

Print Made Fluid

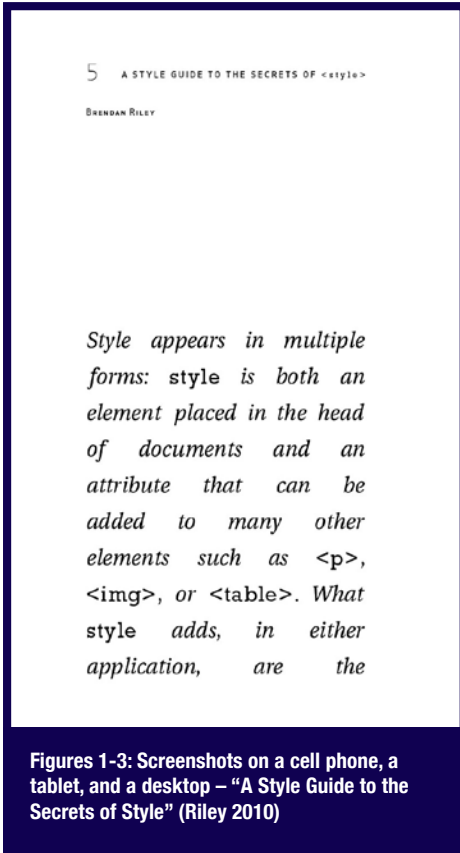
Design, Format, and Attention in a Convergence Culture

Keywords: arrangement, design, digital publishing, ebook, visual rhetoric

Introduction

In this chapter, I consider the visual design of EPUB (short for electronic publication), a standard format for creating and distributing e-books, through the framework of writing as design.¹ The basic tenet of writing as design is that the design of the page cannot be separated from the content of the page; the verbal content, visual content, and the arrangement of the verbal and visual are sources of meaning. This understanding of writing as design has gained a great deal of traction in recent Writing Studies

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Figures 1-3: Screenshots on a cell phone, a tablet, and a desktop – “A Style Guide to the Secrets of Style” (Riley 2010)

work, a discipline whose project is to study writing “its production, its circulation, its uses, its role in the development of individuals, societies and cultures” (Bazerman, 2002, p. 32). Taking seriously the proliferation of writing that is made possible by digital environments, scholars in Writing Studies define and trace the significance of digital environments for writing and writers. And the construct of writing as design provides one frame through which to conduct this work.

EPUB is an interesting study through the frame of writing as design, because texts encoded in EPUB are designed with significantly different kinds of concerns than other common formats like PDF (short for

Portable Document Format). Where PDF preserves sophisticated layouts, EPUB creates fluid and malleable layouts or “on the fly formatting” based on the dimensions of the reader’s device (IDPF, 2011, sec. 2.6). Figures 1-3 depict an e-book displayed on a smart phone, a tablet, and a desktop. These figures demonstrate what “on the fly formatting” looks like in practice (IDPF, 2011, sec. 2.6).

As these examples demonstrate, EPUB subverts fixed layouts in favor of malleable layouts to enhance readability. In this way, EPUB lacks a design in the traditional sense: a stable, spatial arrangement of text and image. Likewise, EPUB does not support the work of design in the traditional sense: composers creating layout and arranging visuals and text. However, EPUB does include design elements, and it can accommodate the work of design. By considering how e-books are designed and for what purpose, I argue that writers and publishers can begin to utilize formats in ways that meet purposes specific to particular writers, readers, and audiences.



Figure 2.

To corroborate these ideas, I provide a discussion in three parts. In part one, I define and review the concept of writing as design. Then, I turn to the EPUB format itself, emphasizing the format's characteristics and the design principles at work in the format. In this section, I discuss the different ways readers attend to texts published on the screen and published in print, suggesting that each medium invites a different kind of attention.

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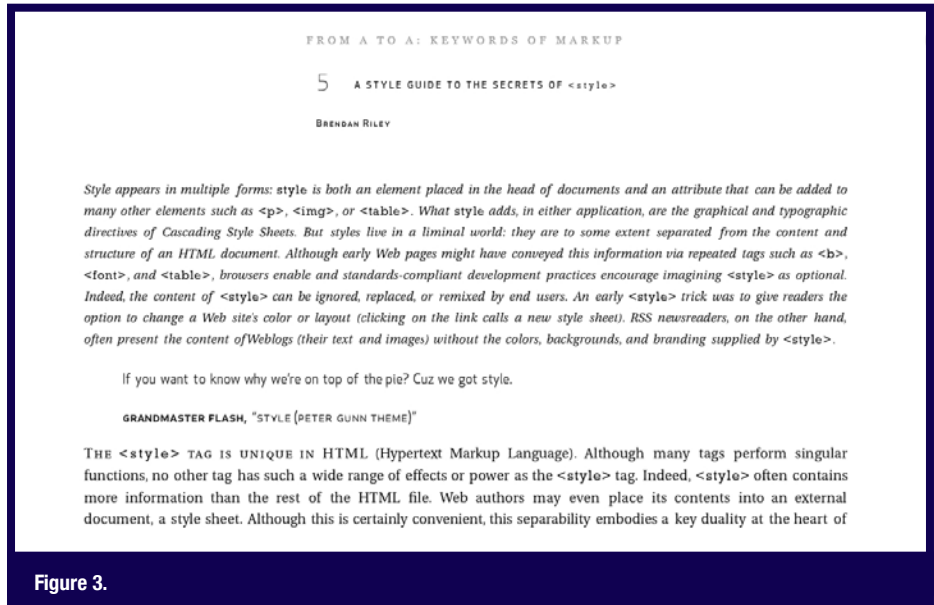


Figure 3.

