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Words

Onscreen

The Fate of Reading in a Digital World

Contents nl;pr

nl;pr Not Long; Please Read

A Preface

The headline in the *New York Times* ran "For Better Social Skills, Scientists Recommend a Little Chekhov." Social psychologists at the New School for Social Research had just documented what many of us have long believed: Reading serious fiction makes you more empathic and socially perceptive than reading light fiction—or not reading at all.[1]

The topic of reading is on many people's minds. A perennial question is whether we are reading enough. The National Endowment for the Arts periodically reports on the state of American reading habits, with the verdict vacillating from crisis to improvement to status quo. Another issue is what we read. Is it OK if adolescents go for graphic novels in place of Dickens? Can *Twilight* substitute for Tolstoy? Emanuele Castano and David Comer Kidd (the researchers at the New School) argue no. A fast-paced plot doesn't compensate for lack of complex character development. Writers like Chekhov provoke readers to take an active role in fathoming the psyches of their characters, nurturing emotional intelligence in the process.

But there is another concern these days. Does it matter what medium we use for reading: print or digital text? During the 1990s, we became increasingly comfortable reading on computer screens. Sometimes the amount was small—an email, a web page. Other times the text was longer—a magazine article or even an out-of-copyright book from Project Gutenberg. We still relied on hardcopy books, though newspapers and periodicals were finding their way online. Mobile phones ignited the texting revolution but were hardly seen as places for reading actual books.

That world changed in 2007, when Amazon introduced its first Kindle. Other eReaders had arrived a bit earlier in the United States but were met with a tepid response. The Kindle had superior technology, backed by a bookseller providing content both easily

and at an attractive price. eReading took off. Three years later came the debut of Apple's iPad. While the tablet wasn't positioned as a replacement for eReaders, its buyers began downloading a profusion of books. Meanwhile, as mobile phone technology improved and smartphones proliferated, the phone morphed into a device not just for personal communication and not only for downloading apps. It became a reading platform.

One more piece of the puzzle. The educational establishment (especially in the United States) became increasingly concerned about the high cost of textbooks. Whether school districts or students were footing the bill, prices were often beyond their budget. The Great Recession made the financial crunch particularly painful. Equally troubling was the size of student loan debt, which in the United States was fast approaching $1 trillion. Expensive textbooks were one more fiscal albatross, and eTextbooks were promoted as a solution.

And so the migration began from reading in print to reading onscreen. I watched with curiosity—and concern.

My academic training is in linguistics. A cardinal tenet of the field is that our job is to observe and analyze, not judge. During the bad old days of linguistic prescriptivism, grammarians spent their time instructing others on the fine points of proper usage, spelling, and punctuation. But then descriptive linguists in the early twentieth century, followed by transformational grammarians several decades later, commanded those studying language to abandon the misguided prescriptivist past.

Among the new corollaries were that no language is better or worse than any other, and that all people (unless disadvantaged by a physical or mental condition) had the same fundamental linguistic competence. I understood the rationale. The late nineteenth century was laced with talk of "primitive languages" and "primitive peoples," justifying conquest, expropriation of resources, and enforced servitude. While I didn't question our equity of human genetic endowment (a cornerstone of Noam Chomsky's theories), experience convinced me that not all languages have equally rich vocabulary and syntax, and that some speakers indeed lack the linguistic sophistication found in other members of their tribe. I also believed such lacunae were generally remediable but needed intervention.

Then there was the issue of medium. For more than a century, linguists have taken speech as constituting "real" language and hence their quintessential object of study. Writing was just a

handmaiden to talking. Since I was already risking my union card by passing judgment on languages and language users, why not go a step further? I began exploring written language—how writing arose, what it was used for, and how it evolved. Because writing necessitates some form of technology (a stylus, a quill, a telegraph, a computer), I went on to investigate the effects of technology on the way we use language, both written and spoken.

At the time I was writing my last book (*Always On: Language in an Online and Mobile World*), a question whirling about in public discussion was whether email, instant messaging, and texting were harming language. (Short answer: Whatever is happening with language, we can't lay much of the blame on computers and mobile phones.) Another concern was how the growing obsession with digital technologies affected face-to-face encounters.

In the back of my mind were a few added worries. The first was how much computer manufacturers, broadband carriers, and the mobile phone industry were fueling behaviors that were not particularly healthy, either socially or psychologically. We know that supersized orders of french fries make money for fast-food companies but are nutritional disasters. Were all-you-can-text plans driving Americans to addictive communication?

A second apprehension—but even harder to wrap my arms around—was whether all this communication-at-a-distance might alter the very nature of human interaction. Sherry Turkle had already begun arguing that we care more about our technologies than about one another. (*Alone Together* would come out in 2011.) Her analysis resonated with me.

One more quandary. As a university professor, I do a lot of reading—for my own research, as a reviewer for journals and academic publishers, and as a colleague participating in personnel evaluations. When doing research, I nearly always go for printed text (as do many professionals). I underline, write notes, draw arrows, attach Post-its. I also cover the desk and even the floor with pages and volumes to get a panoramic view of the materials literally at hand. And I tend to remember where to find what I have read by physical signposts: about halfway through, on the upper right-hand side; on the page with a grease stain from that late-night brownie.

The documents people send me for doing reviews inevitably arrive electronically. Should I read them onscreen or print them out? The answer is easy for a thirty-page manuscript: print, read and mark up, write the review, recycle. But what about for an entire

book manuscript or the lengthy dossier of an assistant professor seeking promotion?

I'm no stranger to dealing with words onscreen. I have been doing "word processing" for more than thirty years. I regularly edit at the computer. Gamely, I have tried undertaking a couple of reviews onscreen. But immediately I know I'm cheating the hopeful author or applicant. Despite the thousands of hours logged reading and writing digitally, I cannot perform a careful analysis this way. I need to see the work as a whole, cross-reference back and forth, keeping multiple passages in view.

If I have trouble doing serious analysis when reading online, what about my students? As my research would subsequently show, many undergraduates treat online academic articles the same way I do: They print the pieces out. But what happens with textbooks or complex novels? When they are consumed online, what are the educational and psychological consequences?

