

The Mediated Book

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Gutenberg's printing press promised a revolution in the reproduction and distribution of books. The hand-crafted era of the scriptorium necessarily meant small production and no assurance of reproductive fidelity. Hand-copying would generate errors and was slow. More copying meant copying of old errors plus the introduction of new ones. The printing press promised better: the ability to generate books in quantity and to do so accurately. Although the leap from technology to implementation was not simple,¹ Gutenberg put us on the road to the books that we know today.

We are now at a distinctive point of change for the book, probably the most momentous point since Gutenberg. We are now entering the era of the mediated book. Books will no longer be read only on paper. Increasingly, books will be read on intermediating devices such as Amazon's Kindle and Sony's digital book reader. And the emergence of online libraries of digital collections—most notably in Google's Book Search service—means also that our experience with books will be increasingly intermediated.

The interface for the book is changing and that has important consequences for how books are produced and financed. Mediated books are fundamentally on-demand books, that is books that are produced at the point that a consumer wants to see them. This is

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¹ Adrian Johns, *The Nature of the Book* (University of Chicago Press, 1998).

pull rather than push. That might matter for how fixed a particular text is, as the book could be updated frequently with the current version delivered each time the digital copy was requested. That isn't my issue here;² instead I want to focus on what on-demand production of mediated books means for book financing.

Media types differ in the extent to which payments are made by consumers and advertisers. Take three examples: broadcast TV, newspapers and books. Broadcast TV—old-fashioned stick-out-a-pair-of-rabbit-ears TV—is “free” meaning of course that consumers pay no cash but instead are subject to advertising. Advertisers pay to reach consumers. Newspapers are paid for by a mix of advertising and circulation fees (or at least they used to be when newspapers seemed economically sustainable). And books come with no advertising at all and are paid for directly in cash by consumers. The mediated book offers the promise to change that: books paid for, in part or in toto, by advertising. Intermediation greatly enriches advertising opportunities for books and the on-demand production possibilities inherent in book mediation solves a core timeliness problem that past book-based advertising would have faced.

I. The New Book Mediation

There are two faces to the new book mediation: Amazon's Kindle and Google Book Search. With Amazon's Kindle, we seem to have reached a before and after point. Prior to the Kindle, electronic reading devices struggled to gain traction. With the Kindle, ereaders have started to spread out meaningfully and we may be entering an exciting era of competition in these devices.³ Google Book Search promises the library of Alexandria, everywhere.

² See Tim O'Reilly, *Reinventing the Book in the Age of the Web*, O'Reilly radar, Apr. 29, 2009 (online at <http://radar.oreilly.com/2009/04/reinventing-the-book-age-of-web.html>).

³ Shira Ovide & Geoffrey A. Fowler, *Publishers Nurture Rivals to Kindle*, *The Wall Street Journal*, May 4, 2009, p. B2; Brad Stone, *Extra, Extra!, Looking to Big-Screen E-Readers To Help Save the Daily Press*, *The New York Times*, May 4, 2009, p. B1.

Instant online access to digital copies of every book ever written. That is the promise at least; a closer look at the grubby details makes clear that GBS will fall far short of that, but it will still be a wonder.

Consider first Google Book Search. As part of its mission to “organize the world’s information and make it universally accessible and useful,”⁴ on October 7, 2004, Google announced its new Google Print Service at the Frankfurt Book Fair.⁵ That service—now relabeled Google Book Search—was based on agreements with more than a dozen publishers to bring their books into the Google search engine. Google subsequently signed deals with leading academic libraries and started large-scale digitization of books. Meaning mass copying of books, so it was hardly surprising when the Authors Guild brought a class action lawsuit against Google. A settlement has been proposed and is now set for consideration in federal court on October 7, 2009.⁶

Switch to electronic readers. There are two core device strategies to these, though the Kindle’s success is quickly pushing us towards Amazon’s vision. One strategy makes the ereader another computer peripheral. You hook up the ereader to your computer and download content to the reader through the computer’s online connection. That means no spontaneous purchases: purchases can only be made when the reader, the computer and the whim are together. Amazon’s Kindle is an instant gratification device: content delivered to you on a moment’s notice when and wherever you want it.