Finally, in the third section, I return to the frame of writing as design to discuss the ways that EPUB affords design work. In this section, I arrive at some practices for working with EPUB in ways that emphasize EPUB's affordances for the design of text and negotiate EPUB's constraints.

Writing as Design

In Writing Studies scholarship, scholars who attend to writing as a visual, alphabetic, and multimedia practice nominalize the work of writing in terms of design: writing as design and writer as designer. To help to define this concept, I provide the example of two discussions that demonstrate the work of design: the design of a multimedia scholarly article and the design of a conventional printed page. Through these two sample discussions, I

suggest that writing as design emphasizes four related ideas. The first idea is that verbal and visual content can work together and work separately to meet defined purposes. Second, depending on the purpose of a piece of writing, the visual and verbal work together in varied ways, e.g. illustration, demonstration, and enactment. Third, whether or not both visual content and the verbal content are present, writers design meaningful texts to meet defined purposes. Fourth, design work is distinctly about creating visual arrangements or layouts.² To show what the work of design looks like, I turn to two examples of design: Susan Delangrange's multimedia scholarship and Anne Wysocki's discussion of the visual rhetoric of the printed page.

Two Studies of Writing as Design

Shortly after Susan Delangrange published her first multimedia article, "Wunderkammer, Cornell, and the Visual Canon of Arrangement" (2009a), she published a companion piece recounting the process of designing "Wunderkammer" (2009b). In the companion piece, "When Revision is Redesign," Delangrange describes the initial process of designing "Wunderkammer" in terms of four ordered concerns. First, to design "Wunderkammer," Delangrange defined the purpose of the multimedia article, to "re-create as closely as possible the experience of arrangement and re-arrangement" of images as practices that facilitate critical inquiry (2009b, sec. "Design"). Second, Delangrange articulates what kind of visual content is necessary to enact or recreate her argument:

- The visual content is primary, verbal content secondary
- Visual content should be mobile to simulate the experience of arrangement
- Users should be able to control the "action" of the article (2009b, sec. "Design").

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After defining the visual features necessary to meet her purpose, next, she selects a program to compose the article, Adobe Flash. Then, Delagrange begins creating and arranging the visual and verbal content of her article in ways that meet her purpose. Delagrange's design work is specifically about providing ways of making connections: "An idea suggests an image, an image a sentence, a sentence a motion, a motion a placement, a placement another sentence, that sentence a link, and so on. Each step in the design process is scaffolded by what has gone before, and anticipates what might come next" (Delagrange 2009b, sec. "Design"). The understanding of design that Delagrange describes in "Revision is Redesign" resembles her argument for visual arrangement in "Wunderkammer," suggesting that writing the argument she forwards in "Wunderkammer" and her demonstration of the argument were formative for her larger understanding of media and design.

Multimedia technologies – computers, digital cameras, audio recorders – can be used to design pedagogical performances which embody theory, which articulate visual arrangement as embodied practice. We can engage with these artifacts and the social technologies in which they are embedded through the practice of what we might call "critical wonder": a process through which digital media designers can thoughtfully and imaginatively arrange evidence and articulate links in a critical practice of embodied discovery (Delagrange 2009a, sec. "Social Technologies").

Delagrange's concept of visual arrangement – the concept she argues for, demonstrates, and designs with – emphasizes the idea that "arrang[ing] evidence and articulat[ing] links" facilitates rhetorical invention. In other



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The students begin by collecting primary archival evidence about the history of the building they are investigating: photographs, postcards, maps, deeds, advertisements, newspaper clippings. Using these materials and working in PowerPoint, they first create a chronological narrative of the building's history. The second phase of their collecting is contemporary. They take their own photos; interview people directly connected to the building as owners, inhabitants, employees, and patrons; and draw use-maps to document the current life of their building. I will use the project of one student, Austin Hart, as a brief example here.

Austin chose as his site the old Ohio State Reformatory, a mass of dark, limestone buildings which loom over the western edge

Rebecca Muller, Eastern cell block, 2007; OSR guards, 1905; Main hall; Ohio Memory Project, The prison's inception, 1886; Lenin and Stalin; Group of boys; Barbed wire; Mug shot, 1917a and 1917b; Intermediate penitentiary; Ohio Memory Project, Specifications, 1885; Rebecca Muller, Jesus painting, 2007; Windows and men; OSR schoolroom; 10011; Ohio State Reformatory; Plan of first story; Mansfield, O. laundry; Administration building; Mansfield, Ohio, Ohio State Reformatory, 1908.

