Ebook platforms are part of broader transformations of publishing in the early twenty-first century, especially in digital publishing. *Four Shades of Gray* builds on this work to demonstrate the impact of the publishing industry ceding control of digital distribution to a technology company at the expense of the industry's own autonomy and the interests of readers. The hardware, which received its last update in March 2016 to ensure it remained compatible with changes in Amazon's wireless network. The Kindle has stagnated, allowing for a moment of reflection on the state of the platform after its first decade.

I argue that Amazon's influence on publishing extends beyond "disruptive technology" to embedding itself in all aspects of the contemporary trade. This analysis can only be

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Four Shades of Gray

The Amazon Kindle Platform
Simon Peter Rowberry

Four Shades of Gray

Platform Studies

Nick Montfort and Ian Bogost, editors

Racing the Beam: The Atari Video Computer System, Nick Montfort and Ian Bogost, 2009

Codename Revolution: The Nintendo Wii Platform, Steven E. Jones and George K. Thiruvathukal, 2012

The Future Was Here: The Commodore Amiga, Jimmy Maher, 2012

Flash: Building the Interactive Web, Anastasia Salter and John Murray, 2014

I AM ERROR: The Nintendo Family Computer / Entertainment System Platform, Nathan Altice, 2015

Peripheral Vision: Bell Labs, the S-C 4020, and the Origins of Computer Art, Zabet Patterson, 2015

Now the Chips Are Down: The BBC Micro, Alison Gazzard, 2016

Minitel: Welcome to the Internet, Julien Mailland and Kevin Driscoll, 2017

Super Power, Spoony Bards, and Silverware: The Super Nintendo Entertainment System, Dominic Arsenault, 2017

The Media Snatcher: PC/CORE/TURBO/ENGINE/GRAFX/16/CDROM2/SUPER/DUO/ARCADE/RX, Carl Therrien, 2019

Who Are You? Nintendo's Game Boy Advance Platform, Alex Custodio, 2020

Four Shades of Gray: The Amazon Kindle Platform, Simon Peter Rowberry, 2022

Four Shades of Gray

The Amazon Kindle Platform

Simon Peter Rowberry

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Series Foreword

How can someone create a breakthrough game for a mobile phone or a compelling work of art for an immersive 3D environment without understanding that the mobile phone and the 3D environment are different sorts of computing platforms? The best artists, writers, programmers, and designers are well aware of how certain platforms facilitate certain types of computational expression and innovation. Likewise, computer science and engineering have long considered how underlying computing systems can be analyzed and improved. As important as scientific and engineering approaches are, and as significant as work by creative artists has been, we also have much to learn from the sustained, intensive, humanistic study of digital media. We believe it is time for humanists to seriously consider the lowest level of computing systems and their relationship to culture and creativity.

The Platform Studies series has been established to promote the investigation of underlying computing systems and of how they enable, constrain, shape, and support the creative work that is done on them. The series investigates the foundations of digital media—the computing systems, both hardware and software, that developers and users depend on for artistic, literary, and gaming development. Books in the series will certainly vary in their approaches, but they will all share certain features:

- A focus on a single platform or a closely related family of platforms
- Technical rigor and in-depth investigation of how computing technologies work

- An awareness and discussion of how computing platforms exist in a context of culture and society, being developed on the basis of cultural concepts and then contributing to culture in a variety of ways—for instance, by affecting how people perceive computing

Acknowledgments

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Stylistics, Digital Reading Network, Society for Textual Scholarship, The Book in the Digital Age, and Resurrecting the Book.

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This book would not exist without the support and kindness of Marina, Michaela, Chris, Karen, Hannah, Will, Ellie, Pam, and Geoff.

A Note on Spelling

Ebook: The term "ebook" has three primary spellings: ebook, e-book, eBook. Just as email lost its hyphen, I use "ebook" to reflect the naturalization process that has occurred over the last decade. The only exception will be when referencing brands that have used variant spellings (e.g., Franklin eBookMan, Open eBook).

Amazon: While the full company name is Amazon.com Inc., for the sake of readability, I use "Amazon" to refer to Amazon.com Inc. and denote regional variants (e.g., Amazon.co.uk) where appropriate. "Amazon" will also incorporate subsidiaries such as Amazon Technology.

Reading system: When talking about the combination of hardware and software and its influence on the appearance of ebook texts, I use "reading system," a term coined for the EPUB specification that is roughly equivalent to the web browser terminology "user agent."

Introduction

When Jeff Bezos founded Amazon in 1994, he chose to sell books as a pragmatic business decision rather than from a sentimental attachment to print. Books can survive the rigors of the postal system and are easy to store in warehouses. Over the past two decades, Amazon has grown from a book-selling start-up to a technology giant valued at over $1 trillion in February 2020, with Bezos named the richest man in the world since 2017 even after a divorce settlement in the region of $40 billion.[1] Although Amazon has developed services far beyond the scope of publishing, books remain a core part of the company's brand in the popular imagination. Amazon solidified this connection with the launch of the Kindle in 2007, demonstrating the company's commitment to books even though up to 35 percent of sales came from "non-media" products in 2006.[2] After a half decade of stagnation for ebooks following the promise of the early 2000s, the Kindle was a necessary intervention and boosted the medium from a niche market to a stable revenue stream for publishers.

In the decade since the Kindle's launch, ebooks have come under sustained attack by traditional publishers.[3] Arnaud Nourry, the CEO of Hachette Book Group, rallied against ebooks during an interview in 2018, arguing that "the ebook is a stupid product. It is exactly the same as print, except it's electronic. There is no creativity, no enhancement, no real digital experience."[4] Nourry's statement reflects the commonly perceived rivalry between ebooks and print rather than how the two formats influence each other. Despite the Kindle's many limitations, and resistance from print-oriented publishing, Amazon's entry into ebook hardware

irrevocably changed publishing. The device had a dramatic impact on digital workflows by encouraging publishers to adopt new processes that enhanced the quality of all publications, both physical and digital, since readers would now expect an ebook edition.

Beyond pushing publishers to embrace digital forms, the Kindle empowered some previously marginalized readerships. The emergence of Kindle exclusives demonstrates the demand for genres not traditionally supported by publishers. Readers not catered to by print-oriented publishing's drive toward best sellers can now find an abundance of reading material. Ebooks also offer new physical accommodations: parents can hold a Kindle in one hand while attending to their child, but a print book may be preferable to read in bed. E-readers require less space than physical books for people who cannot build a large library. Readers with visual or motor impairments may benefit from the ability to change font size or use text-to-speech features, and the introduction of the OpenDyslexic font in 2015 catered to the needs of readers with learning differences. Despite these improvements, critics and publishers assume that digital publishing should integrate multimedia, virtual reality, and video game elements.

