

## In the Beginning

By Linton Weeks  
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### Second of three articles

They can be so clunky. They fall apart. You can't find the damn things when you need 'em. They can weigh a ton. They cost a fortune to mail. They get dusty and musty and make strong men sneeze.

Reading old-style books can be aggravating. Sometimes the print is too teeny; sometimes it's too large. You can't change the size of the type. You can't hit a "search" button and find that certain passage. You can't read books without a light, and those itty-bitty book lights hurt like the Dickens when you fall asleep on them.

Books rarely change. Information morphs at warp speed these days. Books are hell to update. If there's a mistake in a book – and there always is – it takes weeks, months or years to correct the error.

A teacher might want to rearrange the chapters in a textbook. Or combine chapters from several textbooks. A student might want to carry a hundred textbooks to class.

Books are confined to – and defined by – text and still photos. If you're poring over Harper Lee's delicious novel "To Kill a Mockingbird," wouldn't you also like to see clips from the classic Hollywood production starring Gregory Peck or hear snippets of dialogue read by the author, maybe even smell the magnolias of Maycomb, Ala.?

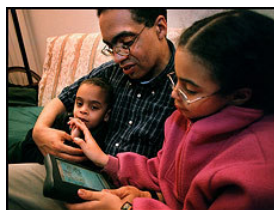
No wonder the Association of American Publishers predicts that in five years, 28 million people will be using electronic devices to read books. No wonder more than 400,000 people downloaded Stephen King's electronic novella "Riding the Bullet" in March.

For centuries, the book (defined by Webster as "a number of sheets of paper, parchment, etc., with writing or printing on them, fastened together along one edge, usually between protective covers") has been the vehicle of choice for teachers, preachers, revolutionaries, intellectuals and anyone who hoped to shape popular opinion. Many people idealize "the book."

But isn't the physical book, in and of itself, simply an instrument for ideas and self-expression? Good thinking and good writing make for good books. Conversely, bad thinking and bad writing make for bad books – whether they are printed on paper or clay or linen or circuitry tattooed into your palm. There are more bad books today than in the history of book-writing, just because there are so many books. Library shelves groan with shallow celebrity manifestos and thought-free entertainments. The power of the book – to change a life or a country – has been diluted by films and television and newspapers and radio and the Internet.

On the other hand, books have been mighty popular for 500 years. They are portable. You don't have to wait eons for a screenful of info to appear. They don't break when you drop them. They are cheap to reproduce in large quantities.

Books hold a special place in the hearts and heads of educated folks.



Victor McCrary, a manager at the National Institute of Standards and Technology, reads from an eBook with children Max and Francesca. (Juana Arias - The Washington Post)

## The Last Book

The Last Book, a three-part series about the future of words, was written for the newspaper and the Web site. Parts 1 and 2, printed in the Style section of The Washington Post on April 24 and April 25, are being presented on washingpost.com in the usual fashion. Part 3 of the series will be published in The Washington Post on April 26. At that time, the souped-up digital version of the entire series will be unveiled on washingpost.com. It will contain hyperlinks, video and audio clips, interactive features and other enhancements that foreshadow the coming revolution in reading, writing and storytelling.

[Part 1](#) | [Part 2](#)

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With books, the reading experience is a logical, progressive affair. Swirls of ideas or images, filtered through written words, become still and clear and understandable. A book often takes complicated information or a complex situation (such as life) and gives it order. Many people believe books are sacred.

Listen to William H. Gass, director of the International Writers Center at Washington University in St. Louis, defending the actual, physical book:

"We shall not understand what a book is, and why a book has the value many persons have, and is even less replaceable than a person, if we forget how important to it is its body, the building that has been built to hold its lines of language safely together through many adventures and a long time. Words on a screen have visual qualities, to be sure, and these darkly limn their shape, but they have no materiality, they are only shadows, and when the light shifts, they'll be gone. Off the screen, they do not exist as words." So wrote Gass in his essay "In Defense of the Book."

A book is even less replaceable than a person? Hmmm. Doesn't that depend on the book? And the person?

### **Books by the Byteful**

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But it has come to this.

Information once available only in books is now available – and often more accessible and more helpful – in electronic forms. Specially designed reading devices – such as the Rocket eBook and SoftBook – enable people to read downloaded works. New software lets you read long and short works online.

We don't read the way we used to. In the past, reading pretty much meant seeing black words on a white page and making sense of them. Many people now spend their workaday hours absorbing words and colorful images and sounds from a screen.