Figure 4: Screenshot – “Collecting” from “Wunderkammer, Cornell, and the Visual Canon of Arrangement” (Delagrangé, 2009a). Tap for video.

words, arrangement is generative. Through creating what Kathleen Blake Yancey calls “coherence” within the “multiplicity” of elements made available by digital platforms and “through the relationships between and among” the visual and the verbal, writers discover new ways of seeing (2004, p. 95). Figure 4 shows the way that the visual and verbal content in her article work together to simulate visual arrangement.

In Figure 4, we see animated images on the left demonstrating one of Delagrangé’s students’ projects, a narrative of the Ohio State Reformatory in Mansfield, Ohio. The student, Austin, gathered archival materials and

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contemporary images and arranged his images to develop a series of texts: “a chronological narrative of the prison, then successively on the inmates, the architecture, the contrast between reform and punishment, and the use of the prison as a movie set for *Shawshank Redemption* and other films” (Delagrange, 2009a, sec. “Collecting”). The portion of the article depicted in Figure 4 recreates Austin’s project in its early stages when he was collecting materials and looking for connections the collected materials to develop the topic of his project.

“Wunderkammer” and the work that went into designing “Wunderkammer” is influenced by Delagrange’s understanding of design (the understanding she argues for in “Wunderkammer”), her use of high-end production software, and the venue for the publication of her text – a web-based journal. As a result, Delagrange’s design work is distinctly hypertextual: fragmented, dispersed, atomized, connected through two navigation schemes (the main screen and the color coded navigation bar under the title banner), and subject to readers’ navigation decisions (Landow, 1992, p. 54).³ Delagrange’s practice of visual arrangement emphasizes three generalizable ideas about writing as design. First, the rhetorical purpose of the piece governs the selection and arrangement of content. Second, arrangement is a source of invention for both the writer during composing and the reader. Third, the arrangement of visual and verbal content work together hypertextually: mutually referencing one another to invite connections during reading.

In “The Multiple Media of Texts,” Anne Wysocki argues that genres of texts have visual features and visual arrangements that perform “persuasive work” (2004, p. 124). The visual features of a page’s verbal content cues readers to infer the text’s purpose and the “social circumstances” within which the text was written (Wysocki, 2004, p. 126). For example, the presence of

Introduction

In this article, I consider the visual design of EPUB, a standard format for creating and distributing ebooks, through the framework of writing as design. The basic tenet of this theoretical construct of writing is that the design of the page cannot be separated from the content; both the linguistic content and the design of the page are sources of meaning. This understanding of writing as design has gained a great deal of traction in recent work in Writing Studies, a discipline whose project is to study writing "its production, its circulation, its uses, its role in the development of individuals, societies and cultures" (Flaxerman 35). Taking seriously the proliferation of writing that is made possible by digital environments, scholars in writing studies define and trace the significance of digital environments for writing and writers. And the construct of writing as design provides one frame through which to conduct this work.

Based on the understanding of writing as design and writing as designed, the affordances and constraints of the EPUB format for writing and reading texts. EPUB provides an interesting study, because EPUB lacks a design in the traditional sense: a stable, spatial arrangement of text and image. Likewise EPUB does not afford the work of design in the traditional sense: composers creating layout and arranging visuals and text. Rather, EPUB affords fluid and malleable layouts, "on the fly formatting" based on the dimensions of the reader's device (IDPF 2011). I argue that considering EPUB in terms of its limitations and affordances of design provides a way to think about design in a different way, as a concept and a practice that does not deal exclusively with the look of the page. And in turn, understanding EPUB through the frame of writing as design provides some design practices for negotiating EPUB's affordances (fluid layouts) and constraints (the absence of fluid layouts). My study of EPUB's affordances and constraints comes in three parts. In part one, I provide a brief discussion of the concept of writing as design. Then, I turn to the EPUB format itself, emphasizing EPUB's characteristics, the design principles at work in the format, and the ways in which the format creates reader

positions that are not exclusively informed by writing and reading in print or writing and reading on the screen. In this section, I turn to the Collin Brooke's (2002, 2009) concept of perspective, an idea he develops to describe readers' relationship between the visual features of a text, the linguistic or "verbal" features of a text, and literacy. Next, based on Brooke's concept of perspective, I return to the frame of writing as design to discuss the ways that EPUB affords design work through Brooke's idea of perspective. Through this section, I come to some practices for working with EPUB in ways that emphasize EPUB's affordances for the design of text and negotiate EPUB's constraints.

Writing as Design

In writing studies scholarship, scholars who attend to writing as a visual, verbal, multimodal, and multimedia practice nominalize the work of writing in terms of design: writing as design and writer as designer. Susan Delagrange's multimedia article, "When Revision is Redesign: Key Questions for Multimodal Scholarship," (2009) is a companion piece to a previously published multimedia article on the visual arrangement of text ("Wunderkammer" 2009). In the companion piece, Delagrange describes the process of planning, drafting, and revising "Wunderkammer." Through her description, she provides a chronology of her "Wunderkammer," a chronology that is framed by the journal's editors' comments in her revise and resubmit letter. The editors' notes, which almost exclusively addresses the design of the text, frame the "Revising is Redesign piece." Through the companion piece, Delagrange states that her goal for the design of her "Wunderkammer" article is to demonstrate the conceptual part of the article visually, to "re-create as closely as possible the experience of arrangement and re-arrangement" as practices that facilitate a kind of critical inquiry through locating tacit connections between images and making those connections explicit through the visual arrangement of images ("Revision is Redesign" 2009).