Nourry's comments reflect the antagonistic relationship between Amazon and the book trade stemming from ongoing concerns about Amazon's sales strategies. Discussions of ebooks are often polemics around "disruption" or the superior materiality and smell of print.[5] Publishers have developed a niche market for luxury hardcover editions in response to readers who remain committed to print. Digital evangelism is pitted against print Ludditism, emphasizing extreme positions rather than considering the two media as complementary. In this book, I move beyond this antagonism to assess the impact of publishers, and the book industry at large, ceding the development of ebooks to a company that exemplifies the excesses of late capitalism and surveillance culture. Through this lens, I analyze how the Kindle has been a boon for publishing while simultaneously limiting the opportunities for developing an inclusive and forward-thinking digital platform.

The name "Kindle" reflects the tensions that have plagued the platform. The name was met with negative reactions owing to potential links to Ray Bradbury's novel *Fahrenheit 451* and book burning. Bezos pleaded innocence, arguing the name was an attempt "to talk about the future of reading, but in a small, not braggadocio way," to spark the imagination through reading.[6] He hoped the Kindle would become synonymous with ebooks as a verb akin to googling: "When I'm stuck in the airport or on line, I can *Kindle* my newspaper, favorite blogs or half a dozen books I'm reading."[7] According to Brad Stone, a technology reporter for *Businessweek*, the

platform's development was driven by a desire "to thrive as a bookseller in a new digital age, [through owning] the e-book business in the same way that Apple controlled the music business."[8] After the iMac's success on Steve Jobs's return to Apple, the company noticed a growing market for digital music. To capitalize on this trend, Apple released iTunes in January 2001, with the iPod following nine months later. The combination legitimatized digital music consumption at a time when Napster and other peer-to-peer networks dominated the public imagination. The iPod also removed barriers to entry through vertical integration of hardware, software, and services from purchasing music to listening on the go. This required substantial investment from Apple. Ebooks were in a similar position by 2007, with a loyal community of dedicated hobbyists but no single catalyst for broader uptake.

The Kindle as Platform

To subvert the antagonistic comparison of digital reading with print, *Four Shades of Gray* tackles ebooks as *digital objects*, focusing on the Kindle as the largest platform. While other ebook platforms exist, none have been as transformative as Amazon's, owing to its unparalleled technical and social infrastructure. Nick Montfort and Ian Bogost proposed platform studies as a tool for the "serious and in-depth consideration of circuits, chips, peripherals, and how they are integrated and used" for creative computing.[9] For example, my title *Four Shades of Gray* refers to the limited color palette of the first-generation Kindle that Amazon used to guide the aesthetic of the device's screen savers, discussed in further detail in chapter 1. Platforms range from a video game console to an operating system or smartphone. Excavations of the Atari VCS 2600 or Adobe Flash are not mere technical excavations but considerations of the technology in its broader cultural and historical context. The Kindle was far from the first e-reader to market, but Amazon integrated a range of services and offered a large catalog of titles to create a more print-like experience than its rivals. As Montfort and Bogost argue, "A platform in its purest form is an *abstraction*, a particular standard or specification before any particular implementation of it."[10] A mature ebook standard could not just replicate the form of print but needed to capture the book's functionality and replicate the networks of its creation, distribution, and reception.

The Kindle must negotiate the inherent tensions between print and digital reading through existing simultaneously as a born-digital platform and a surrogate for print. Platform studies document the connections between computational architecture and creativity, but how does this work

when a platform is constrained by the norms and expectations of another medium? Audiences consume differently in print and digital form. For example, romance has enjoyed a resurgence digitally, while the full size of the market was never explored in print. Otherwise, the ebook acts conceptually a lot like its physical equivalent. Experimental forms of "electronic literature," including Amaranth Borsuk and Brad Bouse's *Between Page and Screen*, develop the expressive vocabulary of digital media. Borsuk and Bouse's book is unreadable without the use of a webcam-enabled computer, as the pages feature hieroglyphics that display poems rendered in three dimensions in front of the reader once presented to a camera.[11] These playful experiments have a shorter shelf life than print: *Between Page and Screen* relied on Adobe's Flash Player, which was rendered obsolete by Apple's decision not to support the web browser plug-in for the iPhone. Further tensions persist between the long-established traditions of publishing, where many of the largest companies were founded before the 1930s (Penguin is a latecomer in 1935), and the meteoric rise of Silicon Valley as a hub for digital innovation in the latter half of the twentieth century. Throughout the book, I assess the consequences of the book trade's ambivalence toward digital media and how Amazon filled this demand with a technology-first approach. While this decision was mutually convenient for both parties initially, the longer-term impacts are still unraveling over a decade after the Kindle's launch.

The relationship between digital and print publishing challenges traditional notions of platforms as discrete entities. Tom Boellstorff and Braxton Soderman propose the term "transplatform" to describe the generative creativity encouraged by rivalries such as Intellivision and Atari or Sega versus Nintendo.[12] When placed in direct competition, technology companies innovate to outsell their rivals. The perceived antagonism between print and ebooks is a further example of a transplatform rivalry, but this is complicated by the internal cross-platform nature of the Kindle as a dedicated hardware range available for web browsers, personal computers, and mobile devices. The Kindle exists "in the weird liminal spaces that bridge one computational architecture to another."[13] Thomas Apperley and Jussi Parikka argue that "the platform requires a degree of *stability and consistency* as a technical object."[14] This is less clear here: What do we count as the Kindle platform? The dedicated e-readers? The content? The services?

The Kindle further complicates the notion of platforms through its position at the intersection of two often-conflicting definitions of digital platforms. This book is part of the Platform Studies series, which pioneered what Esther Weltevrede and Erik Borra term approaching "platforms as

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architecture," or analyses of the sociotechnical infrastructure of specific platforms and its influence on the production of creative content.[15] Since the publication of *Racing the Beam*, this technical approach to hardware's materiality has been overtaken by Tarleton Gillespie's more popular notion of "the politics of 'platforms.'"[16] This definition of platform serves as the prefix for several neologisms, including "platform politics" and "platform capitalism," which stem from the distinction between platforms, supposedly neutral sites for users to consume and share content, and publishers, the curators with direct responsibility for material they disseminate. The Kindle is a platform from the perspective of computational architecture, but within the broader Amazon ecosystem, it also functions as a political platform. By emphasizing the synergies between these two definitions in relation to the Kindle, I address the blind spots around how users engage with platforms in the architectural approaches and the technical limits of political economy analyses.