The act of reading, says Sven Birkerts, author of "The Gutenberg Elegies: The Fate of Reading in an Electronic Age," has undergone an "oceanic" shift in the past 20 years. "Everything about how we read is affected by the culture of words and signs we live in. There has been an extraordinary acceleration and swamping effect in the larger world that is changing things in the specific world of reading."

MTV, for instance.

Reading on screens, Birkerts says, is a vastly different experience from reading pages of a book. Screen reading involves branching paths and sidebars and links. "Giving in to the seduction of connectivity, to increasing links, becomes part of the reading act."

When reading a physical book, Birkerts says, we are overpowered by the voice, the intellect of an author. "When reading becomes open to shifts and grazing and links, you are severing that," he explains. "You're subjecting yourself to doses of little voices instead of the authoritative voice."

It's like the difference between what we see when we walk through the neighborhood and when we drive. As we are bombarded by more and more images and sounds and sensory assaults while speeding through the screen, we are removed further and further from the Zenlike calm of walking through a physical book.

The new way of reading "is going to be made much more obvious with the coming of the e-book and everything that's involved there," Birkerts predicts.

Electronic reading devices are sleek and portable. You can hook up to the Internet and retrieve the book you want any time of the day or night. You can store a backpack's worth of tomes on a 22-ounce machine the size of a videotape and zigzag between the Book of Job and "The Joy of Sex." The liquid-crystal screen lights up so you can read in bed without a lamp. You can alter the size of the text, and it is searchable. E-book readers can display much more than words. They can incorporate sound, moving images, Internet documents and a variety of other media into the storytelling/info-dispensing process.

Publishers, eager to save big Benjamins on the cost of printing, shipping, warehousing and returns, are making a beeline to online delivery. Electronic storage is dirt-cheap and allows publishers to maintain a larger inventory. The phrase "out of print" is going out of style.

"We're doing quite a bit in the e-book and online areas," says Ted Nardin, a vice president at McGraw-Hill. "We are converting a number of our print products to digital form."

In the near future, Nardin says, there will be "a viable e-book market. Exactly what shape that takes, we're not sure." He believes the early demand will be for reference books. Readers will want "a travel book when they go to Italy; a computer book when they want to learn a skill; a business book on a plane flight."

This technological shift will inevitably lead to changes in American publishing. In the way that amplification forever altered American music, so digital technology will change publishing.

Rock-and-roll.

"Paper, printing and binding goes away," Nardin says matter-of-factly. "Physical distribution goes away."

As an example, Nardin points to Harrison's Principles of Internal Medicine, a two-volume, 2,688-page reference text (\$149) that has sold well for years. McGraw-Hill has also converted Harrison's into a subscription-based Web site. "We have transformed the book entirely into a continuously updated product," Nardin explains. The site is easily searchable, and also lucrative. A subscription costs \$89 a year.

McGraw-Hill has a number of similar projects in mind. Nardin says his company is watching pint-size devices like the Palm Pilot, one of a growing class of gizmos known as personal digital assistants, or PDAs. "There are 5½ million Palm Pilots out there," Nardin says, "and that number is growing by the day."

With a PDA, people can read stories and other stuff on trains, in taxis, in bed and in the bathroom. And they'll check their e-mail, stock portfolio, directions to a sales meeting, and be reminded of family birthdays.

Other companies are driving the electronic book market. Among them: Fatbrain (<http://www.fatbrain.com/>), a much-ballyhoed online store that sells books, training materials and print-on-demand documentation; netLibrary (<http://www.netlibrary.com/>), a service that offers libraries, corporations and research facilities access to more than 13,000 e-books online; E-dition (<http://www.e-edition.net/>), an online book publisher; and scores more. Still other firms are wrestling with copyright and security issues.

In the world of e-reading, novel innovations are popping up all the time. In a recent "Experiments in Reading" exhibit at the Tech Museum of Innovation in San Jose, Calif., visitors were introduced to RED, a robotic "reading eye dog." Using digital cameras, optical recognition programs and text-to-voice conversion devices, RED "reads" to its master. In another innovation, video-gamelike software helps people become speed readers.

Looming over everyone's shoulder is a category killer called Microsoft Reader. Microsoft researchers believe in their hyped-up hearts that paper is dead. These are the same folks, of course, who tried to develop the paperless office.

This time it's personal.

#### **Turning Pages at Microsoft**

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Dick Brass is brassy.

He is the immodest evangelist of Microsoft Reader, new software that Brass – and others – believe will revolutionize the reading experience. While many companies, such as Adobe, have developed basic ways for electronic text to be read more easily, Microsoft Reader, using a new technology called ClearType, is liable to overwhelm the competition. Brass explains that his product "is designed to make long-term immersive, productive reading possible on a PC or other computer device."