⁴ Google Corporate Information (online at <http://www.google.com/corporate/>).

⁵ Edward Wyatt, New Google Service May Strain Old Ties in Bookselling, New York Times, Oct 8, 2004 (online at http://www.nytimes.com/2004/10/08/technology/08book.html?_r=1&scp=2&sq=google%20frankfurt%20book%20fair%202004&st=cse).

⁶ For details, see the settlement website at <http://www.googlebooksettlement.com/>. I address some of the antitrust and competition issues raised by the proposed settlement in Randal C. Picker, *The Google Book Search Settlement: A New Orphan-Works Monopoly?*, U Chicago Law & Econ Olin Working Paper No. 462, April 16, 2009 (online at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1387582).

The Kindle is both device and service. The Kindle cleverly bundles dedicated wireless connectivity with the ereader so that a Kindle user need not make her purchases through her computer. Amazon saw that it could contract for wireless service with an existing provider—Sprint Nextel—and remove the need for the Kindle user to manage connectivity.⁷ This piece of design—embedding wireless access into the device and making it free and dedicated—seems to have been a critical step to enable the Kindle to gain traction in the marketplace.

Unsurprisingly, the Kindle is also an exercise in legal design. When was the last time you bought a book that came with a license agreement? Actually, look at the copyright page for a recent book purchase and you are likely to see a paragraph that purports to limit use of the book. And of course in classic cases like *Bobbs-Merrill*,⁸ we saw efforts by publishers to use book legends to control subsequent sales of their books. But even if we recognize that ordinary books aren't quite as free of licensing rules as we might imagine, the terms of use for the Kindle are still something completely different. That said, the Kindle's license is not different in kind from other intermediated services and devices, such as Apple's iTunes and its iPod Touch and iPhone platforms. This is all a question of reference point.

Focus on the Kindle license.⁹ The license contemplates the continual evolution of the device through new software downloads and recognizes the possibility that Amazon will make decisions that will change the use of the device. Amazon reserves the right to change the terms for wireless access and also has the right to automatically provide what the contract describes as

⁷ Dan Frommer, Kindle, Boost Mobile Help Sprint Nextel, Silicon Alley Insider, May 4, 2009 (online at <http://www.businessinsider.com/kindle-boost-mobile-help-sprint-nextel-2009-5>).

⁸ *Bobbs-Merrill Co. v. Straus*, 210 U.S. 339 (1908).

⁹ The Amazon Kindle: License Agreement and Terms of Use is online at <http://www.amazon.com/gp/help/customer/display.html?nodeId=200144530>.

“updates/upgrades” to software. Amazon more generally retains the right to “modify, suspend or discontinue the Service at any time.”¹⁰

In prior work, I have referred to these as evolving products, that is, products that continue to evolve even after you bring them home.¹¹ The combination of networking plus adaptability through the ability to rewrite software on the device means that the installed base of devices can continue to evolve. For old-fashioned freestanding products, one you took it home never changed. The product line itself might continue to evolve meaning that a new customer buying a new version of the product might have an updated version of the product, but once you brought home your purchase, that device never changed. Not so with networked devices—evolving products—and the Kindle license reflects this.

The license limits the uses to which downloaded works can be put—digital content is limited to “personal, non-commercial use”—and limits the extent to which an owner of the Kindle can seek to modify it.¹² The Kindle owner is barred from seeking to circumvent security features that protect the content; cannot reverse engineer the device or its associated software; and cannot alter it or tamper with digital rights management software.¹³ The contract may facilitate the creation of a behavioral targeting infrastructure for advertising in that it contemplates that the Kindle will phone home to the Amazon mothership and report various information.¹⁴ This provision is relatively open-ended and is sure to make privacy advocates nervous.

¹⁰ See Sections 2 (Wireless Connectivity: General); 4 (Software: Automatic Updates); and 5 (General: Changes to Service).

¹¹ Randal C. Picker, *Rewinding Sony: The Evolving Product, Phoning Home and the Duty of Ongoing Design*, 55 *Case Western L. Rev.* 749 (2005) (online at http://law.case.edu/student_life/journals/law_review/55-4/picker.pdf).

¹² Section 3 (Digital Content: Use of Digital Content).

