Dubberly Design Office

Recommendations for Kindle
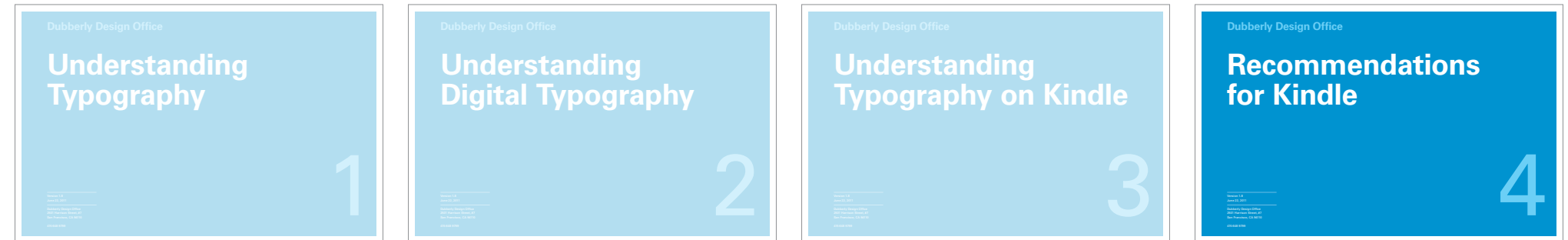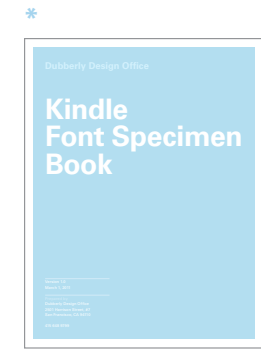
4

Overview

Dubberly Design Office analyzed typography on Kindle and suggested ways the experience of reading might be improved. We have produced a sequence of four reports leading to specific recommendations.

   The first report provides an overview of typography; the second describes how computers have changed type and typesetting; and the third describes how Kindle implements type and typography today. We also produced a Kindle Font Specimen Book as a supplement to the third report. The fourth report suggests ways the experience of reading on Kindle might be improved.

   All four reports are organized in a similar structure, beginning with an overview and preceding from glyphs to pages to books to collections for Latin and other character sets.

	Dubberly Design Office **Understanding Typography** 1	Dubberly Design Office **Understanding Digital Typography** 2	Dubberly Design Office **Understanding Typography on Kindle** 3	Dubberly Design Office **Recommendations for Kindle** 4
	How Are Languages Represented?	What's Different?	What is Kindle?	
Glyphs	How Have Latin Characters Evolved? How Have Fonts Evolved? How Do You Make Letters Look Good?	How Is Type Input? How Is Type Encoded? How Are Characters Represented? How Do Computers Display Type? How Are Fonts Managed?	How Does Kindle Encode Fonts? How Does Kindle Render Fonts? * Kindle Font Specimen Book	**Fonts**
Pages	How Do Characters Go Together? How Do Words Go Together?	How Is Text Formatted? How Are Pages Rendered?	What Can Users Change When Reading a Kindle Book?	**Layout**
Books	How Do Pages Go Together?	What Is a Digital Book?	How Does Kindle Encode Documents? How Does Kindle Render Documents?	**Substrate**
Collections	What Is a Book?	How Are Digital Books Managed?	How Do You Publish a Kindle Book?	**Interactivity**
		How Do Fonts Work on the Web?		**The Future**

*

Dubberly Design Office
Kindle Font Specimen Book

Contents:
Recommendations for Kindle

★

Through out this document, there are references to more detailed information related to or in support of the recommendations. References are listed on the bottom left corner of the page and have the following format:

Understanding Typography ⟵——————————— Book name
Hyphenation & Justification (page 72) ⟵——————— Topic and page number

Introduction

This book is a heuristic review of Kindle type, typography, and the overall reading experience on the Kindle. It builds on the first three books of this project, particularly *Understanding Typography on Kindle*, and it includes references (located in the lower left corner or each page) to ideas developed in more detail in the earlier books.

This book begins with a summary of recommendations ranked in order of importance. Like the other three books, this book is organized in a sequence of increasing scale, beginning with issues of font quality, focusing especially on page layout, continuing with a review of how users interact with books, and finishing with a look at technology trends and how they will affect Kindle and other e-book reading experiences.

Issues are described in black text; recommendations are in blue text; references are in gray.

Ranked Recommendations

The recommendations in this document are ranked according to a combination of factors: ease of implementation, importance, and urgency. For instance, correcting the prevalence of rivers in the text setting is very important, urgent, and easy. On the other hand, while developing a more sophisticated book description language is extremely important, it will be difficult and is not of the greatest urgency for improving e-book standards.

The recommendations in **The Future** section of this document are all important, but represent a longer-term conception of how to improve Kindle.

Fonts

Kindle gets high marks for its Latin fonts.
Its support of non-Latin fonts is less good.

Code2000

Kindle includes Code2000, an open-source "universal font" (a font with characters for many languages). Including a universal font was a very good decision. While it was free, Code2000 is a badly drawn font.

Recommendation #29

– Replace Code2000 with a professionally drawn universal font. Even Arial Unicode would be an improvement.

Code2000

Arial Unicode

Code2000's Latin letterforms are strangely formed, badly proportioned, and appear sloppy, almost lumpy.

Arial's curves are smooth and distribute weight evenly.

Code2000 has several letterforms with very unusual features, e.g. a Greek delta should not have foot serifs.

Incorrect weight distribution.

The Hebrew, Arabic, and Hiragana scripts of Code2000 are drawn in completely different styles.

Code2000's glyphs are not stylistically unified between language scripts.

Most of Arial Unicode's language scripts are stylistically unified though there are some inconsistencies, most notably with the Indic scripts. While Arial is not the most inspired typeface, it is a solid workhorse and would be a great improvement over Code2000.

Understanding Typography
Anatomy (page 16)
Type for the Screen (page 43)
Components (page 54)

CJK Display Bug

The current version of Kindle has a known bug, which results in the included CJK fonts NOT displaying, and at least in the case of Korean, Code2000 is displayed instead. The bug will be fixed in subsequent releases.

Recommendation #28
– Closely monitor this bug, and ensure it is resolved.

Fonts
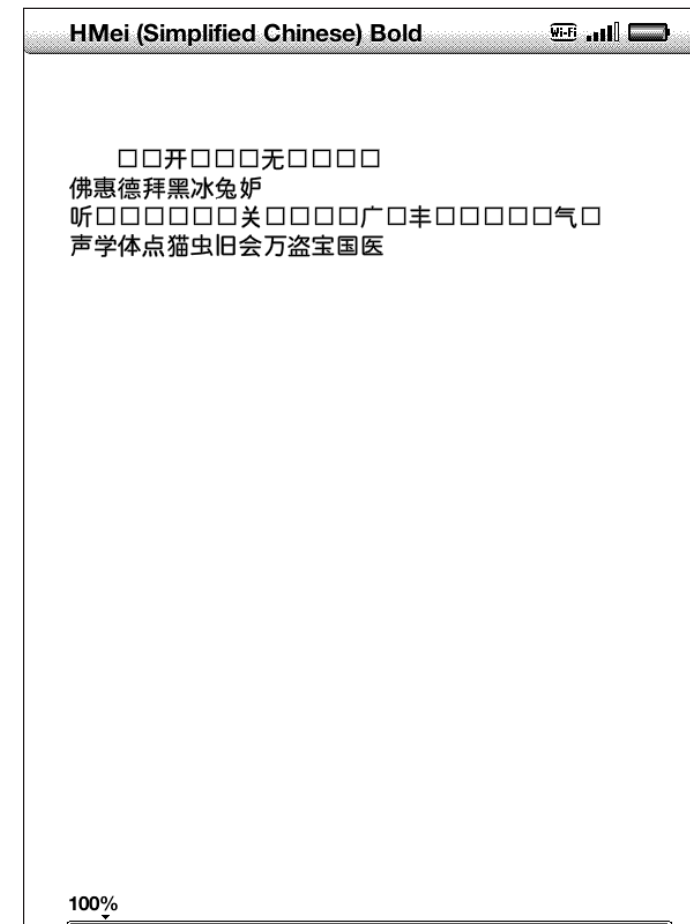
Caecilia

The Kindle Mobi Reader's default font is Caecilia. It's a good choice: solid (doesn't break up), high x-height (open counters at low resolution), serif (helps readability, letter differentiation, and word cohesion). Caecilia has a relatively high set-width. Amazon had Monotype create a condensed version for Kindle, narrowing the set-width. This somewhat closes counters, but it increases the number of characters per line (and thus per page).

Recommendation #26

– Caecilia is more than good enough. While it might be improved somewhat, the marginal cost is unlikely to be worth the return.
– The default font should be Caecilia condensed to reduce page turns.
– Caecilia condensed is formed through a mechanical operation. Monotype appears to have done a good job. But automatic condensing is never as good as hand-drawn condensing. Amazon should discuss the trade-off with Monotype and ask what improvements might be made.

Regular

Mechanically Condensed
This may not be an issue with Kindle's version of Caecilia at small sizes because of manual hinting.

Optically Condensed

Understanding Typography
Condensed: Auto vs Manual (page 56)

Caecilia Regular

Caecilia Regular has moderate contrast in stroke thickness. Horizontal strokes are slightly thinner than vertical strokes.

baegnxARQEN

Caecilia Condensed

baegnxARQEN

Caecilia Condensed has nearly identically weighted horizontal and vertical strokes. This is a result of the mechanical compression used to create the font. When the original outlines are condensed to 85% of normal, the vertical strokes are also condensed to 85% while the horizontal strokes are not.

Font Choice

Kindle ships with 4 Latin fonts, a symbol font, and CJK fonts. But users have only 3 choices.

Recommendation #8

– Shipping a font and not exposing it makes little sense. All the fonts shipped with Kindle should be exposed – available for users to select.

– Soon, users will expect e-book readers to support a full range of fonts. Kindle should support user installation of fonts and of course their display and selection.

– Kindle should also ship with the top seven basic web fonts:
  – Courier
  – Verdana *(screen font)*
  – Times
  – Arial
  – Trebuchet *(screen font)*
  – Lucida *(screen font)*
  – Georgia *(screen font)*

Adding these fonts ensures a basic level of compatibility across platforms. At minimum, Kindle should ship with these screen fonts.

Understanding Typography
Type for the Screen (page 43)
Bitmap to Outline (page 44)

Understanding Digital Typography
Web-safe Fonts (page 76)

Kindle Device
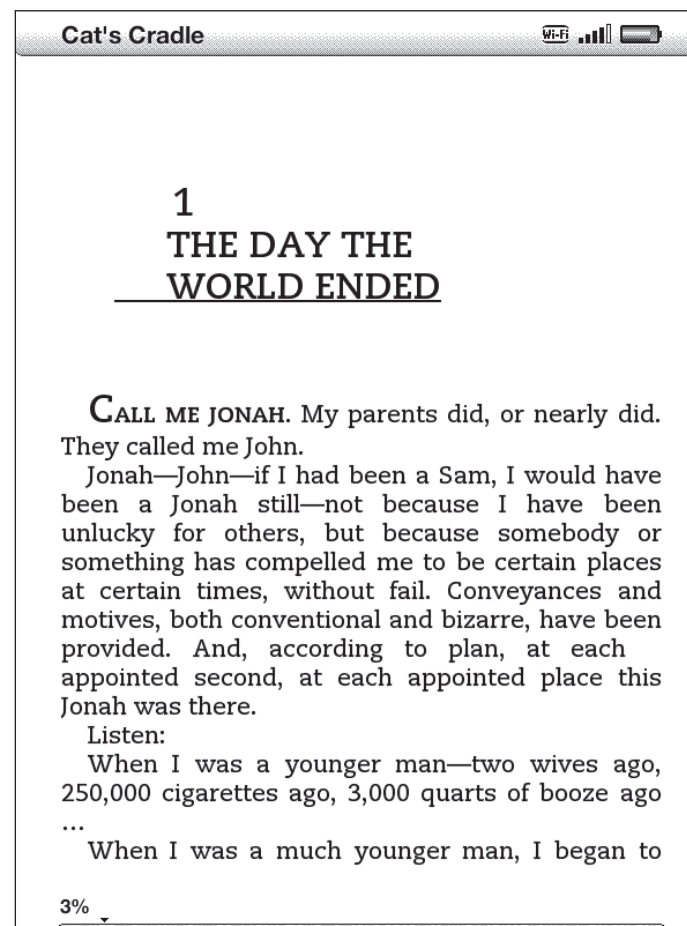
Caecilia is available on Kindle devices but not on KCP apps.

KCP iPad App
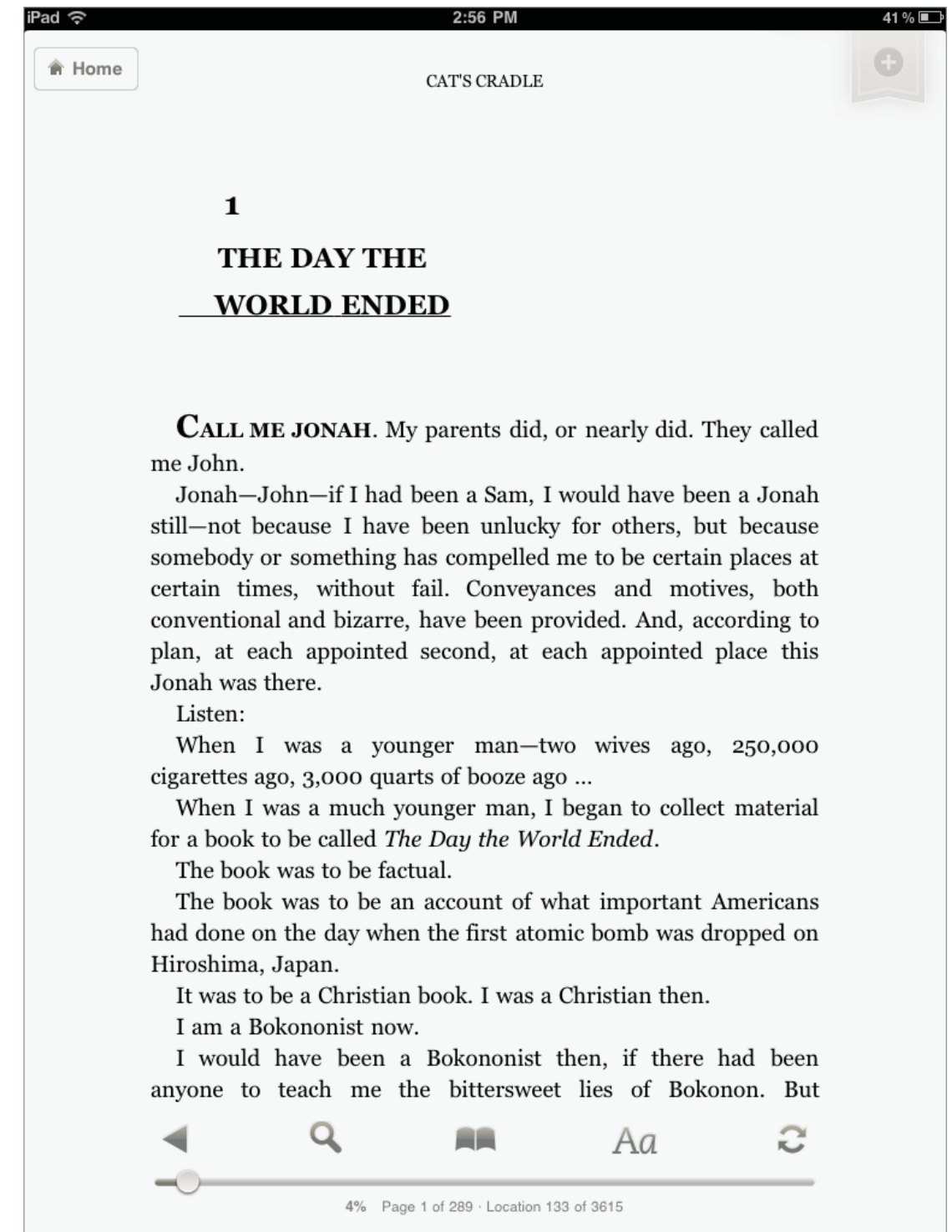
Georgia is available on KCP apps, but not on Kindle devices.

Font Embedding

The web has been experimenting with schemes for supporting a wide range of fonts. Standards are emerging.

Recommendation #19

– Kindle should support font embedding within documents.
– Kindle font embedding should support sub-setting – embedding only those characters required by the document. Sub-setting can substantially reduce file size, especially for CJK documents.

Font accessible to the operating system
Rendering the document as intended requires users to have a copy of the font on their computer. Without a copy of the font, the document will substitute the next specified font or what it determines to be an appropriate replacement if no alternative font has been specified.

Operating System
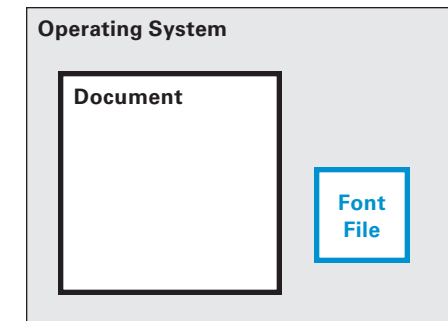
Document

Font File

Kindle currently supports this level of font management.

Font shipped with the document, but not *in* the document
The font file is shipped with the document it is intended to help render. Many font licences specifically forbid this.

Operating System
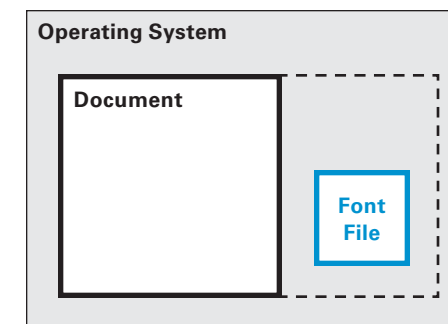
Document

Font File

Kindle should support these levels of font embedding.

Font resident in the document
The font is embedded into the document. This method increases the chances that the document renders as intended by the author. Often the font file is subsetted: embedding only the necessary characters to render the text in the document. Subsetting is a strategy to both reduce file size and prevent piracy.

Operating System

Document

Font File
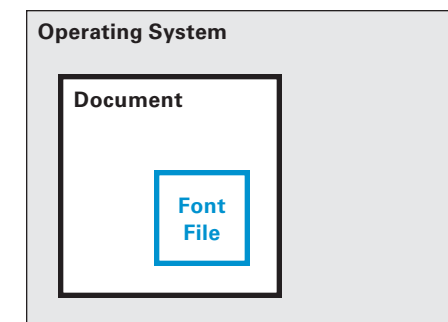
Understanding Digital Typography
Font Embedding (page 79)
Font Hosting (page 123)
WOFF (page 125)
Digital Right Management for Fonts (page 126)

CJK Fonts

The CJK fonts that ship with Kindle are not bad, but they could be better.

Recommendation #9
– Kindle should include classic CJK fonts.
– For Chinese that means
   – Kai
   – Fang Song
   – Song (called Ming in Japanese)
   – Hei
– For Japanese that means
   – Adobe Ming Standard
   – Kazuka Mincho
   – Osaka
   – Hiragino Maru Gothic
– For Korean that means
   – Batang
   – Myungjo
   – Sandol Gothic
   – Dotum

Understanding Typography
Classic Chinese (page 46)
Classic Japanese (page 47)
Classic Korean (page 48)

Chinese

Kai

俱乘丈乾

Fang Song

俱乘丈乾

Song

俱乘丈乾

Hei

俱乘丈乾

Japanese

Adobe Ming Standard

あえポロ

Kazuka Mincho

あえポロ

Osaka

あえポロ

Hiragino Maru Gothic

あえポロ

Korean

Batang

아름다운

Myungjo

아름다운

Sandol Gothic

아름다운

Dotum

아름다운

Layout

The Kindle Mobi 7 reader produces poor quality layout.

Rivers

Justification in the Kindle Mobi 7 Reader creates "rivers" – unintended white columns running through several lines of text. These rivers are highly noticeable and disrupt reading. Rivers in justification are the most prominent defect in Kindle typography.

Current

made no attempt at strafing, they were too busy protecting themselves from the fighters, and the antiaircraft crews on the ships and shore could not fire either for fear of hitting their own fighters. The whole operation, except for the dropped bombs themselves, had taken place up there, high up in the air. Slowly, sedately, the bombers headed back into the north to where a protective blanket of their own fighters would be waiting for them, growing slowly and steadily smaller, as before they had grown slowly and steadily larger. The fighters still buzzed angrily around them, and before they were lost to sight a few more fell. All during the action the defending fighters had been hampered by having to break off and streak back to the air strip to renew fuel or ammunition. Replenished, they would return. But the number of fighters actually engaged was never as large as it might have been. Apparently the bombers were allowing for this factor. At any rate, slowly they dwindled to specks again, then to invisibility. Then finally, the fighters began to return. It was over. On the beach the work of unloading, which had never ceased during the attack, went right on.

Men who had been here longer and who were standing nearby to C-for-Charlie, which still waited—and watched—from the edge of the coconut grove, told them that there would probably be at least two more attacks, now, during the day. The

7%

Current

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7%

The current layout produces an excessive number of rivers because of the justification algorithm.

Lines with overly large word spacing.

Understanding Typography
Alignment (page 70)
Hyphenation & Justification (page 72)

Understanding Digital Typography
H&J (page 102)

Rivers

Recommendation #1

– Rivers can be eliminated, cost-free, by not justifying and instead aligning the type flush left.
– Flush left should be the default setting until justification is improved.
– Flush left should be a reader selectable option if it is not the default alignment. (It was once available as a hidden option, "Alt-J".)
– Flush left should always be the default for any text that is displayed at "size 4" (25 point) and above. (Large sizes have too few letters in a line to justify and huge gaps result.)
– However, flush right (aligning on the right side) should NOT be a basic option for texts using a Latin character set.
– Texts using a character set that is read from right-to-left (e.g., Arabic and Hebrew) should have flush right as the default setting.
– Flush right should be a reader selectable option for texts that read from right-to-left if it is not the default alignment.

Understanding Typography
Alignment (page 70)
Hyphenation & Justification (page 72)

Understanding Digital Typography
H&J (page 102)

Current

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7%

With justified alignment.

The current layout produces an excessive number of rivers because of the justification algorithm.

Recommendation

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7%

With flush left alignment.

The recommended layout eliminates excessive rivers by using flush left alignment, which keeps word spacing uniform throughout.

* Earlier versions of Kindle had an "Easter egg" hidden feature which supported flush left typesetting by typing "Alt-J" on the keyboard. Supposedly this feature was removed because of concerns about the Topaz format.

Hyphenation

In the Kindle Mobi Reader, rivers created by poor justification and no hyphenation create spaces between words that are greater than the spaces between lines (when the reader is set at the default line spacing). Justification can be improved with better algorithms for distributing space between words and letters, but justification gets much better with hyphenation.

Recommendation #6

– A typesetting or display system must include hyphenation to be taken seriously as a means for displaying text. Kindle must add hyphenation as soon as possible.

– Hyphenation is more than just breaking words in the right places. A proper hyphenation algorithm allows no more than two hyphenated lines in a row and avoids widows (lines with one word) and orphans (columns or pages beginning with only a word or two).

– Hyphenation should be built to work with justified and flush left alignments, because it improves the layout of both.

Current

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7%

Without hyphenation.

Recommendation

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7%

With hyphenation.

Line Spacing

The Kindle Mobi Reader line spacing options are too tight for prolonged reading. The small and medium spacing options are too tight for a default setting.

Recommendation #2

– Default line spacing should be equivalent to the current "large" setting: 31 pixels instead of 25.
– The small and medium line spacing options should be retained.
– At least one larger option should be added: 34 pixels.
– Do not put additional line returns after paragraphs.

Current *(with recommended flush left and hyphenation)*

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7%

With default line spacing (25px) and flush left alignment.

White space between lines is narrower than the x-height of the text.

Descenders from one line almost touch ascenders from the next line.

Recommendation

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Men who had been here longer and who were standing nearby to C-for-Charlie, which still waited—and

7%

With large line spacing (31px) and flush left alignment.

Understanding Typography
Line Spacing (page 68)
Set Length (page 69)

Paragraph Articulation

Paragraphs can be articulated in a variety of ways. Publishers currently control the formatting of their e-books.

Recommendation #5

– Publishers should continue to control paragraph formatting; however Amazon should advise on default settings.
– Default paragraph articulation should be a single line break with a one-em indent.

Recommendation

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7%

Layout

The Page

The Kindle currently treats the edge of the screen as the edge of a page in a traditional paper book. In addition to this page edge, the edge of the device itself creates a second, redundant page border.

The edge of the page

The edge of the content area

The edge of the content

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7%

Currently, the Kindle has 2 levels of margin surrounding the content.

Understanding Typography
Border-Border-Border (page 82)

The Page

The Kindle content area is 520 × 710 pixels (369,200 pixels).
The Kindle display area is 600 × 800 pixels (480,000 pixels).
The content area is only 76.9% of the display area.
Over 23% of the display is wasted – that seems like a lot.