Words Onscreen asks if digital reading is reshaping our understanding of what it means to read. The question sounds amorphous, but it has tangible substance and equally real fallout. I will argue that digital reading is fine for many short pieces or for light content we don't intend to analyze or reread. However, if eReading is less well suited for many longer works or even for short ones requiring serious thought, what happens to reading if we shift from print to screens? Will some of the uses of reading (and, for that matter, writing) fall by the wayside? If so, with what implications for education, culture, and ourselves?

These questions involve judgment and action—neither of which my linguistics training sanctioned. But the challenges are real, and so I broke ranks.

At the time I began actively working on this book, I routinely encountered skepticism—even veiled pity—when I described the venture. Did I fail to understand that technology marches on? That cars supplanted horses and buggies? That printing replaced handwritten manuscripts, computers replaced typewriters, and digital screens were replacing books? Hadn't I read the statistics on how many eReaders and tablets were being sold? Didn't I see all those people reading eBooks on their mobile devices? Was I simply unable to adapt?

The gauntlet was down, and I took up the challenge. If anyone was going to love (and be adept at) eReading, it should be younger readers. I needed to survey them, and so I did, beginning in 2010. Focusing on university students, I collected data from three cohorts

in the United States, along with a group in Japan and another in Germany. Although the questions evolved over the years, in each case I inquired about habits and preferences when it came to reading in print versus onscreen. I'll save my findings for the chapters ahead, but suffice it to say I was roundly vindicated.

Empirical data from a sample of readers are just one part of the story. Achieving a balanced assessment of the print-versus-screen debate requires weighing a host of variables. You need to begin with reading itself. And since people can read only if someone is writing, you actually have to start there. As historians of reading (and writing) have shown, what is being written and read, who is doing the producing and consuming, and what people hope to get out of the experience alter with time. It is no surprise that the same issues resurface in the digital age.

Reading and writing are intertwined in another vital way. If reading habits change, so do the ways authors tend to write. Computers, and now portable digital devices, coax us to skim rather than read in depth, search rather than traverse continuous prose. As a result, how—and how much—we write is already shifting.

Digital reading is undeniably popular. Companies like Amazon and Apple are investing millions in tempting us to buy their readers, tablets, and phones, but customers are willingly flocking to websites and stores. Reading onscreen has many virtues, including convenience, potential cost savings, and one that consumers in wealthy countries don't often think about: the ability to bring reading tools and texts to people who might otherwise not have them. Open access to materials online. Free eReaders and eBooks distributed in places like Africa and India.

Yet the virtues of eReading are matched with potential—along with incontrovertible—drawbacks. Take environmental issues. People often praise eReading as more environmentally friendly than reading on paper. But are they right? Once you tally up the environmental costs of producing digital devices (including depletion of rare earth elements and creation of hazardous waste), the final winner becomes less clear. What we know for sure about eReading is that users are easily distracted by other temptations on their devices, and multitasking is rampant.

Your purpose in reading—to kill time, for relaxation, for work—is also relevant when sizing up the pros and cons of different reading platforms. People often say they like using eReaders or tablets for travel so they don't have to lug books in hardcopy. When you

probe, you commonly find that what's being loaded on the mobile devices is light reading. The type of reading matters, because casual fare is generally read only once—what I call one-off reading. Since the emergence of print culture in the eighteenth century, and particularly with the rise of the novel and later the detective story, much of our reading has been one-off. The trend continues today. Think of all the books we read when traveling but toss when we arrive, the books we truck out to the beach, the newspapers and popular magazines we peruse and then scrap. That said, obviously some books are worth reading slowly, carefully, and more than once. (Just ask a Jane Austen fan.) Incidentally, it is these other books that tend to be the kind Castano and Kidd would say require you to wrestle with character complexity.

For one-off reading, digital devices may be every bit as good as print. But what about more serious reading? What about books that objectively merit keeping—and rereading? To the extent we shift our reading from print to screens, we become less likely to reread. A decline in rereading would mark a critical shift in the way at least some types of readers have encountered books for centuries.

Reading onscreen raises another question about the nature of reading: Is it an individual encounter with a text or essentially a social experience? The explosive growth of online social networking has triggered online reading groups. (Goodreads is but one example.) Historically, if you were literate, reading was typically an individual act. Is reading onscreen tipping the balance from a solitary enterprise to a social one? And if so, with what consequences?

A topic some eBook advocates dismiss as nostalgia is the physical side of reading: holding books in your hands, navigating with your fingers through pages, browsing through shelves of volumes and stumbling upon one you had forgotten about. Are we back to longing for buggies and typewriters? Or by going exclusively digital, would we lose some physical anchors that have been essential to the reading process for almost two millennia?

Other relevant data come from cognitive and neuropsychologists investigating how our brains behave when we use digital devices. Especially relevant is research on multitasking and distraction. We're not nearly as good at multitasking as many of us think we are. The consequences for mixing driving with texting are painfully self-evident. But there are also troubling outcomes when it comes to distracted reading, especially if we assume that appreciation for writing style or complex content matters.

If you live in the United States or the United Kingdom, it is easy to conclude that the continuing advance of eReading onto print's turf is a fait accompli. These are the two countries with the highest penetration of eBooks. If you look across the English Channel or to the Far East, the picture changes. Yes, eBooks are selling, but the percentage of sales is a small fraction of that among the Yanks and the Brits. Some of the difference has to do with marketing, but there is also the cultural question: Do the French or Germans or Japanese want eBooks? And if not, why?

There are all sorts of readers—and reasons for reading. Some people thrive on an exclusive diet of murder mysteries or biographies or romance. We find avid readers and those who read sparingly. Bibliophiles and college graduates who gather no books (print or electronic). Those who read only for school or a job, people who read out of boredom, and some who burrow in their books to avoid social contact. Add in the spectrum of ages and levels of reading ability, and it becomes obvious that "the fate of reading in a digital world" must be viewed through multiple lenses.