¹³ Sections 3 (Digital Content: Restrictions) and 4 (Software: No Reverse Engineering, Decompilation, Disassembly or Circumvention);

¹⁴ Section 5 (General: Information Received).

We are in early days on these kinds of devices and the associated licenses. As written, these are licenses that give broad authority to Amazon to change the features on already-purchased Kindles. Amazon obviously faces substantial reputational limits and competitive constraints in how it might evolve already-distributed Kindles, but that isn't to say that we won't see disputes. Amazon's second-generation Kindle, the Kindle 2, originally came with a computerized text-to-speech feature that would read texts out loud to listeners. The Authors Guild jumped in immediately arguing that this new feature would put pressure on the audio books market and moreover would violate the copyright holder's rights.¹⁵ This seems like a stretch¹⁶ but notwithstanding that Amazon retreated and made it possible for publishers to opt out of the feature.¹⁷

II. The Technology of Production

Jump across time quickly: from medieval monks to Gutenberg to 1959 and the Xerox 914 and then to Sean Fanning, who created Napster and the finally to, say, Google and Amazon's Kindle. These events define different eras of content creation. Call the first period Handcrafted Content; the second, Gutenberg's Professionals; the third, starting with the Xerox 914, Distributed Content and Copying; and the fourth—or 3B if you prefer—On-Demand Production. In defining these eras, we should pursue two separate analytic lines. The first focuses on the *second*-copy costs

¹⁵ The Authors Guild, E-Book Rights Alert: Amazon's Kindle 2 Adds "Text to Speech Function," Feb. 12, 2009 (online at <http://www.authorsguild.org/advocacy/articles/e-book-rights-alert-amazons-kindle-2.html>).

¹⁶ See, e.g., Michael Kwun, Does the Authors Guild Want to Sue You for Reading Aloud to Your Kids?, The Electronic Frontier Foundation, Feb. 11, 2009 (online at <http://www.eff.org/deeplinks/2009/02/does-authors-guild-want-sue-you-reading-aloud-your>).

¹⁷ Greg Sandoval, Amazon retreats on Kindle's text-to-speech issue, CNet News, Feb. 27, 2009 (online at <http://news.cnet.com/amazon-retreats-on-kindles-text-to-speech-issue/>).

for the author/publisher versus those of a person in possession of a single copy of the work. Not the cost of producing the first copy, but instead, first copy in hand, how much does it cost to create a copy of that copy? Does the author/publisher have an advantage over a person who has acquired a physical copy of the work? The second line of interest focuses on a question of *timing*, namely, how far in advance copies are most economically produced. Should copies be produced all at one time or can they be created one-by-one efficiently? Should copies be produced in advance of when they are needed or just at the point of need? Of course, these two lines are closely-related: it might be much cheaper to make the next copy of a work just when making the prior copy. That would mean printing stacks of books at once and then doling them out over time as someone wanted one.

A. Production Costs and Symmetry

In the monk era—the pre-printing press era—all copying was done by hand. These were manuscripts copied one-by-one in the scriptorium. There weren't strong advantages—economies of scale if we are going to be economists—in producing second copies. All copies were expensive and the author/publisher, having produced one copy of the work, was no better situated to make another copy of the work than would be any holder of the work. To be sure, the technology of copying—the ability to read and write—may not have been widely distributed, so this was a key way in which copies were controlled, but presumably only the literate were much interested in copies anyhow, and for the literate, the costs of producing the second copy were high but roughly identical to the costs of the author.

The printing press changed all of that. The printing press obviously lowered printing costs generally, but note what it did for second-copy costs. Those costs dropped dramatically for publishers but changed very little for someone in possession of a physical copy of the book. Before, in the handcrafted era of the monks, publishers and copy holders faced the same, very high, second-copy costs. In the Gutenberg era, the author/publisher was much

better situated than a copy recipient to produce another copy. That cost advantage served as an important way in which the effective rights of the author/publisher to control copies were made meaningful. This is not to say that we didn't have piracy, but it was of a different sort, say a printer running a secret print runs for a pirate.¹⁸

The third era of copying is defined by cheap, symmetric copying technology. The company then known as Haloid Co. created the modern era of copying in 1959, when it introduced its new 914 product line. Haloid had created the first automatic plain-paper copier based on its xerography copying process, and soon changed its name to Xerox. Before Xerox, copies were made using clumsy technologies such as carbon paper. I remember carbon paper from my childhood, but you might not even know what it is. You put a piece of carbon paper between two sheets of plain paper, rolled all three sheets together into a typewriter and banged away. The typewriter key struck the typewriter ribbon, which in turn made an imprint on the first plain sheet. The carbon paper then put that same imprint on the second plain sheet, so two copies were created. Don't even ask how you fixed a mistake if you typed "there" when you really meant "three."