Screen

Content Area

Screen

Content Area

Screen   23.1%
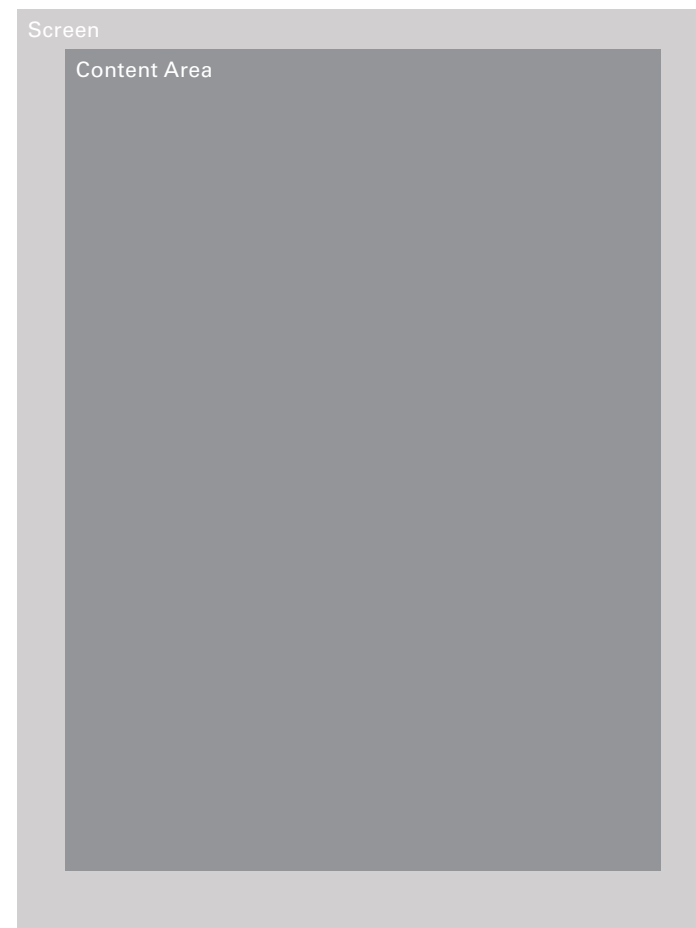
Content Area   76.9%

Default screen and content area
Default content position
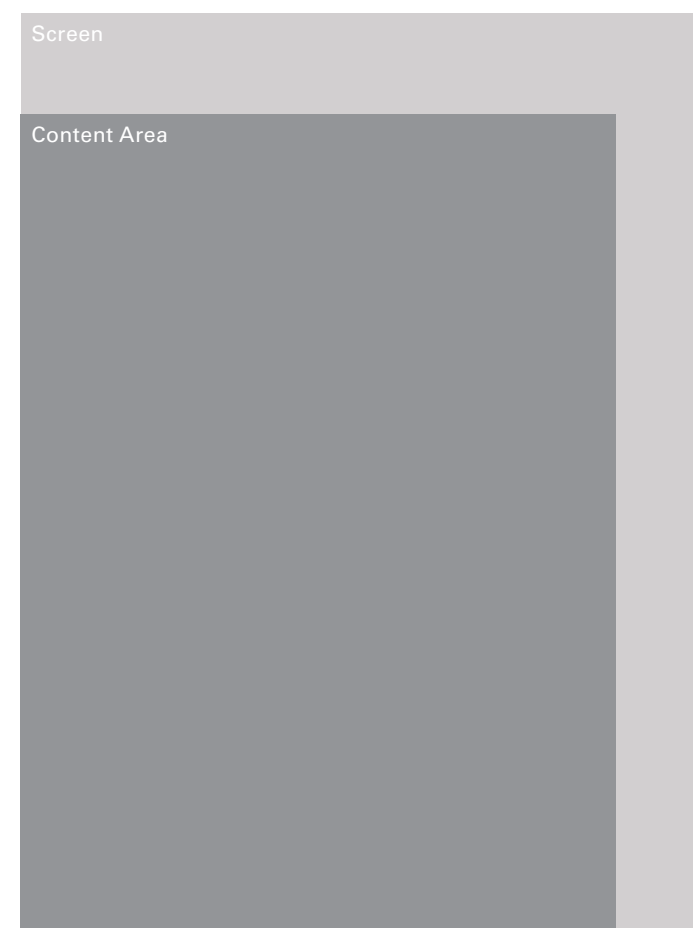
Default screen and content area
Content area aligned to bottom left corner
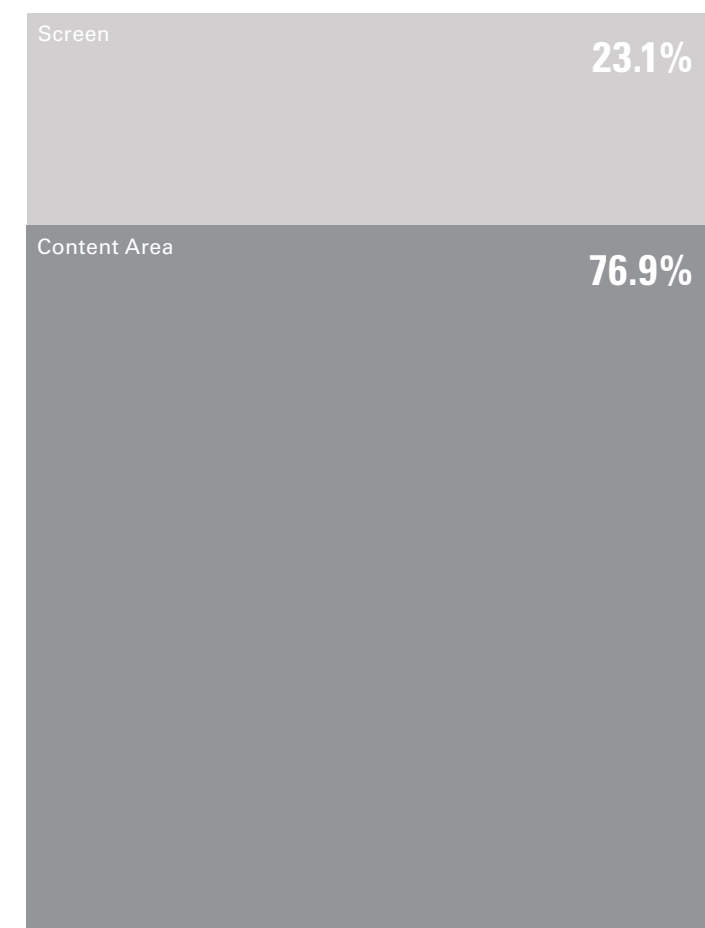
Default screen and content area
Content proportion revised to fill screen width

Right & Left Margins

The Kindle Mobi 7 reader has default left and right margins of 40 pixels. That means 13.3% of the width of the Kindle display is wasted. There's no need to simulate the margin of a printed page – the physical bezel of the Kindle device serves as a margin and, as with margins on printed pages, a space for readers to grip the page. There is no real need for prominent left and right display margins.

Recommendation #3

– An overriding design principle in Kindle should be: Minimize interruptions to reading. Minimize the need to turn pages, which is an interruption, a drain on mental energy, and a drain on battery power. Maximize the amount of text on the page – without compromising readability, or course! (Readability is compromised if text is too small or too large, if lines are too short or too long, and if space between lines is too small or too large.) Computer users are already accustomed to on-screen documents with small margins, e.g. email readers and text editors. (See page 23.)

– The Kindle Mobi Reader left and right margins should be 10 pixels, which is about 2× the word space at the default text size. (Doubling the word space ensures readers will continue to view the line as a block.) At the recommended default text size, style, and leading, the line length will remain less than the 60 or 70 characters recommended by most typography experts as optimal for readability.

– The Kindle Mobi reader enables users to select 80 and 120 pixel margins. These choices provide no benefit on Kindle. They should be eliminated.

Understanding Typography
Line Length (page 67)
Margins (page 81)
Border-Border-Border (page 82)

Current

made no attempt at strafing, they were too busy protecting themselves from the fighters, and the antiaircraft crews on the ships and shore could not fire either for fear of hitting their own fighters. The whole operation, except for the dropped bombs themselves, had taken place up there, high up in the air. Slowly, sedately, the bombers headed back into the north to where a protective blanket of their own fighters would be waiting for them, growing slowly and steadily smaller, as before they had grown slowly and steadily larger. The fighters still buzzed angrily around them, and before they were lost to sight a few more fell. All during the action the defending fighters had been hampered by having to break off and streak back to the air strip to renew fuel or ammunition. Replenished, they would return. But the number of fighters actually engaged was never as large as it might have been. Apparently the bombers were allowing for this factor. At any rate, slowly they dwindled to specks again, then to invisibility. Then finally, the fighters began to return. It was over. On the beach the work of unloading, which had never ceased during the attack, went right on.

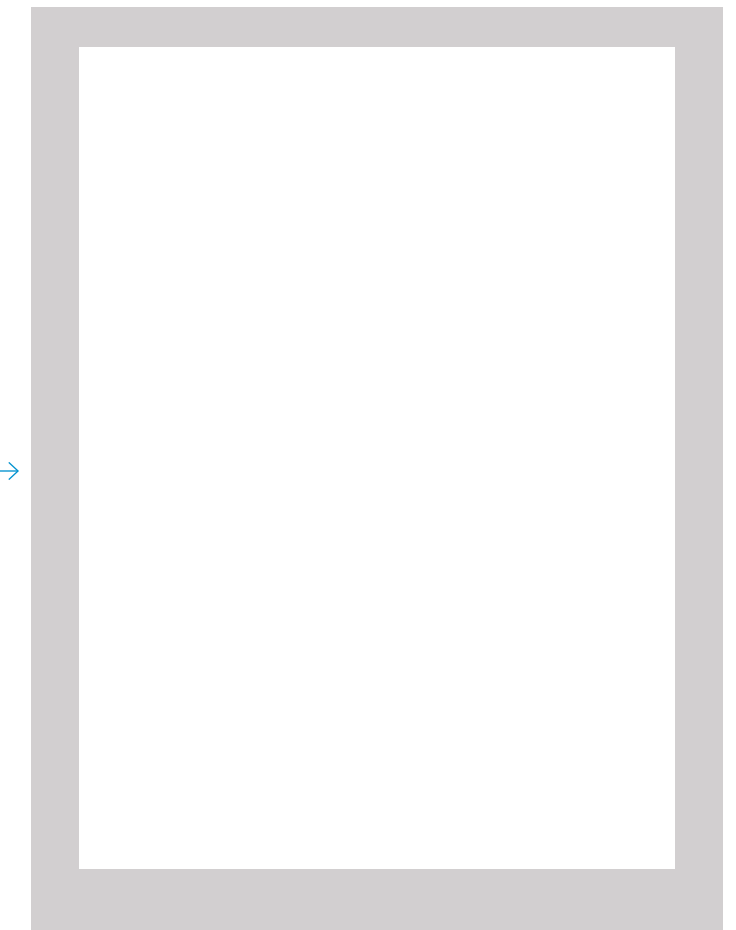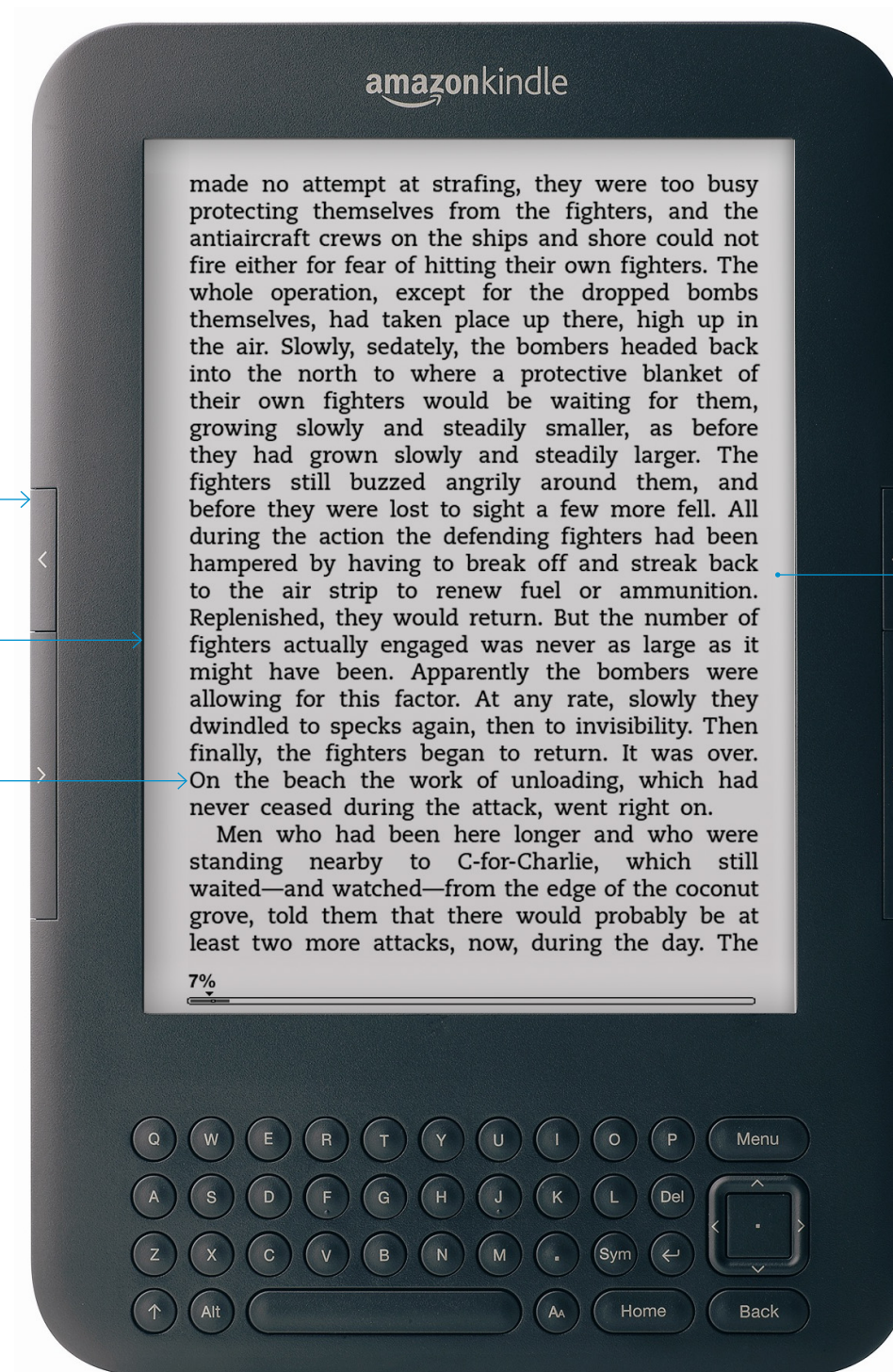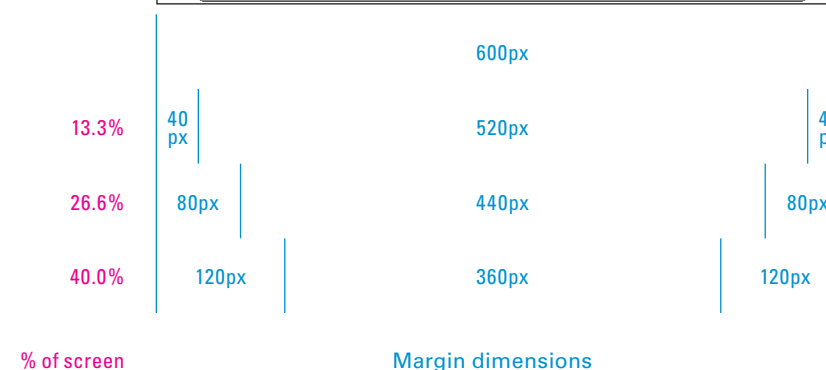Men who had been here longer and who were standing nearby to C-for-Charlie, which still waited—and watched—from the edge of the coconut grove, told them that there would probably be at least two more attacks, now, during the day. The

7%

600px

% of screen		Margin dimensions	
13.3%	40 px	520px	40 px
26.6%	80px	440px	80px
40.0%	120px	360px	120px

% of screen　　　　**Margin dimensions**

Recommendation

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7%

With recommended margins.

Decreasing the right and left margins allows for a longer line length.

Right & Left Margins

Current settings shown with recommended flush left alignment and the larger, recommended line spacing. (See page 17.)

Current

made no attempt at strafing, they were too busy protect-ing themselves from the fighters, and the antiaircraft crews on the ships and shore could not fire either for fear of hitting their own fighters. The whole operation, except for the dropped bombs themselves, had taken place up there, high up in the air. Slowly, sedately, the bombers headed back into the north to where a protec-tive blanket of their own fighters would be waiting for them, growing slowly and steadily smaller, as before they had grown slowly and steadily larger. The fighters still buzzed angrily around them, and before they were lost to sight a few more fell. All during the action the de-fending fighters had been hampered by having to break off and streak back to the air strip to renew fuel or am-munition. Replenished, they would return. But the number of fighters actually engaged was never as large as it might have been. Apparently the bombers were al-lowing for this factor. At any rate, slowly they dwindled to specks again, then to invisibility. Then finally, the fighters began to return. It was over. On the beach the work of unloading, which had never ceased during the attack, went right on.

Men who had been here longer and who were stand-ing nearby to C-for-Charlie, which still waited—and

7%

Recommendation

made no attempt at strafing, they were too busy protecting themselves from the fighters, and the antiaircraft crews on the ships and shore could not fire either for fear of hitting their own fighters. The whole operation, except for the dropped bombs themselves, had taken place up there, high up in the air. Slowly, sedately, the bombers headed back into the north to where a protective blanket of their own fighters would be waiting for them, growing slowly and steadily smaller, as before they had grown slowly and steadily larger. The fighters still buzzed angrily around them, and before they were lost to sight a few more fell. All during the action the defending fighters had been hampered by having to break off and streak back to the air strip to renew fuel or am-munition. Replenished, they would return. But the number of fighters actually engaged was never as large as it might have been. Apparently the bombers were allowing for this factor. At any rate, slowly they dwindled to specks again, then to invisibility. Then finally, the fighters began to return. It was over. On the beach the work of unloading, which had never ceased during the attack, went right on.

Men who had been here longer and who were standing nearby to C-for-Charlie, which still waited—and watched-from the edge of the coconut grove, told them that there

7%

With narrower margins, flush left alignment, and wider line spacing.

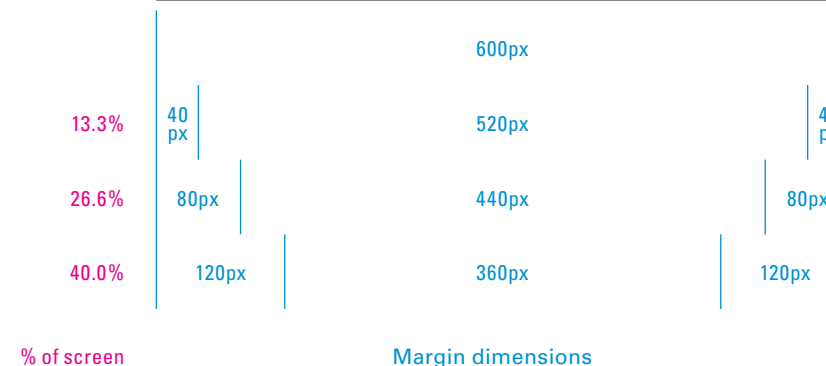|		600px		
13.3%	40 px	520px		40 px
26.6%	80px	440px		80px
40.0%	120px	360px		120px
% of screen		Margin dimensions		

Understanding Typography
Line Length (page 67)
Margins (page 81)
Border-Border-Border (page 82)

Right & Left Margins

Email

The Kindle Mobi 7 reader has default left and right margins of 40 pixels. That's 80 out of 600 pixels or 13.3% which are empty – wasted. This default is not as wide as on a printed page – and it shouldn't be. The physical bezel on the Kindle device serves as a page margin. But if the bezel provides the space for readers to grip the page, then what is the function of an additional margin on the screen?

Recommendation #5
–   An overriding design principle in Kindle should be: Minimize interruptions to reading. That suggests minimizing the need to turn pages (which is an interruption, a drain on mental energy, and a drain on battery power). That in turn suggests maximizing the amount of text on the page – so long as readability is not compromised. (Readability is compromised if text is too small or too large, if lines are too short or too long, and if space between lines is too small or too large.) Computer users are already accustomed to documents on screen having small margins, e.g., email readers and text editors.
–   The Kindle Mobi reader left and right margins should be about 2× the word space at the default text size, 10 pixels. (Doubling the word space ensures readers will continue to view the line as a block.) At the default text size, style, and leading, the line length will remain readable (less than the 60 or 70 characters recommended by most typography experts).
–   The Kindle Mobi reader enables users to select 80 and 120 pixel margins. These choices are virtually useless on Kindle. Useless choices make the interface more complex and harder to scan. They should be eliminated, at least at the basic level.
–   Margins for the Kindle DX should be handled differently than margins on the smaller Kindle. Since the DX screen is much larger, the danger is lines that exceed 70 characters, which are inherently difficult to read. So: Kindle DX defaults should take this into account.
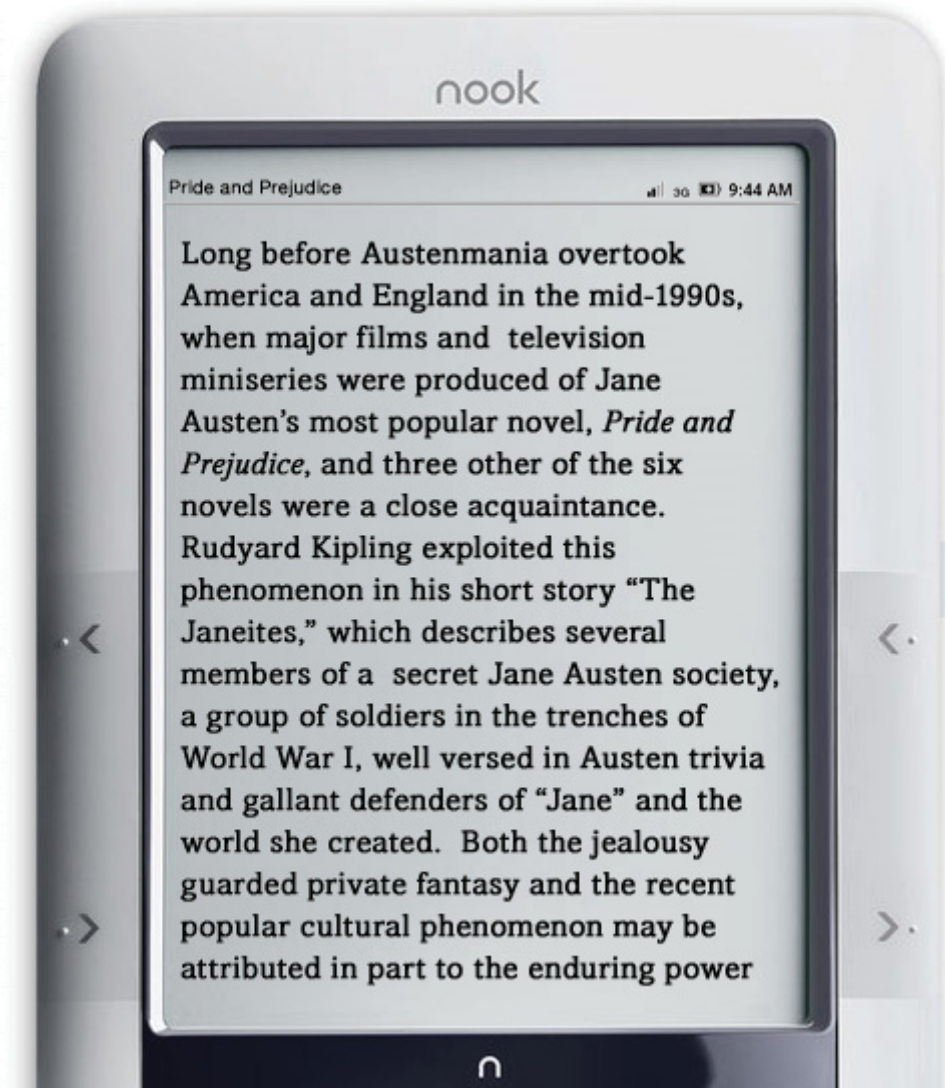
Text Edit

There are precedents for smaller margins in many computer applications – most users never notice how tight these margins are.

Nook

Other eReaders allow for smaller right and left margins.

Header & Footer Margins

The Kindle Mobi 7 reader has a default header margin of 30 pixels. (On first opening a book, the UI chrome or title bar appears briefly and disappears. Text shifts up filling the space vacated by the chrome.) The default footer margin is 60 pixels. (The persistent reading progress bar and percentage complete are displayed in the footer margin. Pressing the Menu button displays the menu and page numbers and locations. Adding page numbers is an improvement.)

Recommendation #4

– The header margin should be minimized. Matching the recommended side margin of 10 pixels is sufficient. (See page 21.)

– The footer information (percent complete and progress bar) is useful, but only a small fraction of the time. Its display should be more intelligent. If the user is turning pages quickly (e.g., using the 5-way to advance by section or repeatedly pressing the page turn button), then position information should be displayed. If the user is turning pages slowly, that is, reading at a normal pace, it may not be needed. Position information should be user invoked – a "pop-up" – just as page number and location are. At the very least, turning off the display of percent complete and the progress bar should be a user option.

– The footer margin should be no more than 30 pixels, with or without the percent complete and the progress bar.

Current

made no attempt at strafing, they were too busy protecting themselves from the fighters, and the antiaircraft crews on the ships and shore could not fire either for fear of hitting their own fighters. The whole operation, except for the dropped bombs themselves, had taken place up there, high up in the air. Slowly, sedately, the bombers headed back into the north to where a protective blanket of their own fighters would be waiting for them, growing slowly and steadily smaller, as before they had grown slowly and steadily larger. The fighters still buzzed angrily around them, and before they were lost to sight a few more fell. All during the action the defending fighters had been hampered by having to break off and streak back to the air strip to renew fuel or ammunition. Replenished, they would return. But the number of fighters actually engaged was never as large as it might have been. Apparently the bombers were allowing for this factor. At any rate, slowly they dwindled to specks again, then to invisibility. Then finally, the fighters began to return. It was over. On the beach the work of unloading, which had never ceased during the attack, went right on.

Men who had been here longer and who were standing nearby to C-for-Charlie, which still waited—and watched—from the edge of the coconut grove, told them that there would probably be at least two more attacks, now, during the day. The

7%

Recommendation

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Header and side margins of 10 pixels, footer margin of 30 pixels.

The progress bar at the bottom of the screen has been minimized so that it takes up less space.

Understanding Typography
Margins (page 81)
Border-Border-Border (page 82)
Headers & Footers (page 83)

Summary

Shown with flush left setting and the larger, recommended line spacing.

Summary Recommendations for Layout
– Reduce header margin to 10 pixels.
– Reduce footer margin to 30 pixels.
– Reduce side margins to 10 pixels.
– Increase line spacing to 31 pixels.
– Default to flush left.
– Default to Caecilia condensed.

These easy-to-implement recommendations substantially improve appearance and readability. Rivers are eliminated; scanning lines is made easier with increased line spacing; and more lines are added, reducing page turns.

      Implementation involves no extra coding – just settings changes. Adding proper hyphenation would further improve readability.

Current

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    Men who had been here longer and who were standing nearby to C-for-Charlie, which still waited—and watched—from the edge of the coconut grove, told them that there would probably be at least two more attacks, now, during the day. The

7%

244 words.

Recommendation

made no attempt at strafing, they were too busy protecting themselves from the fighters, and the antiaircraft crews on the ships and shore could not fire either for fear of hitting their own fighters. The whole operation, except for the dropped bombs themselves, had taken place up there, high up in the air. Slowly, sedately, the bombers headed back into the north to where a protective blanket of their own fighters would be waiting for them, growing slowly and steadily smaller, as before they had grown slowly and steadily larger. The fighters still buzzed angrily around them, and before they were lost to sight a few more fell. All during the action the defending fighters had been hampered by having to break off and streak back to the air strip to renew fuel or ammunition. Replenished, they would return. But the number of fighters actually engaged was never as large as it might have been. Apparently the bombers were allowing for this factor. At any rate, slowly they dwindled to specks again, then to invisibility. Then finally, the fighters began to return. It was over. On the beach the work of unloading, which had never ceased during the attack, went right on.

    Men who had been here longer and who were standing nearby to C-for-Charlie, which still waited—and watched—from the edge of the coconut grove, told them that there would probably be at least two more attacks, now, during the day. The main thing was to get the damned ships unloaded so they could get out of here and thus let things settle back peacefully to normal. The unloading was the most important thing of all. But it had to be finished

With all prior recommendations.

Even with increased line spacing the new page displays 40 more words – 284 words – 16% more.

Defaults

Except for line spacing, the Kindle Mobi Reader default settings are good. Returning to defaults after making changes is difficult and appears to require an entire system reset which erases stored documents. Furthermore, while the defaults are a good average, they don't work for everyone.