**Figure 5: Screenshot –
a version of this discussion**

headers can suggest that the text is logical, an important value in academic and school-based settings (Wysocki, 2004, p. 124). Wysocki's observations about the visual presentation of pages that utilize verbal content contribute an important ideas to the concept of writing as design. The visual features of the text evoke a set of expectations in the reader based on their past experiences with conventions. For example, readers' past experiences with logical arguments suggest that the presence of headings and subheadings indicate the text is a logical argument, and each heading refers to a premise of the argument (Fig. 5). Likewise, a page with inconsistent line breaks, unconventional spacing, and a header can suggest that the text is a poem (Fig. 6).

This manuscript (Fig. 5) and Craig Arnold's "Very Large Moth" (Fig. 6) are not visual texts in the same ways that Delagrange's article (Fig. 4) is a visual text.

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Figure 6: Screenshot – “Very Large Moth” (Craig Arnold, 2013)

Rather, where Delagrange’s example of design might be understood as exceptional, Figures 5 and 6 are conventional. That is not to say that the kinds of texts discussed by Wysocki do not have a visual design. By writing in ways that observe the conventions of genres like a poem or a scholarly manuscript, a

writer necessarily creates a visual design that does a kind of rhetorical work.

The visual features created by a text’s conventions cue readers to infer the text’s purpose (i.e. communicate a logical argument or depict an occasion through verse): “When you first look at a page or screen, you initially understand its functions and purposes because it follows the conventions of genre” (Wysocki, 2004, p. 124). Because a text’s visual presentation says something about its genre, it also communicates important information about its purpose and its relationship to other texts. To say it another way, a conventional text’s visual design does both persuasive and rhetorical work. For example, the manuscript’s headers (Fig. 5) communicate the presence of logic and “on the page, they construct the logical arrangement of the argument for the reader” (Wysocki, 2004, p. 125). Albeit conventional, the visual design of an argument cues readers to attend to the text as a carefully arranged logical argument that participates in a larger context of academic discussion. And by the same token, the visual design of a poem cues readers to attend to the work as a poem, a kind of work where timing supports

the work's purpose. In the case of Arnold's "Very Large Moth," the poem's timing reinforces the subject of the poem: seeing a moth.

These examples show that writers do not necessarily need to create highly visual and hypermediated works for their writing to fall under the rubric of writing as design. Rather, through common conventions, texts are more or less already designed, because texts necessarily have visual features. Moreover, the design of a page does not necessarily require much attention from the writer to be an integral part of a reader's process of making meaning:

Precisely because you come to an academic page bringing expectations about how that page should look means that the page has had to be visually designed to fit your expectations. This doesn't necessarily mean that the design has been much attended by the designer (Wysocki, 2004, p. 124).

In cases where design is informed by genre instead of a unique rhetorical purpose, the page's design still does rhetorical work. Namely, the design of a page does much to "direct a reader/viewer/browser's attentions within the context of other texts" (Wysocki, 2004, p. 126).⁴ A page's design evokes a context and a set of expectations by which the reader can approach the text.

Through the two examples of writing as design discussed here, we see that understanding writing as design work is a powerful concept for understanding writing as both a non-verbal and a verbal practice. Moreover, by codifying writing as design work, writing scholars can include a diverse range of writing practices and writing environments under the rubric of writing: multimedia scholarly works in high end production software

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and poems in word processors. But for all the traction that writing as design commands, an assumption about the nature of text underlies this understanding of writing: the fixity of the text. Whether the text is attached and sent through email, downloaded from a server as a web page, or printed and distributed, writing as design assumes that each copy of the text will look the same as the text that the writer designed in their Adobe suite, coded and uploaded through their FTP (file transfer protocol), or developed in their website builder. But this kind of fixity is not the case for the “on the fly” formatting used in texts that are encoded in EPUB, the standard format used to encode texts for display on different kinds of mobile devices: computers, tablets, ereaders, and cell phones (IDPF, 2011, sec. 2.6). Rather than displaying copies of texts with identical visual features, EPUB displays a version that is formatted specifically for the device by defining a number of textual features such as margins, the length of lines, breaks, and the placement of images to make the text fit for a range of screen sizes (Figs. 1-3).

Although EPUB files and e-books do not preserve the ways that writers design texts, I do not suggest that EPUB format lacks a design or is incapable of being designed. Rather, most of what comprises design work is still practiced or is capable of being practiced in EPUB formats. Per the two examples of design that I provide in the first part of this discussion, writers design both the visual and verbal content of texts in order to meet defined rhetorical purposes. Across Delagrange’s and Wysocki’s discussions, the visual and the verbal content of the page (including the visual arrangement of the page) work together to support the purpose of the text. And while EPUB formats do not provide for visual arrangement as a practice, ebooks have a visual arrangement that meets a rhetorical purpose. And I argue that purpose is to refashion the printed book for a convergence culture.