This book considers a spectrum of readers and motivations. We will talk about young children (and the parents who read to them), about teenagers, and about adults who flock to physical or digital reading groups. The biggest emphasis will be on young adults, since that is the cohort for which I have gathered data. While they are all university students, I probed their reading habits and preferences both for doing academic work and when reading for pleasure.

Recently, it has been interesting to watch prognostications shift regarding the fate of print in the face of digital reading. The growth rate of eBooks has slowed substantially. Surveys conducted by the media and by companies committed to selling the public on eBooks are reporting that sizable numbers of readers (especially teenagers and young adults) aren't sold.

This is not to say eBooks will—or should—recede. For the foreseeable future, they will provide a major platform for reading in growing parts of the world. For the same future, it seems probable that print will persist.

We need to dig beneath the hype on both sides of the discussion if we want to understand how technology is affecting the way we read, for good or for ill. *Words Onscreen* is my take on the debate.

Before we begin, one obvious note. Digital technologies evolve quickly, generating ever more new applications and statistics. I finished drafting this book in February 2014. By the time you read

Words Onscreen, you won't find the next new thing. But the principles of what it means to read—and whether medium matters —stand firm.

Words Onscreen

1 "I Hate Books"

Words Go Digital

> E-books resemble motel rooms—bland and efficient. Books are home—real, physical things you can love and cherish and make your own, till death do you part. Or till you run out of shelf space.
>
> *—Michael Dirda*

How are you reading this book? Holding a physical volume? On an eReader, a tablet, a mobile phone?

Does the medium matter? Michael Dirda, book critic for the *Washington Post*, thinks it does. Others—like the person I am about to introduce—disagree.

It was June 2012 when I met the young man in question. He was on a panel at the International Digital Publishing Forum's Digital Book conference, held in the Javits Center in New York. The session's title was "Case Study: A Window into the E-Future of the World's First School to Go Full E-Only."

South Kent is a small private high school in northwestern Connecticut. In fall 2011, the curriculum went digital. No heavy textbooks to carry. Just iPads loaded with eBooks. Delano Williams, who had just graduated from South Kent, effused about "e-only" learning. During the Q&A, I asked whether there was any book—any book at all—he would prefer to read in hardcopy. His lightning-fast retort: "I hate books!," meaning anything in paper with a binding.

Delano didn't hate reading. Just printed books.

In less than a decade, the book trade, along with personal reading habits, has transformed dramatically. eBooks are now a multibillion-dollar business for Amazon, while Borders has shuttered its doors and the fate of Barnes & Noble remains

uncertain. By 2012, more books were purchased online in the United States than from brick-and-mortar stores. [1] A growing number of those were eBooks. Students continue selling textbooks back to campus stores at the end of the term, but they now exercise new options, including buying or renting electronic versions.

Publishers of reference books are acknowledging the shift. The *Oxford English Dictionary* announced in summer 2010 it would not be publishing its next edition in print. *Encyclopedia Britannica* followed suit in March 2012. Macmillan ceased publishing physical dictionaries as of 2013. [2]

Even entire libraries are backing away from print. In 2005, the University of Texas at Austin caused a stir by removing nearly all books from its undergraduate library. [3] Then San Antonio caught the no-book fever. UT San Antonio's Applied Engineering and Technology Library houses more than 400,000 volumes—but all virtual. [4] Bexar County, Texas, which includes the city of San Antonio, next joined the digital club. BiblioTech, a book-free library, opened in late 2013, with its collection housed entirely on computers, tablets, and eReaders. [5]

Why the shift?

The earliest ripples of change began with increased reading on computer screens in the 1980s and early 1990s. The waves strengthened with the proliferation of email, instant messaging, electronic versions of newspapers and magazines, and efficient online search tools by the end of the 1990s. Once eBooks began really selling (following the arrival of Amazon's Kindle), a growing number of people turned to consuming book-length text onscreen. With the coming of the iPad in 2010, a tidal wave ensued. The paradigm was changing, and reading in hardcopy was depicted as old-school. The explosion of online academic courses (usually complete with online readings) has become a sign of the times. And one more sign: In June 2014, a US ambassador took the oath of office on an eReader for the first time. [6]

There has been a lot of talk about the future of printed books: scholarly works (like Geoffrey Nunberg's *The Future of the Book*), organizations (such as Bob Stein's Institute for the Future of the Book), and conferences (including a 2012 meeting at MIT, "Unbound: Speculations on the Future of the Book"). [7] But an even deeper issue is whether new digital technologies will upend our

understanding of what it means to read in the first place. If so, will we be better off, worse off, or about the same when it comes to learning or enjoyment?

The answers are hardly obvious. And they will probably keep shifting as technology evolves and as our experience (and comfort level) in using digital devices for reading increases. Change is likely on other fronts as well. Just as growth of the novel in the late eighteenth century was advanced by the expansion of print technology, new literary forms might well emerge that are tailor-made for screens.

But what do we mean by "reading"?

DEFINITIONS

READING AND TEXTS

At its most basic level, the word "reading" has something to do with deciphering written text. OK, so what is a "text"?

Most simply, a text is a stretch of written words. How long a stretch? The answer is something of a moving target. If you read the word "STOP" on a road sign, technically you are reading. The same goes for deciphering words on a billboard or your electric bill. But what we have in mind in this book is more continuous prose— say at least a page or two, with an unbounded upper limit. You can also read poetry or plays, but we will be focusing on prose.

BOOKS AND EBOOKS

We know what books are. Today they are compilations of pages bound together and covered by a stiffer (or at least different) material. Books used to come in other forms, including scrolls (in the Middle East, and then Rome) and even palm leaves joined together (in India and Southeast Asia).

"eBooks" (no surprise) are books available in electronic form. In principle, they can be read ("eReading") on any digital device, including a desktop or laptop computer, an eReader, a tablet computer, or a mobile phone. eBooks themselves come in two basic varieties. The first are digitally formatted versions of print originals, made either from PDFs or through digital adaptations using software publishing tools like HTML5 or EPUB. These days, an increasing number of books are initially published digitally,

perhaps with a later print run.