Before Xerox, in the mid-1950s, we were making 20 million copies a year in the United States. With the 914, by 1965, we were up to 9.5 billion. One year later, 14 billion. By 1985, we were making 700 billion copies across the globe.¹⁹ The numbers are staggering, but also don't miss the key change in control. Authors made carbon copies, not readers. The person who received a carbon copy of a manuscript couldn't easily create another copy from that copy. You could retype the entire manuscript of course, but that is no different than our monks who could re-copy medieval texts by hand. But with xeroxing, you could make a copy

¹⁸ Adrian Johns, *The Nature of the Book*, supra note 1, at 162-64.

¹⁹ Gary Jacobson & John Hillkirk, *Xerox: American Samurai* 67 (MacMillan Publishing, 1986).

from a copy. Xerox decentralized copying. It moved control from others to users and it altered the consequences of the *copy*. A copy carried with it the ability to be copied. Xerox broke the control defined by Gutenberg.

Somewhat. Think about all of the things that you wouldn't actually copy. A novel on the best-seller list? Today's newspaper? You mean, the whole thing? The new *Cosmo*? You could copy each of those, but photocopying whole works was almost always far inferior—worse copies that cost more—than just buying the original. Plus to make a copy you have to have access to the original. Even if you wanted to copy the hot novel, you certainly couldn't walk into a book store to copy it. You needed to borrow it from a friend, and if she was done, why not read her copy?

So where would we photocopy copyrighted works? The library and in universities. We copied stored works—works that you couldn't purchase contemporaneously—usually to unbundle them—one article from a year-old newspaper or a single journal article from an issue from a decade ago. Copying of this sort extended traditional sharing of works through libraries. This posed issues for copyright holders—would corporate libraries buy only a single copy of a journal rather than duplicate copies knowing that they could always photocopy particular articles?—but usually Xeroxing didn't mean the copying of an entire work rather than buying the original. With photocopying, it was still easier for the original author to make the next copy of the entire work, but users were much better situated to make partial copies of works, since users knew exactly what parts they wanted.

The VCR came closer to allowing full substitution, meaning make a copy instead of buying the original, at least once we focus on what it means to “buy” over-the-air TV. In the beginning—before prerecorded tapes became the predominant use of the VCR—the VCR was used for time-shifting: watching a show at a later time that you could have watched for free originally. This wasn't a copy used to substitute for the original; it was the original, but just at a more convenient time. Not quite, of course, and there

was the fear, the fear that VCR watchers would never see another commercial and that if everyone stopped watching “live” television, we would need a new way to pay for television. Over-the-air television is based on control over copies. Lose that control through the VCR and we can no longer assume that consumers will be exposed to commercials, and without commercials, the historic business model for broadcast TV vanishes.

The Internet represents the perfection of this copying technology. Networked PCs created a distribution network for content, and Napster demonstrated the power of the new distribution tool. Buy a CD, rip it and unload it. All music available to everyone all of the time. Napster threatened the *copy*. If anyone could take a song, copy it and distribute to the world, we really would have entered a world in which content was sold once, free everywhere. This would be full-scale substitution of copies for originals. As a legal construct, the copy would have little meaning. The copy right would be unenforceable, and a business model based on selling copies or on control of copies would no longer be tenable.

B. On-Demand Production (or Just-in-Time Content Production)

That is the downside of the Internet, but not all content faces the same threat from the Internet as ultimate Xerox machine. Internet copying has mattered most for music. These have been relatively small files where copying and distribution is easy. The work starts as a digital work and continues in that form as it is copied and redistributed. The same is true of video but the files are much larger and that may have slowed down the rate at which consumers switched over to downloaded video.