In an interview with the journalist Steven Levy to promote the Kindle, Bezos stated, "Books are the last bastion of analog. . . . Music and video have been digital for a long time, and short-form reading has been digitized, beginning with the early Web. But long-form reading really hasn't."[17] Resistance to extended reading on-screen dates back to at least the 1990s with publications such as Sven Birkerts's *The Gutenberg Elegies*, which challenged electronic media's ability to replicate the immersive experience of print.[18] The line of criticism has continued into the ebook era, with several studies documenting a gap in comprehension between students reading a text in print and digitally.[19] These projects often focus on reading to learn rather than as a leisurely pursuit, where accurate recall is less important. While the web revolutionized journalism, reference, and academic publishing, the strengths of trade publishers remained staples of print. The book trade predates other media industries, and practices from analog culture are deeply ingrained within the conventions of the industry. Since the advent of the personal computer, a *cultural* shift had occurred in publishing toward using digital tools to create and market print books. For example, the introduction of Standardized General Markup Language (SGML) in the 1980s allowed publishers to typeset digitally, a practice that became widespread by the early 2000s. Less attention was paid to the *media* shift of digitization, or converting books into digital publications. Print presented unique hurdles for digital consumption: five centuries' worth of history to convert, the lack of an established format for reading, strong associations between the materiality of print and content. The problem was exacerbated by distracting speculative visions of digital publishing: Spotify for Books, blockchain for managing rights, data-driven

acquisitions. A large gap exists between publishers' desire to step into an entirely new paradigm (without the investment required) and focusing on a more organic evolution of the current strengths of digital publishing.

Ebook platforms are part of broader transformations of publishing in the early twenty-first century, especially in digital publishing.[20] For example, Matthew Kirschenbaum's "Book.Files" project reveals the challenges of publishers' reliance on digital asset management (DAM) for the preservation of contemporary book publishing.[21] *Four Shades of Gray* builds on this work to demonstrate the impact of the publishing industry ceding control of digital distribution to a technology company at the expense of the industry's own autonomy and the interests of readers. As a result, the market for ebooks has largely diverged from print, enabling new genres to thrive rather than supplementing existing revenue streams. Publishers' stronger embrace of audiobooks shows that the industry has the will to adapt to digital distribution, so why did they not prioritize ebooks?

Publishers and technology companies can be an uneasy mix. Obsolescence timescales differ substantially between the two. Publishers proudly market any Nobel Prize winners or *New York Times* Best Sellers on their lists decades after their initial publication date, while smartphones are called obsolete within a matter of years. Lisa Nakamura extends this logic, arguing that "older reading platforms like the first-generation Kindle may be worth studying because they were quickly obsolescent"[22] Her comments were published six years after the Kindle 1's launch but failed to account for the longevity of the hardware, which received its last update in March 2016 to ensure it remained compatible with changes in Amazon's wireless network.[23] The long-term support for hardware does not extend to services, however, as many functions available originally on the Kindle 1, and many later generations, are no longer available. The platform is constantly in flux, prioritizing short-term policy and experimentation rather than ensuring permanence and archival consistency.

The Kindle has stagnated, allowing for a moment of reflection on the state of the platform after its first decade. This book tackles the Kindle's impact from the perspective of *technology*, *texts*, and *uses*. By analyzing the interconnection between these three areas, I argue that Amazon's influence on publishing extends beyond "disruptive technology" to embedding itself in all aspects of the contemporary trade. This analysis can only be conducted through separating the publisher and technology company discourse from actual uses. The Kindle is a vast and complex platform with over five million ebooks, fifteen hardware launches, and forty million users.

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A single book could never cover all facets of the platform, and my perspective is constrained to an Anglophone context, but I hope my work here will encourage further accounts of the Kindle's influence in other contexts. While individual chapters will primarily appeal to readers interested in computational culture, bibliography, or reception studies, the three themes clearly overlap. Amazon is first and foremost a technology company, and this context is vital to understanding the company's impact on a creative industry that prioritizes cultural influence and tradition over digital experimentation. Frederick Kilgour saw the "electronic book" as the "seventh punctuation" in the history of the book, an event on equal footing with clay tablets, the printing press, and offset printing.[24] It is still too early to judge the long-term impact of ebooks compared to these older technologies, but the shock waves of the Kindle continue to shape publishing.

When Jeff Bezos revealed the Kindle on November 19, 2007, critics lauded the device's combination of previous ebook successes while learning from other companies' mistakes.[1] Amazon's strategy was encapsulated in Bezos's comment that the Kindle "isn't a device, it's a service."[2] The Kindle is synonymous with ebooks as both hardware and consumable media because Amazon strived to emulate the book trade rather than focusing on translating print directly onto the screen. Criticisms of the Kindle often focus on visible design flaws or comparisons with the benefits of print, ignoring the platform's complex back end. Ebooks are best defined according to their own media specificity and materiality rather than just their relationship to print.

Resistance to ebook hardware stems from its disruption of the "natural" practices of reading print. Matt Hayler argues that the perception of print's naturalness is the result of its normalization through centuries of use. The ebook's artificiality can further be ascribed to "the sense that the text is somehow placed *behind* the object, that there is an additional layer of visceral insulation that must be fought through before it can be accessed."[3] Ebook users must charge batteries and purchase content separate from the hardware.[4] Amazon's marketing of the Kindle 1 emphasized the benefits of ebookness, including a screen that "looks and reads like real paper," and a device "lighter and thinner than a typical paperback."[5] The advertising also offered rebuttals to common worries about computers, including promises that the device was "simple to use: no computers, no cable, no syncing," and "the screen never gets hot."[6]

The name "ebook" attempts to resolve the tension between print and digital consumption. As with "email" and "electronic signature," the "electronic" book denotes only a conservative departure from its source material. Ebook hardware might extend features from print culture, but unlike an app or web page, an ebook will never challenge the fundamental concept of a "book." Ebook standards including the Kindle and EPUB are primarily designed for trade publishers such as Penguin or Hachette, which publish material for the broadest possible audience. Trade publishers were skeptical of digital publishing's benefits, so the ebook's success relied on conservative changes (synchronizing progress across devices, changing font sizes) rather than experimenting with form. Amazon's marketing and hardware design instilled ebookness in the public imagination.

From Book to Ebook

In an interview promoting the first Kindle, Bezos acknowledged the book's technological advantage over ebooks: "You know, the physical book is so highly evolved and so elegantly suited to its purpose that it's hard to improve on. It isn't like some other artifact, some other object. It's something very, very emotional and personal for people. But the book has a feature which I think is hard to notice, but it's the book's most important feature. And that is that it disappears."[7]

As Bezos notes, it is impossible to understand the Kindle's success outside of the wider context of book history. Ample scholarship exists in the field, but four core aspects influenced the ebook's development: *discrete characters and words*, *mass reproduction*, *paratext*, and *sociality*.[8] The invention of the alphabet as a set of discrete characters kick-started the book's development. The shift from *scriptio continua* (continuous writing) to spaces between words accelerated the process of abstraction in language, forming the discrete units of words, paragraphs, pages, and books.[9] This rigid codification of text as distinct from oral culture enhanced the prestige and authority of textual transmission. Gutenberg's introduction of movable type to Europe in the mid-fifteenth century solidified the book's importance by emphasizing mass reproduction. Print's perceived fidelity through perfect replication elevated the medium as the gold standard for knowledge exchange. The publishing industry therefore resisted the challenges faced by the perception of fluidity in digital publishing.