Recommendation #7
Kindle should offer three default settings:
– Normal: the current default albeit with smaller margins, condensed Caecilia (see page 9), and large line spacing (see page 17).
– Eye-easy: a new default with larger condensed Caecilia type and wider line spacing.
– Large print: a new default with even larger type and line spacing. This default would support people with impaired vision.
– Kindle should offer a non-destructive way to return to the default reader settings.

Current

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7%

Default: Normal

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The recommended "Normal" default setting gains 40 words over the current setting. This is a significant increase in the amount of text per page, leading to a decrease in the frequency of page turns.

Defaults Summary

Default: Normal

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Margins:
– Top: 10px
– Right: 10px
– Bottom: 30px
– Left: 10px

Font: Caecilia Condensed
Font size: 21px
Line spacing: 31px
Alignment: Left

Default: Eye Easy

made no attempt at strafing, they were too busy protecting themselves from the fighters, and the antiaircraft crews on the ships and shore could not fire either for fear of hitting their own fighters. The whole operation, except for the dropped bombs themselves, had taken place up there, high up in the air. Slowly, sedately, the bombers headed back into the north to where a protective blanket of their own fighters would be waiting for them, growing slowly and steadily smaller, as before they had grown slowly and steadily larger. The fighters still buzzed angrily around them, and before they were lost to sight a few more fell. All during the action the defending fighters had been hampered by having to break off and streak back to the air strip to renew fuel or ammunition. Replenished, they would return. But the number of fighters actually engaged was never as large as it might have been. Apparently the bombers were allowing for this factor. At any rate, slowly they dwindled to specks again, then to invisibility. Then finally, the fighters began to return. It was over. On the beach the work of unloading, which

Margins:
– Top: 10px
– Right: 10px
– Bottom: 31px
– Left: 10px

Font: Caecilia Condensed
Font size: 25px
Line spacing: 37px
Alignment: Left

Default: Large Print

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Margins:
– Top: 10px
– Right: 10px
– Bottom: 45px
– Left: 10px

Font: Caecilia Condensed
Font size: 32px
Line spacing: 45px
Alignment: Left
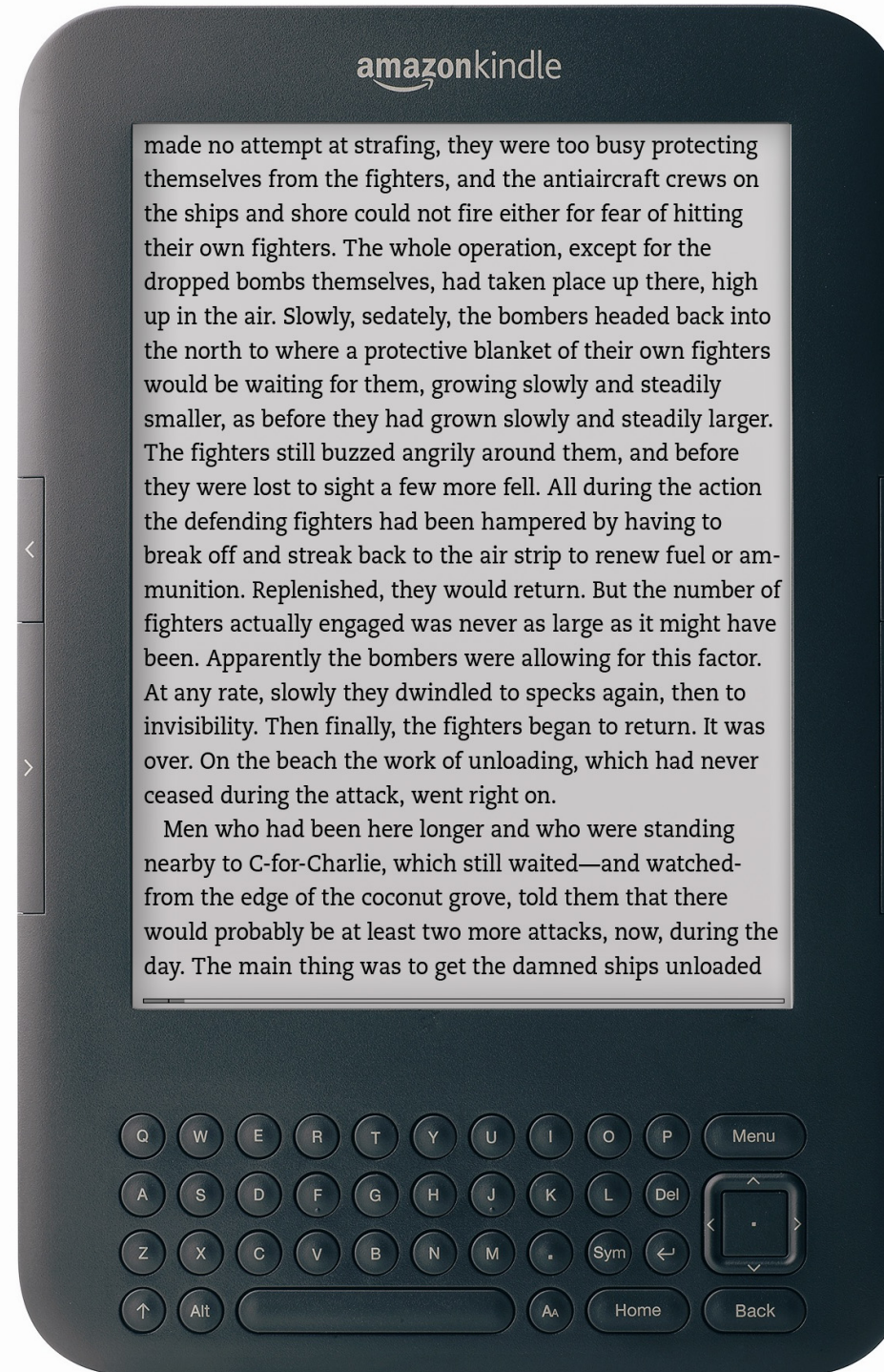
Screen Proportion

The Kindle screen size is great, like a pocket book. The device size maps nicely to the average adult hand size. However, the proportion of screen width to height is not ideal: 600:800 or 3:4. This is a traditional TV proportion (1:1.333), but it's rarely used in book design. With current default text settings the Kindle screen can display 29 lines, which is not bad. However, if previous recommendations are implemented the line count drops to 25, albeit with an 16% increase in word count. Thirty lines per page is ideal in book design.

Recommendation #25

– The Kindle screen should be taller.
– Proportion should be at least 1:1.414 (DIN standard) or greater: 1:1.5, or 1:1.617 (golden mean).
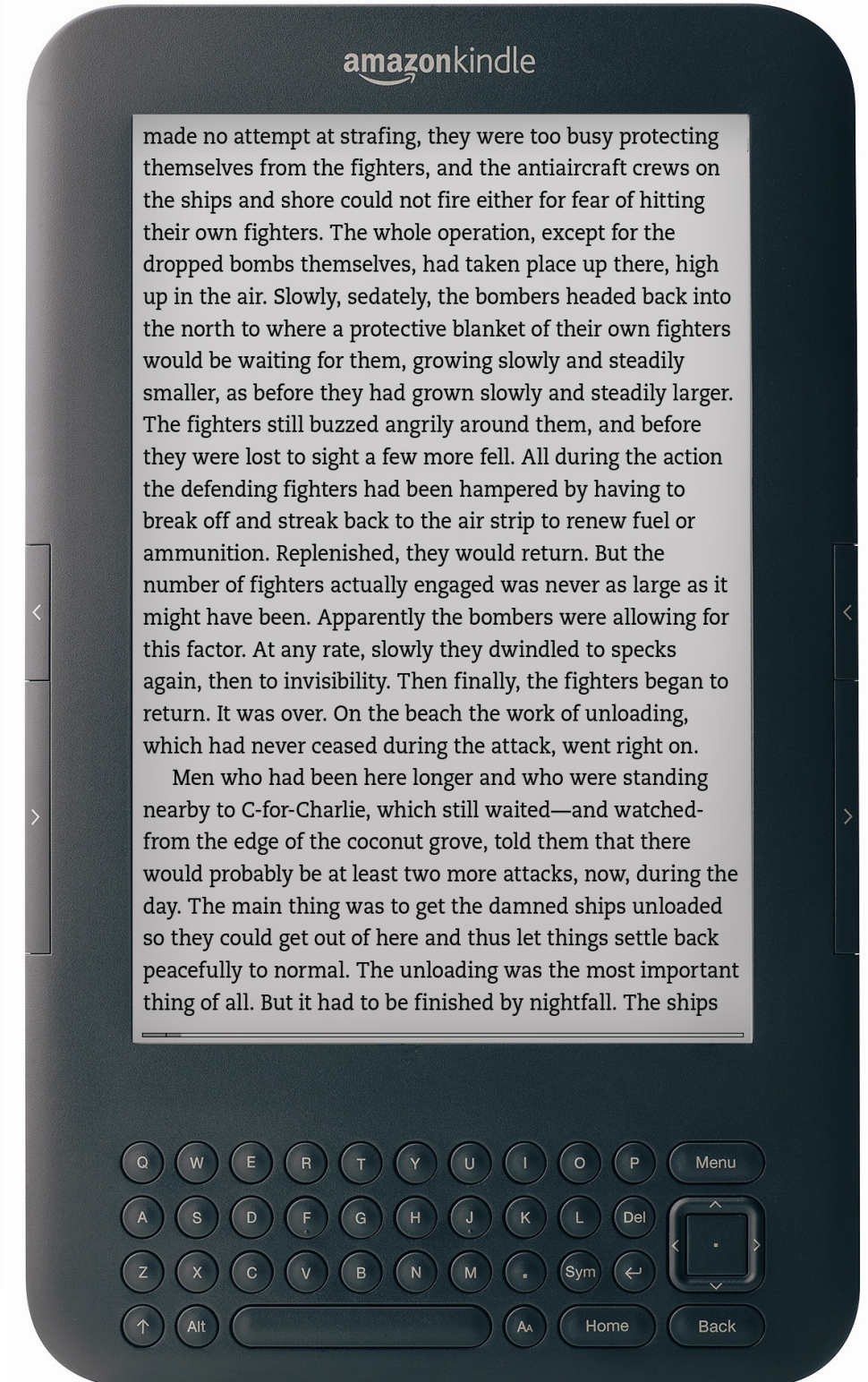
Current
Kindle
proportion

1:1.333

1:414
(DIN standard)

1:1.5
(Shown to the right)

1:1.617
(golden mean)

Current

made no attempt at strafing, they were too busy protecting themselves from the fighters, and the antiaircraft crews on the ships and shore could not fire either for fear of hitting their own fighters. The whole operation, except for the dropped bombs themselves, had taken place up there, high up in the air. Slowly, sedately, the bombers headed back into the north to where a protective blanket of their own fighters would be waiting for them, growing slowly and steadily smaller, as before they had grown slowly and steadily larger. The fighters still buzzed angrily around them, and before they were lost to sight a few more fell. All during the action the defending fighters had been hampered by having to break off and streak back to the air strip to renew fuel or am-munition. Replenished, they would return. But the number of fighters actually engaged was never as large as it might have been. Apparently the bombers were allowing for this factor. At any rate, slowly they dwindled to specks again, then to invisibility. Then finally, the fighters began to return. It was over. On the beach the work of unloading, which had never ceased during the attack, went right on.

Men who had been here longer and who were standing nearby to C-for-Charlie, which still waited—and watched-from the edge of the coconut grove, told them that there would probably be at least two more attacks, now, during the day. The main thing was to get the damned ships unloaded

The current Kindle with a 1:1.333 screen proportion and all typographic recommendations implemented.

Recommendation

made no attempt at strafing, they were too busy protecting themselves from the fighters, and the antiaircraft crews on the ships and shore could not fire either for fear of hitting their own fighters. The whole operation, except for the dropped bombs themselves, had taken place up there, high up in the air. Slowly, sedately, the bombers headed back into the north to where a protective blanket of their own fighters would be waiting for them, growing slowly and steadily smaller, as before they had grown slowly and steadily larger. The fighters still buzzed angrily around them, and before they were lost to sight a few more fell. All during the action the defending fighters had been hampered by having to break off and streak back to the air strip to renew fuel or ammunition. Replenished, they would return. But the number of fighters actually engaged was never as large as it might have been. Apparently the bombers were allowing for this factor. At any rate, slowly they dwindled to specks again, then to invisibility. Then finally, the fighters began to return. It was over. On the beach the work of unloading, which had never ceased during the attack, went right on.

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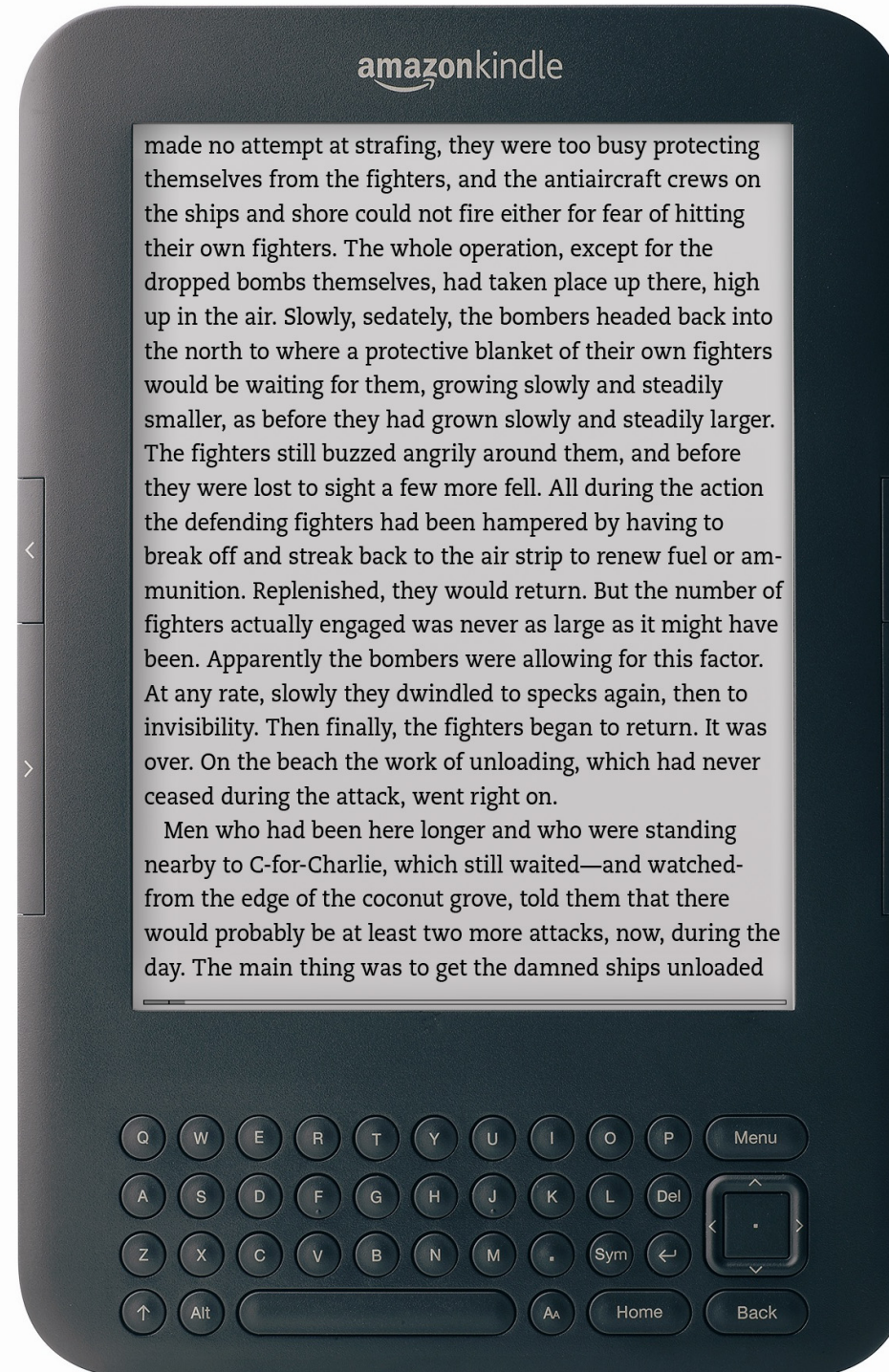
Kindle with 1:1.5 screen proportions. This screen proportion gets three extra lines compared to the 1:1.333 proportion.
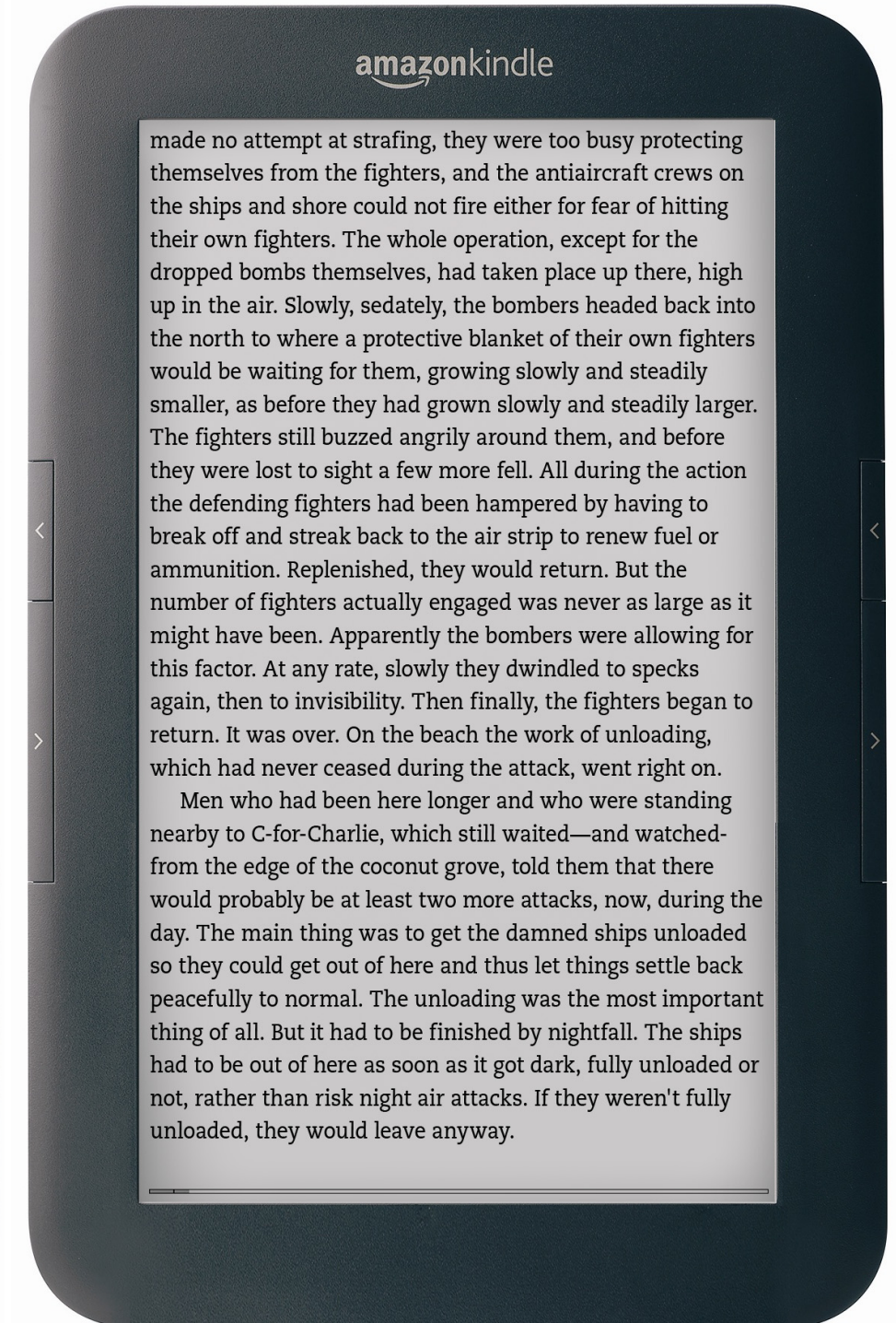
Layout

Screen Proportion

A future touch screen version of Kindle could allow for better screen proportions without changing overall device size.

made no attempt at strafing, they were too busy protecting themselves from the fighters, and the antiaircraft crews on the ships and shore could not fire either for fear of hitting their own fighters. The whole operation, except for the dropped bombs themselves, had taken place up there, high up in the air. Slowly, sedately, the bombers headed back into the north to where a protective blanket of their own fighters would be waiting for them, growing slowly and steadily smaller, as before they had grown slowly and steadily larger. The fighters still buzzed angrily around them, and before they were lost to sight a few more fell. All during the action the defending fighters had been hampered by having to break off and streak back to the air strip to renew fuel or ammunition. Replenished, they would return. But the number of fighters actually engaged was never as large as it might have been. Apparently the bombers were allowing for this factor. At any rate, slowly they dwindled to specks again, then to invisibility. Then finally, the fighters began to return. It was over. On the beach the work of unloading, which had never ceased during the attack, went right on.

Men who had been here longer and who were standing nearby to C-for-Charlie, which still waited—and watched-from the edge of the coconut grove, told them that there would probably be at least two more attacks, now, during the day. The main thing was to get the damned ships unloaded

The current Kindle with a 1:1.333 screen proportion.

made no attempt at strafing, they were too busy protecting themselves from the fighters, and the antiaircraft crews on the ships and shore could not fire either for fear of hitting their own fighters. The whole operation, except for the dropped bombs themselves, had taken place up there, high up in the air. Slowly, sedately, the bombers headed back into the north to where a protective blanket of their own fighters would be waiting for them, growing slowly and steadily smaller, as before they had grown slowly and steadily larger. The fighters still buzzed angrily around them, and before they were lost to sight a few more fell. All during the action the defending fighters had been hampered by having to break off and streak back to the air strip to renew fuel or ammunition. Replenished, they would return. But the number of fighters actually engaged was never as large as it might have been. Apparently the bombers were allowing for this factor. At any rate, slowly they dwindled to specks again, then to invisibility. Then finally, the fighters began to return. It was over. On the beach the work of unloading, which had never ceased during the attack, went right on.

Men who had been here longer and who were standing nearby to C-for-Charlie, which still waited—and watched-from the edge of the coconut grove, told them that there would probably be at least two more attacks, now, during the day. The main thing was to get the damned ships unloaded so they could get out of here and thus let things settle back peacefully to normal. The unloading was the most important thing of all. But it had to be finished by nightfall. The ships had to be out of here as soon as it got dark, fully unloaded or not, rather than risk night air attacks. If they weren't fully unloaded, they would leave anyway.

Kindle with no keyboard but the same physical dimensions allows for a screen with 1:1.7 proportions. (This ratio keeps the current form factor and maintains an equal-sized bevel on all four edges.)

Logo

Placing the Kindle logo on the front of the device is distracting and unnecessary.

Distracting because it interferes with the reading process. Prominently displayed manufacturers' logos are a common problem with consumer electronics. Manufacturers' logos on televisions, for example, are often illuminated, and users cover them with tape to eliminate the distraction.

Unnecessary because the Kindle product design is well done and the device is recognizable by form factor alone. Also, placing the logo on the user-facing side of the device means you are directing branding at people who already own the device.

Recommendation #31

– Remove the logo from the front of the device, or at least deboss without printing.
– The back of the device could have stronger logo placement.

The iPad has no logo on the front of the device and maintains strong recognizability through its form factor, materials, and the logo on the back.