The second kind of eBooks are "digitally native," meaning they are designed to capitalize on the special possibilities digital technology offers. [8] Visual images (stills or video) are increasingly common. Digitally native books are made for user interaction: rotating images, connecting with web pages or other readers, and maybe completing quizzes and getting feedback on performance. In the publishing industry, digitally native eBooks will be an important development, though as a genre, they are still very much a work in progress, partly because they are expensive to produce and partly because we need to figure out what we want digitally native books to accomplish. What it will mean to "read" them remains to be seen (and is not a question we will be tackling in *Words Onscreen*).

A final note on the word "eBooks": Because of the surge in sales of eReaders and book-length texts in digital format, it has become common to let actual eBooks dominate the conversation about reading on digital screens. Of course, there is more involved: newspapers, Facebook updates, movie reviews, blogs, scholarly articles. Since this book is about text that is at least a page or two long, we will focus on reading that has some linear heft, while keeping in mind that short spans of text may shape how we read longer ones.

eTEXTBOOKS

When the world of education talks about digital textbooks, they are called eTexts. The term is a bit confusing, since in principle you would think an eText is any kind of writing—a novel, a newspaper, a tweet—that appears on a screen. When we get to talking about uses of digital textbooks in education, we will call them eTextbooks, though that's not the term you will find when most people discuss education and eBooks.

eREADING BY THE NUMBERS

How prevalent is eReading? The answer depends on what activities you include. Anyone with a computer, eReader, tablet, or smartphone is reading electronically. You're browsing the top stories from the *Los Angeles Times* on your iPhone. The woman next to you on the bus is absorbed in a novel on her Kobo, while

the guy just ahead is checking out upcoming Black Friday sales on his tablet. When you reach the office, you keep Gawker.com minimized on your desktop as potential relief from your day job but devote most of your time to reading reports on political unrest in the Middle East. Do these all count?

When number crunchers tally up eReading, they first pare away anything that doesn't meet the "continuous prose" and "at least a page or two" criteria. The ads are out; for the *LA Times* stories and Gawker.com, it depends upon the length; the novel on that Kobo and reports on your desktop are both technically in. However, in reality, the critical numbers tracked by industry (and nonprofits such as the Pew Research Center's Internet & American Life Project) involve eBooks and the devices on which people read them.

Start with eBooks.

EBOOK SALES

If publishing industry hype is to be believed, eBooks are poised to bury the print market. Understandably, publishers are looking to turn a profit. Once acquisition, editing, and setup are expensed, the cost of producing and distributing eBooks is negligible, especially compared with bound books. Vast resources are being plowed into making eBooks attractive alternatives to what some are now calling "p-books" or just plain "p."

The efforts are paying off. On Christmas Day 2009, Amazon's sales of eBooks in the United States surpassed hardcover sales for the first time (presumably thanks to new eReading customers eager to fill those Kindles found under the tree that morning). Other landmarks confirm how big the eBook footprint is becoming:

- By January 2011, Kindle eBook sales moved ahead of paperbacks. [9]
- eBook sales for 2011 rose 117 percent over 2010. (In 2010, the rise was 164 percent, and in 2009 it was 177 percent.) [10]
- In 2008, eBook sales accounted for only 1 percent of American publishers' revenues. In 2012, these sales made up nearly 23 percent. By 2013, the number had risen to 27 percent for adult trade books. [11]

While sales of eBooks have kept rising, the fate of print has been

a different story. Between 2010 and 2012, American sales of print books fell nearly 16 percent. [12] The United States was not alone, as print sales also slumped internationally. Is that a sure sign that ePublishing is eating print's lunch? The answer is not so simple. The Great Recession affected economies around the globe, with print book sales just one victim of consumer retrenchment. Take continental Europe, where penetration of eBooks hasn't risen above the single digits (as we will see later on). Simple logic says that digital publishing there was hardly responsible for the decline in print sales. Two examples: In Italy (which has negligible eBook sales), the book market declined 8 percent in value in 2012 from the previous year. In France, where eBook sales are not much higher, the market also declined, though not as steeply. [13]

eReaders and tablets: shifting sands

To do digital reading, you need an appropriate electronic device. You can read eBooks on desktop or laptop computers (and, as we'll see, university students commonly do). However, the most popular platforms for the general public have been eReaders and tablets.

The explosion in eBook sales was initially driven by success of the Amazon Kindle (launched in late 2007) and then Barnes & Noble's Nook (two years later). As of mid-2010, only 4 percent of American adults owned eReaders. By January 2014, ownership had jumped to 32 percent. [14]

In April 2010, Apple released the iPad. Initially the tablet was largely marketed as a terrific device for organizing (and displaying) photos, as well as handy for accessing the internet on the go. Composing text has never been its forte. And although there is a Newsstand app and a shelf for iBooks, the iPad wasn't designed to replace the Kindle or Nook. In fact, Steve Jobs had not initially been impressed with the concept of eReaders. When asked in January 2008 for his take on the Kindle (that is, soon after its release), Jobs was flatly dismissive: "It doesn't matter how good or bad the product is, the fact is that people don't read anymore." [15]

Up through 2011, dedicated eReaders remained the primary digital tool for accessing eBooks. Technophiles were buying both tablets and eReaders (along with smartphones), but functions tended to be divided up between devices.

What is so attractive about eReaders? Generally they cost less

than tablets and are lighter to carry. But their primary virtue (at least for the early eReaders, and now for the Kindle Paperwhite or Kobo Touch) has been minimizing distraction. As Jen Doll wrote in *The Wire*,

> People who read e-books on tablets like the iPad are realizing that while a book in print or on a black-and-white Kindle is straightforward and immersive, a tablet offers a menu of distractions that can fragment the reading experience, or stop it in its tracks. [16]

Single-function eReaders sometime even trump print when it comes to aiding concentration. Author Alan Jacobs reports that he finds reading on a Kindle even less distracting than reading a print book: "The technology generates an inertia that makes it significantly easier to keep reading than to do anything else." [17] (For the record: Jacobs' Kindle was an early, non-internet-enabled model.)

As with so much else in the technology realm, the world turned. Jobs proved wrong about reading (or at least about downloading eBooks). And market researchers were wrong about the growth trajectory of eReaders.