In the centuries after Gutenberg's breakthrough, the growing market for books developed conventions for tackling the overwhelming volume of text. Publishers created what Gérard Genette terms "paratext," including indexes, page numbers, and tables of contents to aid navigation.[10]

Print-based paratext took advantage of random-access features of the codex, a collection of bound pages, to allow readers to quickly navigate through the text. The ebook could not replicate this essential affordance, leading to experimentation with alternative navigation systems. *Sociality*, the final characteristic of the book, was part of a shift that the librarian and bibliographer David McKitterick describes as a transition from the "public word, mediated on stone, metal or paint on buildings," to "the privately mediated word."[11] Although readers engaged with words in a private space, the book remained a social object through marginalia, sharing, and substantial alterations of texts.[12] A sustainable ebook platform needed to engage with the long history of print to establish how digital reading was compatible with conventional models of consumption.

Because of this long evolution, the physical book endured as the "last bastion" of mass analog consumption despite several prophecies of the ebook's imminent arrival.[13] Television shows such as *Star Trek* primed consumers for the ebook's arrival. After the original series replicated the computational architecture of its time (large mainframes with whirring tape machines), *The Next Generation* envisioned speculative technology including the Holodeck and voice interfaces.[14] A place for linear reading still exists in the *Star Trek* universe, since crewmembers read on single-use hardware, called Personal Access Display Devices (PADDs), which resemble modern tablet computers.[15] PADDs are signifiers of busyness, with Captain Jean-Luc Picard's desk frequently seen scattered with the devices. A scene from a 1996 episode of *Deep Space Nine*, "Homefront," reveals the differences between *Star Trek*'s model of ebookness and the realities of ebooks in the mid-2000s. In the episode, Captain Ben Sisko carries an attaché case containing several PADDs to hand out for a meeting.[16] PADDs were depicted as single-use devices with no apparent mechanism for sharing content between them, a clear oversight when compared to the real-life e-readers that would come to market just two years later.

Beyond *Star Trek*, Michael Hart's Project Gutenberg was the most pervasive example of ebook culture before the Kindle. Hart aimed to create a digital "Library of Alexandria" from public domain texts. Project Gutenberg removed the text from its container. Slow internet connections made high-quality facsimile photographs impractical for transmission, so the project instead extracted the text rather than replicating the original book's format and layout. Progress was slow, however, as a small team digitized just ten titles between 1971 and 1989. Productivity increased with the uptake of the web in the early 1990s and the 2000 launch of Distributed Proofreaders, a tool designed to allow multiple users to proofread a text simultaneously. The project has digitized more than sixty thousand

titles since 1994. Project Gutenberg is widely regarded as the original ebook project, but this title cannot relate to the project's launch in 1971, as its first nine publications, including Lincoln's inaugural speeches and the US Constitution, are documents. Hart himself referred to the project as the "National Clearinghouse for Machine Readable Texts" in early correspondence, and the resulting digitizations are called "e-texts" rather than "ebooks."[17] Project Gutenberg released its first recognizable ebook with the monumental digitization of the King James Bible in 1989.[18]

Project Gutenberg's shift to ebooks corresponds with wider conversations about the digital future of the book at the beginning of the 1990s. The *Oxford English Dictionary* notes Robert Olsen's use of "ebook" in his speculative future of publishing in 1988, which included nonstarters such as coin-operated CD-ROM jukeboxes and optical-media warehousing. Olsen describes the ebook as "a small, hand-held, flat recording device able to replay text as a portable cassette player replays sound. Libraries who argue that mass storage devices could never replace the book may be wrong—you *can* cuddle up with the E-book."[19] Olsen also made some incorrect predictions, including the ability to record and replay text directly on an e-reader. The concept of the ebook remained fluid and experimental until the arrival of commercial devices in the late 1990s.

The prehistory of ebooks before Project Gutenberg's publication of the King James Bible in 1989 resists strict linear treatment, and we can identify no clear candidate for the "first" ebook. Advances in optical-media storage and playback during the early twentieth century led to conceptual *mechanical* books as precursors to the ebook. Bob Brown's Readies from 1929 and Vannevar Bush's Memex from 1945 predicted the emergence of digital reading platforms but offered substantial changes to the reading process.[20] Brown was inspired by the New York Stock Exchange's Trans-Lux movie ticker, a back-projected ticker tape launched in 1923 that "could project a block of eight lines of text."[21] He envisioned a portable device that used microfilm to replicate the ticker tape's motion to allow users to speed-read a text in linear order. Bush was more ambitious in viewing the potential for nonlinear traversal of a microfilm workspace using a modified desk. These visions of the future of reading emphasized the manipulability of print in a digital environment at the expense of simulating the book.

Alan Kay's vision of the Dynabook in 1968 more directly connects to the contemporary ebook reader.[22] Similar proposals appear in patent filings from the 1970s onward, although none of these projects resulted in a commercial product.[23] The US Army's collaboration with academics at the University of Colorado on the "Personal Electronic Aid for Maintenance"

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(PEAM) between 1982 and 1989 represents the earliest evidence of a physical ebook reader. PEAM was an attempt to create a portable device that used the nonlinear functions of the computer to improve the retention and speed of officers conducting maintenance work in the field. Hyperlinks allowed engineers to cross-reference unfamiliar processes at greater speed than traversing bulky print documentation. Contrary to research that digital readers retain less knowledge than with print, this early study concluded that nonlinear instructions were best followed using the prototype hardware.[24]

The first commercial "electronic book player," the Sony Data Discman, launched in 1990 and "sold 100,000 units in its first nine months at a list price of 58,000 yen (about $430)."[25] Other Japanese technology companies developed similar devices to capitalize on this trend, including the Fujitsu ViewArt and NEC Digital Book Player. The NEC device met with reasonable commercial success on its Japanese launch in 1994, but the ViewArt was never released.[26] These devices focused on the nonfiction reference market with encyclopedias, dictionaries, and travel guides, reflecting a common skepticism about the market for fiction ebooks.

The 1990s and early 2000s marked a sustained period of experimentation with ebook hardware in North America, coalescing in the launch of two devices that attempted to enter the fiction market. Softbook released its first hardware in 1998, and Franklin's eBookMan followed a year later. Franklin had a pedigree in digital publishing after pivoting from bootleg Apple computers to portable digital dictionaries in the late 1980s. Both companies struck deals with major publishers including Simon & Schuster and HarperCollins to distribute popular titles. This substantial investment ensured initial interest, but the technology was not sufficiently advanced. The devices were hampered by low-quality LCD screens and limited storage space. While conceptually mature, the technology required to make the ebook a success was not yet commercially viable.