Rendering Files, Designing Texts

Like other methods of online publishing, EPUB is defined by a set of standards compiled and maintained by an organization. In the case of the EPUB format, that organization is the International Digital Publishing Forum (IDPF). The IDPF expresses their vision for the format's function and role in digital publishing through EPUB's standards. Reading across EPUB's standards, one design principle garners the most attention, readability. EPUB is designed to provide a readable presentation of content regardless of the user's device. EPUB "adapt[s] to the User rather than the User having to adapt to a particular presentation of content" (IDPF, 2011, sec. 2.6). To create a file format that adapts to the screen dimensions of multiple devices, EPUB uses a technological process called dynamic rendering. Dynamic rendering is achieved through different codes and coding languages that constitute the file type called EPUB.

When any encoded files are rendered (dynamic and otherwise) for visual presentation, a device reads at least two files: an HTML file and a CSS file. HTML defines the elements on the page: paragraphs, headers, tables, etc. The CSS file defines how the HTML file should be visually displayed on the screen: specific font types and font sizes for different elements, colors of different elements, and page's overall visual arrangement. In commonplace examples of rendering like the design of a web page, the web designer creates one CSS file that defines the visual presentation of the elements encoded in the HTML file. When a reader displays the web page, the HTML file is rendered in the way that the CSS file defines it (e.g. black text with a white background). If a writer attaches a CSS file with different style definitions, the files are rendered differently, creating a different visual presentation (e.g. white text with a black background). In this example, the web page is rendered once for all devices.

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In contrast, EPUB files contain multiple style definitions that define the visual presentation for different devices: tablets, smart phones, e-readers, and computers. The EPUB file is visually rendered based on the kind of device used to present the text. This kind of rendering is called dynamic rendering, a process of generating the visual presentation of an e-book based on information about the device used to access and display the e-book files. Through dynamic rendering, the EPUB format provides readers with readable texts. EPUB describes dynamic rendering and the layouts generated by dynamic rendering as “[t]he design center of EPUB” (IDPF, 2011, sec. 4.3). And because dynamic rendering is the crux of EPUB’s design, the IDPF discourages writers from including any kind of “highly formatted content in EPUB – for example via bitmap images or SVG graphics, or even use of CSS explicit positioning and/or table elements to achieve particular visual layouts” because this kind of content can disrupt dynamic rendering (IDPF 2011, sec. 4.3).

As the design center of the EPUB format, dynamic rendering and an adaptive visual presentation are indicators of a presence of design. However, in terms of design work, e-books are different in kind than the design of Delagrangé’s “Wunderkammer” and the visual conventions of genres discussed by Wysocki. In the cases of Delagrangé’s and Wysocki’s discussions of writing as design, the text is designed in tandem with the text’s purpose; design enacts and supports the purpose of a work. But in the case of e-books, their primary design principle – readability – is independent from and extraneous to the purposes of specific works. E-books are designed to meet a set of concerns unrelated to any one text’s specific purposes or audiences.

By organizing e-books around the principles of readability and dynamic formatting, the book is refashioned into a form that “responds to, redeploys,

competes with, and reforms” other forms that occupy media landscape (Bolter and Gruisin, 1999, p.55). In other words, refashioning the book into an electronic form allows the book to participate in a culture of textual and media convergence constituted by “a range of specialized and incompatible devices,” e.g. e-readers at home, tablets at work, smart phones during travel (Jenkins, 2006, p. 14). Instead of “function[ing] independently and establish[ing] its own separate and purified space of cultural meanings,” the book is refashioned into a digital work accessible across the multitude of devices people use to consume media (Bolter and Gruisin, 1999, p. 55). Through the e-book, the book is made part of a larger constellation of creative works.

Interactivity and Attention

While technological processes like dynamic rendering and digital formats like EPUB have done much to refashion the book for a digital landscape, there is some debate about whether or not e-books can be read like a print book. To say it another way, there is some debate as to whether or not people attend to an e-book the same way they attend to the printed page, with a cognitive mode termed deep attention: “the cognitive style traditionally associated with the humanities” where a reader “concentrat[es] on a single object for long periods” (Hayles, 2007, p. 187). In a quantitative study that “investigated students’ perspectives on the difference between reading in hard copy and reading in print,” Naomi Baron found that “students overwhelmingly preferred to read in hard copy than [on the screen] online” (Baron, 2013b, p. 195). And this was the case for a range of kinds of texts that students read for academic purposes and for pleasure: “light” and “serious” nonfiction, “light” and “serious” fiction, and “course text[s]” (Baron, 2013a, p. 213). Students felt that reading in hard copy created the conditions for “better cognitive or pedagogical outcomes than reading on

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screen” (Baron, 2013a, p. 215). Digital platforms support a more casual reading and help readers locate specific pieces of information, and the printed page is conducive for “deciphering and analyzing more-complex texts” (Baron, 2013b, p. 199-200).