Current
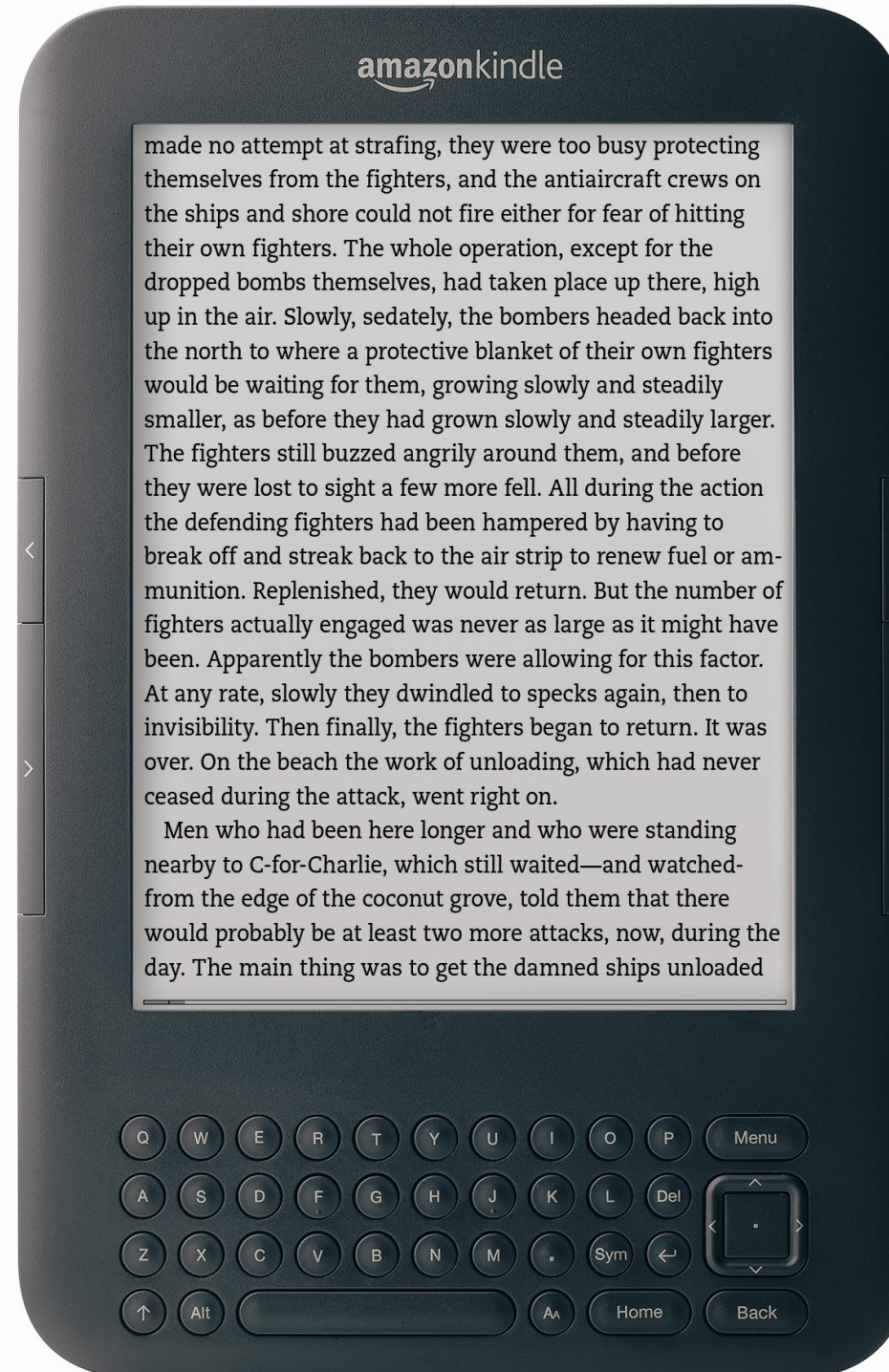
Recommendation
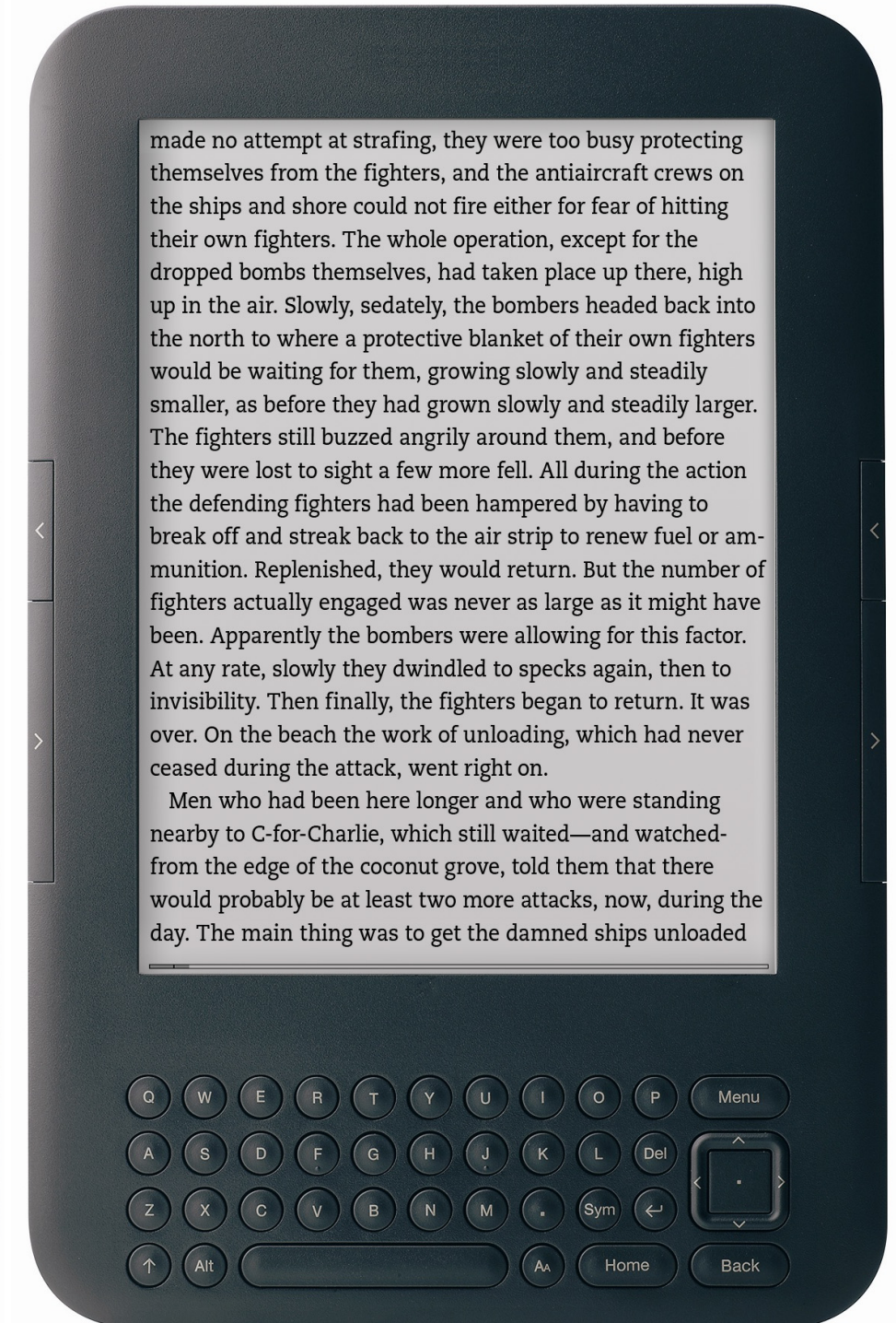
Standards

The Kindle Mobi 7 Reader supports a limited set of HTML standards (HTML 1). The Kindle Mobi 8 Reader is intended to enact some of the recommendations, however the specification does not support all of HTML5 and CSS3. Standards support is increasingly important to developers and publishers.

Recommendation #20
– The Kindle Mobi Reader should fully support current digital publishing standards, i.e., HTML5 and CSS3. Without full support, the Kindle AZW format risks being marginalized.
– Partial support – cherry picking – will create problems for Amazon and for developers and publishers. It makes cross-platform development particularly difficult.

Sophisticated Layout

Full support for current digital publishing standards (HTML5 and CSS3) will allow the Kindle to display content with sophisticated layouts.

Recommendation #21
The Kindle Mobi reader should support the following layout options:
– Multiple columns of text.
– Tables.
– Right-to-left line direction used in Arabic and Hebrew.
– Bi-directional reading
  (right-to-left reading mixed with left-to-right reading).
– Top-to-bottom reading.
– Intelligent reflow around illustrations as text enlarges.
– Captions linked to illustrations, tables, and other "figures".
– Ruby (text glosses describing pronunciation) in several languages, including Ruby for Chinese and Rubi, Furigana, and Yomigana for Japanese.

Coordinating the integration of text and images is one of the most common tasks for typographer. A carefully composed digital page can logically reformat in response to changing user preferences.

Fig. 1

Text printed on a page is fixed and unmoving. You can turn the page or tear out a page, but you can't rearrange the layout of a page. Text on screen can be fixed or flexible. If flexible, you can resize the display window or the text size – or both – and the digital page layout has to respond. The flexible nature of digital text causes problems when there are elements positioned near and directly related to specific places in the text. When text size is increased or browser window size is decreased, how does the text react? Coordinating the integration of text and images is one of the most common tasks for typographer. A carefully composed digital page can logically reformat in response to changing user

Fig. 1

Text printed on a page is fixed and unmoving. You can turn the page or tear out a page, but you can't rearrange the layout of a page. Text on screen can be fixed or flexible. If flexible, you can resize the display

If type size is increased, the type column becomes proportionally narrower – in the example above, extremely so. With so few words per line, the text can be uncomfortable to read.

Fig. 1

Text printed on a page is fixed and unmoving. You can turn the page or tear out a page, but you can't rearrange

A better solution when type size increases would be to move the text below (or above) the figure, allowing for a wider text column better proportioned to the larger type size.

Substrate

Kindle's e-ink screens offer a number of advantages: low power consumption, readable in bright light, low cost. The latest generation made a substantial improvement in contrast over the first generation. So far, e-ink has proved an excellent choice. E-ink remains a good choice as long as the model of an e-book is a digital version of printed books.

Overtime, the user's model of e-books will shift. This pattern is familiar. New technologies begin by offering cost, speed, and convenience advantages over existing ones. At first, concern focuses on matching the existing technology. As the new technology replaces the existing technology, concern shifts to taking advantage of capabilities of the new technology.

Multi-media Support

E-books promise to be much more than digital copies of printed books. They will become richly interactive (more like games) and rich in media (more like a mash-up of magazines and movies).

While e-ink is good for reading lots of text. It does not support the rich media required in the next generation of e-books. The business question is when will this support be required? It could become important in just a couple of years.

Recommendation #22

Amazon should lead development of next generation e-books. That means supporting:
– Color
– High-quality photo reproduction
– Video
– SVG
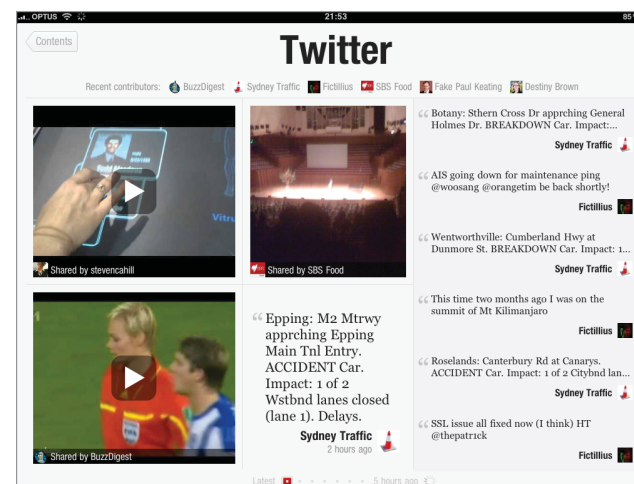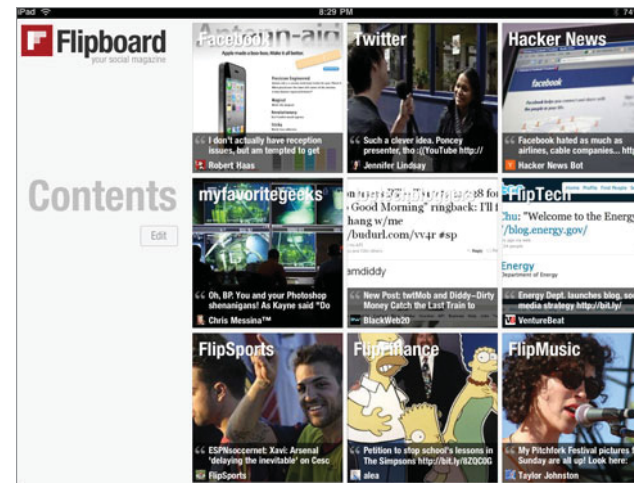
Flipboard aggregates users' RSS, Twitter, Facebook, and more feeds into a daily, personalized magazine.
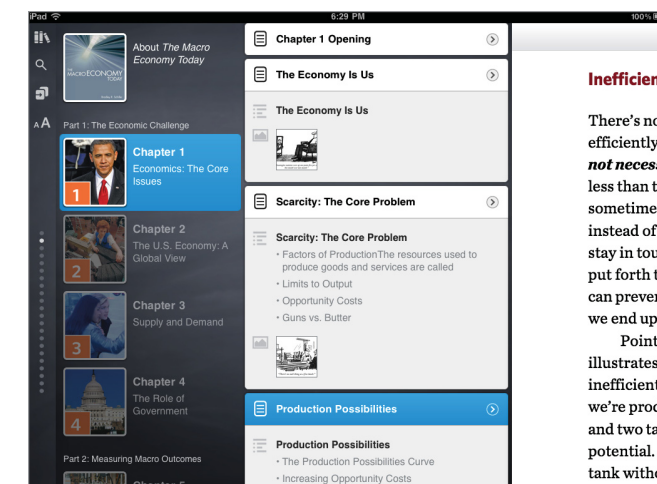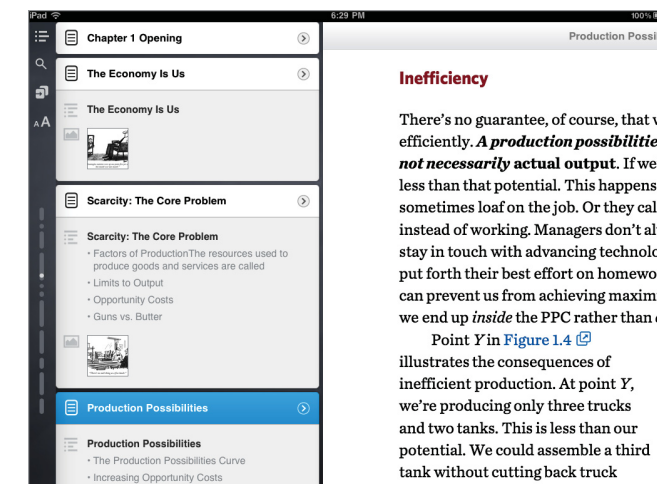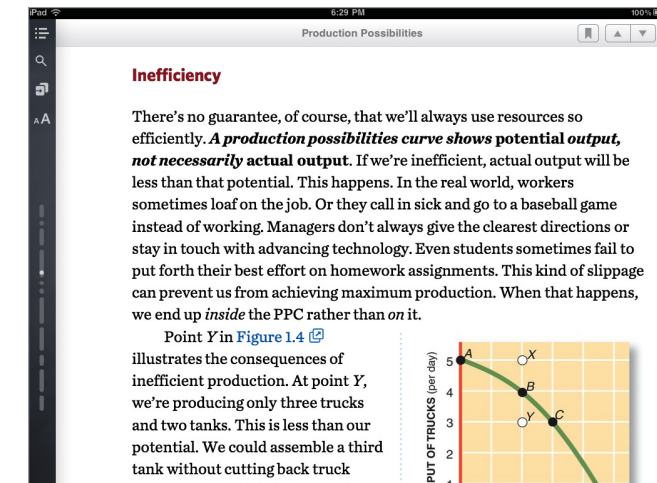
Inkling is a multi-media textbook platform for iPad that incorporates text, video, and audio along with note taking and more. One of the interesting elements of Inkling textbooks is the TOC and chapter menu that slides out from the left. This allows users to get a view of the entire book and its structure without losing the context of what they are reading.

E-ink Font Optimization

Monotype appears to have looked at e-ink and how it affects font display. However, their investigation does not appear to have been thorough or well documented, nor have the results been shared with Amazon.

Recommendation #27

– Ask Monotype to share what it's learned about e-ink font display optimization.
– Undertake a study to identify additional techniques for optimization. Such a study requires font development and rendering system teams working with a tight feedback loop – that is, a team consisting of, at minimum, a font designer, a font/type developer, and a rendering/display developer working together to rapidly iterate on a development system which includes actual hardware display capabilities. Monotype has not had access to such a development system, and Lab126 has had limited internal font expertise.

Understanding Typography
How Do You Make Letters Look Good? (pages 49–56)

Understanding Digital Typography
Screen Technology (page 8)
Hinting (page 66)
Anti-Aliasing (page 68)
Subpixel Rendering (page 69)

Optical Adjustments

❌ **Mathematically Even Character (without light wells)**
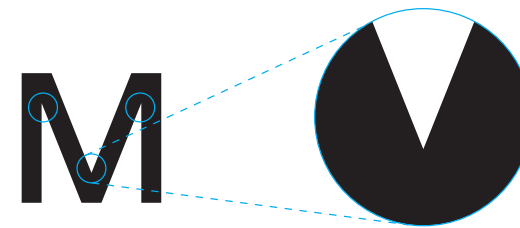
Points where multiple strokes join can appear thicker and visually heavier than the individual strokes.

✅ **Optically Adjusted Character (with light wells)**
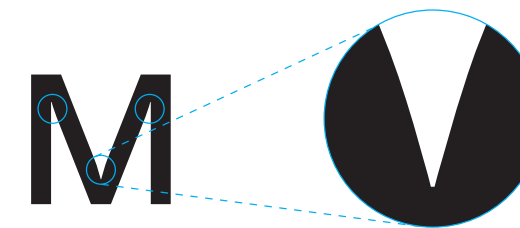
This "M" has been optically adjusted where the strokes meet to achieve an even balance between strokes and the joints.

The examples above show optimization techniques developed for other print technologies. It may be possible to discover optimization techniques specially suited to e-ink.

Screen Rendering

Font Outline

Rendered Bitmaps
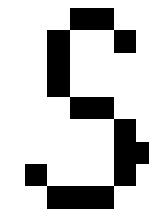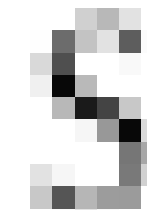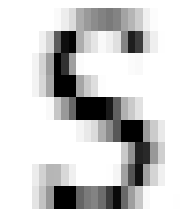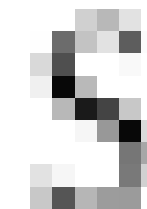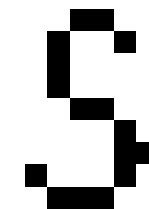
Aliasing   Anti-aliasing   Subpixel Rendering
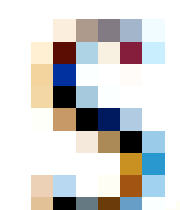
Perceived Pixels

Subpixel rendering creates a greater perceived resolution by using the red, green, and blue subpixels of an LCD monitor.

Interactivity

Interactivity will become a defining characteristic of e-books. However, even now, when e-books are primarily digital copies of printed books, solutions for navigating books rely on interactive features and affordances.
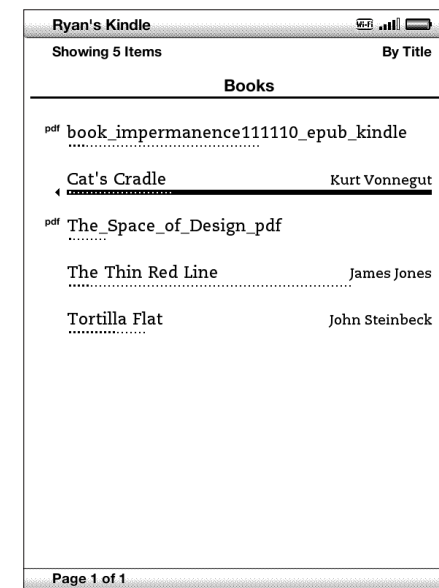
Covers

Physical books have visually-engaging covers with blurbs, summaries and the like. Kindle can display book thumbnails but they are hard to find and don't have the other features readers like.
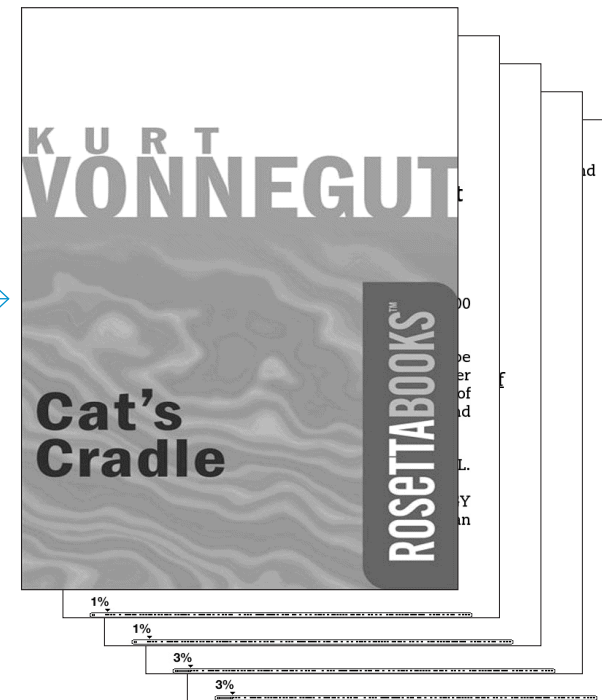
Recommendation #23

– Amazon's e-books should include beautiful full-size covers, not just poor-quality thumbnails.

– The covers should appear at the beginning of the book; the current practice of dropping first-time readers at the first chapter is unexpected and disorienting.
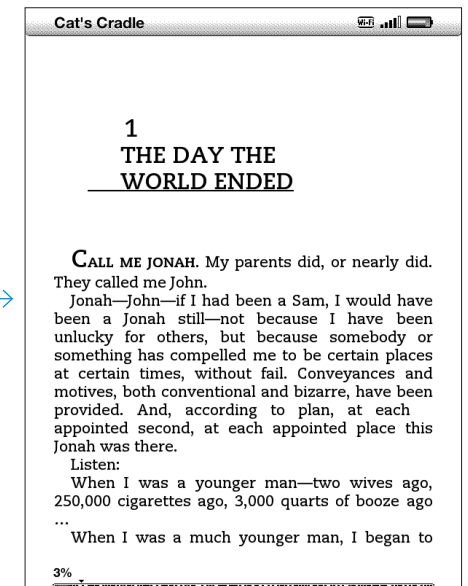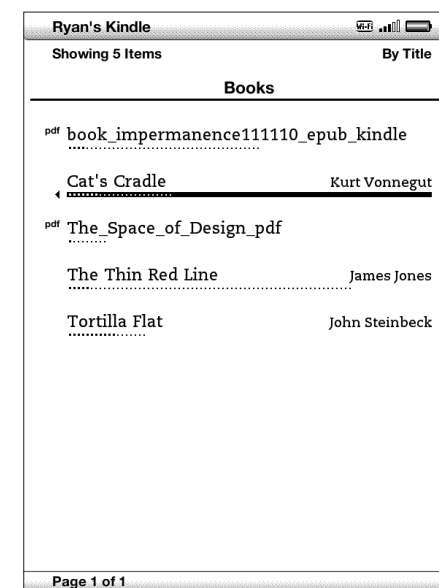
First Reading

Collections

Cover, copyright, contents, dedication, epigraph – the first time a reader opens the book, they should move through this material because it serves to orient the reader.
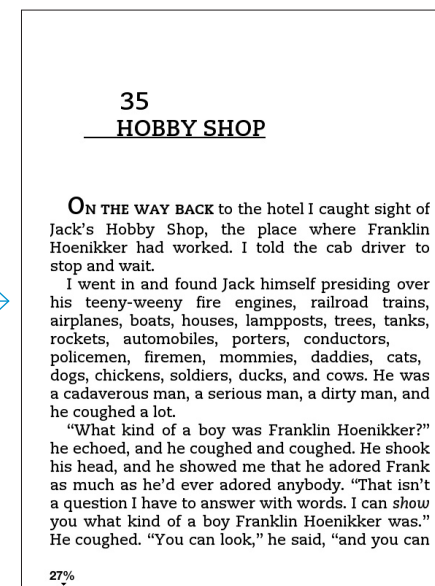
First page

Subsequent Readings


Collections

Last page viewed

In-book Navigation

In today's Kindle reader, access to book contents is mostly serial, with the exception of linking from the TOC. Digital devices support random access, and users expect it. Kindle does a good job of remembering where you are in a book. And the bookmarks feature works well. But it's not enough. Books often have front and back matter that readers regularly want to access, e.g. TOCs, maps of the context, *dramatis personae*, glossaries, indices, appendices. The current Go to... feature is awkward and limited.
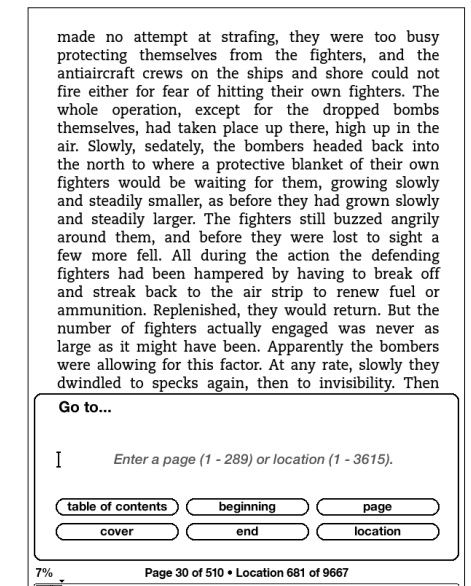
Recommendation #10

– The Kindle reader should support random access to book content.
– At any time, readers should be able to skip back to the beginning or ahead to the end, with one button press.
– The UX team should investigate additional affordances to support more complex ancillary matter. This might mean exposing an API for adding elements to the Go to... dialog box.

Current
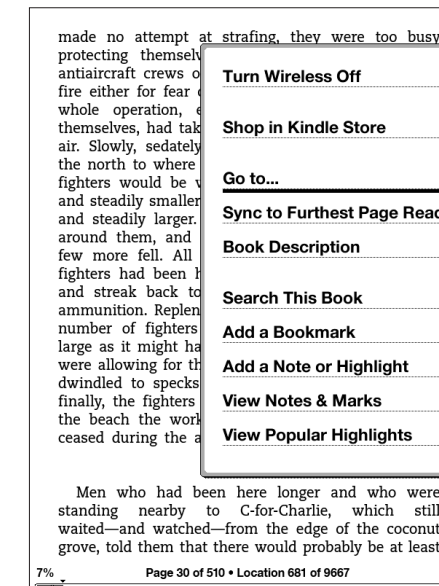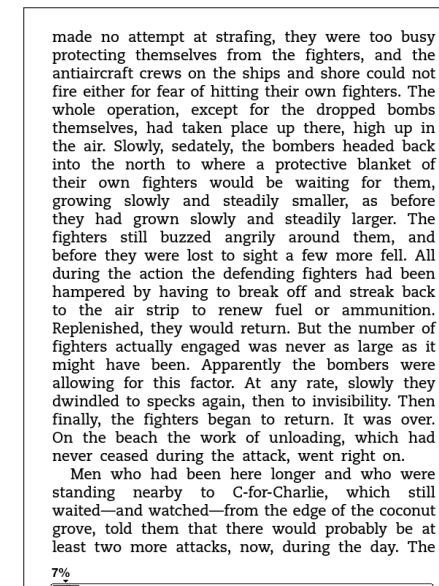
The Go to... dialog is accessed via the Menu; it is the default selected option.

To navigate to a specific page or location, the user must enter a number in the Go to... dialog. This requires using the Sym key and repeated 5-way and select actions.

Recommendation
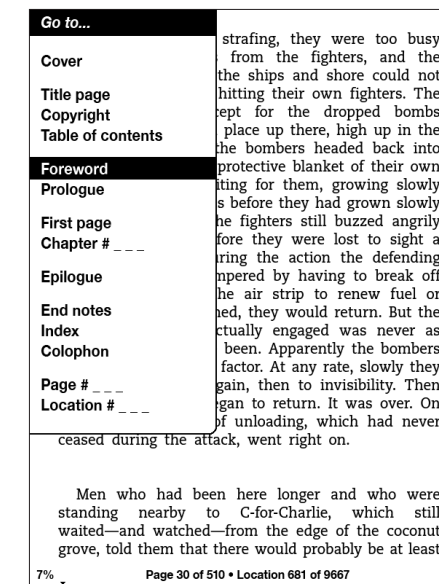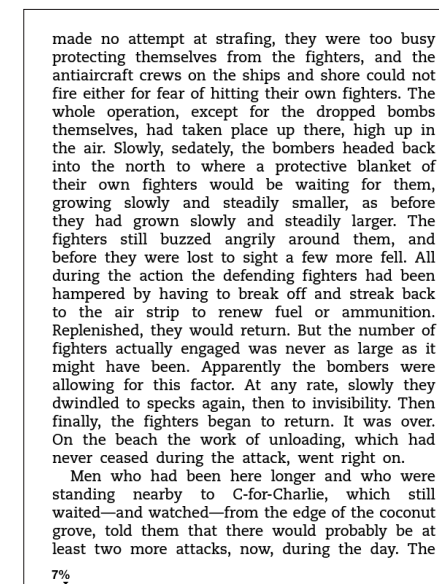
A more robust Go to... dialog could be accessed directly from the keyboard. This could both save a step for users and hint at a different type of navigation in the future.
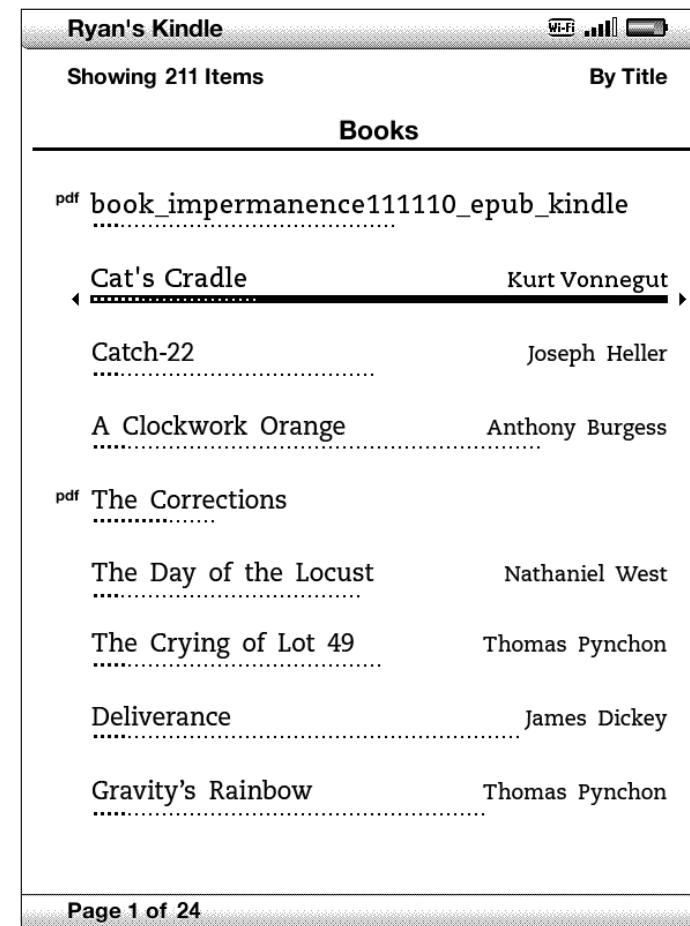
Collections

The Kindle file directory interface appears to have been designed to support less than two dozen items. Today, it supports one level of collection, e.g. creating a group of books (a directory). There is evidence some users have more than 300 books on their Kindle. (One user we talked to claimed to have 4,000 titles on her Kindle.) As e-book use rises, users will add more titles to their devices. Assumptions about the number of titles supported should drive UX design decisions.