In late 2011, Juniper Research had projected that by 2016, sales of eReaders would reach 67 million. [18] Yet by 2013, acquisition of dedicated eReaders—despite the internet access provided by newer models—had begun to taper off as tablet revenues rose. The *Wall Street Journal* reported estimates that global eReader shipments, which peaked in 2011 at about 25 million, would fall to 8.7 million by 2014. [19] As of January 2014, the Pew Internet & American Life Project reported that 42 percent of American adults owned a tablet, compared with 32 percent owning eReaders. [20]

The publishing industry began worrying that rising sales of tablets (at the expense of eReaders) might put a damper on the eBook business. In the words of Kelly Gallagher, then vice president of publishing services at Bowker Market Research (a major data source for the publishing industry),

> The tablet is a multifunction device and will therefore draw the reader into non-book activities and therefore cause

them to consume books slower and therefore buy fewer books versus a single function e-reading device. [21]

Those in the publishing world are acutely aware of the distractions tablets offer. In fact, they have run seminars on how to create eBooks with "enriched content ... designed and built to compete" in a tablet environment crowded with "applications and activities, from Angry Birds to e-mail." [22]

Distracted or not, people are buying eBooks and report reading them on tablets. A 2012 study found 43 percent of tablet users in the United States saying they read books at least weekly on their tablets. Yet to put this statistic into perspective, reading books was in fifth place for tablet use, after email, news, games, and social networking sites. [23] People are also increasingly reading eBooks on mobile phones. In the same study, 15 percent of respondents said they used smartphones weekly for reading books, though again, the numbers significantly trailed email, news, games, and social networking. Given the explosion in smartphone use worldwide—a billion smartphones shipped in 2013 [24] —we must not underestimate the role of phones as a digital platform of choice.

Age makes a difference in how people access eBooks. Young adults are more likely to read eBooks on their mobile phones than those over age 30. These "older" readers do more of their eBook reading on tablets. [25]

DO READERS LIKE eREADING?

People are buying digital devices they use for reading. In January 2014, 28 percent of American adults reported having read an eBook over the past year. [26] Millions of eBooks are selling. The publishing industry, along with hardware distributors, is pressing us to buy even more.

But what do readers themselves say about eReading? Do they like it? To contextualize that question, it makes sense to ask how much reading they are doing in the first place.

WHO IS READING HOW MUCH

Long before the proliferation of eReading devices, America had

been worrying if reading was "at risk." A scary 2004 study by the National Endowment for the Arts said yes, reporting that between 1982 and 2002, there was a 10 percent decline in the number of adults reading literature. [27]

A follow-on NEA study released in 2007 expanded "reading" to include nonfiction of all sorts—not just books but magazines, newspapers, and online reading. This time the study added adolescents as well. The results were just as gloomy. While 15-to-24-year-olds watched TV almost two hours a day, they devoted only seven minutes to leisure reading. Moreover, reading scores on standardized tests given to 12th graders in the United States had fallen significantly since 1992. [28]

The picture seemed a bit rosier in 2009 when the NEA issued *Reading on the Rise*. Adult reading of literature had risen 7 percent, with the most rapid gains among 18-to-24-year-olds. But before we get too excited, keep in mind what these figures represent. The survey had asked, "During the last 12 months, did you read any a) novels or short stories; b) poetry; or c) plays?" That's "any" as in "even one." When the survey asked about reading books of any sort for pleasure, there had been a drop between 2002 and 2008. [29] A recent survey, this time by Nielsen Book, reported that a whopping 41 percent of the teenagers they surveyed don't read for fun. That number had been a comparatively benign 21 percent in 2011. And the US Bureau of Labor Statistics found that of the nearly 6½ hours that 20-to-24-year-olds devoted to leisure or sports activities each day on weekends and holidays, on average barely 10 minutes were spent on leisure reading. [30]

Measuring how much people are reading is a bit like judging levels of happiness. There is the problem of self-reporting, a research technique plagued with inaccuracies. There's also the question of what "counts" as reading (much less happiness). For reading, do we include comic books? Online newspapers? And does just starting a book qualify?

Writing in the *Atlantic*, Alex Madrigal tried to debunk the notion that the internet killed (or at least wounded) book reading. Using data from Gallup surveys, he pointed out that between 1957 (definitely pre-internet) and 2005 (definitely post-), the number of people who said they were presently reading a book had doubled from less than 25 percent to almost 50 percent. Looking at Gallup's press release for its 2005 survey, there was even more encouraging news. When pollsters asked adults whether the

internet was affecting their book-reading habits, 73 percent responded no. Another 6 percent said the internet led to their reading more books, while 16 percent reported a negative effect. (The remaining 5 percent had no opinion.) [31] Remember these data are pre-Kindle and pre-iPad.

The Pew Internet &American Life Project has post-Kindle/post-iPad findings, collected in late 2011. Adults (age 16 and older) who read eBooks reported doing more book reading overall (eBooks plus print) than those who only read printed books: an average of 24 books per year versus 15 books. Those who owned eReaders or tablets were more likely, on any given day, to have done book reading—onscreen or in hardcopy—than readers who didn't have a portable digital device (56 percent versus 45 percent). [32]

A caveat about the Pew study, as well as most others: It is not clear whether "reading a book" means finishing it. For what it's worth, when the digital library service Oyster needs to decide if you have "read" one of its books, the threshold is 10 percent. At that point, Oyster—which can track where you stopped—needs to pay the publisher's fee. [33] A mere 10 percent counts (at least for financial purposes) as having read a book? Were I a Twitter denizen, I'd tweet that number.

Another Pew analysis focused on readers ages 16–29. Among those who indicated they read long-form digital content (defined here as books, newspapers, and magazines), 40 percent said they were spending more time reading now because they could access material onscreen. [34]

Reading onscreen is undeniably growing. You might think that is because readers increasingly prefer digital books.

Do they?

THE PREFERENCE QUESTION

Reading on screens is a bit like anchovies: Some love them, some hate them, some tolerate them, and some change their minds. Throughout this book, the issue of user preferences—print or onscreen—will engage us. Here is a flavor of what is to come.