Nonetheless, the early 2000s were a veritable gold rush for ebooks. In 2001 a joint report by the American Association of Publishers and Andersen Consulting valued ebooks at $2.3 billion by 2005.[27] Publishers conducted several high-profile business model experiments, including Stephen King's foray into ebooks in 2000 when Simon & Schuster sold his new novella *Riding the Bullet* exclusively as an ebook for $2.50. When the novella sold over 100,000 copies, King decided to reissue an earlier novel, *The Plant*, as a serialized ebook on an "honor fee" system. Users could download each chapter for free, but if 75 percent of users paid a voluntary charge of $1 for chapter 1, or $2 for subsequent chapters, King would continue to publish the material. King grossed over $600,000 from 150,000

users with the first chapter, but he stopped at chapter 6 after payment dipped below the threshold with chapter 4. King only posted the final two chapters because the material was already prepared.[28] The failed experiment with alternative economic models for ebook publishing served as a warning about the conservatism of ebook uptake. Amazon and other ebook platforms would reinforce the perceived ideals of print culture rather than attempt to challenge the conventions established over the preceding five hundred years.

The initial excitement of King's experiment encouraged Amazon to sell ebooks in the early 2000s. The "Ebooks and E-Doc" store featured ebooks available as Mobipocket and Microsoft Reader files. The store remained open until 2006, when the company was gearing up for the launch of the Kindle. Bezos argued that Amazon's previous attempt to sell ebooks was a failure: "We'd been selling e-books for a long time. Nobody has been buying e-books. So, very very small."[29] Amazon was happy to erase this footnote to emphasize the Kindle as a clean break from the previous stagnation.

The Kindle succeeded where previous attempts by Amazon and others had failed because the company understood the importance of developing infrastructure alongside hardware. As the book still evokes a stronger material nostalgia than other media—preference for analog film or audio is often framed as hipsterism, while it is normal to seek comfort from the materiality of print—ebook designers needed to "out-book the book," a task Bezos himself considered foolhardy, to encourage early adopters.[30] Gregg Zehr, the project manager for the Kindle 1's development, noted the challenges of creating a better ebook: "those business relationships, those technical connectivity issues, the wireless, the hardware, battery life issues, the software issue of on-store commerce or on-device commerce, straight from the device without any intermediary."[31] Anyone brave enough to develop an ebook platform was in an unenviable position of building a platform that improved on both books and digital media to create a distinctive sense of "ebookness."

Developing the Kindle

The Kindle was not Amazon's first encounter with ebook hardware, as the company had rejected an early offer to invest in NuvoMedia's Rocket eBook in 1997.[32] The company was instead acquired by Gemstar, an interactive television guide company, in 2000. Gemstar merged NuvoMedia with Softbook to create the RCA REB 1210, which sold 100,000 devices by March 2001.[33] Gemstar closed its ebook division in 2003, marking the

[6]

end of the first major wave of ebook hardware after Franklin stopped producing eBookMans in 2002.[34] By mid-2003, the initial hype in ebooks had dissipated as major retailers such as Barnes & Noble closed their ebook shops, believing the concept was not marketable.[35] The following three years marked a fallow period in ebook history while Amazon and Sony were secretly developing the next generation. Amazon analyzed the fallout of the early 2000s ebook bubble and worked to ensure that its platform had an appropriate catalog of ebooks and the hardware would correct the limitations of earlier devices.

While others were struggling to develop viable ebook platforms, Amazon quietly built infrastructure. The introduction of the "Look Inside the Book" feature in October 2001 represented the company's first step toward the Kindle.[36] Readers could use this feature to preview books they considered purchasing. "Look Inside" predates the launch of Google Books by three years and was publicly open a year before Google's "Project Ocean" began in earnest with a partnership between Google and the University of Michigan.[37] Although Amazon launched its service earlier, Google Books has historically been considered the landmark moment in book digitization owing to its vast and overreaching early ambition.[38] Amazon had a smarter strategy for digitization: Google Books aimed to enhance the company's search index instead of creating a broader public good, while Amazon marketed the benefits of "Look Inside" to publishers as the equivalent of flicking through a book in a brick-and-mortar shop. Google's relationship building with large academic libraries was less fruitful than Amazon's direct engagement with publishers, as it ensured the rights holders felt in control of their intellectual property. The approach worked and allowed Amazon to build the foundations for the Kindle, while Google Books remains caught up in litigation for over a decade.

The launch of "Search Inside the Book" in October 2003 marked a transition from using scanned material for marketing to extracting the text from the page. Gary Wolf proclaimed this shift toward accessible text as the "Great Library of Amazonia."[39] Before the launch of the Kindle, Amazon and publishers mutually benefited from the "Search Inside" as a marketing technique, replicating the ability to flick through a book in a physical bookstore. Pearson led the charge of publishers agreeing to "Search Inside" deals in 2006 just before the Kindle's launch.[40] The retailer incentivized participation by offering to digitize books, defraying costs for publishers who would need to convert the material for other purposes.[41]

As with many Amazon initiatives, the benefits of digitization extended beyond ensuring the Kindle had sufficient content. The company announced "Amazon Pages" in November 2005 as "a program that would

let consumers view parts of a book online on a pay-per-view basis." The project launched in May 2006 as the rebranded "Amazon Upgrade," a service that allowed readers to access full facsimiles of previously purchased print texts online for a small fee.[42] "Amazon Upgrade" covered over 100,000 titles, largely content from professional publishers who required high-fidelity facsimiles rather than reflowable text. Amazon discontinued the service in August 2016, when it was consolidated with Kindle Match-Book, the equivalent business model for purchasing discounted Kindle copies of print books bought through Amazon, launched in 2013.[43]

"Look Inside" and its derivatives including "Amazon Upgrade" provided the raw materials for the Kindle, but the company had to develop a wrapper for the text. The company revealed its intent with the acquisition of Mobipocket, an ebook platform, in 2005. Mobipocket had built a viable ebook format for the burgeoning Palm OS ecosystem, which had hit sales of ten million units by early 2001.[44] The Mobipocket bookstore listed 50,000 titles in early 2007, allowing Amazon to capitalize on previously digitized titles when boasting of its 88,000 ebook catalog.[45] Palm OS and other personal digital assistants (PDAs) filled the void left by the exit of e-reader hardware manufacturers in the early 2000s, and Mobipocket had developed the de facto reading system for Palm OS, while Microsoft invested significant resources into Microsoft Reader for Windows CE. Mobipocket had developed significant infrastructure and had a record of sales directly via Amazon. Bill Rosenblatt noted that Amazon's acquisition of Mobipocket "completes the realignment of the ebook industry," where the company replaced Adobe as an industry leader.[46] The acquisition of Mobipocket marked a transition between generations of the ebook after Gemstar's hardware failure and Barnes & Noble's high-profile exit from the market in 2003, after the end of the first ebook gold rush.[47]

Project Fiona

While "Look Inside" ensured Amazon had sufficient content for launch, hardware was more complicated. The Kindle would be Amazon's first hardware launch, so the company created a separate hardware division, Lab126 (code for Lab A–Z), in 2004, based in Palo Alto, at a distance from Amazon headquarters in Seattle. Lab126 was tasked with "Project Fiona," the ambitious project that coalesced into the Kindle. Fiona was named after the protagonist of Neal Stephenson's *The Diamond Age*. Bezos had long admired the author, and the code name references Stephenson's prescient vision of ebookness in the novel, describing "smart paper [as] a network of infinitesimal computers sandwiched between mediatrons. A