While Baron’s findings are informed by economic issues like the price of textbooks and ecological concerns like the conservation of resources, her study suggests that the medium in which we read – in print or onscreen – supports distinct ways of interacting with texts. The students that Baron surveyed see the printed page as conducive to a deep attention: long term focus and analysis made possible by the kinds of annotation and rereading afforded by the printed page. And the readers Baron surveyed see the kinds of interactivity made possible by the screen (e.g. the search function) as beneficial in moments of hyper attention, a mode of cognition “characterized by switching focus rapidly among different tasks” (Hayles, 2007, p. 187).

While it is clear that screens and paper invite different ways of interacting with a text, media can also influence the way readers see texts. Responding to the emergence of desktop publishing software, Richard Lanham argues that readers in a print-only culture understood text as “authoritative and unchangeable, transparent and unselfconscious” (“The Electronic Word,” 1989, p. 270). Conversely, the pixelated word reveals the opacity of text, an opacity that had been present but had gone unnoticed because of a “decorum” that defined the ideal work’s style as “not noticed,” “unselfconscious,” and “transparent” (Lanham, 1989, p. 266). In other words, the pixelated word transformed how we see texts: “We are always looking first AT [the text] and then THROUGH it...” (Lanham, 1989, p. 267).⁵ Per Lanham, oscillating between looking at and looking *through* the

text is the distinguishing characteristic of reading on a screen; the pixelated word changes both the way we see texts and the way we read texts.⁶ Framed this way, the function and status of the e-book as compared to the function and status of the print book is more than a question of the economic convenience of electronic formats or nostalgia for the printed codex. Readers attend to the pixelated word differently than the printed word.

Although e-books are designed for the screen, they are also designed to enact a number of print-based values about text. Namely, by refashioning the book to resemble the printed page regardless of the device used to display the text, the e-book is designed to be looked *through*. Returning to Wysocki's understanding of genre and the visual, e-books share many of the conventions of a print book: chapters, chapter headings, enumerated locations for navigation and reference, justified lines, and a number of visual elements demarcating sections like styling the initial letter of a chapter. These features cue readers to attend to e-books as they would a print book: to look *through* the text's surface, to get lost in the text. However, e-books and e-reader platforms also accommodate a number of features specific to digital texts, texts that invite readers to look *at* the text's surface. Many e-reader platforms allow readers to change a text's font size and typography. Readers commonly navigate through e-books via hyperlinked tables of contents and indexes, and many e-reader platforms have a built-in search function. And in some cases, reading platforms have built-in reference functions that move the reader from the book to a set of Google search results or to a dictionary entry.

Considered in tandem, the e-book's resemblance to the printed book and the distinctly digital ways of interacting with e-books suggest that

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e-books do much to redeploy the book for a digital world, but as they are currently designed, they do not replace the print book. Understood this way, e-books may best be re-envisioned as a form that does not compete with print books but exists alongside print books. E-books could be a resource for writers who utilize digital forms to enact and support specific purposes for their texts. In the next section, I discuss two common practices that publishers and designers utilize when developing e-books: rich content to support navigation and the media query. To date, these practices are utilized by publishers for the sole purpose of making e-books readable across devices. I argue that these two practices offer ways of designing texts that support writers' specific purposes.

Rethinking E-books and their Design

To create specific kinds of conventional visual features in EPUB, developers rely on media queries, a set of CSS definitions applicable to specific devices. Media queries make dynamic rendering possible and enable developers to design texts that make up for differences in screen sizes. Figure 7 depicts a set of style definitions that create hanging indentions for the Amazon Kindle Fire and the Amazon Kindle.

This common but important part of developing texts in EPUB is a kind of design work. It involves recreating print-based conventions for digital texts and digital devices. These media queries are specifically designed for two purposes: to make dynamically rendered EPUB files look like the printed page and to function like the printed page. In other words, the media query creates the fit between the device and the e-book, a fit not unlike the printing on a page, the page itself, and codex.

A second common practice in developing EPUB files is the use of rich content like hyperlinks to create readable texts. This kind of work is most

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<style type="text/css">
h1 {text-align: left}
p {line-height: 1;padding:0;margin:0}
</style>

<style type="text/css" media="amzn-kf8" [or "not amzn-
kindle"]>
p.firstline {margin-top:2em; margin-left:2em; text-indent:
-2em;}
p.line {margin-left:2em; text-indent: -2em;}
</style>

<style type="text/css" media="amzn-mobi">
p.firstline {margin-top:20px;text-indent:-40px}
p.line {text-indent:-40px}
</style>

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Figure 7: EPUB media queries for hanging indentions in versions of Amazon Kindle

often done to create ways of navigating the text. Because dynamic rendering relies on the absence of stable and enumerated pages, EPUB developers rely on hypertext to direct readers to bibliographic references, to sections of the text from the table of contents, and to notes at the end of the text. These navigational links simulate the common practice of flipping to and flipping back to specific places in a printed book. While these practices are more visible to readers and thus more familiar, hypertext navigation is as commonplace as the use of the media query to create cross-platform compatibility.