For over two decades, psychologists and reading specialists have been comparing how we read on screens versus in print. Studies have probed everything from proofreading skills and reading speed to comprehension and eye movement. Nearly all

recent investigations are reporting essentially no differences.

But a second finding is also consistent: When asked, the majority —sometimes the vast majority—say they prefer reading in print. (Later on we will review the data.) They comment that print is more pleasant to read, that it is less taxing on the eyes, that they just like hardcopy. Some report they learn better with paper. When we talk about the eTextbook movement in higher education, we will see recurring mismatches between administrators' attempts to save students money by moving to electronic books and many students' beliefs that hardcopy makes for better education, at least when doing long-form reading.

What about eBooks for kids?

CHILDREN'S BOOKS GO DIGITAL

Start with the money trail.

eBooks for children (from babies to adolescents) has become a new frontier for publishers. With sales revenue for adult eBooks cooling off from earlier triple-digit growth, attention to the children's market paid off: 2012 eBook revenues in the "children's/young adult" category rose 121 percent over the previous year. [35] Conferences and webinars are focusing on children's eBooks, and annual book fairs—from New York to Frankfurt and London—are brimming with new digital offerings for kids. In the words of Andi Sporkin, a spokesperson for the Association of American Publishers, "It's the fastest growing category in the trade." [36] Data out in early 2014 indicate that two-thirds of American children ages 2 to 13 are now reading eBooks. [37]

Yet look more closely, and the picture blurs. In 2011, Pew interviewed adults who had read both eBooks and printed books in the past 12 months. Of these, 81 percent said print was a better format for reading with a child. Data from a year later documented parents' belief that having children read print books themselves is "very important." [38] Matt Richtel and Julie Bosman, reporting in the *New York Times*, found that even "die-hard downloaders of books onto Kindles, iPads, laptops and phones" wanted their children to be reading print (and having it read to them). Why? Parents were concerned their kids would get distracted by the "bells and whistles" of the devices and not focus on the reading part. [39]

I am reminded of another Richtel piece, this one about Silicon

Valley parents sending their children to the Waldorf School of the Peninsula, where digital technologies are out and paper, pen, and knitting needles are in. Parents included the chief technology officer of eBay, along with employees of Google, Apple, and Yahoo. These folks were hardly technophobes. But they believed there is a time and place for using digital tools, and early schooling isn't one of them. In the words of one father, whose experience at Google included writing speeches for Eric Schmidt, "If I worked at Miramax and made good, artsy, rated R movies, I wouldn't want my kids to see them until they were 17." [40]

Data from the publishing industry confirm that parents—and children—are not fully sold on eBooks for younger readers. A study conducted by Bowker in fall 2012 found that 69 percent of parents preferred print books for children under age 6 and that 61 percent preferred print for children 7–12. When asked why, the parents talked about hardcopy helping children focus—not get distracted— along with preference for the look and feel of print. [41] A spring 2013 survey by Harris Interactive reported that 76 percent of parents with children up to age 8 favored reading printed books to their children. [42] Similar findings have been reported by the children's publisher Scholastic. [43]

Data on 13-to-17-year-olds came from the teenagers themselves. In the Bowker study, preference for print over eBooks rose from spring 2012 (61 percent) to fall 2012 (66 percent), equaling the level previously reported for fall 2011. Bowker referred to this shift as "snapping back" to print. When teenagers were asked why they didn't want to read eBooks, answers included preference for the experience of a printed book, cost of getting a digital device, and not seeing a need for reading onscreen.

In thinking about eBooks for children, it is one thing to look at sales figures and personal preference. It's another to ask whether eBooks are good for kids. The question is on many people's minds. [44] The American Academy of Pediatrics continues to urge parents to restrict the amount of time children under age 2 are exposed to media, including not just television but digital screens of any sort. The Academy's 2011 report advised that "unstructured playtime is more valuable for the developing brain than any electronic media exposure." Or, as Frederick Zimmerman at UCLA put it, "Kids need laps, not apps." [45]

If college students generally prefer reading in print, and children (and their parents) are leaning toward hardcopy, what about authors? Book critic Michael Dirda described eBooks as being like motels rather than "home." In a similar vein, novelist and travel writer Paul Theroux had this to say:

> [With eReaders] something certainly is lost—the physicality of a book, how one makes a book one's own by reading it (scribbling in it, dog-earing pages, spilling coffee on it) and living with it as an object, sometimes a talisman. [46]

Mohsin Hamid, who also loves technology, finds that reading print offers him more of the solitude he craves (including freedom from distraction). Anna Holmes speaks of how challenging it can be to get deeply engaged in reading an eBook—and how she encouraged people not to buy the electronic version of her own second book. [47]

   At the same time, other authors are (or have become) digital screen devotees. Farhad Manjoo reflected that once he got an iPad, he

> pretty much stopped reading on paper altogether. ... When I do page through print newspapers and magazines, I feel something novel—the sensation that I'm experiencing an inferior product. [48]

Even William H. Gass, known for his 1999 essay "In Defense of the Book," did an about-face in 2012 by writing a long essay (accompanied by Michael Eastman's photographs) that could be read only on an iPad running iBooks 2. In contrast to his earlier declarations that digital words "have no materiality, they are only shadows, and when the light shifts they'll be gone," Gass now concluded that over the past ten years the internet had improved, and electronic publishing finally made sense. [49]

   Science fiction giant Ray Bradbury also eventually made his peace with eBooks. In 2008, Bradbury had memorably dismissed digital books, telling the Associated Press, "There is no future for e-

books because they are not books" and "E-books smell like burned fuel." A year later, he described the internet as "a big distraction." [50] Yet in 2011 (the year before he died), Bradbury was convinced by his publisher, Simon & Schuster, that he had no choice but to allow ePublication of his work. As his literary agent explained, "A new contract wouldn't be possible without ebook rights. [Bradbury] understood and gave us the right to go ahead." [51] Not exactly a resounding conversion.