[8]

mediatron was a thing that could change its color from place to place."[48] The reference therefore signaled the grander aspirations of Lab126 to re-create Stephenson's vision of "smart paper." Traces of this early code name remain in Amazon's URLs in the help pages for the Kindle to pay homage to the novel's significance to the platform.[49]

Bezos solicited the headhunting of Gregg Zehr, then hardware developer for palmOne, to work on Fiona. Zehr was approached to "create a new electronic book reader for Amazon" that would "change the world."[50] Bezos believed that Amazon needed to design the Kindle "to look for things that ordinary books can't do."[51] At the same time, "it must project an aura of *bookishness*, it should be less of a whizzy gizmo than an austere vessel of culture."[52] Amazon was keen to market this ethos through its secretive undertakings at Lab126. A 2005 version of the subsidiary's website quotes the jazz musician Charles Mingus: "Making the simple complicated is commonplace; making the complicated simple, that's creativity."[53]

The Kindle 1's firmware (the core software shipped with the device) referred to the "Fiona computer platform" as the code name shifted from a hardware prototype to the temporary name for the underlying architecture.[54] Unlike the remnants of "Fiona" in Kindle-related URLs, references to the "Fiona computer platform" in the source code were phased out as Amazon transitioned from its experimental to mature hardware. The second-generation devices stored these files in a "Fiona Legacy" folder while the Kindle hardware engineers continued to mine *The Diamond Age* for code names. The Kindle 2 was named Turing, after a character in the novel named after the early computer scientist Alan Turing, and the DX was named after the novel's protagonist, Nell. The scope of code names expanded beyond Stephenson's novel with "Tequila" (Touch), "Bourbon" (Basic), and "Pinot" (Oasis).[55] Where the hardware received alcoholic names, the software referenced games culture: Lab126's version of Linux 2.6.22 was dubbed "Mario" for the Kindle 2. This was followed by the Kindle 3's "Luigi" platform.[56] These code names situate the Kindle as a device clearly tied to speculative visions of the future of reading while remaining connected to entertaining pursuits such as video games and alcohol.

The development of Kindle hardware remained a well-kept secret until September 2006, when *Engadget* published a leaked Federal Communications Commission document containing the hardware specifications.[57] The FCC approve any hardware emitting radio frequency, and Lab126 was required to disclose the Kindle's specifications to the FCC before launching the device.[58] The leak was accidental, since Amazon had filed nondisclosure agreements. The specification was quickly deleted once news sources began reporting on Amazon's entrance into the

reinvigorated ebook hardware market after Sony's announcement of the Librie in 2006. In the subsequent final FCC filing for the Kindle in March 2007, all mentions of "Kindle" and "Amazon" are redacted in the user manual.[59] Nonetheless, the leaks built a yearlong period of anticipation among ebook enthusiasts.

The external design of the first-generation Kindle was settled as early as 2005. Zehr's physical prototype of Fiona, which now resides in the Computer History Museum's *Raiders of the Lost Ark*–esque Milpitas warehouse, mirrors the final design's form.[60] Without the final external plastic casing, the asymmetry of the keyboard, navigation buttons, and overall form is emphasized. The final product showed only minor changes, except for the removal of a built-in reading light peripheral that was designed and mentioned in the FCC filings.[61] The wedge shape and asymmetric navigation design were both already present, although some of the final aesthetic flourishes were still being debated. Lab126 wanted to acknowledge the long influence and evolution of print culture on the ebook with engraved letters on the device's rear. Two prototypes from 2006 show the two final designs: one features exclusively cuneiform, the Sumerian writing system, arranged into a neat grid; the other features a waterfall-like arrangement starting with runes that slowly transform into the Latin alphabet.[62] The latter version was implemented in the final product and was used on

a)   b)
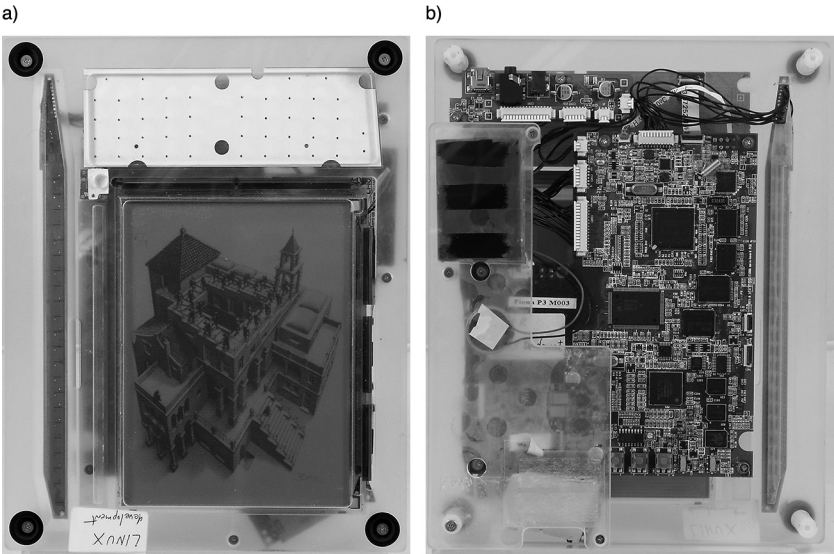
1.1 Fiona prototype unit housed at the Computer History Museum's Milpitas warehouse. © Computer History Museum.

[10]

the rubber rear cover and featured prominently in the Kindle 1's book-like box packaging.

While the hardware presented substantial design challenges, the rise of open-source software such as Linux afforded the Lab126 engineers the opportunity to adapt a preexisting operating system.[63] Linus Torvalds conceived of Linux in the early 1990s as a freely available and reusable version of the popular Unix operating system. Linux gained popularity, as it was designed to work with a variety of processors rather than remaining restricted to a single type of computer. As with other companies, Lab126 customized its version of Linux, derived from release 2.6.10, to remove superfluous hardware driver files and reduce the operating system's overall size by 45 percent to 110 megabytes decompressed, an important consideration when the device's overall storage space was limited to 256 megabytes.

Hardware choices were made on similarly pragmatic grounds. Lab126 chose ARM processors, which had a track record with Palm OS devices, iPods, and iPhones owing to their low power consumption for mobile uses. Since the Kindle depended on extending battery life, all hardware needed to be power efficient. Amazon settled on Gumstix as the low-power microcontroller, the main hardware interface between the processor and other chips, memory, and display. The choice would build on Gumstix's architecture for E Ink's displays rather than developing the interface between the architecture and operating system from scratch.[64] Other than reducing the overall size of the operating system by removing superfluous controller interfaces and introducing new power and display routines to suit the new technology, the Lab126 team made minimal changes to Linux 2.6.10 for the Kindle 1.