Recommendation #11

– Track usage trends. Redesign the file directory to support much higher numbers of items. Assume hundreds rather than dozens of titles.
– Support collections within collections (nested directories).
– Support user's addition of tags to titles; enable searching and sorting by tags.

Current

Ryan's Kindle	Wi-Fi ▪▪▪▪ ▭
Showing 211 Items	By Title

Books

pdf book_impermanence111110_epub_kindle

Cat's Cradle — Kurt Vonnegut

Catch-22 — Joseph Heller

A Clockwork Orange — Anthony Burgess

pdf The Corrections

The Day of the Locust — Nathaniel West

The Crying of Lot 49 — Thomas Pynchon

Deliverance — James Dickey

Gravity's Rainbow — Thomas Pynchon

Page 1 of 24

The current Kindle collections page allows for 10 lines – in a collection this means that 9 entries can fit on a screen.

Recommendation

Marion's Kindle	▪▪▪▪ ▭ 10:30 AM

Alice's Adventures in Wonderland — Downloading...
Lewis Carroll

Kindle User's Guide
Amazon

Games for The Kids (3) — Collection

The New Oxford American Dictionary
Amazon

Mine Sweeper — App
Amazon Digital Services

iPhone for Dummies — PDF
Bob LeVitus

The New York Times — Newspaper
Aug 3, 2010

Pardon Me — MP3
Incubus

The Lost Symbol — Audible
Dan Brown

Without changing the number of entries on a page, typographic changes can provide a clearer hierarchy of information and present a visually calmer layout.

Understanding Digital Typography
Directories (page 111)
Tagging (page 112)

Collections

Kindle for the iPad currently has images of the book covers in the home screen.

Current
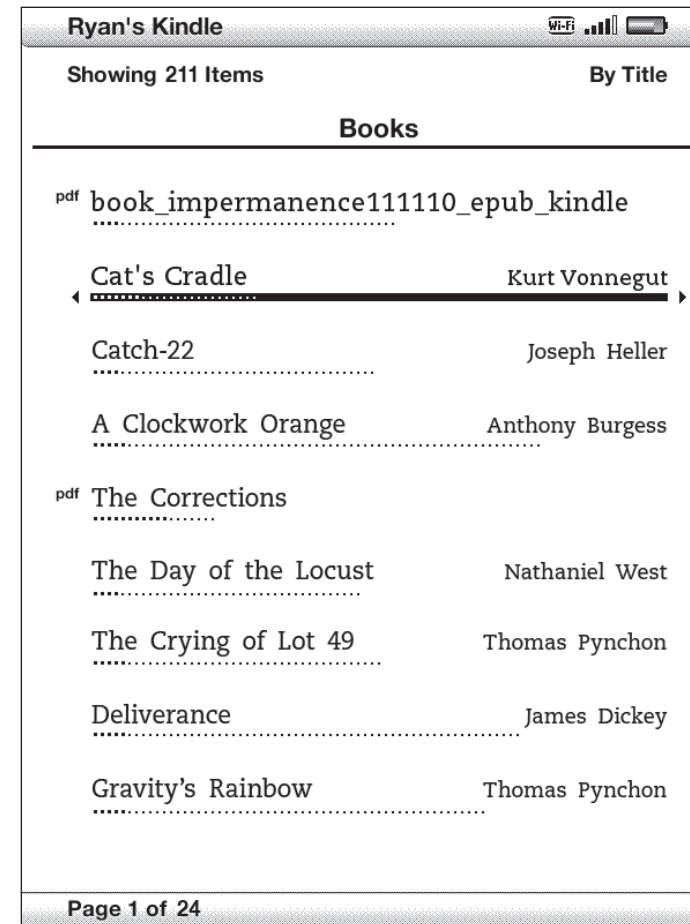
The current Kindle collections page allows for 10 lines – in a collection this means that 9 entries can fit on a screen.

Recommendation
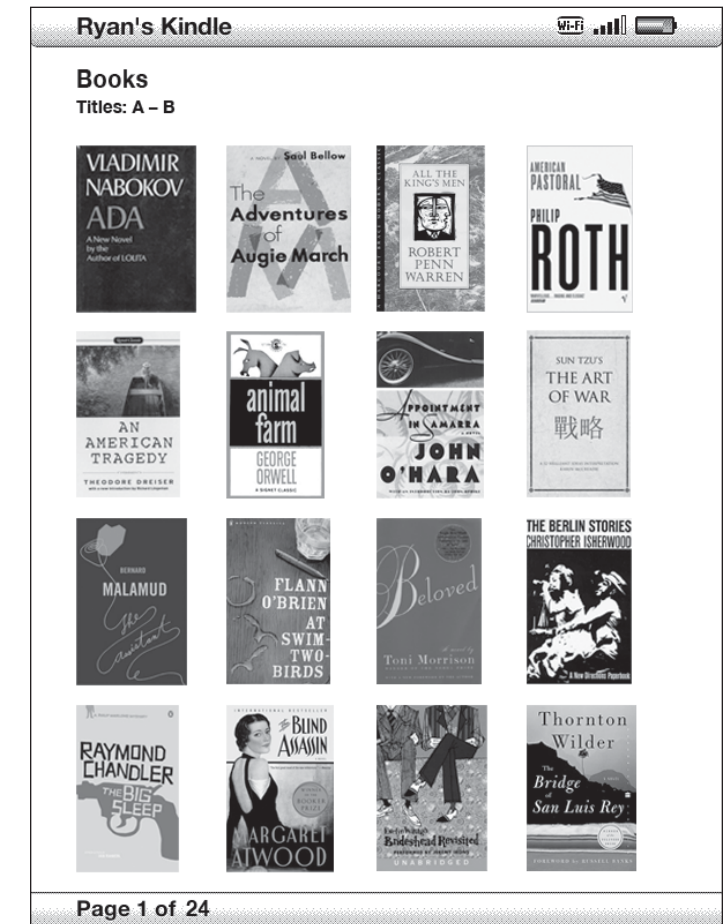
A grid of cover thumbnails can comfortably fit 16 entries, and possibly more.

Go to...

Users can choose from a palette of six options in the Go to... dialog, two of which require text entry (page and locations). Both text entry options use only numbers. However the Sym menu, which is necessary for number entry, is not open when the Go to... dialog is accessed, presenting the user with two extra steps (one to open the Sym menu and another to close it).

Recommendation #12

– When a user accesses the Go to... dialog the Sym menu should automatically open.

Current
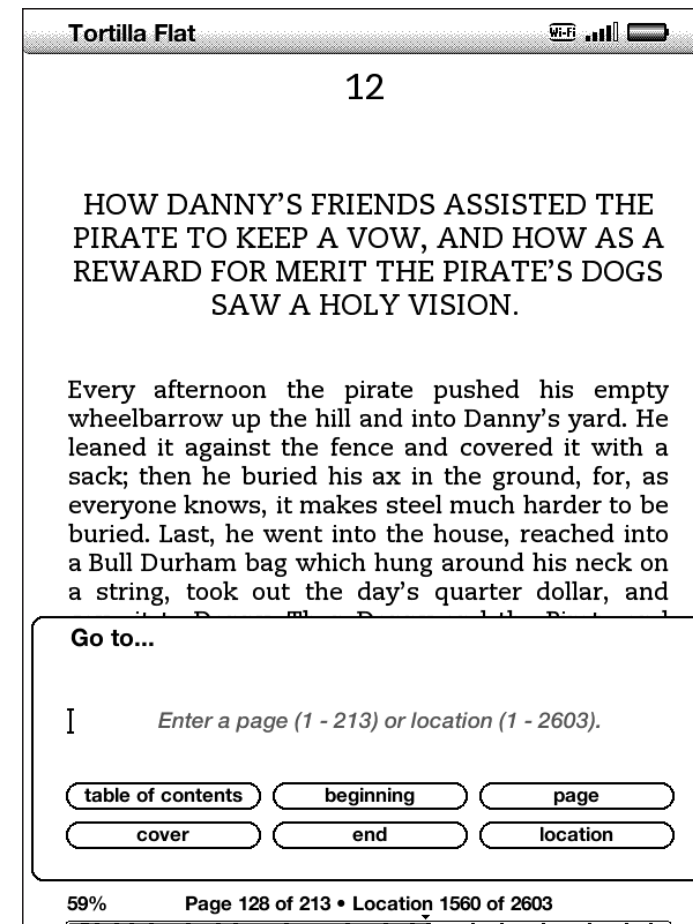
Users can't enter page or location numbers without the Sym menu.

Recommendation
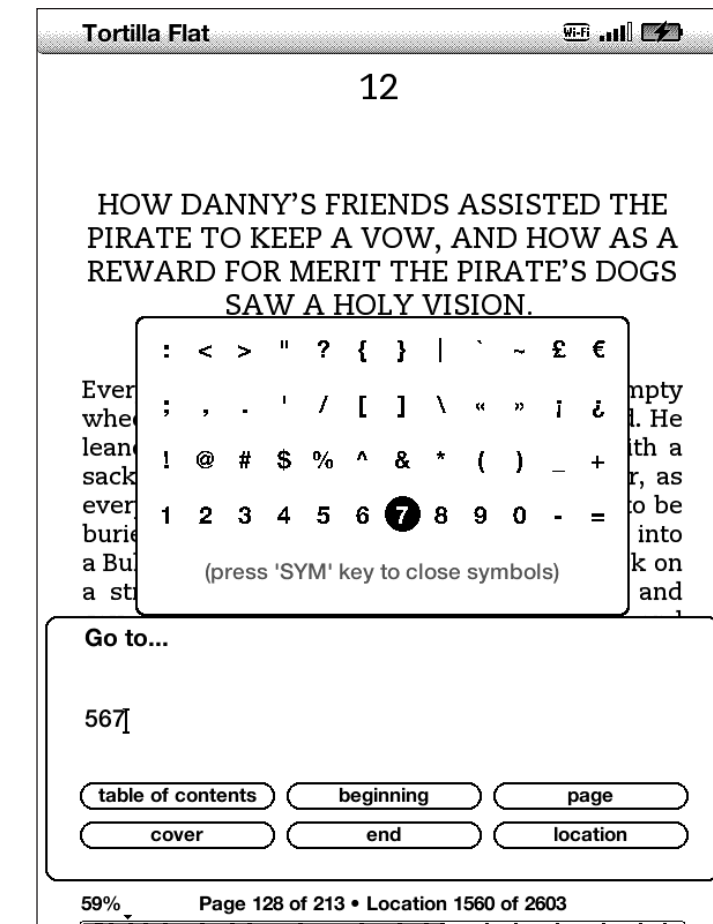
The Sym menu should be open by default.

Search

Users can search for terms in Kindle e-books. However after selecting a search result the term is not highlighted, making it difficult to locate.

Recommendation #13

– The selected search term should be highlighted after a result is selected.

Tortilla Flat	Wi-Fi

Search Results: Showing All 14

Location 23

DEFIED THE CONVENTIONS. HOW THE … AVAILABLE FROM VIKING PENGUIN BOOKS TORTILLA FLAT Born in Salinas, California, in 1902, JOHN STEINBECK grew up in a fertile

Location 32

class: In Dubious Battle (1936), Of Mice and Men (1937), and the book considered by many his finest, The Grapes of Wrath (1939). Early in the 1940s, Steinbeck became a filmmaker with The

Location 38

Harbor with his third wife, with whom he traveled widely. Later books include Sweet Thursday (1954), The Short Reign of Pippin IV: A Fabrication (1957), Once There Was a War (1958), The Winter
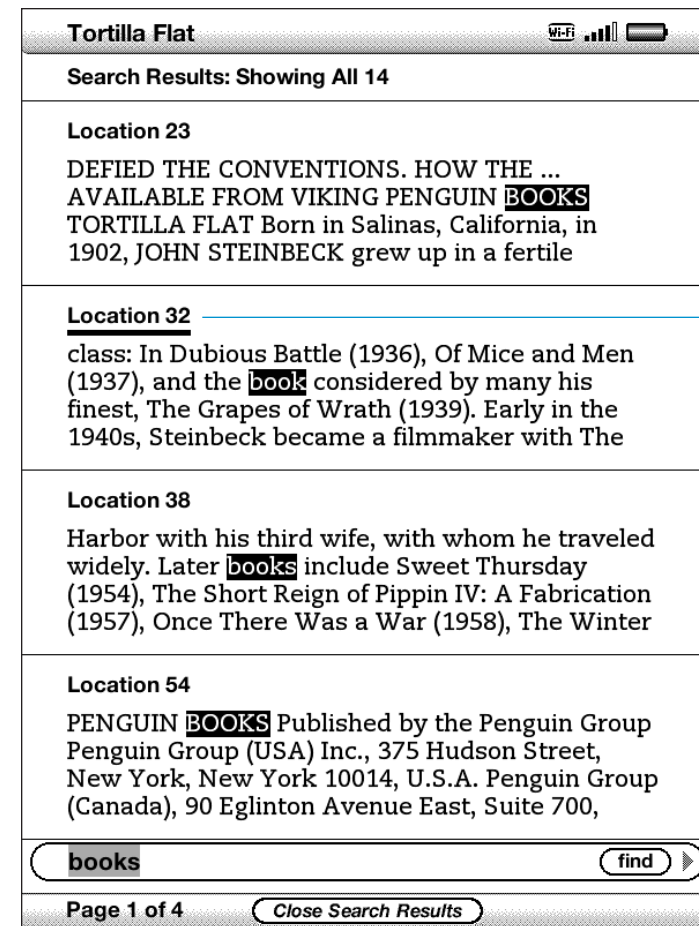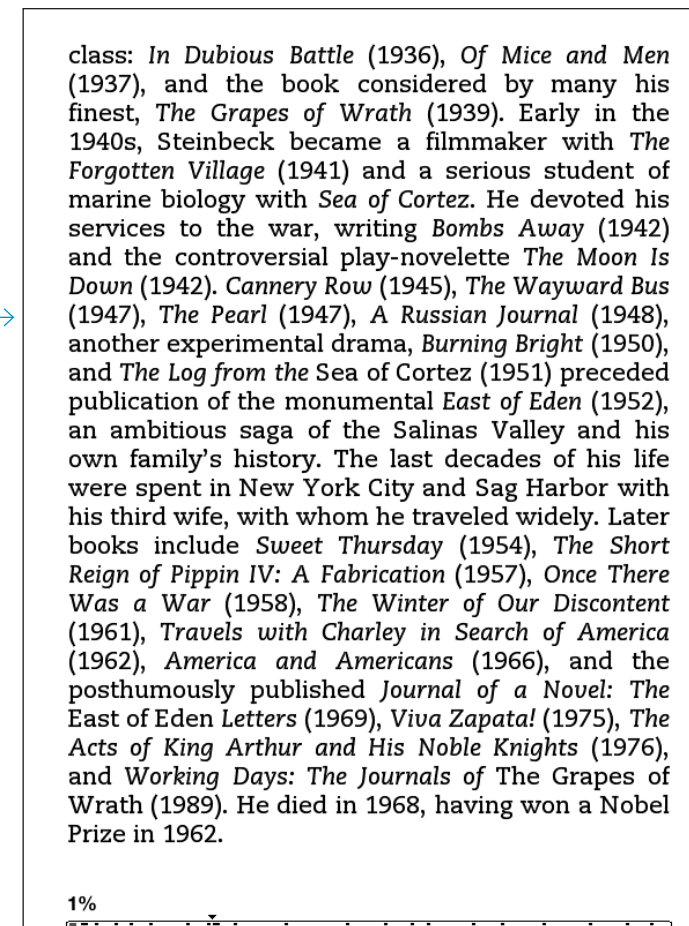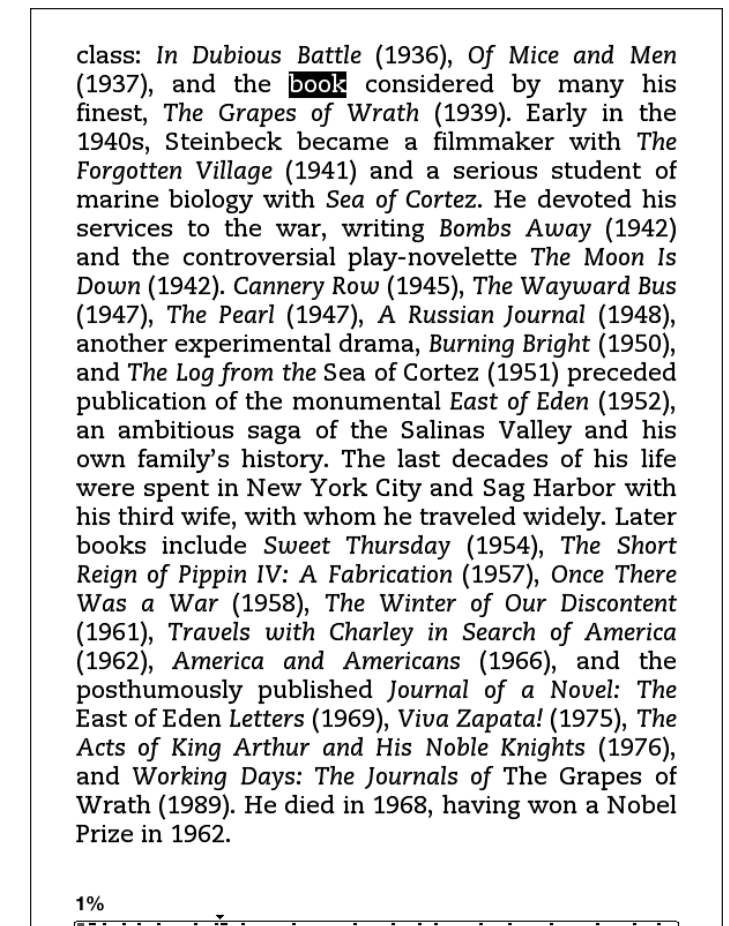
Location 54

PENGUIN BOOKS Published by the Penguin Group Penguin Group (USA) Inc., 375 Hudson Street, New York, New York 10014, U.S.A. Penguin Group (Canada), 90 Eglinton Avenue East, Suite 700,

books   find ▶

Page 1 of 4   Close Search Results

The search term is highlighted on the results page.

---

class: *In Dubious Battle* (1936), *Of Mice and Men* (1937), and the book considered by many his finest, *The Grapes of Wrath* (1939). Early in the 1940s, Steinbeck became a filmmaker with *The Forgotten Village* (1941) and a serious student of marine biology with *Sea of Cortez*. He devoted his services to the war, writing *Bombs Away* (1942) and the controversial play-novelette *The Moon Is Down* (1942). *Cannery Row* (1945), *The Wayward Bus* (1947), *The Pearl* (1947), *A Russian Journal* (1948), another experimental drama, *Burning Bright* (1950), and *The Log from the* Sea of Cortez (1951) preceded publication of the monumental *East of Eden* (1952), an ambitious saga of the Salinas Valley and his own family's history. The last decades of his life were spent in New York City and Sag Harbor with his third wife, with whom he traveled widely. Later books include *Sweet Thursday* (1954), *The Short Reign of Pippin IV: A Fabrication* (1957), *Once There Was a War* (1958), *The Winter of Our Discontent* (1961), *Travels with Charley in Search of America* (1962), *America and Americans* (1966), and the posthumously published *Journal of a Novel: The* East of Eden *Letters* (1969), *Viva Zapata!* (1975), *The Acts of King Arthur and His Noble Knights* (1976), and *Working Days: The Journals of* The Grapes of Wrath (1989). He died in 1968, having won a Nobel Prize in 1962.

1%

When a user selects a result, the search term is no longer highlighted and it is frequently difficult to find.

class: *In Dubious Battle* (1936), *Of Mice and Men* (1937), and the book considered by many his finest, *The Grapes of Wrath* (1939). Early in the 1940s, Steinbeck became a filmmaker with *The Forgotten Village* (1941) and a serious student of marine biology with *Sea of Cortez*. He devoted his services to the war, writing *Bombs Away* (1942) and the controversial play-novelette *The Moon Is Down* (1942). *Cannery Row* (1945), *The Wayward Bus* (1947), *The Pearl* (1947), *A Russian Journal* (1948), another experimental drama, *Burning Bright* (1950), and *The Log from the* Sea of Cortez (1951) preceded publication of the monumental *East of Eden* (1952), an ambitious saga of the Salinas Valley and his own family's history. The last decades of his life were spent in New York City and Sag Harbor with his third wife, with whom he traveled widely. Later books include *Sweet Thursday* (1954), *The Short Reign of Pippin IV: A Fabrication* (1957), *Once There Was a War* (1958), *The Winter of Our Discontent* (1961), *Travels with Charley in Search of America* (1962), *America and Americans* (1966), and the posthumously published *Journal of a Novel: The* East of Eden *Letters* (1969), *Viva Zapata!* (1975), *The Acts of King Arthur and His Noble Knights* (1976), and *Working Days: The Journals of* The Grapes of Wrath (1989). He died in 1968, having won a Nobel Prize in 1962.

1%

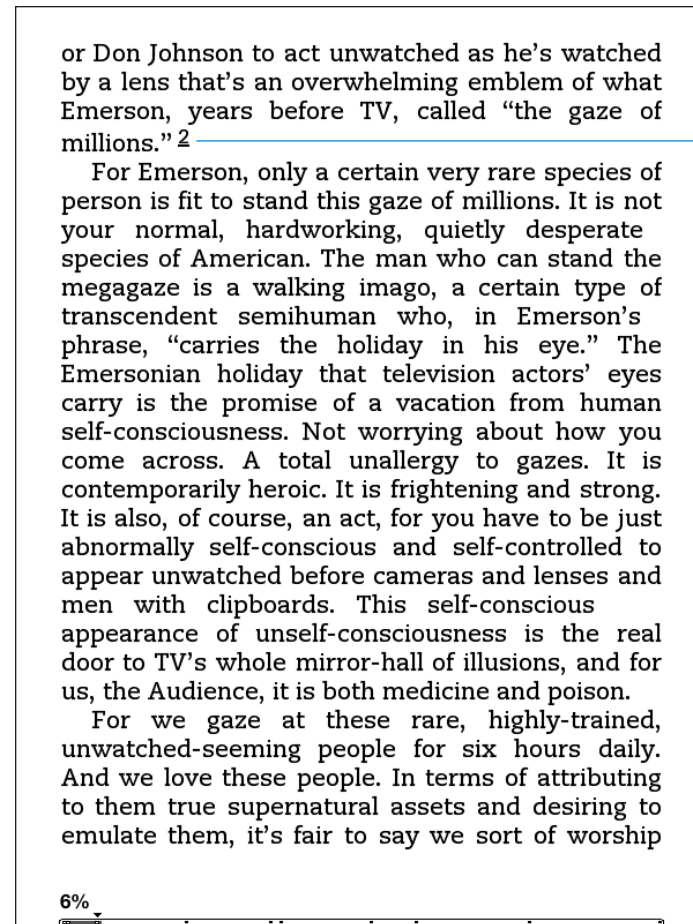The search term should be highlighted after a result is selected.