Books are in a very different position. They start analog and digitizing an entire book is a fair chunk of work. Not not doable, but nothing like ripping and uploading a CD. And with the emergence of meaningful ebook readers and Google Book Search, the book is poised to get a new intermediated interface. This brings with it important changes in the opportunities that we have

for organizing books. Call this the infrastructure of books. This will undoubtedly matter for the way in which books are distributed, as we switch from physical settings such as bookstores and libraries to spectrum and intermediating devices. But it also matters, perhaps just as importantly, for the opportunities that the change in text medium means for the financing of books and for their availability.

Focus first on what digital distribution means for book production. Managing digital inventory is quite different from managing physical inventory. Physical copies are frequently in the wrong place: 10 copies are in Chicago sitting on the shelf when they are clamoring for them in Los Angeles. Digital copies are always available everywhere. With physical books, there is a much greater premium attached to successful run-length decisions and geographic book allocation before anyone has purchased a copy of the book.

This is in some sense a more basic problem, often captured in the idea that *nobody knows*.²⁰ Meaning that notwithstanding substantial effort and money, it seems difficult to forecast in advance how well a cultural work will do. On the production side, that means guessing, where the trade-offs are selling too few copies of the work when it has captured the attention of the public versus printing too many of the work that turns out to be of little interest.

But digital works are in some sense all print-on-demand works. Once the original digital file has been created, we can create additional copies exactly when they are required. This is not to say that there are not tricky organizational engineering questions to be made in delivering digital content. Content delivery networks like Akamai suggest that real value can be added and money can be made in smart organization for digital content delivery. But that is a general infrastructure point—perhaps one notch up from raw spectrum—and not something tied to an individual work.

²⁰ Richard E. Caves. *Creative Industries 5* (Harvard Univ. Press, 2000).

These changes in inventory management should reduce the entry cost for producing works. The fixed costs associated with physical production and distribution should be reduced and that in turn should facilitate the availability of more works. Gatekeepers need not filter out as many works from the public if the gatekeepers can instead rely on the public to sort after the fact. Digital production and distribution facilities that.

But there is a second important change that flows from embracing on-demand production. This is true whether we are speaking of digital distribution, which can naturally be on demand or physical print on demand. When physical books are printed once and then doled out from inventory over time, it is hard for books to serve as a meaningful vehicle for advertising. Look around at most of the advertising that you experience each day. A substantial fraction of that has a fairly limited shelf life. “This week’s special” means just that: it is information that expires in one week, information to be acted on in the next week but if not then never. To be sure, some advertising is directed at a longer time-frame, such as brand advertising. But as you read the newspaper, listen to radio, or watch television, focus on the question of how successfully those ads would match to a medium where the ad-carrying work had to be produced six months or more in advance of the actual consumption of the ad. Ads in physical books would go stale quickly.

Ebooks are quite different in this regard. An advertising-supported ebook could be produced at the time of download or could be updated periodically with new ads each time the book was read. That is, new ads could easily be inserted into an ebook each time it was downloaded. Indeed, new, updated ads could be inserted each time the book was “opened” on the mediating device. The ebook reader would phone home to get the new ads for display that day.

And of course these ads could be personalized for individual readers. That could be information gleaned from the consumer’s use of the ebook reader itself or from the broader customer

relationship that a consumer had with its ebook retailer. Amazon could pitch products based on my most recent visit to Amazon, Google on my most recent searches. Use of the ebook reader itself could generate its own information stream and that could be married with other information held by the ebook seller.

Even physical books could do more of this if we migrated to on-demand production of those books. Large, in-advance print runs drive staleness in advertising that might be inserted in these books. One-by-one production of physical books could allow new, current advertising to be inserted each time a physical book was produced. Somewhat ironically, both digital production and print-on-demand production returns to the one-by-one production of the scriptorium and it is that one-by-one production that might make possible moving towards making books an advertising-supported medium.

III. The Possibilities for Advertising-Supported Books

This then is the promise of the ebook reader: a new interface for books that in turn will support an expanded financing system for books. Advertising supported books. To assess that, we need to head in two directions. First, what kind of advertising could we see? And second are there advertising dollars to be had?