By increasing the resolution, or clarity, of type on the screen, Brass brags that he can build an electronic book that's not only as good as the traditional book, but better.

Brass says he can build a book you read underwater. A book that holds a million titles. An unbreakable book you can throw or bounce or drop again and again.

"Everybody's getting ready for a huge paradigm shift that I'm sure is coming," he says. To give the paradigm a push, Brass is jetting all over the world selling his vision of the future. He was in Washington in the fall unveiling Reader software at a conference at the National Institute of Standards and Technology. Recently he was in Germany, Italy and Japan, preaching the gospel.

To hear Brass tell it, he was born and bred to convert the world to

e-books. He got his start as a journalist on the Cornell campus newspaper. He worked for the New York Post and the Daily News.

As an editor at the latter in 1979, Brass wondered why the newspaper had installed millions of dollars of computers for the editorial staff that did not include dictionary-based spell-checkers. He took the matter into his own hands. After leaving the paper he formed his own company, Dictronic, and bought the rights to the Random House Dictionary. He developed a spell-checker and a thesaurus for computers. He sold Dictronic to Wang for "tens of millions of dollars" in 1983.

"Don't worry," he's quick to add about the paltry sum he paid the asleep-at-the-wheel publisher. "Random House made millions on the deal."

He moved to Seattle in the mid-'80s and started another company, one that provided phone books on CD-ROMs. He sold that and went to work for Oracle, establishing an offshoot devoted to electronic publishing.

Brass retired from Oracle in 1997. There is, however, nothing retiring about Dick Brass.

Invited to lunch by Microsoft's then-techno-wizard-in-residence Nathan Myhrvold, Brass spoke of his passion for electronic reading. The two agreed that the e-book age was about to dawn.

"Microsoft," Brass says, "offered me an opportunity to help make e-books happen."

Oh, he admits that the path to e-books is strewn with failures. Over the last 30 years, hundreds of products have been touted as electronic reading tools. Most, such as 1991's Sony Data Discman, have fallen by the wayside.

With the creation of tablet-size PCs, long-lasting batteries and the lean, clean look of Microsoft Reader, Brass says, the time is ripe for e-reading.

"Twenty years from now," Brass contends, "90 percent of what we read will be in electronic form."

He points out the many ways that electronic reference books are superior to the print versions. The entries are short. Facts can be buttressed by graphics and sound.

Though the type is fuzzy on today's primitive screens, "the reading experience was acceptable," he says, speaking in the past tense, as if low-resolution displays were already extinct, "because the amount of time you were subjected to pain was short."

The price differential – between the printed encyclopedia and its electronic cousin – is astounding, he says. A set of Britannicas for your home could cost as much as \$2,000 while most e-encyclopedias set you back less than \$100.

Brass pauses for dramatic effect. Powerful computer benefits. A satisfying reading experience. A discount for consumers. These are the attributes that will assure the success of e-publishing. E-books will rejuvenate a foundering publishing industry, Brass predicts. The preacher in him is getting revved up. Authors, publishers and bookstores will make more money than ever. E-books will sweep over the land the way cassette tapes, then CDs, refocused the music industry.

The first international e-book prize, worth \$100,000, will be awarded next year at the Frankfurt Book Fair.

What about the love of physical books? Brass says it's a generational bias. Most people over the age of 30, he quips, as if he's said this a thousand times, "are paper trained. Most of us have a deep psychological relationship to reading. It's very hard to eliminate the physical aspect of the book."

But to kids, Brass says, "an e-book to them will seem as natural as a book does to us."

So Microsoft is working with the creators of Rocket eBooks, SoftBooks, Everybooks, Palm Pilots, desktops, laptops and just about every possible electronic reading device you can and can't imagine.

Brass says: "We have to start an industry before we can have a business."

#### **Building Blocks**

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To that end, Victor McCrary – plaid shirt, khakis, smart-guy glasses – pads toward Lab Room A 266 in a dark, dank building on the campus of the National Institute of Standards and Technology in Gaithersburg.

McCrary, 44, and his colleagues saw this e-book stuff coming. A couple of years ago he applied for a patent for something called the NIST modular electronic book. He imagined books would be distributed on CD-ROMs and displayed on flat-panel screens.

Okay, so he was wrong about that, maybe.

Maybe not.

Anyway, today McCrary is smack-dab in the center of the e-book blizzard. He and others at NIST are noodling with the major players to develop open standards for all reading devices so that publishers will be able to sell to whoever wins the race.

McCrary, like Dick Brass, is working to build an industry.