Footnotes

Accessing footnotes on the Kindle is awkward because the footnote is never shown in the context of the text it refers to.
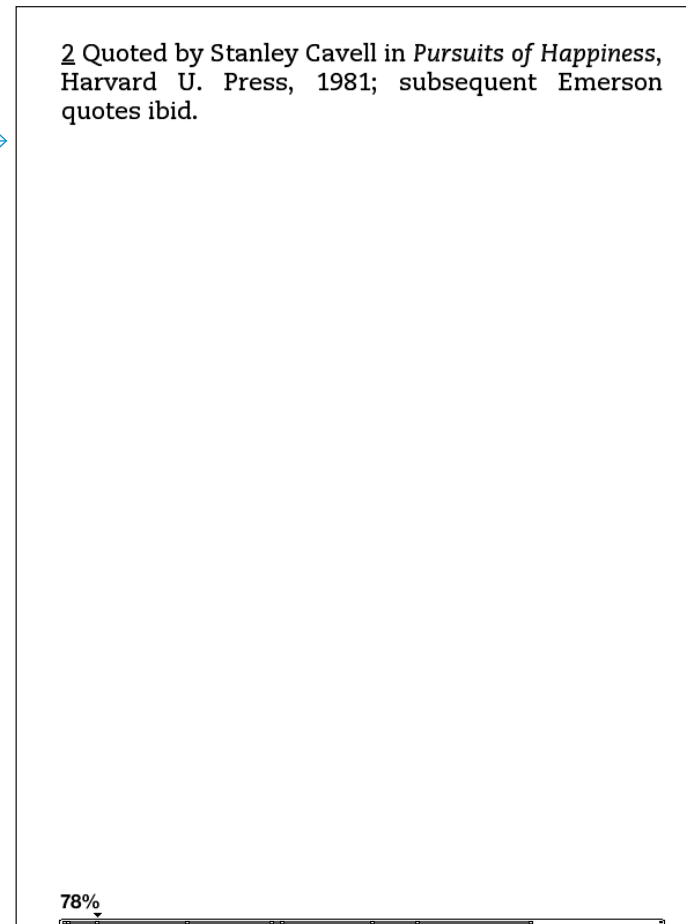
Recommendation #14

– Footnotes should be accessible in context, without having to completely jump to a different screen.
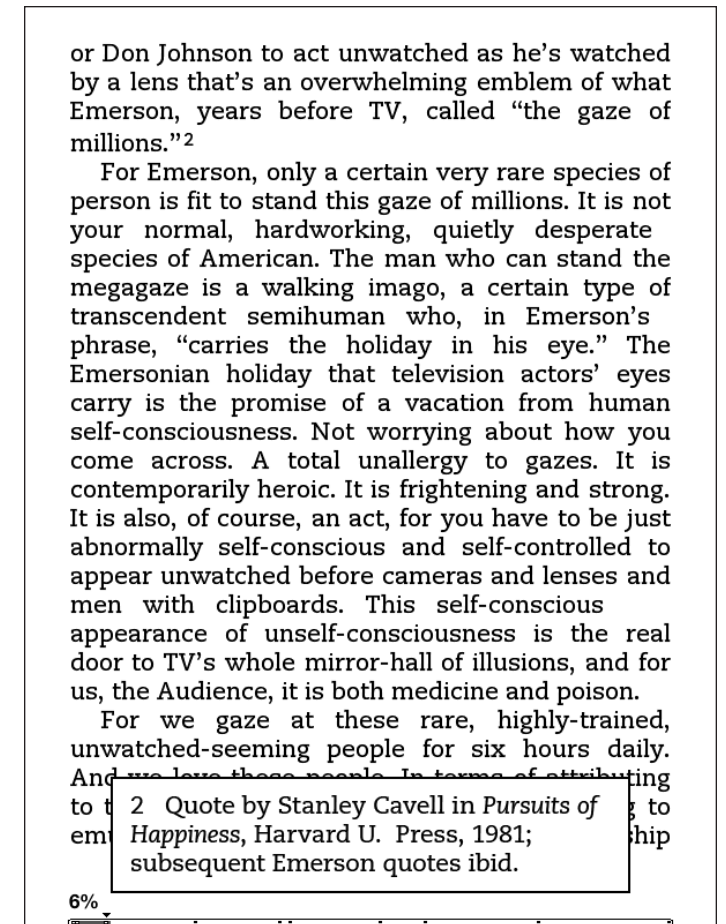
Current

or Don Johnson to act unwatched as he's watched by a lens that's an overwhelming emblem of what Emerson, years before TV, called "the gaze of millions." 2

For Emerson, only a certain very rare species of person is fit to stand this gaze of millions. It is not your normal, hardworking, quietly desperate species of American. The man who can stand the megagaze is a walking imago, a certain type of transcendent semihuman who, in Emerson's phrase, "carries the holiday in his eye." The Emersonian holiday that television actors' eyes carry is the promise of a vacation from human self-consciousness. Not worrying about how you come across. A total unallergy to gazes. It is contemporarily heroic. It is frightening and strong. It is also, of course, an act, for you have to be just abnormally self-conscious and self-controlled to appear unwatched before cameras and lenses and men with clipboards. This self-conscious appearance of unself-consciousness is the real door to TV's whole mirror-hall of illusions, and for us, the Audience, it is both medicine and poison.

For we gaze at these rare, highly-trained, unwatched-seeming people for six hours daily. And we love these people. In terms of attributing to them true supernatural assets and desiring to emulate them, it's fair to say we sort of worship

6%

Footnotes are indicated by an underlined superscript number.

2 Quoted by Stanley Cavell in *Pursuits of Happiness*, Harvard U. Press, 1981; subsequent Emerson quotes ibid.

78%

Clicking on the footnote number takes the reader to the end of the e-book. Clicking on the note number (or sometimes an explicit link that says "back to text" or clicking the back button) takes the reader back to the text.

Recommendation

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For we gaze at these rare, highly-trained, unwatched-seeming people for six hours daily. And we love these people. In terms of attributing to t... ... to em... ...hip

2 Quote by Stanley Cavell in *Pursuits of Happiness*, Harvard U. Press, 1981; subsequent Emerson quotes ibid.

6%

Footnote numbers should not be underlined and should be smaller, closer to a typical footnote number size. Footnotes should be viewable in the context of the text that refers to them.
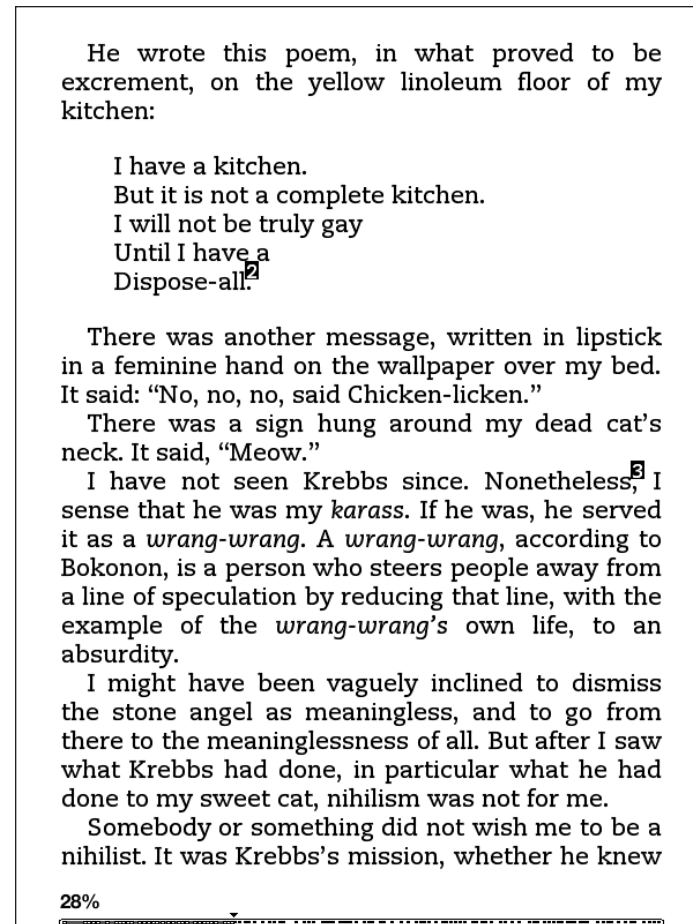
millions." 2

millions." 2

Notes

Notes on Kindle currently have a black background behind the number. This treatment makes it easy to scan for notes while paging through the book, but it overemphasizes the note while reading. If users want to scan for notes, they can use the notes and marks menu.
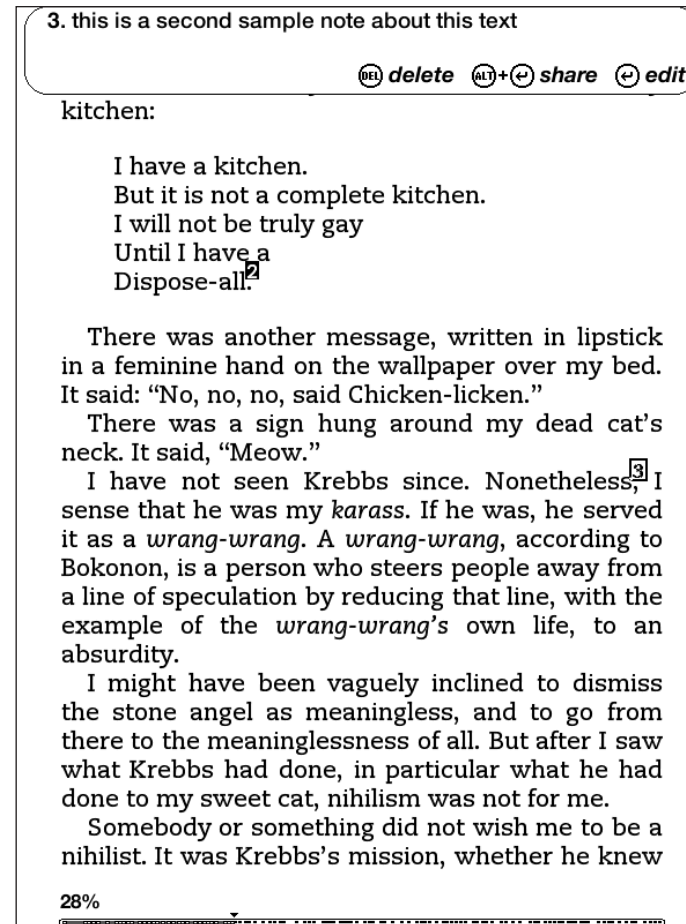
Recommendation #15

– Note numbers should be less prominent.

Current

He wrote this poem, in what proved to be excrement, on the yellow linoleum floor of my kitchen:

I have a kitchen.
But it is not a complete kitchen.
I will not be truly gay
Until I have a
Dispose-all.[2]

There was another message, written in lipstick in a feminine hand on the wallpaper over my bed. It said: "No, no, no, said Chicken-licken."
There was a sign hung around my dead cat's neck. It said, "Meow."
I have not seen Krebbs since. Nonetheless,[3] I sense that he was my *karass*. If he was, he served it as a *wrang-wrang*. A *wrang-wrang*, according to Bokonon, is a person who steers people away from a line of speculation by reducing that line, with the example of the *wrang-wrang's* own life, to an absurdity.
I might have been vaguely inclined to dismiss the stone angel as meaningless, and to go from there to the meaninglessness of all. But after I saw what Krebbs had done, in particular what he had done to my sweet cat, nihilism was not for me.
Somebody or something did not wish me to be a nihilist. It was Krebbs's mission, whether he knew

28%

The current indication for notes is a superscript number reversed out of a black box. This is an overly strong indication for a note that stands out from the primary text too much.

3. this is a second sample note about this text

(DEL) *delete*   (ALT)+(↵) *share*   (↵) *edit*

kitchen:

I have a kitchen.
But it is not a complete kitchen.
I will not be truly gay
Until I have a
Dispose-all.[2]

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28%

Activated notes are indicated by reversing the note out of the already reversed out box, creating a messy appearance.

Notes sometimes appear at the bottom of the screen, but occasionally appear at the top of the screen, and it is unclear why – this should be standardized.

Recommendation

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(DEL) *delete*   (ALT)+(↵) *share*   (↵) *edit*

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28%

Note numbers should be superscript Helvetica – to match the notes themselves – and without a black background. To distinguish user notes from author notes, user note numbers should be in square brackets. Activated notes are highlighted in gray.

There should be a function that allows the user to turn on all notes – this would be especially useful for students who have annotated their texts.

Understanding Typography
Relating Elements (page 85)

less,[3]

less,[3]

less,[3]   less,[3]

Turn On All Notes

When a text on the Kindle has many footnotes or notes, accessing them can be awkward and time consuming.

Recommendation #16

– Users should be able to turn on all footnotes or notes in an e-book.

Recommendation

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6%

Footnotes

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2. this is a sample note
3. this is a second sample note about this text

28%

Notes

Highlights

Highlighting on the Kindle is currently indicated by a thin gray underline. This visual mark is too similar in weight and thickness to the glyphs on the screen and creates a visually busy appearance. Underlines also already serve other functions, e.g. italics or hyperlinks.

Recommendation #17

– A light gray background tone should be used instead of underlining to avoid unnecessary visual clutter.

Current

as much as he'd ever adored anybody. "That isn't a question I have to answer with words. I can *show* you what kind of a boy Franklin Hoenikker was." He coughed. "You can look," he said, "and you can judge for yourself."

And he took me down into the basement of his store. He lived down there. There was a double bed and a dresser and a hot plate.

Jack apologized for the unmade bed. "My wife left me a week ago." He coughed. "I'm still trying to pull the strings of my life back together."

And then he turned on a switch, and the far end of the basement was filled with a blinding light.

We approached the light and found that it was sunshine to a fantastic little country built on plywood, an island as perfectly rectangular as a township in Kansas. Any restless soul, any soul seeking to find what lay beyond its green boundaries, really would fall off the edge of the world.

The details were so exquisitely in scale, so cunningly textured and tinted, that it was unnecessary for me to squint in order to believe that the nation was real—the hills, the lakes, the rivers, the forests, the towns, and all else that good natives everywhere hold so dear.

And everywhere ran a spaghetti pattern of railroad tracks.

"Look at the doors of the houses," said Jack

27%

The underline creates a visually busy feeling, and is distracting while reading.

Recommendation

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27%

A light gray tint should be used to show highlights in a less distracting manner. Placing white lines between highlights (which is the plan of record for Juno) is distracting.

Popular Highlights

Popular highlights are currently turned on by default. While social features will become more important in the future, the current implementation lacks relevance to individual readers – the highlights are anonymous and any passage highlighted by three or more people is considered a "popular" highlight.

Recommendation #18

– Popular highlights should be turned off by default.
– Users should be able to form and subscribe to reading groups, whose notes and highlights they can choose to view (the entire group or individual members).

Current

ball-check valve. We can see Them; They can't see Us. We can relax, unobserved, as we ogle. I happen to believe this is why television also appeals so much to lonely people. To voluntary shut-ins. Every lonely human I know watches way more than the average U.S. six hours a day. The lonely, like the fictive, love one-way watching. For lonely people are usually lonely not because of hideous deformity or odor or obnoxiousness—in fact there exist today support- and social groups for persons with precisely these attributes. Lonely people tend, rather, to be lonely because they decline to bear the psychic costs of being around other humans. They are allergic to people. People affect them too strongly. Let's call the average U.S. lonely person Joe Briefcase. Joe Briefcase fears and loathes the strain of the special self-consciousness which seems to afflict him only when other real human beings are around, staring, their human sense-antennae abristle. Joe B. fears how he might appear, come across, to watchers. He chooses to sit out the enormously stressful U.S. game of appearance poker.
  But lonely people, at home, alone, still crave sights and scenes, company. Hence television. Joe can stare at Them on the screen; They remain blind to Joe. It's almost like voyeurism. I happen to know lonely people who regard television as a veritable deus ex machina for voyeurs. And a lot of

Press ⏎ to show number of highlighters

Popular highlights are on by default.

Recommendation

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5%

Popular highlights should be off by default.

Recommendation

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the criticism, the really rabid criticism less leveled
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Reading Groups

Group 1
✓ A
  B
✓ C
  All
  Common

Group 2
  A
  B
  C
  D
  All
✓ Common

5%

Kindle users should be able to form reading groups, and selectively activate the highlights and notes of members of the group(s).
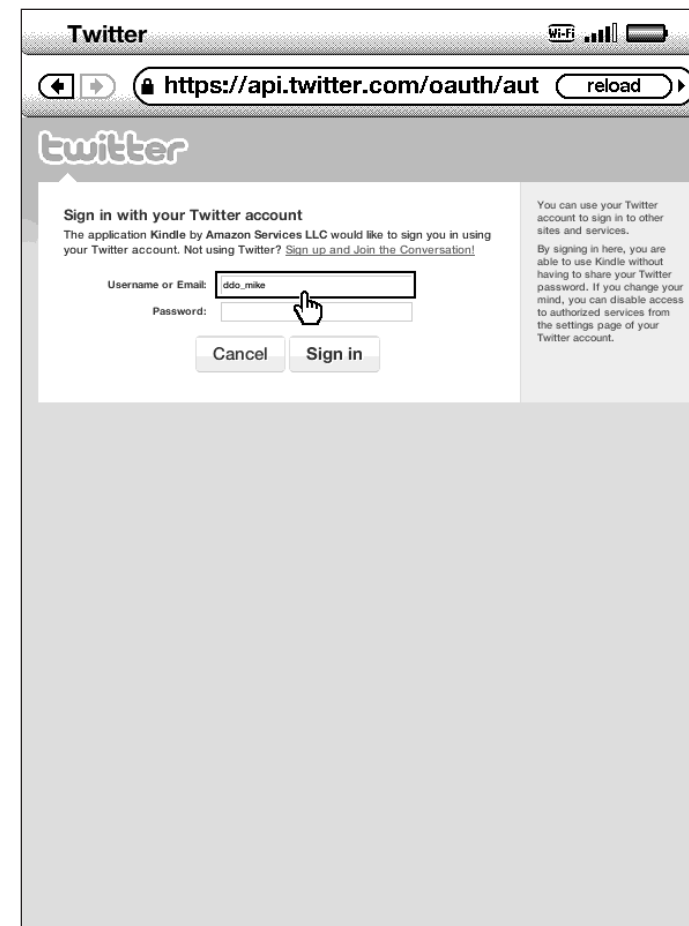
Interactivity

Twitter

The Kindle Twitter login screen has extremely small text in the login forms. The type size used here should match the type size for other forms on the device.
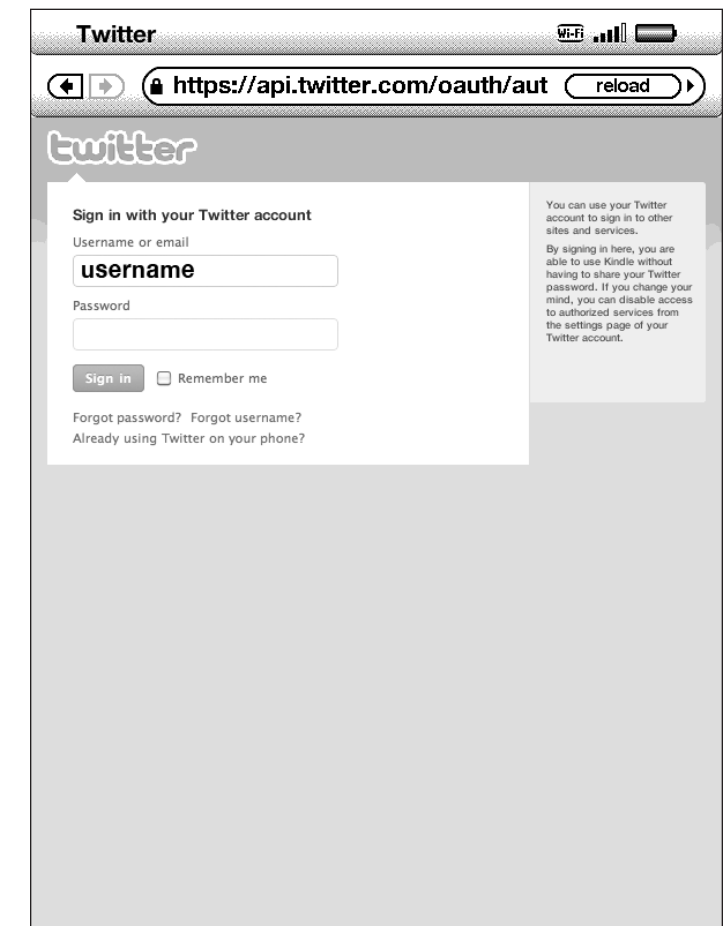
Recommendation #30
– Work with Twitter to size the form appropriately.

The current Twitter login has extremely small text.

The Twitter login should have the same type size as other text fields on the device.

Tools

Today, publishing an e-book on Amazon is a mysterious, difficult process.

Recommendation #24

– Amazon should make the process free, easy, and completely transparent for everyone, not just for traditional publishers.

User Ability Level	Novice	Intermediate	Advanced
Tools	**Kindle Direct Publishing** Web-based tool for converting Microsoft Word (.doc) files to Kindle format. Formatting the document is difficult and unintuitive.	**?** Currently there are no Kindle e-book publishing tools for intermediate users.	**KindleGen** Command line tool for converting existing documents into AZW format. Requires advanced knowledge of computers and comfort with non-GUI methods of interacting with the OS. Today, there are very few people who are comfortable with working "under the hood" of their computer, effectively limiting this tool to advanced users. **InDesign Plug-in** Plug-in for Adobe InDesign, an expensive ($700) and specialized desktop publishing application.

The Future

New Technologies Seek Their Own Level

New technology replaces older technology when "new" means it is cheaper or faster than "old". As new technology stabilizes and is refined, its peculiar qualities become apparent. People take advantage of these qualities to create something new.

Printing replaced hand-written manuscripts because it could produce books at a far greater speed. But printing also made possible smaller type, which meant smaller books, leading to the emergence of a new form. Engines replaced horses, and the horseless carriage quickly evolved into automobiles, sports cars, trucks, and other variations. The first e-books, to a large extent, are digital versions of physical books, but their peculiar qualities promise much more. Digital bookstores largely mimic the physical stores they are replacing, but again, new technology enables much more. These last two changes are reinforcing each other.

While no new "defining name" or "category" has emerged, some metaphors begin to suggest important attributes: Knowledge Spaces, Social Media Networks, and Information Service Platforms.

Recommendation #32

– As the capabilities of e-books, e-book readers, and related services expand, Amazon must continue to expand its offering so that it remains linked to the cutting edge.
– A new product category will emerge – beyond e-books – that Amazon can define and own.

Old Technology

Illuminated Manuscript ——————⟶

Horse Drawn Carriage ——————⟶

Paper Book ——————⟶

Brick-and-mortar Book Store ——————⟶

New Technology Replaces Old

Gutenberg Bible ——————⟶

Horseless Carriage ——————⟶

E-book ——————⟶

Amazon ——————⟶

New Technology Used in a New Way

Pocket Book

Sports Car
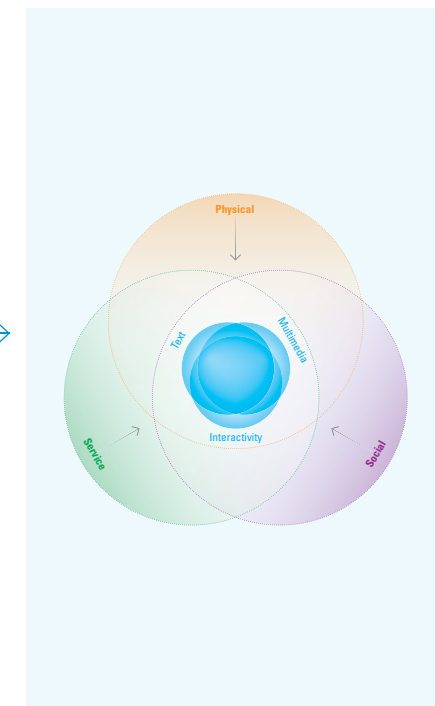
Knowledge Spaces
Social Media Networks
Information Service Platform

Convergence 1.0 = Publishing + Broadcasting + Computing

In 1980, Nicholas Negroponte described the convergence of publishing, broadcasting, and computing – Convergence 1.0. Convergence has become shorthand for a series of arguments. First, all media will become digital. Second, the analog-to-digital transition will transform media production and distribution, creating opportunities and disrupting existing businesses. And third, and perhaps less obvious in 1980, once media are digital, boundaries between media types will blur and opportunities for interaction will grow, creating new ways for us to make arguments, explain ideas, and tell stories.

The rise of the internet requires a reassessment of Convergence 1.0. Negroponte developed his model of convergence very early. Personal computers were in their infancy. The internet was a small government experiment used mainly to exchange mail and files. Nothing like the web existed.

Negroponte has acknowledged, that none of us saw the web coming. It took a while to see, as Andy Grove later did, that "All companies will be internet companies, or they will be dead." Or as Tim Misner put it, "All hardware products want to be websites." Or as Tim O'Reilly observed, "Virtually every application is a network application, relying on remote services to perform its function."

Today, the original model is no longer sufficient to describe the emerging world of networked, mobile applications. We need to revise the model.
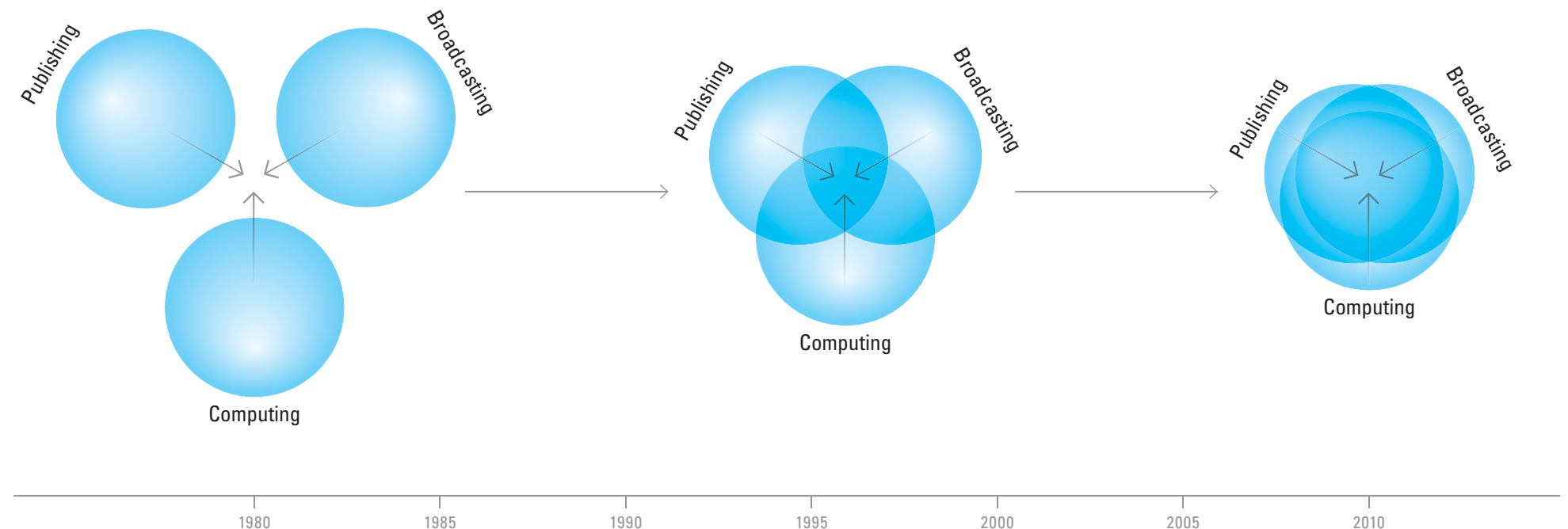
Books, applications, and rich media are distinct entities, but moving toward each other.

Convergence of books, applications, and rich media.

Books are evolving to become multi-media, interactive, social, and service oriented. These are all aspects of the converging technology of books.

Convergence 2.0 = Service + Social + Physical

Convergence 2.0 recognizes that interactive multimedia exist within a networked world and depend on networked services. It recognizes that most services have a social component. And it recognizes that people are rooted in the physical world and networks are increasingly connected to things. Convergence 2.0 integrates interactive multimedia with internet-based services, social networks, and the physical world.

The convergence model also has practical value; it can help product managers and designers generate options. We can identify opportunities we might otherwise overlook by using the model as a sort of checklist.

What does convergence means for e-books?

– Books as digital text: No more stacks of atoms means portability. (books + handheld reader)
– Books as multi-media: Don't just tell me; show me. (books + photos, videos, animation, and sound)
– Books as interactivity: Tell me more or tell me less; let me try it myself. (books + games, simulations, linking, and glosses – parallel texts)
– Books as services: Access on demand, integration with other systems. (books + continuous updating, expert sources, etc, e.g. Lexis-Nexis)
– Books as social nodes: Conversation topics and learning from others. (books + online social networks – shared interests, notes, highlights)
– Books as places: The reader device becomes a window on a virtual overlay of the physical world providing details and explanations on demand. (books + objects in the environment, e.g. contents, instructions, history, provenance)

Today, it's not possible to find commercial examples of stand-alone interactive multimedia. Instead, we find it deeply embedded in networks. We find networks increasingly reliant on networked services. We find services deeply intertwined with social elements. And, of course, we find all these things embedded in the physical world. We find Convergence 1.0 deeply embedded in Convergence 2.0. We design with interactive multimedia + service + social + physical in mind.