We need to assess different advertising types if we are to be serious about the extent to which mediated books could become a serious advertising platform. Any pull platform offers the possibility of ads that are timely at the point of initial delivery. A mediated platform—one that is fully networked such as the Kindle—offers the possibility of continual updating of ads to ensure permanent timeliness. Physical print-on-demand for books offers only the possibility of one time timeliness. That would be a huge advance over current print-in-advance books but still a far cry from the possibilities of networked mediated books.

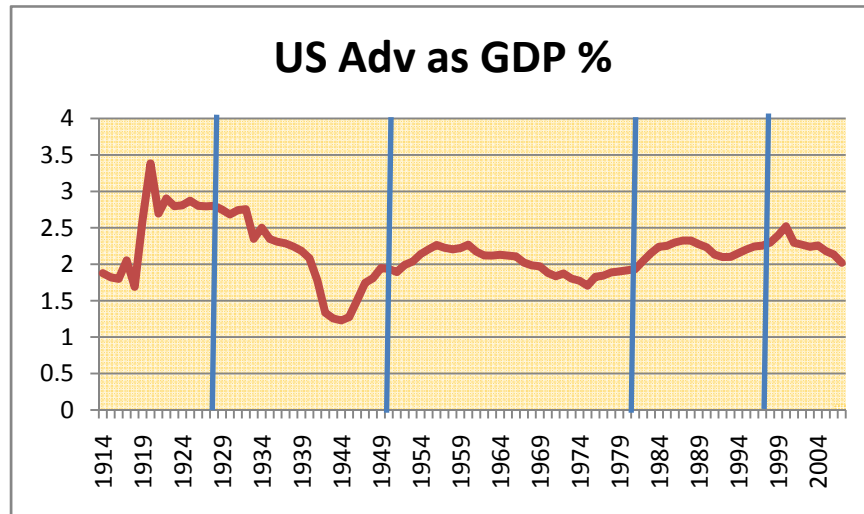
Mediated books also offer much richer opportunities in the types of ads that can be utilized. Print-on-demand books would be

much like newspapers or magazines. Ads would need to be interspersed with content and reader receptivity might very well depend on the kind of content that the ads were matched with. Magazines and newspapers are by their nature a bundle of discrete stories and ads fall naturally within those media as another part of the mix. In contrast, a reader of a novel is not looking for interruptions on the way from start to the bloody finish. Any ad presented presumably would simply be in the way. Collections of short stories or other works—works consisting of smaller works that are freestanding works that are not necessarily tightly linked into an integrated whole—might be a more natural match for ads in print-on-demand books.

A mediating device such as the Kindle would do much better. We can start with raw mechanics. For better or worse, ads on the Kindle could be just as intrusive as television ads. “The next chapter sponsored by ...” with a mandatory timeout of 30 seconds before the next digital page could be turned. Whether consumers would tolerate this very much parallels the same questions we see over the possibility of disabling fast-forwarding technology in various video media. And ads on the Kindle could be video ads and need not be text. They could be overlay ads that appear over the text while allowing the reader to see through to the underlying text.

Turn next to the question of the funds available for advertising. Start with a plot of advertising expenditures measured as a percentage of nominal GDP. This measures what fraction of each year’s production goes into advertising. Over more than 90 years, advertising expenditures are tightly banded between 1 and 3½% of GDP. And for the last 60 years roughly advertising has hovered between 1½ and 2½% of GDP. One percent of GDP is a large number in absolute terms, so there is a lot of money at stake, but the chart suggests that whatever determines expenditures on advertising it seems to bear a relatively constant relationship to GDP. Looking at the graph more carefully we can identify particular inflection points during World War I and World War

II—that is where we see real variation in the annual expenditure percentage—and then a local peak again in 2000 around the time the dotcom boom.