The best way to explain what is happening to words, he says, is to show a few pictures. He slips a tape into a VCR beneath a giant-screen TV. The video starts: It's Dick Brass of Microsoft speaking to the e-book conference in the fall. Brass, in turn, begins his address with a PowerPoint presentation.

"One picture," McCrary says as he watches Brass on the screen, "is worth a thousand words."

Lovely flute music throughout.

Black words on a white screen: "The work we are now doing is, I trust, done for posterity, in such a way that they need not repeat it. We shall delineate with correctness the great arteries of this country. Those who come after us will fill up the canvas we begin." – Thomas Jefferson

(Later you will think, what the hell was that all about, besides Jefferson mixing metaphors? But you surrender to the simple, melodious flute music. And the images.) Next frame:

- The words: We begin.
- A cave painting and, in the corner, a date. 30000 B.C.
- Then: Hieroglyphics. 3000 B.C.
- And: Writing on parchment. A.D. 100
- Illuminated manuscript. A.D. 700
- Many copies of illuminated manuscripts. 1455
- Small printing press. 1885
- Black-and-white photos of the Titanic on the front page of a newspaper. 1912
- Color book covers. 1935
- A sketch of the Memex (a complex machine, wrote its inventor Vannevar Bush, in which "an individual stores his books, records, and communications, and which is mechanized so that it may be consulted with exceeding speed and flexibility. It is an enlarged intimate supplement to his memory.") 1945
- A mainframe computer with a terminal. 1965
- Teletext (a system designed to broadcast text to TVs). 1975
- The Random House Electronic Thesaurus. 1981
- Sony's kludgy Data Discman. 1991
- Books on CD-ROM. 1992
- The Rocket eBook and the SoftBook. 1999
- Three simple words: We begin again
- Microsoft Reader on a laptop. 2000
- A mock news story with a photo of a mother and a daughter with a very heavy backpack: Lighter Load with E-Books; Reduce Chronic Back Problems in Kids
- Tablet PC Arrives. 2004
- Mock headline: eBook titles and ePeriodical Sales Top One Billion Dollars! 2005
- A pictograph illustrates eBook sales outperforming paperback book sales. 2008

- A drawing of an eight-ounce eBook with a capacity of a million titles, and 24-hour battery life. 2010
- A print ad from the American Pulp Institute trumpeting: Real Books . . . From Real Trees . . . For Real People. 2012
- A newspaper front page: Software Billionaires Agree to Convert Library of Congress to eBook; Former Rivals Unite in Charity. 2015
- Another mock front page: New York Times Publishing Last Paper Edition Today! After 167 Years, Newspaper Becomes Electronic. 2018 (An aside – another headline on the page reads: Beef Found to Prevent Cancer)
- Book (buuk) n. 1. a printed written book, often stitched or glued at one edge and covered with cardboard panels and paper. 2019
- Book (buuk) n. 1. a substantial piece of writing commonly displayed on a computer or other personal viewing device. 2020

When publishers finished viewing Brass's immodest presentation, McCrary says, they were speechless.

Well they should have been. The e-revolution is turning their world inside out.

With the new technology, stories can be told with sounds, sights, smells and tastes.

There is much talk in the new millennium about the e-book. But what if the technology is driving people to read in new ways, to write in new ways and maybe even to think in new ways?

One major question remains in the afterglow of Brass's brash pitch: What makes him think that the book of 2020 will be a substantial piece of "writing"?

If the future of the book is in transition, so is the tradition of writing. And of storytelling. And of words.

## THE HISTORY OF STORYTELLING

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**(A.D. 1200)**

### Ancient Writing

Go make figures: The Chinese had been writing for more than 2,000 years when this poem was penned in calligraphy.

**(1450)**

### The Printing Press

Just the type: Individual letters could be moved, and so could the world, on Gutenberg's printing press, which is imagined in this drawing.

**(1611)**

### King James Bible

The Good Book: Commissioned during the time of Shakespeare, the King James Bible became one of the most popular tomes of all time.

**(1800)**

### Library of Congress

Volume buying: The Library of Congress, jump-started with Thomas Jefferson's collection, was destined to become one of the greatest book repositories in the world.

## ABOUT THE SERIES

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### Yesterday

The good news is that we will soon be able to get any book of any era in any language pumped out to us in minutes. The bad news is that this technology may bury books as we know them.

### Today

If it has no pages, just a magic tablet that emits sounds, sights, smells and tastes, is a book still a book?

### Tomorrow

Why do stories have to have words? Why do they have to have authors? Who needs beginnings, middles and endings? The future of storytelling will be: you.