THE "CONTENT VERSUS CONTAINER" DEBATE

Much of the controversy over digital reading revolves around how we view the relationship between "content" and "container." Are the words themselves fundamentally what readers are after, or does the form they take (in a printed book or on a digital screen) matter? Admittedly, not all screens are created equal. Some have better resolution than others; some screens have more physical real estate—though for that matter, printed works hardly assume a uniform shape. But the fundamental point remains: Are there readers who reject digital screens just because they are not physical objects?

Appeals not to confuse text with how it is bound up echo up to us from the mid-eighteenth century, when Philip Dormer, the Earl of Chesterfield, advised his son:

> Due attention to the inside of books, and due contempt for the outside is the proper relation between a man of sense and his books. [52]

English professor Leah Price reminds us that Victorian readers of novels were focused on stories, not bindings. [53] Today, eReading advocates urge us to focus on content. Brian O'Leary cautions that

> the way we think about book, magazine, and newspaper publishing is unduly governed by the physical containers we have used for centuries to transmit information. [54]

Others go even further, suggesting eBooks themselves are only a

transitional phase, with the next transformation being into web-based content and then apps. [55]

Yet sometimes the container matters more than the content.

BOOKS AS OBJECTS

In seventeenth-century England (and New England), there were those who owned Bibles, though no one in the household could read. The Good Book itself had totemic value. An early eighteenth-century traveler in Scotland was asked to use his Bible to fan the face of an illiterate sick man because of the book's presumed curative powers. At the end of the nineteenth century, a woman in Hampshire, England, "ate a New Testament, day by day and leaf by leaf, between two sides of bread and butter, as a remedy for fits." [56]

OK, you say, but that was the Bible. Are there other cases where books are used as objects, not for their content? Lots.

A prime example is the books sold by the yard to the burgeoning middle class in nineteenth-century England. Bindings were coordinated with the decor, and such owners rarely picked up a volume to read. An article in *Fraser's Magazine* described books as the new fashion for "furnishing" a home:

> We live in an age that ... spends a vast deal of money upon books. It does so, however, apparently very much as it scatters its abundance in the purchase of crackle china, mediaeval carvings, Louis Quinze furniture, or fictitious Turners—simply because it is the fashion to do so. [57]

The tradition of text-as-decor traces back at least to the time of Seneca, who rebuked "those who displayed scrolls with decorated knobs and colored labels rather than reading them." [58] In early modern England, with the rise of a new gentry class, Daniel Defoe included this dialogue in his guide for the socially mobile, *The Compleat English Gentleman*, composed in the early 1700s:

Gentleman:	"What should I do with books? I never read any. . . ."
Friend:	"O but Sir, no gentleman is without a library. 'Tis more in fashion now than ever it was."

. . .

Gentleman:	"I hate any thing that looks like a cheat upon the world. Whatever I am, I can't be a hypocrite. What should I do with books that never read half an hour in a year I tell you?"
Friend:	"But, Sir, if a gentleman or any relation comes to your house to stay any time with you, 'tis an entertainment for them ... ; besides 'tis a handsome ornament." [59]

Before you dismiss such behavior as eighteenth- or nineteenth-century foolishness, check out modern services specializing in helping you judge a book by its cover. Book Décor offers handsome leather-bound volumes for beautifying your home. As its website explains,
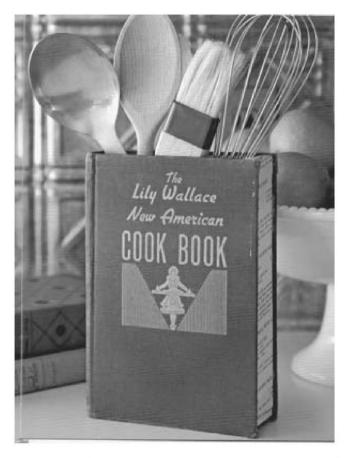
> The books we feature are used almost exclusively for ornamental purposes. While all of our products contain rich texts, *they are all imported from Europe and therefore printed in foreign languages*.

Books by the Foot has prices starting as low as $6.99 per foot. For more money, you might select books bound in earth tones or "luscious creams." [60] For the do-it-yourselfer, there are a host of guides on decorating with books. [61]

Books also assume value as rare objects on the market. Volumes often fetch high prices not on the basis of their content but because they are first editions, are signed by the author, or have a special binding. Stephen Crane's *Red Badge of Courage*, with the original dust jacket, recently sold for $10,625. A copy of the Fourth Folio edition of Shakespeare's plays, printed in 1685, can be yours for only $247,500. [62]

If you are feeling creative, you might repurpose books or make them into works of art. Here is an example (taken from Lisa Occhipinti's *The Repurposed Library*) of a cookbook given "new life" by transforming it into a kitchen tool bin.

Graphic artists such as Cara Barer make sculptures out of physical books, while Kara Witham hollows out books to form safes. [63] A company called Litographs uses book text to decorate clothing (see next page):

"Tool Bin," Lisa Occhipinti. From *The Repurposed Library* (New York: Stewart, Tabori & Chang, 2011), 139. Used with permission.

Alice's Adventures in Wonderland T-Shirt. Litographs. Used with permission.

You'll need to get out a magnifying glass, but printed on the T-shirt (front and back) are about 75,000 words from *Alice's Adventures in Wonderland*. [64]

As eBooks have begun to encroach upon the print market, one real possibility is that hardcopy books will increasingly become boutique items. Horses—for centuries a basic means of human transport—are now largely relegated to racetracks and personal recreation. Motorized ships replaced sail for commercial travel, though the America's Cup still attracts a strong following and sailing remains a wonderful summer pastime.

AFFORDANCES OF PRINT AND SCREEN

By this point you may be asking, Why such an either-or approach to the media we use for reading? Can't we just recognize that print might be well suited to some purposes and digital text preferable for others?