It is far from certain what will ultimately develop. Amazon should take a leadership role in this process.

Location (GPS)
Sensors
Internet of Things
GEO-Spatial Web

Physical

Text
Multimedia
Interactivity

Service

Social

Routing + DNS
Communications
Computation + Storage
Search
Maps
Media Access
Payment + Advertising
Speech + Image Recognition
Automated Translation
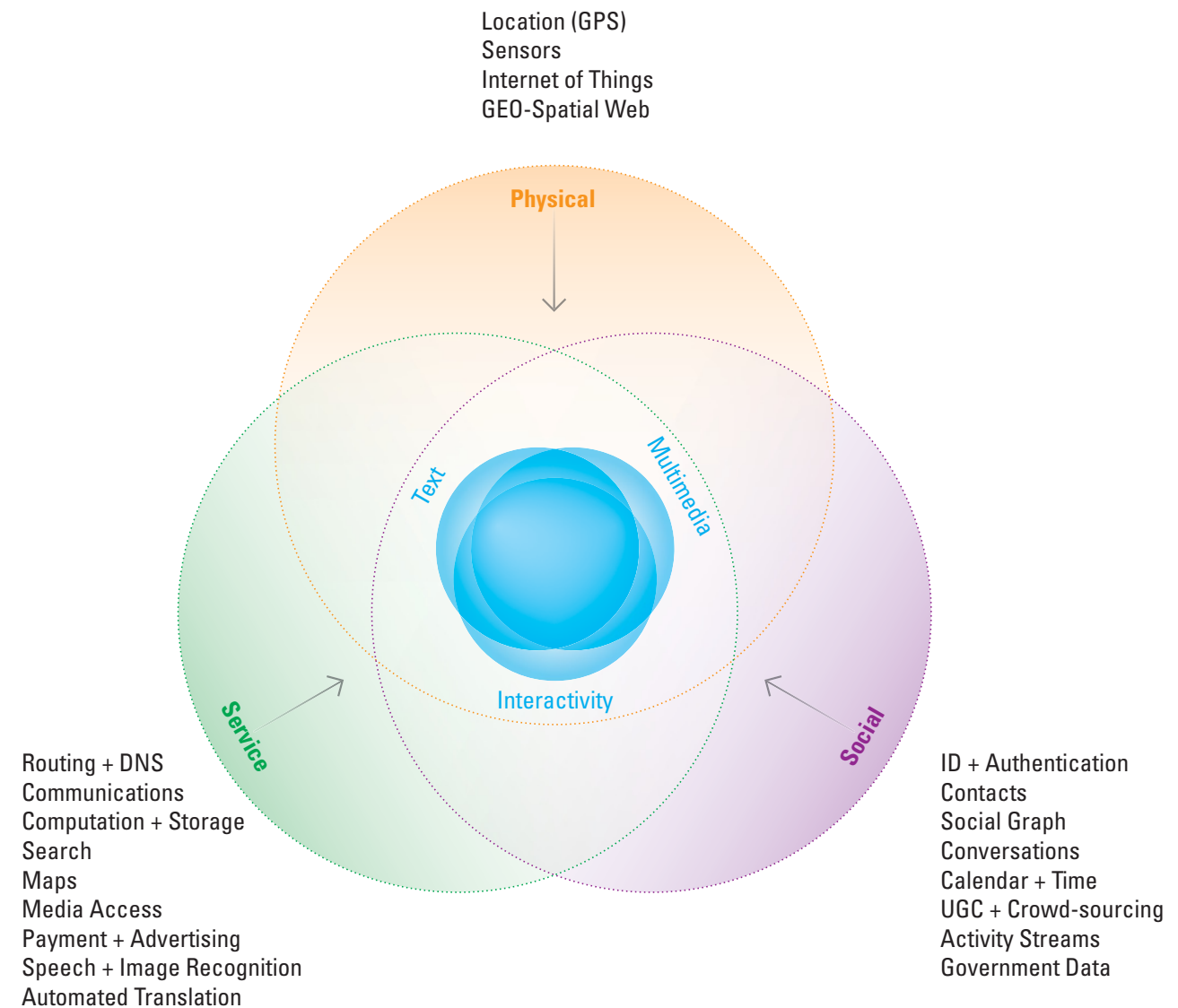
ID + Authentication
Contacts
Social Graph
Conversations
Calendar + Time
UGC + Crowd-sourcing
Activity Streams
Government Data

Text + Music + Image + Sound

Rich multi-media will be increasingly important as e-books evolve.
(See page 34.)
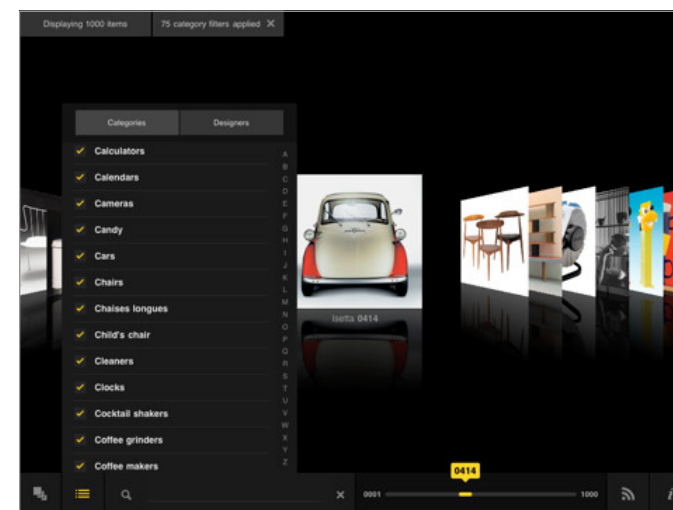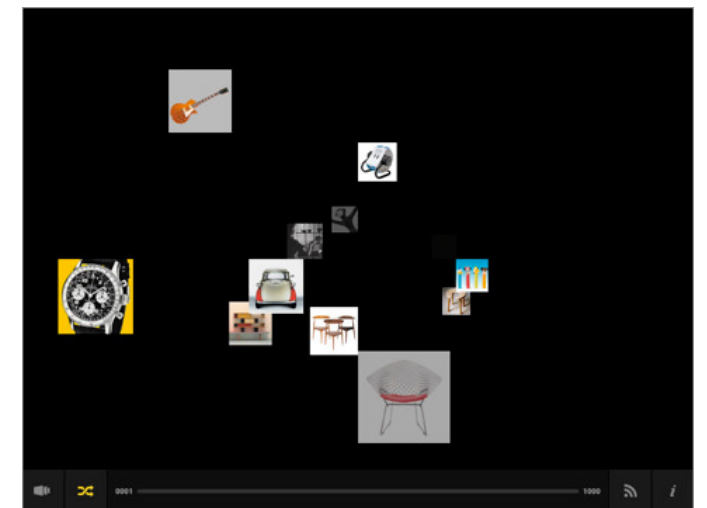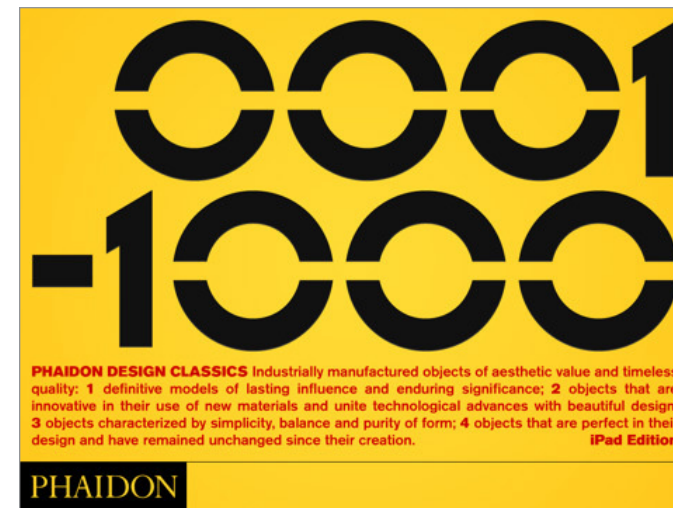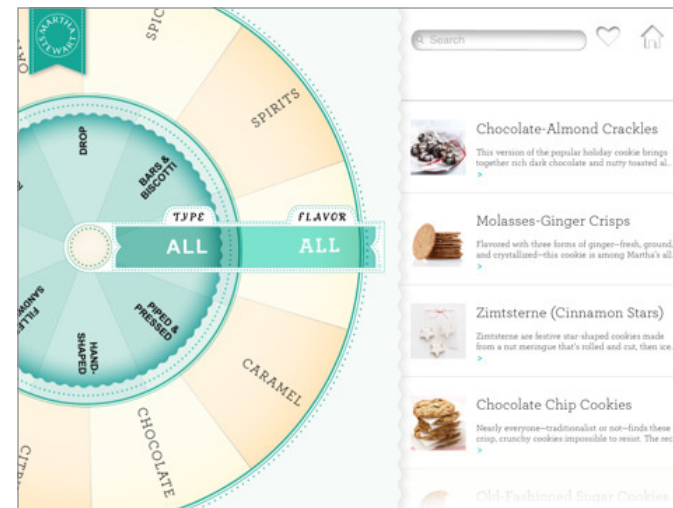
Martha Stewart Makes Cookies
Recipes are accessed from a visual array of cookies and are presented as text
instructions with example images. The app also includes video instructions.

Phaidon Design Classics
This app presents entries on 1000 design classics and can be navigated in
several ways, including an exploratory 3D simulation mode with images floating
across the screen and also keyword searching. Individual entries include
multiple images and text explanations.

Related Content API

Interactivity will be increasingly important as e-books evolve (see page 36). Books often require a reader to reference other material, whether that be internal (i.e. in the same book) or external (i.e. in another book, on the internet, etc.). Currently this kind of access is restricted to a few preprogrammed features Amazon has provided, but there are many other possibilities for this kind of interaction. A standard by which authors might specify and build these structures would be useful. Readers, too, might value tools which enable richer annotation.

Recommendation #33
– Amazon should develop an API for authors and publishers to specify how content in an e-book connects to ancillary material such as footnotes, glossaries, other books, Wikipedia entries, etc. – this should encompass content supplied by Amazon as well as content supplied by authors and publishers.
– Amazon should develop richer annotation tools for readers – for example, readers should be able to create and share book "companions" – commentaries and collections of annotations by the author, critics, academics, or other readers.
– Including WebKit in next generation readers will greatly improve formatting. It also offers the potential to greatly improve interactivity – if the reader supports JavaScript. Fully supporting JavaScript will attract developers; partial support risks irrelevance.

Understanding Typography
Types of Books (page 91–92)
Glosses (page 93)

**Understanding Digital Typography**
Access (page 106)
Hypertext (page 107)

Possible Parallel Book Structure ⟶ **Simultaneous Content**

Book

Secondary Content
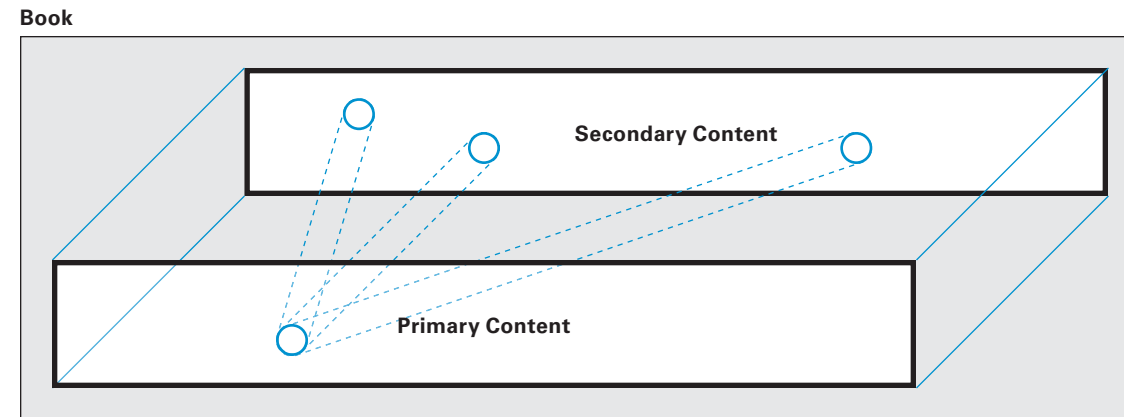
Primary Content

With digital books, it could be possible to create a different structure and experience that doesn't require a user to jump back and forth, but rather allows for simultaneous viewing of primary and secondary content on-demand.
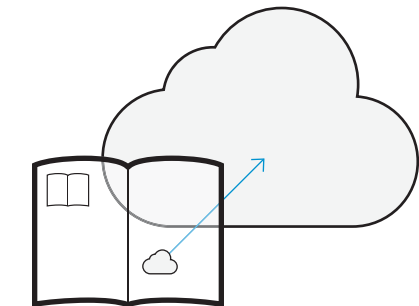
Connections beyond the content contained in the e-book open up the reading space to a larger community.

Example: Multiple Dictionaries

the monkeys could not have meant anything by their typing." Authors are monkeys who mean.
And for Romantic and early-twentieth-century critics, textual interpretation was author-based. For Wordsworth, the critic regards a text as the creative instantiation of a writer's very self. Rather more clinically, I.A. Richards saw criticism as all and only an effort to nail down the "relevant mental condition" of a text's creator. Axiomatic for both schools of was the idea of a real author, an entity whose definition most critics credit Hobbes's Leviathan, which describes real authors as

Reference Materials

Merriam-Webster Dictionary
✓ Oxford English Dictionary
Dictionary of Received Ideas
Tensen Physics Dictionary
Wikipedia

ax·i·o·mat·ic /ˌaksēəˈmatik/
▪ *adj.* self-evident or unquestionable: *it is axiomatic that dividends have to be financed.* ‹SPECIAL USAGE› [*attrib.*] [CHIEFLY MATHEMATICS] relating to or containing axioms.
‹DERIVATIVES› ax·i·o·mat·i·cal·ly /-ik(ə)lē/ *adv.*
‹ORIGIN› late 18th cent.: from Greek *axiōmatikos*, from *axiōma* 'what is thought fitting' (see AXIOM).

7%

Example: Comparing Translations

Book 3.9

English, Translation by W.S. Bohn, 1869
Caesar, being informed of these things by Crassus, since he was so far distant himself, orders ships of war to be built in the mean time on the river Loire, which flows into the ocean; rowers to be raised from the province; sailors and pilots to be provided. These matters being quickly executed, he himself, as soon as the season of the year permits, hastens to the army. The Veneti, and the other states also, being informed of Caesar's arrival, when they reflected how great a crime they had committed, in that, the embassadors (a character which had among all nations ever been sacred and inviolable) had by them been de-

Latin (Original)
Quibus de rebus Caesar a Crasso certior factus, quod ipse aberat longius, naves interim longas aedificari in flumine Ligeri, quod influit in Oceanum, remiges ex provincia institui, nautas gubernatoresque comparari iubet. His rebus celeriter administratis ipse, cum primum per anni tempus potuit, ad exercitum contendit. Veneti reliquaeque item civitates cognito Caesaris adventu [certiores facti], simul quod quantum in se facinus admisissent intellegebant, [legatos, quod nomen ad omnes nationes sanctum inviolatumque semper fuisset, retentos ab se et in vincula coniectos,] pro magnitudine periculi bellum parare et maxime ea

7%

Example: Smart Maps

flung down
the unjust
Alice, as sh
self sudden
them bowe
'Would y
you are pai
Five and
began in a l
this here ou
put a white
find it out,
know. So yo
comes, to—
iously looki
The Queen
themselves
many foots
the Queen.
First cam
shaped like
their hands
iers; these v
and walked
came the royal children, there were ten of them, and the little dears came jumping merrily along hand in hand, in couples: they were all ornamented with hearts. Next came the guests, mostly Kings and Queens, and among them Alice recognised the White Rabbit: it was

The Beach / Logging Camp / ✗ Alice / Royal Forest

7%

Platform Opportunity: Book Description Language

Today, e-books have little structure. While e-books come in several formats, they are essentially very long HTML pages or concatenations of HTML. There are many "devices" for structuring e-books:

– TOC exposed in the content
– HTML tags embedded in the content
– CSS styles mapped to and expressing the tags
– Document Object Model (DOM) built from the HTML tags
– Render tree built from the DOM
– OPF (Open Package Format Package Document) list of docs in the e-book and their order
– NCX (Navigational Control File for XML, "Navigation Center eXtended") a hierarchical contents file (an XML navigation file)

There is a great deal of overlap between these structures. Amazon is in a unique position to re-imagine how this data can be formatted.

Recommendation #34

Amazon should take the lead in developing an e-book document structure standard. It should address issues such as:
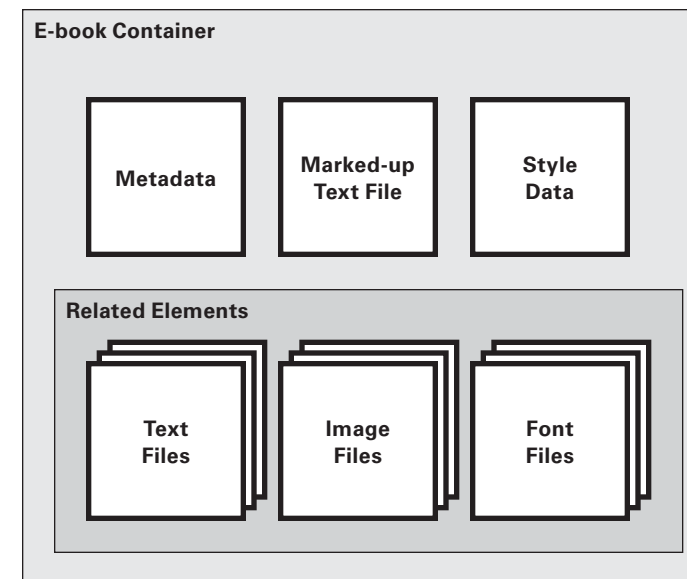
– Font embedding
– Meta-data
– DRM

Potential Book Description Language Format

A new book description language should enable a table of contents to be derived from the text markup – the table of contents should not be a separate file, but it should be able to be overwritten manually if desired.

A new book description should enable the same functionality for indexes.

There should be a system for anchoring related elements to points in the text.

A related element should be able to be anchored to multiple points in the text.

Related elements should also be able to related to still other elements; that is the system should support a couple levels of recursion.

The Current Format is Insufficient
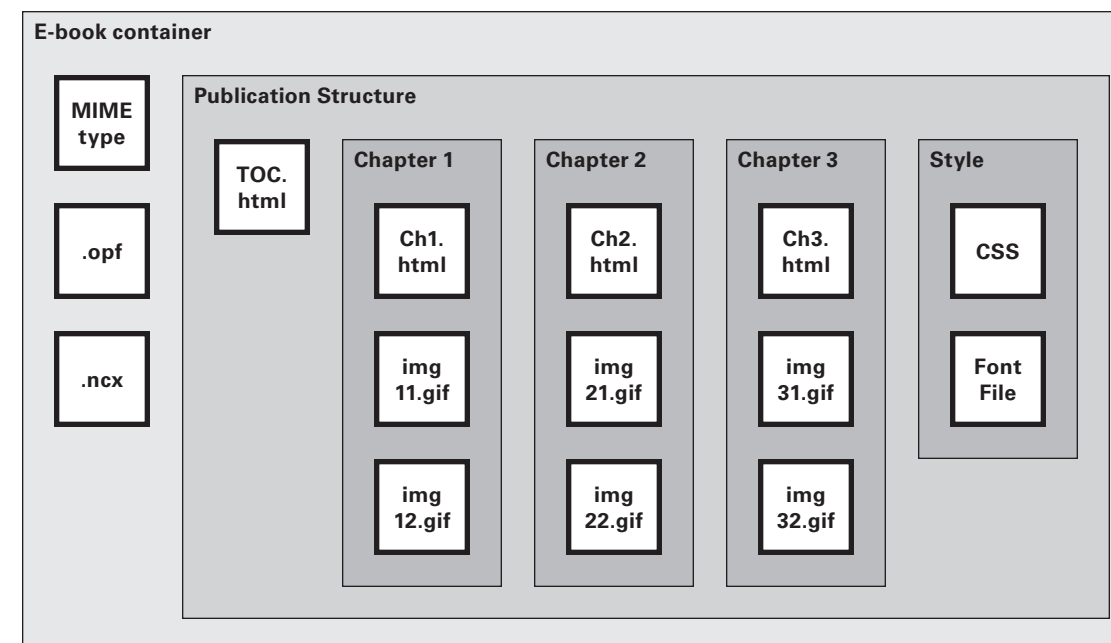
There is a great deal of overlap between e-book structuring mechanisms (.opf, .ncx, TOC.html, internal folder structure), and yet there is not much functionality provided beyond standard HTML.
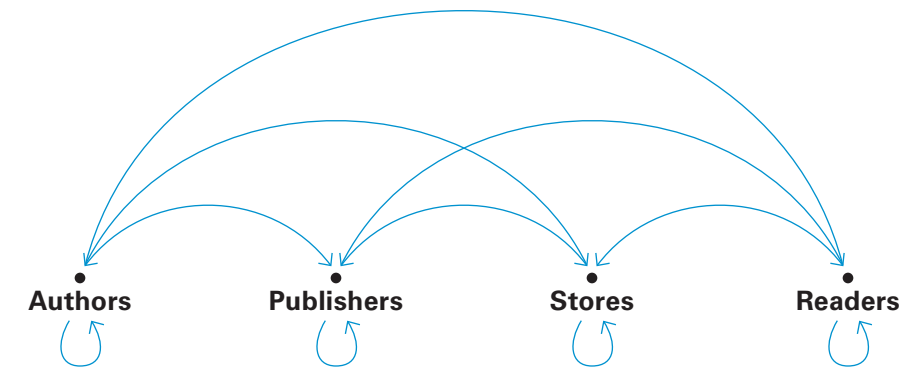
Conversations About Books

Increasingly, e-books will be connected to social networks. Books are a locus for conversations between many parties – authors, publishers, stores, and readers all come into contact with one another through and because of books. Amazon and Kindle already support several social features:

– Collaborative filtering produces recommendations
– Reviews
– Shared highlights
– Posting notes to Facebook and Twitter

Recommendation #35

– Amazon should conceive of books as opportunities for conversations.
– Add affordances and services to support book groups, e.g. sharing notes and questions with a selected group. This could also be very useful for teaching.
– Add services to support the trend toward developing books with readers' help – through blogging – and continue that through "publication".

	Authors	Publishers	Stores	Readers
Authors	Books explicitly and implicitly refer to other books	Authors send revised drafts to publishers	Authors tour book stores to give readings and sign book copies	Authors update their work; some authors preview drafts or snippets online
Publishers	Publishers produce and promote author's writing, provide advances on writing	Publishers compare their list to rival imprints	Publishers sell books to stores	Publishers advertise to readers
Stores	Stores provide book-tour venue	Stores place orders with publishers	Stores check stock levels	Stores sell books to readers; really good stores know readers and recommend books
Readers	Reviews provide feedback, purchase work directly from author	Readers subscribe to publisher's news-letter, provide feed-back in the form of personal data	Readers purchase books, post reviews	Recommendations to friends, collaborative filtering (i.e. readers who bought X also bought Y)

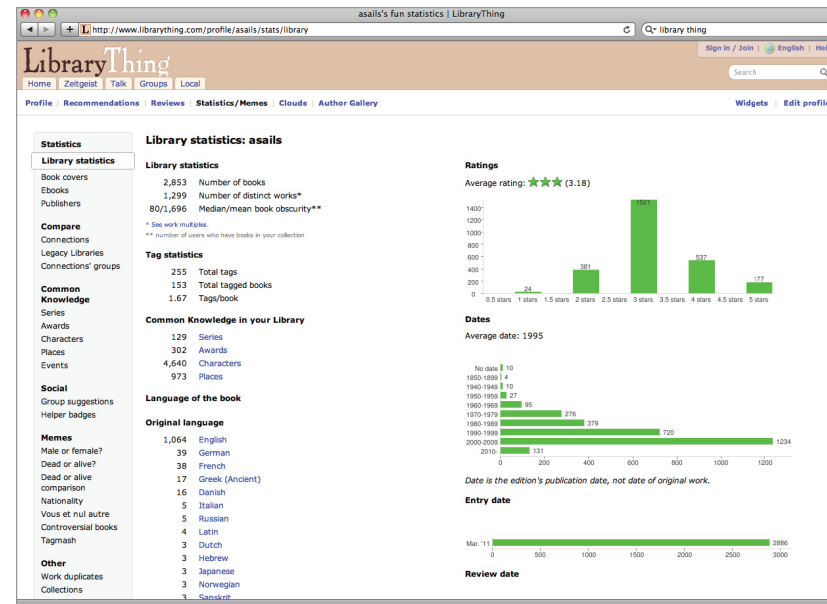Opportunities for supporting conversations about books.
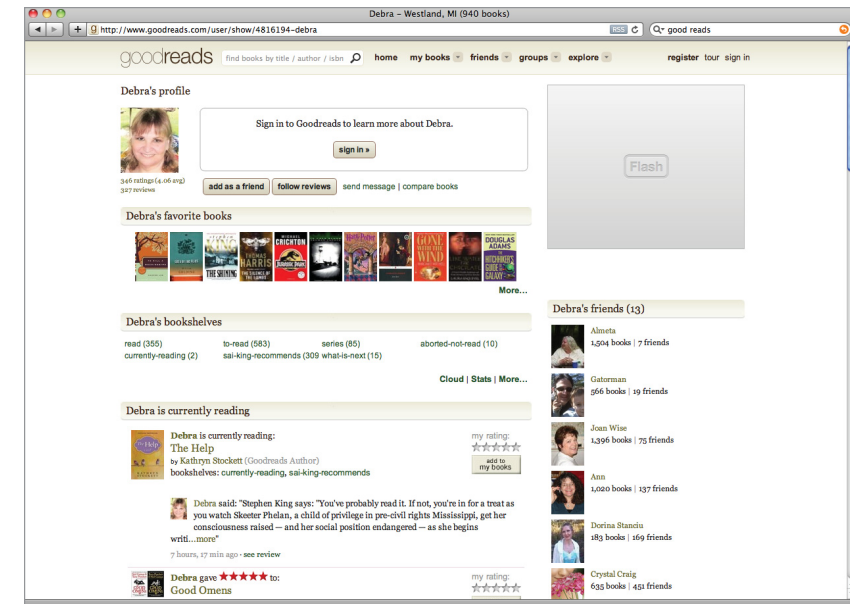
Extra-book Structures

Increasingly, e-books will be seen as components of larger systems of web-based and human services. Amazon itself is a prime example of a web-based service, and the combination of Amazon and Kindle creates a classic vertical platform: hardware, software, networked applications, and human services. Nevertheless, there are many opportunities for new book-related services.

Recommendations #36

– Amazon needs a book-as-service strategy.
– Amazon should help users share book lists.