Recreating print-based conventions in digital texts and creating rich content to promote functionality of texts are kinds of design practices. They are part of dynamically rendered e-books that have a specific purpose for a specific context: refashioning the printed book as a digital text. These practices are not indicative of any single text's purpose or any single author's purpose. In other words, the common design practices in EPUB do not provide for designing texts in ways specific to writer's purposes. I suggest that this is

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the case, because EPUB files are rendered in ways that emphasize one print-based way of seeing texts. However, writers and publishers can utilize media queries and rich content as resources to design e-books in ways that support the specific purposes of texts. Before concluding, I provide example methods of utilizing rich content to move the e-book closer toward a form that can be adapted for specific texts and purposes. The first example explores alternate (albeit unconventional) ways of designing e-books visually. The second example explores a way of utilizing hypertext to create e-books that are distinctly digital and are more than refashioned print.

Reimagining the Design of E-books

A group of designers called the EPUB Zen Garden designed a corpus of e-books to comment on the untapped potential of e-books and to envision new ways of working with the form.⁷ EPUB Zen Garden encoded a fair use copy of George Eliot's *Middlemarch* "to dispel the myth that digital books can't also be crafted works of visual design. Just as web design has evolved and matured, so too will e-books, and book designers have a new medium available in which to express their creativity" (EPUB Zen Garden, p. "About"). EPUB Zen Garden makes the case that e-books can be a powerful new medium where writers and designers can exercise their ideas. To demonstrate their claim, EPUB Zen Garden encoded *Middlemarch* eighteen different ways to render eighteen different designs (Figs. 8-10).

The examples of design (Figs. 8-10) created by the EPUB Zen Garden group suggest that there are different and relatively unexplored possibilities for incorporating design practices, values, and principles from web design – a predominantly visual medium – into the design of e-books. The examples above show radically different takes on design. One mimics the command

line operating system (Fig. 8), another mimics the modern printed book (Fig. 9), and the third draws on a convention of web design, the background image (Fig. 10). This web-sensible approach to design can be one way for writers to design e-books to meet specific purposes for their writing.

A second design practice that has potential as a resource for design is the use of hypertext in e-books. In regular practice, hypertext is

utilized as a way to mimic the ways in which readers navigate printed books. I suggest that working with hypertext differently can provide ways of creating different reading paths through the e-book. Through the use of internal hypertext, writers can bring ideas that are spatially distant in the piece of writing close together. By not relying solely on the sequenced, verbal presentation of information, writers can create different proximities and distances between parts of their writing. And in doing so, designing EPUB files can take on some of the aspects of design discussed by Delagrange, suggesting connections between parts of a text. This means that as a reader

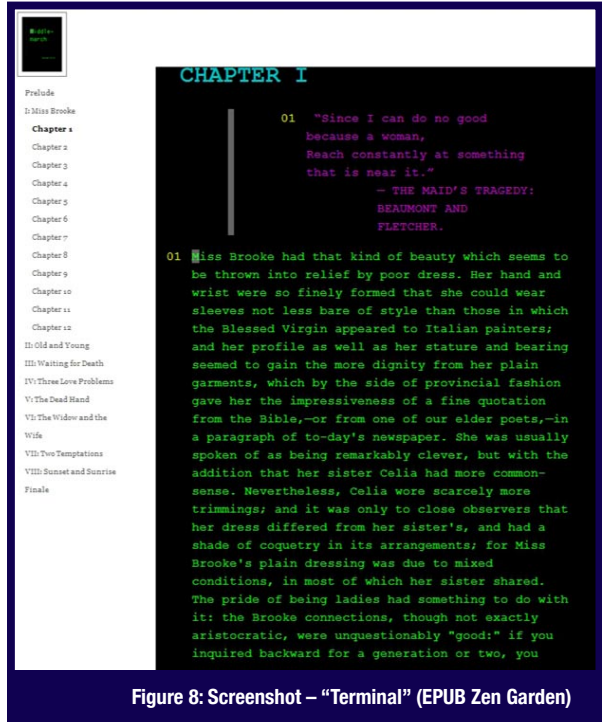


Figure 8: Screenshot – “Terminal” (EPUB Zen Garden)

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Figure 9: Screenshot – “Seneca” (EPUB Zen Garden)

works with an e-book, the reader can follow suggested connections by navigating the secondary hypertext structure. This secondary navigation provides readers with a way to explore the argument both out of sequence and in sequence, inviting readers to access different “doors plotted by an author but activated by a reader” by which readers can discover new meanings, new arrangements, and new connections (Yancey, 2004, p. 95).

Both of these proposed ways of designing e-books through the EPUB format are based on the idea that e-books can be a form that does more than mimic the printed page. Writers design specific kinds of reading experiences to support their purpose for writing. Writers still attend to textual conventions that do significant rhetorical work visually. But writers can also find different ways of utilizing design practices to meet their specific purposes.