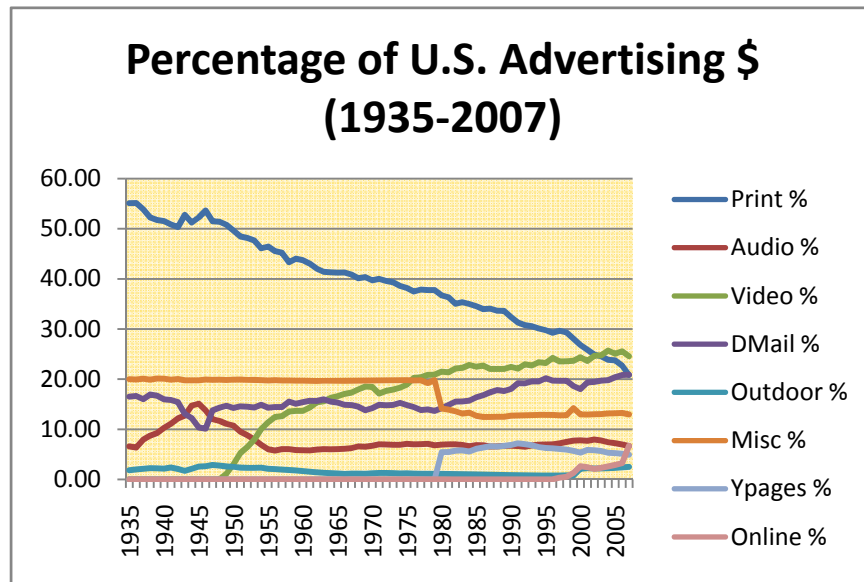


What is just as interesting is what we seemingly do not see: large-scale changes in advertising tracking the emergence of new advertising platforms. The four vertical lines indicate roughly when a new advertising platform shows up in the data: radio (1927); broadcast TV (1949); cable TV (1980); and the Internet (1997). Across this timeframe we have seen the emergence of four substantial new advertising platforms and yet the overall level of advertising seems to be determined by factors other than the availability of advertising platforms. Time and attention, of course, are relatively fixed even if real income per capita is rising, as it does in broad sweep across the 20th Century.

All of this suggests that a new advertising platform's main effect will be one to cause substitution away from one platform to another rather than a substantial expansion in the overall amount of advertising dollars spent. Be precise about that: this is not to say that the sheer volume of advertising might not show up, it very well might and advertising prices might go down, but advertising

expenditures seem largely driven by matters other than the availability of advertising platforms.

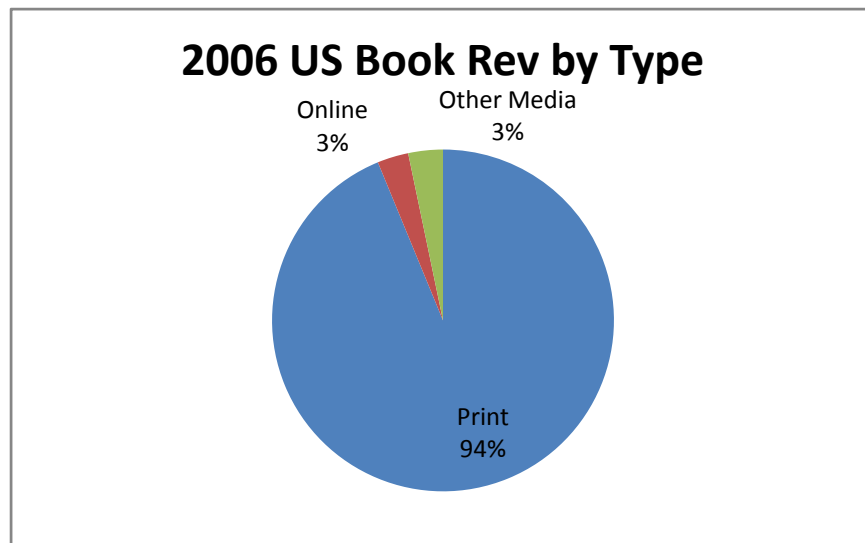
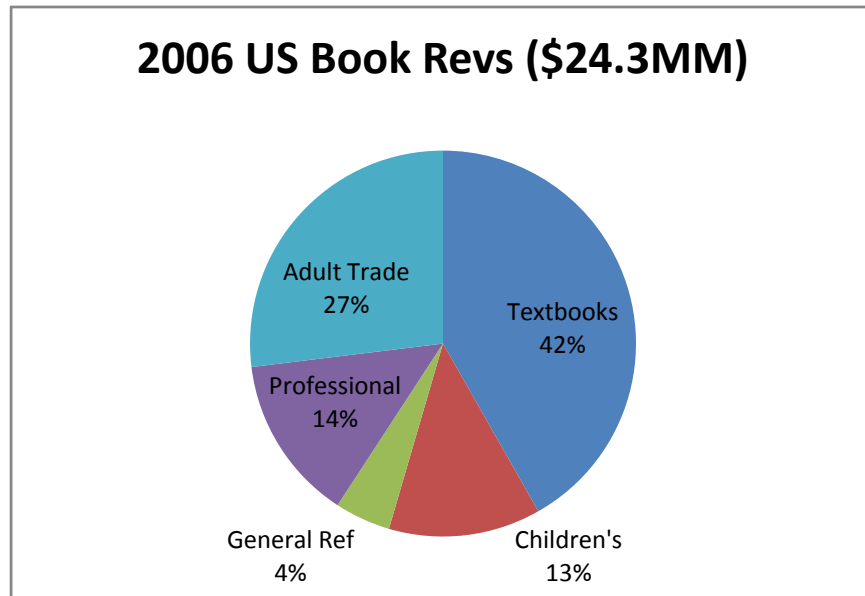
With that idea in mind, consider a second chart:



