other people. It's a means of saying something once, with careful consideration, and then making copies of what was said so that many people can receive the exact same information, even if they are far away from the original author in both space and time. Books even outlive their original authors.

The "book" group of ideas also incorporates descriptions of the technology that was available at the time the book was introduced. Books are seen by most people as physically consisting only of drops of ink on paper. As a result of the original difficulty in duplicating them, they are also seen as precious, valuable things that must never be defaced. While this happened to be true for a long time, this ideal image of what a book should be is now outdated, whereas the other ideas about its function are still true. The grouping of these ideas together with the others is now holding back what a book can be, thanks to recent technological progress. It is time to separate, in our minds, form from function.

For instance, consider audiobooks. These are books that have been spoken aloud, and the sound has been recorded for posterity. This means that not only does everyone get to hear

the exact same words, which have hopefully been carefully considered before committing them to a book, but everyone can also hear them with the exact same inflections and intonations. Assuming the narrator in question was chosen because of her or his skill at speaking enthusiastically and clearly, this can be an improvement over reading the book to yourself in your mind.

Now there is another emerging type of book, which has been slowly creeping into the public consciousness since its invention in the early nineteen seventies when Michael S. Hart typed up the Declaration of Independence: the e-book. These are a lot closer to the ink and paper kind of books, being presented to people visually rather than through speech, but they present several important improvements over their spiritual ancestors.

Computers are great — even better than the printing press — at copying things. They're great at making exact copies, at storing them, and at sharing them. This is taken for granted, but the implications of everyone having the ability to copy and share any information are still causing a lot of battles in the courts.

For a computer, text in particular is trivially easy to deal with, much easier than pictures, sound clips and videos. By today's digital storage standards, e-books are tiny, often weighing in at somewhere between about fifty kilobytes and a megabyte each. A compact disc designed to hold seventy-four minutes' worth of music can hold literally thousands of e-books.

Thanks to the Internet, moving them around from one place to another — technically copying, not moving, as the original stays put — is fast and easy. I've effortlessly copied e-books from the Project Gutenberg server in America to my home computer in the UK, and sent copies to my friend in New Zealand, all in a matter of seconds.

While we may take such luxuries for granted, consider how the ink and paper kind of book fares by comparison. It has to be lugged around to get from one place to another. It takes several days to post one to another country. Although it can be photocopied or copied by hand, it would take hours or days, not seconds. There would be no easy way for you to check if your handwritten copy contained errors. You could compare them side by side, taking another few hours, but would be just as likely to miss the errors as you were to create them in the first place.

In the case of oldfashioned books, the raw information is permanently stuck to the equipment, the ink and paper, required to view, store and manipulate it. This is grossly inefficient as doing anything with the text itself inherently involves using that one specific form it happens to have taken. Electronic books are a more efficient medium precisely because they extract the raw information from its arbitrary physical form, allowing it to take one of many others, from punchcards to tapes to disks. The redundancy is minimised, as one piece of equipment, such as a computer or a purpose-built e-book reader, can be used to view, store and manipulate all of a person's books. This saves an awful lot of shelf space.

E-books, then, are books that are easily copied, transported, and amended. They have all the advantages of ink and paper based books, namely the ability to communicate one person's ideas to many other people, in different places and further on in time. They combine the best ideas that the concept of a book has to offer, with the best ideas that digital copies of things have to offer.

While many argue that paper books still have their place, as they can be read even when wet, and their look and feel can be

romanticised, I'm already starting to forget what it was like before I carried around in my bag Leonardo Da Vinci's journal, Einstein's Theory of Relativity, Darwin's On the Origin of Species, and several dozen other historic books, all bookmarked, all searchable, and all instantly obtained for free.

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Part Three: Copyright