Delays marred the Kindle's launch. Some of the problems were logistical, as the shipping process for the electronic paper screens damaged the product because of atmospheric conditions during shipping.[65] Amazon was an unwitting bystander in takeovers and litigations that further delayed the device's production. Intel's announced exit from the mobile device processor market in June 2006 and sale of its XScale ARM series of processors, the Kindle's core architecture, to Marvell created a complex transitional period, causing delays in receiving the microprocessors.[66] The wireless modem, Qualcomm's AnyDATA, was also delayed after litigation by Broadcom threatened to stop the arrival of the modems in the United States.[67] Exacerbating these supply issues, Bezos encouraged Lab126 to constantly tinker with hardware specifications, which led to further delays in finalizing the device.[68] The early supply chain issues likely led to an understocking of the first-generation device, which sold out immediately

at launch and remained out of stock for months afterward, missing out on a lucrative holiday season.

Since launching the first-generation Kindle in the United States in 2007, Amazon has unveiled a new generation each year except 2008, after substantial interest in the first-generation device in the United States led to troubles meeting demand. The Kindle has developed in four distinct phases (figure 1.2). The first two generations represent the *experimental* phase, where Amazon explored the device's optimal design. For example, the Kindle 2 (2009) introduced a four-direction navigation pad after the Kindle 1 trialed a one-dimensional navigation bar. The Kindle 3 (2010) marked a move to the *mature* stage, as Lab126 refined the hardware to
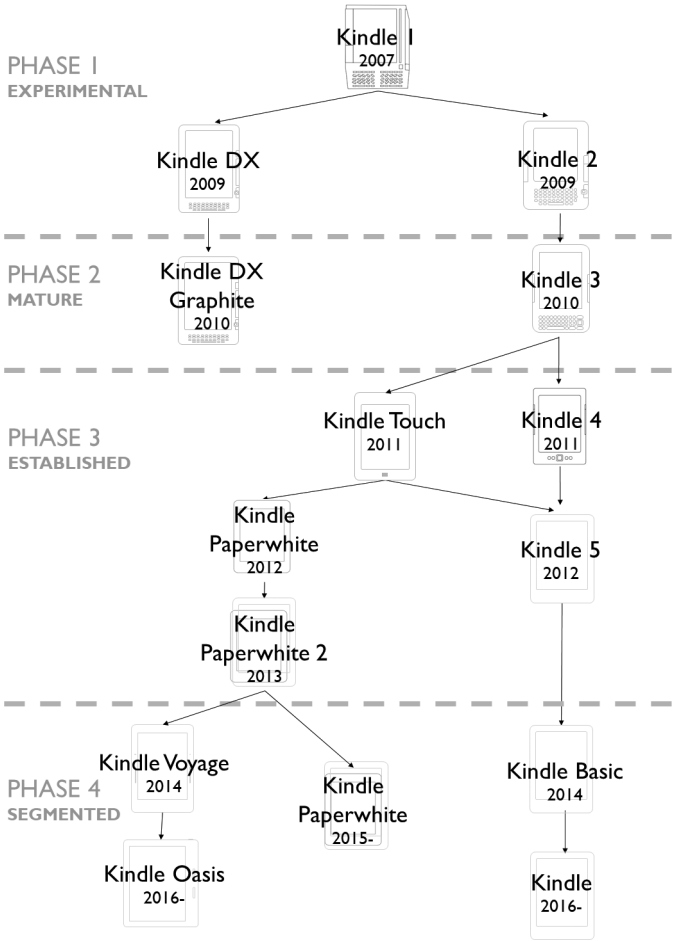
1.2 Kindle genealogy

[12]

mainstream acceptance. The third phase was the longest sustained period without major innovation after the introduction of Touch (2011) and Paperwhite (2012) as further enhancements of the original device and reflecting the dominant trends in touch interface design encouraged by the emergence of the iPad. The latest phase, *segmented*, was marked by the simultaneous launch of the Kindle Basic and Voyage in 2014 as Amazon sought to create a market for both budget and luxury ebook readers after the failed attempt to create a luxury ebook reader market with the Kindle DX (2009), which had initially been designed with a "fully quilted surface" to denote luxury.[69]

The Kindle 1 was never released outside the United States, but the Kindle 2 launched internationally in October 2009, eight months after its American debut, at an event during the Frankfurt Book Fair.[70] The launch was delayed by the complexity of negotiating roaming mobile data contracts across Europe, as well as Amazon's insistence on having a selection of 280,000 books at launch in the United Kingdom, its primary European market. Genevieve Kunst, Amazon's senior manager of digital media, addressed the Independent Publishers Guild UK conference in March 2009 to encourage independent publishers to digitize their back catalogs.[71] Six months later, Amazon's Kindle selection on launch day included books from many of the largest publishers, although Oxford University Press and Macmillan did not initially sign up. Random House abstained too because of an ongoing payment dispute with Amazon.[72] Similar struggles between large trade publishers and Amazon have been persistent during the Kindle's life span, but the international launch solidified the Kindle's dominance of the ebook market. E-readers, led by the Kindle, represented 25 percent of "reader device market share" in September 2009, second only to the desktop and printed PDFs with 42 percent share.[73]

The Kindle DX launched in April 2009, three months after the Kindle 2, to break into the Portable Document Format (PDF) market with a 9.7-inch screen, almost twice the size of other Kindle models.[74] The large screen allowed Amazon to target readers who wanted to keep the fidelity of PDFs, as well as readers who require larger font configurations. Rather than reflowing the page, the Kindle DX allowed users to view print media in facsimile. The device's marketing relied on PDFs rather than any of Amazon's proprietary ebook standards. Once native PDF reading was introduced on the DX, every subsequent hardware release featured the option. Specialized PDF e-readers have been a continuous desire for digital publishers, from EveryBook's collaboration with Adobe, EB Dedicated Reader, in the late 1990s to Sony's release of Digital Paper in 2014. The launch of the iPad took the market share instead.

Amazon designed the DX with higher education in mind, as the integration of a native electronic paper PDF reader at near US letter size would offer a clear advantage for reading journal articles and textbooks on-screen. Evan Schnittman, a vice president at Oxford University Press, claimed the DX was "a new holy grail" for electronic textbooks.[75] Bezos announced the device at Reed College as part of a pilot study into Kindle use in the classroom at seven universities, including Reed, Princeton, Washington, and Virginia.[76] The experiment failed, with the American Council of the Blind and National Federation of the Blind suing Amazon over a lack of accessible navigation controls.[77] The DX was not doomed to obscurity, however, as a second version, the Graphite, was launched in 2010, and the two models are among the most desirable collectibles for ebook enthusiasts because of their large screen size and PDF compatibility, with devices selling regularly for over $100 and up to $300.[78]

The Kindle 3, the beginning of the *mature* phase of Amazon's dedicated ebook readers, offered a significant overhaul of its design in response to the success of the iPhone in July 2009. The quirky elements of the original two generations were replaced with a straight QWERTY keyboard and symmetrical design. Amazon integrated well-received features from the DX, as the Kindle 3 introduced the ability to view PDFs and added voice-guided menus to address the accessibility concerns raised by the DX lawsuit. Having iterated on design, the Kindle 3 marked the moment where the subsequent generation stopped radically departing from the previous device.