Conclusion

The current generation of digital platforms compels us to consider the different ways that writers and readers interact with texts. There is no longer one kind of screen, and in most contexts, screens garner as much cultural value as the page once had. Attending to this kind of digitality, writing scholars studying

writing through the construct of writing as design have primarily focused on texts that have one visual arrangement: texts that look the same for writers and readers. E-books provide an interesting study for this concept, because e-books make the idea of rendering a visible and important concern whereas the study of texts like Delagrangé's and Wysocki's emphasize the idea of copies, not differently rendered versions. To come to a way to observe design where there are multiple versions of

the text, I turned to Lanham's theory of looking *at* and looking *through*. Lanham's concept provides a way to trace understanding of text that inform EPUB's design, and I make the case that EPUB emphasizes a print-based understanding of text even though e-books are designed to participate in a digital world. By suggesting ways of designing e-books that encourage readers to interact with e-books as digital texts, I provide ways of designing e-books in ways informed by the purpose of the individual writer, not the larger publishing culture.

When writers refer to the design of texts, often they begin by describing specific features of the text and the rhetorical purpose that they tried to accomplish or did accomplish. Designing texts in EPUB does not accommodate this kind of conversation. Rather, e-books invite conversations about how texts direct readers' attention and the experiences readers

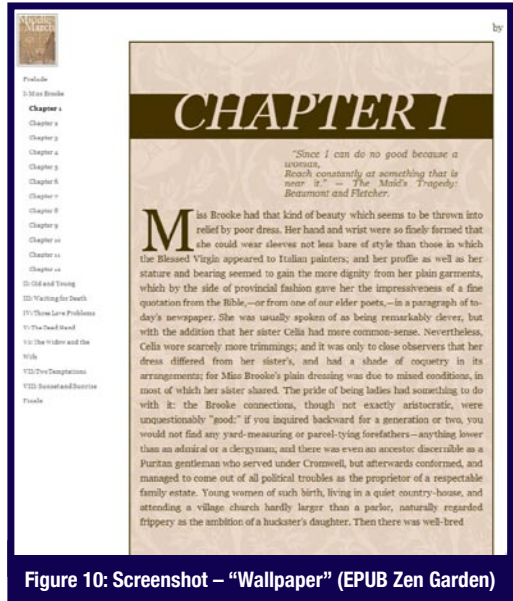


Figure 10: Screenshot – “Wallpaper” (EPUB Zen Garden)

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are designed to have with the text's message and its material form. As the IDPF develops more and better standards to attend to the needs of the publication community, ebooks will change. And eventually, the devices that support ebooks will change. But in the contexts of emerging ways of reading and writing, we carry what we know, what we have done, and what we value into new experiences with literacies. EPUB shows us that while we are in a screen-based world, we gravitate toward what we know about print to find ways of seeing new textual forms. And I argue that being open to seeing the old and the new working together makes new ways of seeing possible.

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Notes

1. Throughout this chapter, I use EPUB and e-book interchangeably to refer to a textual form designed for reading texts on converged devices: tablets, smart phones, and e-readers among others. In technical terms, the e-book is the name of the form, and EPUB is a format and a method of creating an e-book. Because of the focus of my discussion, I did not find it necessary to define and maintain strict distinctions between EPUB and e-book.

2. Gunther Kress extends his theory of modality by arguing that the layout of the page is a mode, a resource for meaning making (2011, p. 142). I agree with Kress's inclusion of layout into his larger theory of modality. And like Kristin Prins I agree that Kress's theory of multimodality is a significant influence in understanding writing as design (2012, p. 147). But Kress is not

included here, because his concepts of design and visual arrangement are predicated on a larger theory of social organization, democracy, and globalism that is outside of the purview of this discussion.

3. To say it another way, Delagrangé's text is a series of visually and verbally rich "doors" that invite readers to enter, but those doors are ultimately "activated by a reader" (Yancey 2004, p. 95).

4. By arguing that writers design texts through generic conventions, I do not suggest that a conventional design is less meaningful for readers than committing to Delagrangian design. Conventional design work and Delagrangian design work are different in degree, not in kind. Both attend to rhetorical purposes, audiences, and have the capacity for rhetorical invention.

5. The language that Lanham develops to describe perception has become important to both literary criticism and media studies. Stephen Best and Sharon Marcus draw from Lanham's vocabulary of looking *through* and looking *at* to develop a taxonomic introduction to surface reading (2009). And in media studies, Jay Bolter and Richard Grusin reconfigure Lanham's vocabulary to articulate their theory of mediation, a theory they refer to as remediation (1999).

6. When Lanham wrote "The Electronic Word," he was responding to a particular technological moment; however, that is not to say he was not forecasting what was to come. In *The Economics of Attention*, Lanham returns to the concepts of looking *at* and looking *through* to re-theorize textuality for a digital landscape constituted by "other, digital, displays" which include "book-sized electronic display devices" (2006, p. 80). Although he addresses a different technological reality in *The Economics of Attention*, his terms remain the same.

7. When I accessed EPUB Zen Garden's site on 24 March, 2014, the site was down. To provide a reference for this part of the discussion, I have decided to include the URL to a cached page captured and hosted through The

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Wayback Machine. That URL is included in the references to this chapter. Here, I provide a URL for the source files to the eighteen editions of Middlemarch developed by EPUB Zen Garden <<https://web.archive.org/web/20130909231013/http://epubzengarden.com/static/epubzengarden-samples.zip>>. These source files were made available to me via Twitter from Liza Daly, EPUB Zen Garden's programmer (Daly 2014).

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