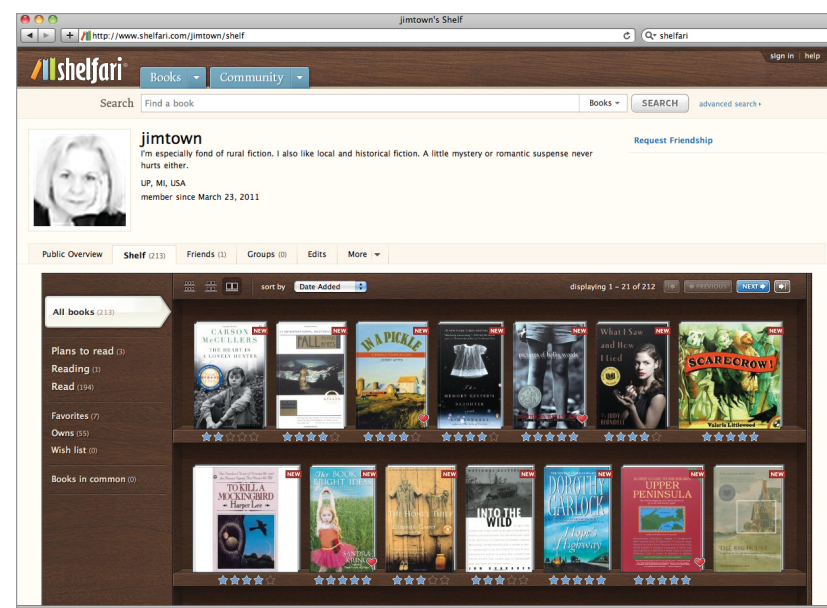A number of services support personal library management:

– http://www.librarything.com/
– http://www.goodreads.com
– http://www.anobii.com/
– http://www.bookjetty.com/
– http://www.bookrabbit.com/
– http://books.google.com/books

And Amazon has purchased http://www.shelfari.com/

Other services aggregate book lists, e.g.

– http://www.designersandbooks.com/

Understanding Typography
Introduction (page 4)

Understanding Digital Typography
Online Management Tools (page 115)
Online Social Book Services (page 116)

Library Thing

Good Reads

Shelfari
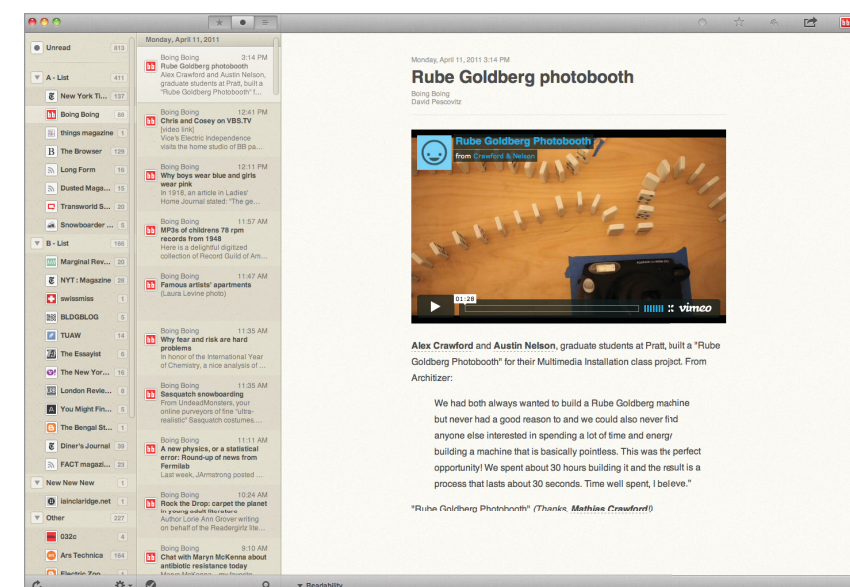
RSS is a kind of service model for content subscriptions

Books have a TOC. Why don't people? Soon, they will.

A table of contents (TOC) provides a quick way to scan and understand a book. A résumé provides a quick way to scan and understand a job candidate's experience. Online profiles update us about friends or potential dates.

Throughout the 18th and 19th centuries, students learned to make and maintain commonplace books, notebooks recording wha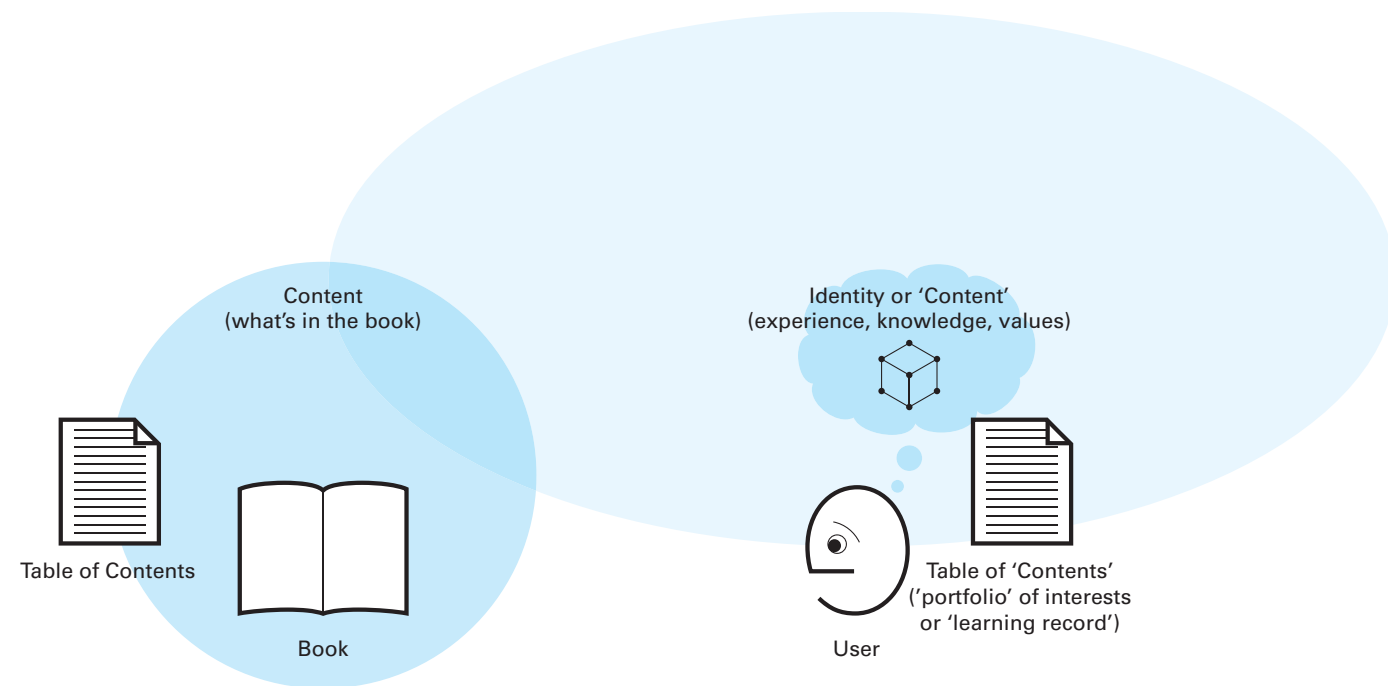t they had learned and quotes they wanted to remember. More recently, progressive schools have had students create concept maps and portfolios of projects to represent what they've learned.

A range of software applications have begun to fill similar roles: lists of web site bookmarks like Delicious, note-takers like Evernote, and library management tools like Library Thing.

A race is on between network services giants to understand users' interests. Search engine companies, online social networks, and mobile service operators are tracking what users do, what they consume, and what they pay attention to:

– website cookies
– click-stream data
– browser histories
– bookmark lists
– RSS feeds
– Facebook "likes"
– purchase histories

Amazon is uniquely positioned to create a platform on which users can build detailed histories of the media they consume. Such a service could be particularly "sticky" if it enables users to add notes and cross reference them with multiple sources and with their friends. Amazon could even turn Kindle (plus a cloud-based app) into "the place where you store what you've learned", making it indispensable.

Content
(what's in the book)

Identity or 'Content'
(experience, knowledge, values)

Table of Contents

Book

Table of 'Contents'
('portfolio' of interests
or 'learning record')

User

Commonplace books are
an early example;
so are Evernote and similar
software applications.

Personal TOC = Learning Record

User's table of contents or learning record is a subset of all knowledge. User's paths could be indicated within a larger context. In this example, black type indicates areas of knowledge which, at this resolution, the user has explored. Gray type indicates closely related areas the user has not explored. Bold means the areas are part of the current book.
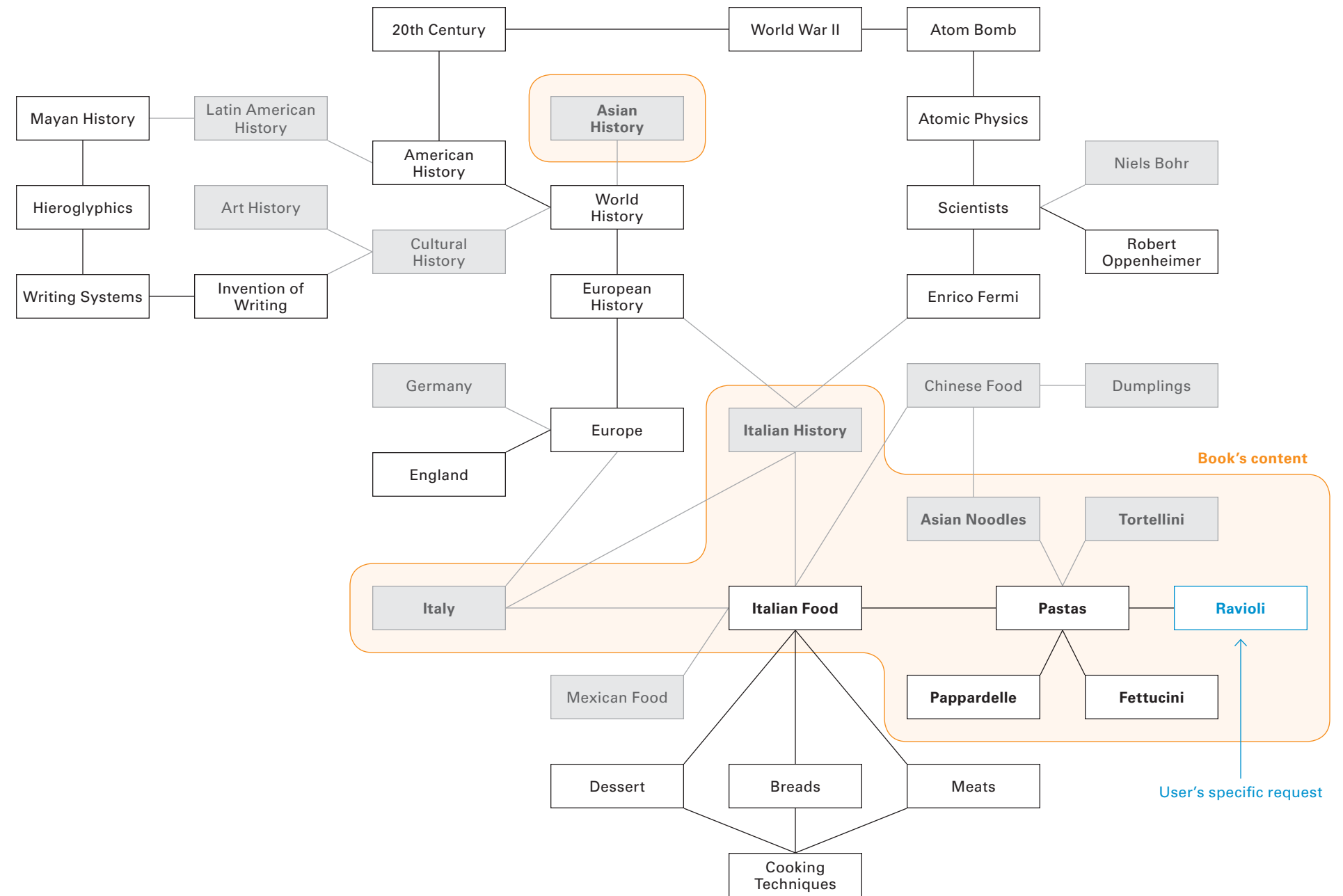
Graph shows a search request in the context of a book and the book in the context of a larger knowledge set. Subjects the user has explored are indicated in black.

A personal TOC will include health, financial, educational, and social information – your online identity

Today, we see a few point solutions but no comprehensive online identity solutions. The most common examples are in healthcare: Electronic medical records (EMRs) and patient health records (PHRs). Finance has examples too with online banking services and aggregators like Mint. And of course, Facebook would like to own your identity. Facebook has turned its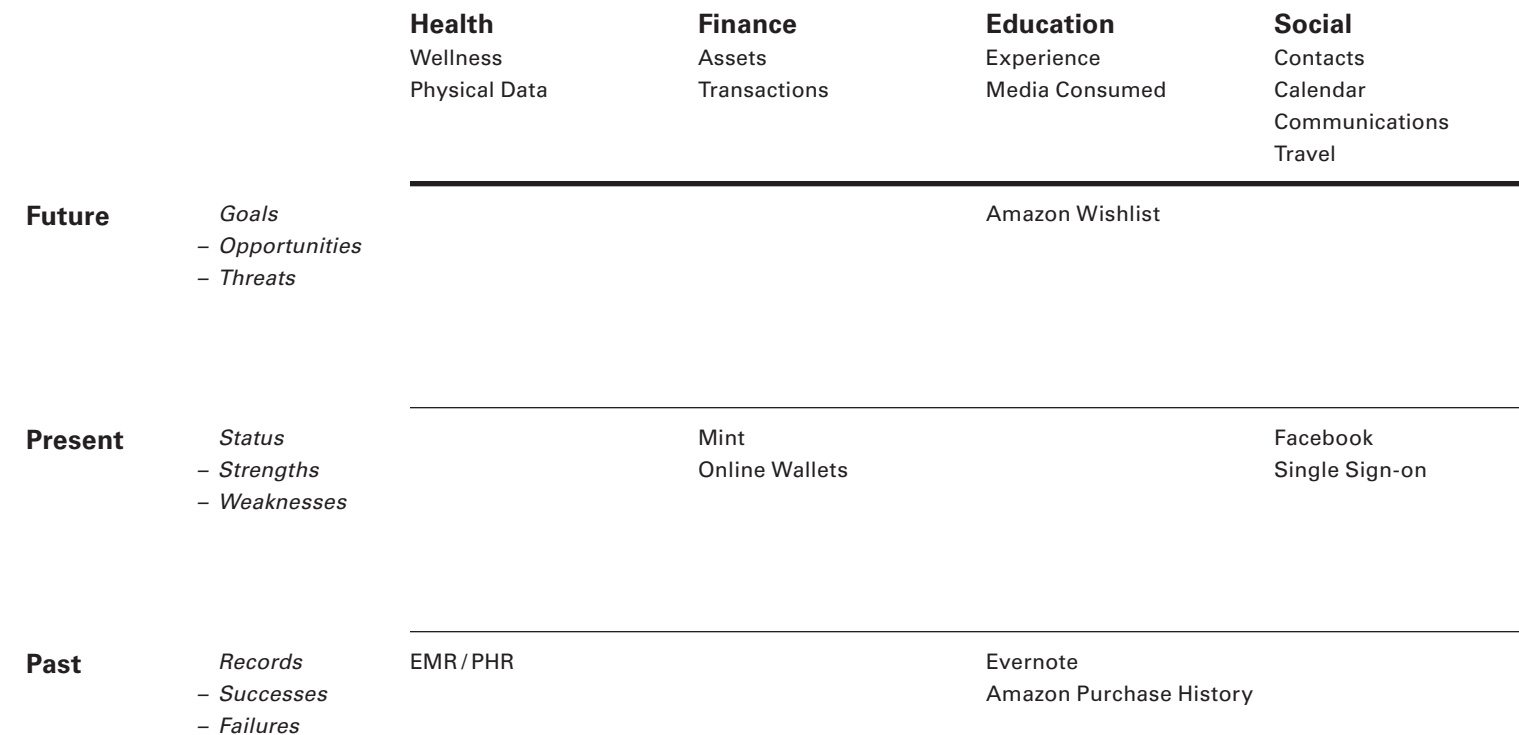elf into a platform and is becoming a *de facto* standard for online identity and single sign-on. Yet, Facebook is far from having a complete solution for identity.

A complete identity solution must encompass four major areas:

– health: wellness and physical data
– finances: assets and transaction history
– education: training, work + military experience, and media consumed
– social: contacts, calendar, communications history, and travel

In addition to Facebook, Apple, Google, and Microsoft are working on ways to own your identity. And Amazon has an amazing start with its records of what users buy and read. Tim O'Reilly observed, "Amazon has three major subsystems that give it an edge: its access to media (notably books, music, and video); its massive database of user contributed reviews, ratings, and purchase data, and its One-Click database of hundreds of millions of payment accounts."*

(It may be worth noting that similar "identity systems" are emerging for automobiles, buildings, and networks – and also for businesses, NGOs, and governments.)

		Health Wellness Physical Data	Finance Assets Transactions	Education Experience Media Consumed	Social Contacts Calendar Communications Travel
Future	Goals – Opportunities – Threats			Amazon Wishlist	
Present	Status – Strengths – Weaknesses		Mint Online Wallets		Facebook Single Sign-on
Past	Records – Successes – Failures	EMR / PHR		Evernote Amazon Purchase History	

This map of the on-line identity solution space shows early point solutions. It also shows many obvious holes – opportunities for new products and services.

People also have a context – the here-and-now which helps define what's relevant to you

Context means:

– Where am I? What's around me?
Location – mapping and descriptions
– Who am I with?
Participants – identity and relationship
– What are we doing?
Activity – process and current stage
– Why are we doing this?
Goals – intention and interest
– When is it happening?
Time – calendar and commitments

A new class of network services is emerging. Services that identify context and gauge relevance – providing the right information and the right tools for the situation – are becoming important.
Mobile service operators and phone manufacturers, like Nokia and Samsung, see context and relevance as particularly important for their future. As relevance services emerge on phones, consumers will expect Kindle to keep up.

User's context
(time, location, goal, activity, collaborators)

Table of ConteXts
(user context continually shifts, but some aspects persist)

Identity or 'Content'
(experience, knowledge, values)

Other users
may share the context

Table of 'Contents'
('portfolio' of interests
or 'learning record')

User
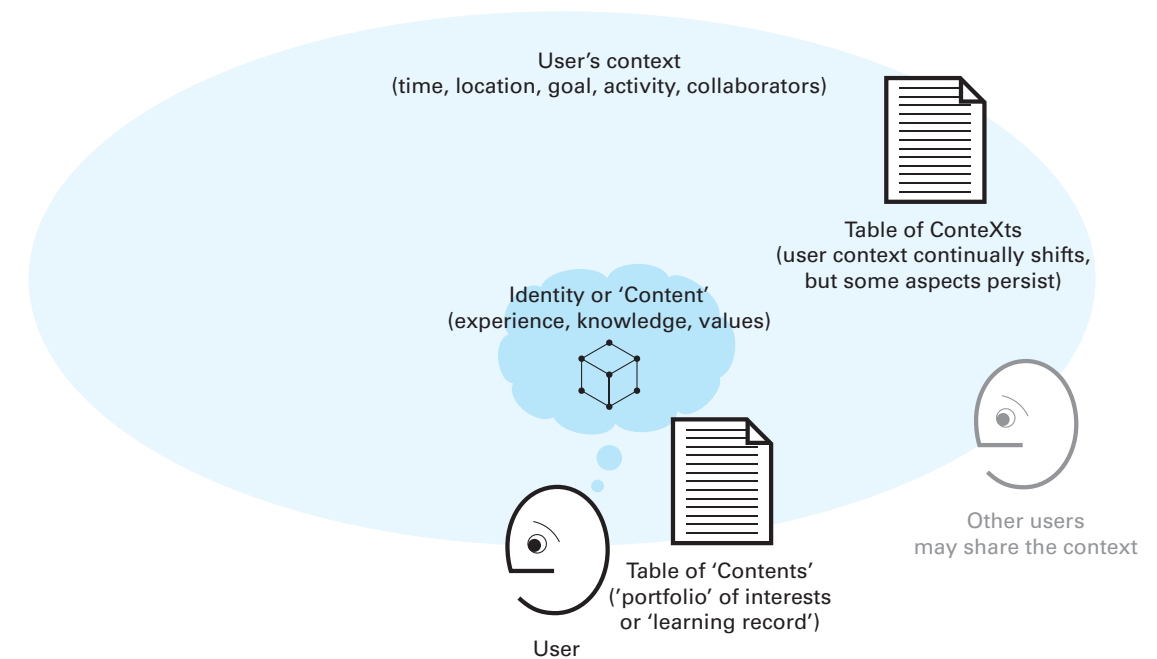
Likewise, books have contexts, the domains in which they are relevant

Authors write with readers in mind. Publishers target segments.
A few books "cross-over". Critics and readers write reviews.
These suggest context.

Books often contain information that provides additional context:

– meta-data
– indices
– notes (side, foot, end)
– bibliographies
– glossaries
– maps
– timelines
– illustrations & captions

This information – plus the text itself – provides a rich source for understanding what a book is "about" and, by extension, who might be interested in it.
An explicit table of contexts – in addition to a table of contents – might be a significant contribution to literature from electronic books.

Context
(what the book 'relates' to, its domain)

Table of ConteXts

Content
(what's in the book)

Other books
may share the context

Table of Contents

Book

Other contexts
(the book may relate to
more than one domain)
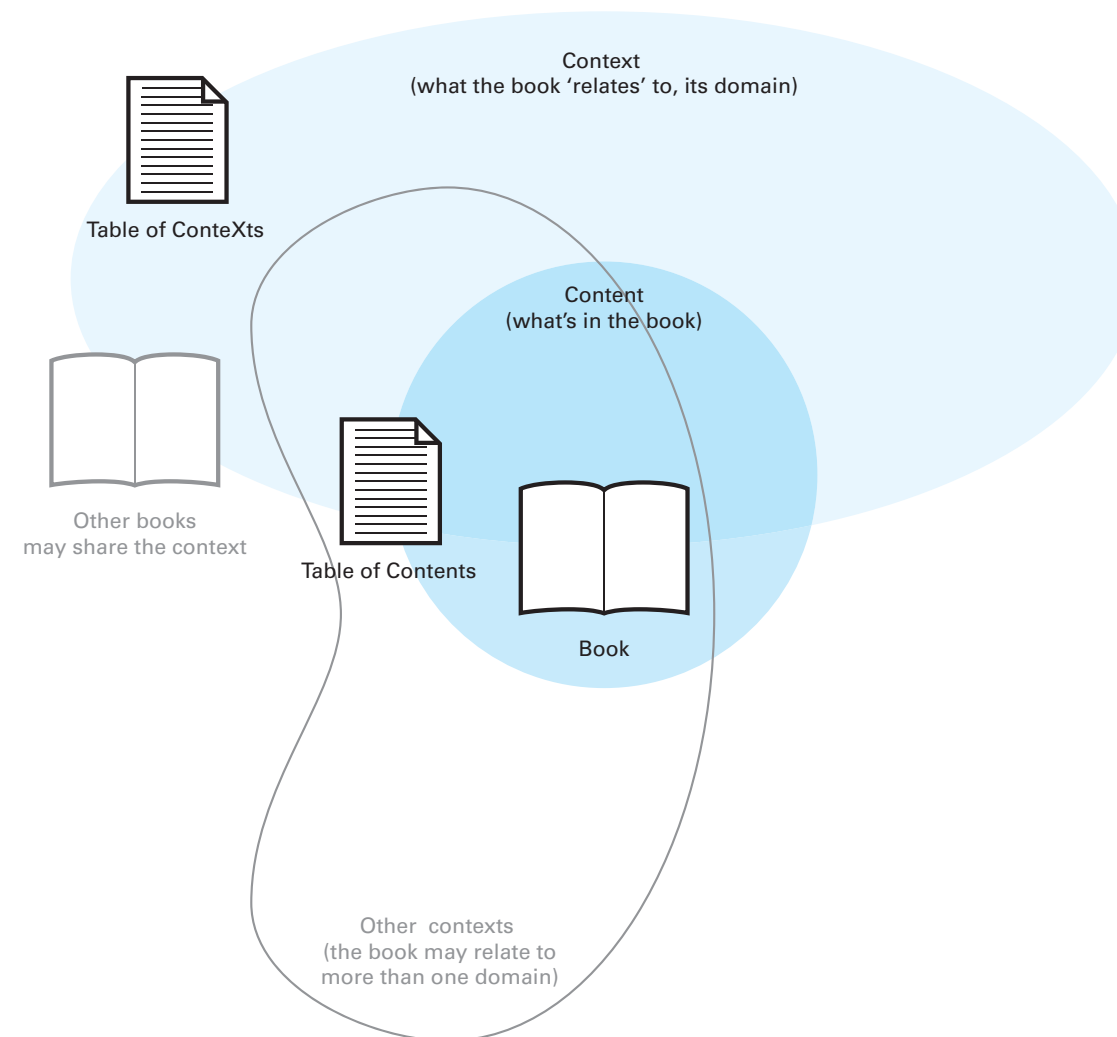
Content + context for books + users = relevance + personalization

Most discussions of book structure focus inward. Yet, books exist in a vast web of ideas and history. Vannevar Bush's essay, "As We May Think", hints at how we might make the web of ideas accessible. The World-wide Web's system of hyperlinks and search services built on link counting is almost a miracle. Yet, the Web doesn't incorporate books.

Integrating books deeply into the Web – and bringing to life the full potential of electronic books – means connecting books to people in new ways. It means connecting books to each other. It means understanding the book's contents and its context as well as understanding the user's "contents" (or whole history of experiences and interests) and the user's current (and ever changing) context – and mapping them to each other to recommend appropriate matches.

Attention analyzers, like Flipboard, Palimpsest, Pulse, and Zite, are doing something similar for news feeds, magazine articles, and RSS. Amazon could do it in a much bigger way for all literature and publishing, providing personalization at a level here-to-fore unseen.

Space where the user's context intersects the book's context – suggesting that one of several books might be relevant to the user.

Context
(what the book 'relates' to, its domain)

User's context
(time, location, goal, activity, collaborators)

Table of ConteXts

Table of ConteXts
(user context continually shifts, but some aspects persist)

Content
(what's in the book)

Identity or 'Content'
(experience, knowledge, values)

Other books
may share the context

Table of Contents

Table of 'Contents'
('portfolio' of interests or 'learning record')

Book

User

Other users
may share the context

Other contexts
(the book may relate to more than one domain)

Space where the book's context intersects the user's experience etc. – suggesting that the user may be familiar with the book's domain.

Space where the user's context intersects the book's content – suggesting that the book might be relevant to the user, now.

There may also be a space (not shown) where the book's content intersects the user's experience – that is, a situation in which the user is familiar with aspects of the content, perhaps as a result of having read the book.

Tracking what a user has read or learned may make it possible to provide content in ways that are more useful for and more easily learned by the user – personalization on a very granular level.

Context   Context

Content   Content

Book   User