Of course. There is even a name for talking about what a particular object is good for: affordances. One of the affordances of

paper is that it can be folded. An affordance of grass is that it's edible to cows (though not to people). These days, the notion of affordances is commonly invoked when talking about information and communication technologies such as computers or mobile phones. An affordance of computers is their ability to store large amounts of data. An affordance of mobile phones is that, unlike landlines, the telephone number is personal. [65]

One important affordance of digital screens is their convenience. They lighten the load. (Consider twenty books on a Kindle versus twenty in your suitcase.) They also help clear floor space. Alex Halavais, a professor of communication and social computing, made news in 2010 for systematically scanning most of his 3,000-volume personal library and then disposing of the hardcopy originals. The books, he said, were taking up too much space in his small New York City apartment. [66]

Print has its own affordances, chief among them being the very physicality of a book, newspaper, or magazine. When reading printed text, you have a literal sense of place. You also have a sense of touch. In the words of Andrew Piper, a literature professor, "Reading isn't only a matter of our brains; it's something that we do with our bodies." [67] And assuming you bought a printed work or received it as a gift, you own it: You can mark it up, lend it to friends, sell it, or will it to your heirs. Not so with eBooks you acquire from Amazon. It turns out you are essentially leasing them, though at least now Amazon grants limited rights to lend a Kindle book you "bought." [68]

Then there are the trade-offs. For many readers, short texts seem fine for eReading but long ones tend to work better in hardcopy. Digital devices are tailor-made for searching and consuming gulps of information, while print is arguably better suited for "deep reading" of complex texts. Similarly, when reading on a digital device with an internet connection, you can check out a reference on the web—but you are also more likely to get distracted.

Affordances are properties of objects. But what about the properties of readers themselves? A popular (though far too categorical) hypothesis is that adults cling to print while younger people gravitate toward eBooks. In talking about children's books, we have already seen eBook-reading parents wanting print for their children. We also observed that not all teenagers are making a beeline for digital. And when we get to looking at data from young

adults, we'll see a strong preference for hardcopy.

Then there is the question of habit. Do we favor reading on one platform or another simply because we have done so in the past? And when we are doing eReading, are there affordances of print that we miss?

It's time to start tackling these issues. The first step: getting a handle on what we mean by reading, including how it has changed with time.

2 Reading Evolves

Reading has a history. It was not always and everywhere the same.

—Robert Darnton

Why do we read?

Seriously, why do we? Answering that question will go a long way toward figuring out if reading is different when done on digital screens than on paper and, if so, whether encountering words onscreen alters the very nature of reading.

READING AND READERS

He was sitting in Ahmednagar Fort in Maharashtra, imprisoned by the British for his role in India's independence movement. Jawaharlal Nehru wrote:

> Why does one read books? To instruct oneself, amuse oneself, train one's mind ... certainly all this and much more. Ultimately it is to understand life with its thousand faces and to learn to live life. ... [B]ooks give us the experiences and thoughts of innumerable others, often the wisest of their generation, and lift us out of our narrow ruts.[1]

Books can educate. They can entertain or extend our horizons. And they can provide relief from boredom or distract us in times of woe. During the First and Second World Wars, England experienced an explosion in light reading that helped take people's minds "off the war."[2]

The word "reading" hardly refers to just one kind of activity. What

are some of the possibilities?

Begin with the physical act of reading. Are you reading aloud or silently? Alone or with others?

Historically (at least in the West), reading used to be done aloud. True, "aloud" was relative, since in most cases it meant "with moving lips" and essentially mumbling to yourself. The fact that Saint Ambrose actually read silently (a feat observed by Saint Augustine) is generally taken as evidence that silent reading was rare through at least late antiquity.[3]

Manuscript expert Paul Saenger argues that in early medieval Europe, it was introduction of spaces between written words that helped make silent reading possible. The shift, he says, occurred sometime between A.D. 600 and 800.[4] Before that, the words in texts—portable or monumental—ran one after another in a continuous stream known as *scriptio continua*, as in these words inscribed on Trajan's Column in Rome:

SENATVSPOPVLVSQVEROMANVS

While *scriptio continua* may be fine if you are reading aloud in a language you already know, spaced words make it easier to decode in your head, particularly in a language you don't. In the British Isles, spacing started showing up in manuscripts written in Latin, apparently to help members of the clergy who, popular lore notwithstanding, had considerable difficulty understanding the language. Later, spacing found its way into vernacular texts as well.

Even if you know how to read silently, you don't always keep quiet. In the Middle Ages, much of what was read was read aloud. Think of those storied monks gathered for the evening meal, listening to the Bible being intoned, or of Chaucer, reading his work aloud in court. Reading aloud remained common for centuries to come. The reasons are many. We read to others who do not know how, whether the scene is twenty-first-century parents with toddlers on their laps or an eighteenth-century gentleman reading the newspaper to a cluster of illiterate citizens gathered around him. We read aloud to people who are otherwise occupied, as happened

in early twentieth-century cigar factories in Key West, Florida.[5] Poets and novelists hold "readings."

The list goes on. But since this book focuses on reading in print versus onscreen, and since the lion's share of digital reading is done silently and alone, we will concentrate on silent, solitary reading.

Reading specialists traditionally identify an assortment of ways we might approach a written work. Familiar categories include skimming (getting the gist of things), scanning (searching for specific information), reading extensively (say, reading novels for fun), and intensive reading (really concentrating on the text). In the eighteenth century, Samuel Johnson laid out a rather similar set of distinctions:

- Hard study (done with pen in hand)
- Perusal (searching for particular information)
- Curious reading (when engrossed in a novel)
- "Mere reading" (browsing and skimming)[6]

Doing a bit of regrouping, we will distinguish between "reading on the prowl" and "continuous reading."

Reading on the Prowl

You are browsing in Barnes & Noble for a book on Elizabeth I. After selecting a prospect in the English history section, maybe you glance at the back cover to check out the author's bio and blurbs from distinguished-sounding sources saying complimentary things about the book. You might skim the table of contents and even the bibliography, then thumb through some pages to confirm if the volume seems worth a real read (and your money).

Now imagine you are looking online for information on the Virgin Queen. If you google her name, the first hit (at least in the United States) is likely to be the Wikipedia article, which you breeze through to get some basic orientation. Say your memory for history is a bit hazy, and you don't remember who Elizabeth's mother was. Forget about scanning through the piece, which you would need to do if it were in hardcopy. Instead, just gin up the FIND function, type in "mother," and up pops "Anne Boleyn."

Skimming and scanning are tried-and-true methods for getting