The percentage of advertising dollars devoted to print publications—newspapers, magazines and business papers—has declined substantially over time. Print once was the dominant advertising medium but it has been surpassed by video and now is even with direct mail advertising. Radio advertising peaked around World War II at about 15% and declined from there. Video has risen steadily over time but seems to be flattening out with the emergence of the Internet. Direct mail advertising has held up nicely over time and has even increased its market share compared to thirty years ago.

Finally, consider the book market itself and take two cuts on that. Both charts focus on U.S. book revenues for the 2006. The first looks by type of book (textbooks, children's, etc.), while the second looks at revenues by medium. These figures presumably just

cover books and don't pick up device expenditures (money spent buying a Kindle or Sony ebook reader).



What will these figures look like in five years? Ten? What fraction of book revenues will come from advertising? Obviously, that depends in large measure on how quickly we shift from buying physical books to accessing intermediated books.

Conclusion

Text in hand, we have read books by candlelight, oil lamp and Edison's incandescent bulb, maybe even the occasional CFL. But even as light itself has changed, the book has remained constant. Until now. With the rise of Google Book Search and ebook readers like Amazon's Kindle, we have entered the era of the mediated book. We will still browse and read *books*, but we will do so through a screen.

This is more than just a change in medium. Digital texts are inherently on-demand works, that is, works that can be produced at the instant that a consumer wishes to interact with the text. Physical books historically have been printed in batched runs in advance of demand. This fact of production matters relatively little for the texts themselves, as we typically want books to be fixed, reliable artifacts.

This changes matters for how we finance books. On-demand texts can be financed through advertising. Printing in advance means that embedded advertising has little chance of being relevant at the point of reading. Mediated texts can be updated instantly with new, continuously timely advertising. That advertising also can be personalized for individual readers as the interaction between the mediating device and the reader will create a rich information stream to enhance the relevance of this advertising. That process of course will raise standard privacy issues.

The short history of 20th Century advertising expenditures in the United States is characterized by two facts. First, overall expenditures as a percentage of GDP are relatively constant over time, bouncing around over the last sixty years between 1.5% and 2.5%. The emergence of new advertising platforms—say radio in

1927; broadcast TV in 1949; cable TV in 1980; and the Internet in 1997—hasn't altered that essential fact. The emergence of another new platform—advertising-supported books—isn't likely to expand overall advertising expenditures much if at all. Second, print's advertising market share has declined steadily, from roughly 55% of advertising dollars in 1935 to a little under 21% in 2007.

Mediated content accounts for a large chunk of that decline. Now books and of course print more generally will be mediated too. And we will get a nice test. Does the decline in the role of print as seen in advertising dollars reflect the decline of words relative to images and sounds? Or is this a story not of content but of technology, in which a mediated platform is a better advertising platform? The rise of the new mediated books will change how we finance books and will change our understanding of the relative roles of content and technology in driving advertising.