Amazon's continual support for developing e-reading hardware was instrumental in establishing the viability of ebooks for publishers. After e-readers' brief period of dominance, hardware is no longer central to any ebook platform's business, as users are more likely to read ebooks on smartphones or multifunctional tablets, including the Amazon Fire, than on a dedicated device. The Kindle's rise mirrored the smartphone's ascent, fueled by the availability of wireless communication infrastructures and high-resolution screens that are more convenient to hold in transit than a book. Apple sold 1.3 billion iPhones between 2007 and 2017, creating a larger potential user base for ebooks than dedicated hardware, and Amazon would have been foolish to ignore the opportunity.[79] The company addressed four core challenges facing ebooks in designing the Kindle: (1) ensuring the platform included enough content to build a user base; (2) developing displays sophisticated enough for reading on-screen for a sustained period; (3) navigation; and (4) connectivity. The last three challenges marked the beginning of a new form of ebookness that extended the core principles developed throughout the history of

[14]

the book and ensured a usable and efficient hybrid between digital and physical reading systems.

Content

John Maxwell argues that ebooks replicate simplistic web pages, but "the e-book privileges *content* where the web privileges *connection*. In doing so, the e-book adheres to an industry-era scarcity model where content experiences are relatively few and must be acquired at some cost, whereas the web assumes sheer abundance."[80] While ebooks do not emphasize the connectivity associated with websites, standards such as HTML and CSS allow the reader to change the formatting to their preferences.[81] Ebook formats are designed to be robust and encompass a wide range of genres from biography to poetry. Amazon prioritized content over connectivity as a core element of ebookness.

Amazon's ambitions required extensive digitization. Book conversion lags behind other creative industries, including film and music, as text is more laborious to digitize, requiring several stages from taking photographs of pages to optical character recognition (OCR), a process where an algorithm determines what text appears on a scanned page, and manual correction of errors. Transcribing a book manually can be more cost-effective than automated processes. Due to text's perceived simplicity but technical complexity, Van der Weel states that "paradoxically, text is both the first and the last of the medial modes that is to go digital."[82] Amazon created Mechanical Turk (MTurk) in 2004 to accelerate digitization for "Search Inside the Book."[83] As a corollary, the automation process offered a safeguard to prevent users from uploading pornography on the Kindle.[84] MTurk allowed Amazon employees, and later third parties, to set small tasks for completion in exchange for a nominal payment. MTurk's name references an eighteenth-century chess-playing "automaton" that actually featured a secret cabinet hiding an excellent human chess player.[85] Bezos described Mechanical Turk as the "guts of Amazon" alongside Amazon Web Services and framed the project as "artificial artificial intelligence" and "humans-as-a-service" for exploiting cheap labor to undertake menial tasks that one would assume that computation could easily automate, such as correcting scanned texts.[86]

Mechanical Turk continued Amazon's reliance on user-generated content that started when its professional editorial staff was replaced by an influx of volunteer-contributed reviews. Amazon's business strategy depends on commodifying humans both as contingent labor for its warehouses, delivery network, and small-scale tasks and as data points

of consumption. Jeremy Antley describes our relationship to these platforms as "data serfdom," where users produce value for the data lords with little return.[87] Amazon's approach through MTurk is conspicuous owing to its framing. Lilly Irani argues that the service, and Amazon more broadly, rationalizes the contingent labor and data serfdom by "rendering it manageable through computing code."[88] The dehumanizing rhetoric of the exotic "Turk" (a name Bezos approved despite the negative connotations, noting that "he personally would bear the responsibility for any backlash")[89] and framing humans as "services" and "artificial intelligence" are emblematic of Amazon's attempts to mask the company's reliance on manual human labor. Other than Amazon Logistics, the company's delivery service, the vast labor force of over a half million workers is hidden from sight, with an emphasis instead on automated grocery shopping, drone delivery, and "artificial artificial intelligence."

Display and Navigation

Electronic paper was a significant factor separating the Kindle and Sony's 2004 launch of the Librie from earlier e-reading hardware.[90] Futurists had long predicted "smart" paper that replicated the dynamism of digital displays while maintaining the flexible materiality of print, but the technology's history starts in the 1930s with innovations in photocopying. Chester Carlson's invention of "xerography," or "dry writing," in 1938 not only led to Xerox's dominance of the photocopying industry but also created the "direct positive-to-positive operation" technology behind electronic paper.[91] Serious work to translate the principles of xerography to display technology began in the early 1970s, when researchers at both Xerox PARC in Silicon Valley and Matsushita in Japan developed electronic paper screens.[92] Neither research group was focusing on developing the technology for digital book publishing, as Nick Sheridon aimed to create Gyricon as a display screen for desktops coming from Xerox PARC, while Matsushita was interested in using the display for clocks. By 1997, "electric paper" reemerged as one of the top priorities for Xerox PARC to rebrand as the "Digital Document Company."[93]

Sheridon's vision was realized in the late 1990s, when the MIT undergraduates J. D. Albert and Barrett Comiskey, along with their professor Joseph Jacobson and investors Jerome Rubin and Russ Wilcox, founded E Ink. The team positioned itself as a disruptive force within publishing. An early profile in *Wired* highlighted the company's desire "to replace ink as we know it."[94] The start-up entered into an exclusive partnership with the Dutch company Philips Electronics in 2001 to create "radio paper"

(the combination of electronic paper with wireless connectivity), with ambitions to launch in 2005.[95] When the device failed to materialize, Prime View International (PVI), a Taiwanese company, purchased the license from Philips in 2005, before acquiring E Ink in 2009.[96] Once Philips canceled its exclusivity contract with E Ink, companies were able to build on technology that had not yet fulfilled its potential.

The Kindle 1 used E Ink's electrophoretic display (EPD), the cutting edge of electronic paper technology by the mid-2000s. The screen renders text and graphics using "positively charged black particles and negatively charged white particles."[97] Electrode layers placed on either side of the electronic paper capsules foreground a ratio of black or white particles according to the shade of gray required. Figure 1.3 visualizes how six pixels are rendered through the electrode layers. Grayscale is more viable than full-color display, which requires an assembly of capsules in red, green, and blue.

Electronic paper extends battery life. Once a page is rendered on the screen, the text can be displayed indefinitely without requiring further power until a page turn alters the signals from the electrode layers. Additionally, the technology did not require back lighting, producing a more natural reading experience. The technology does involve some trade-offs: electronic paper can display static grayscale images, but colors and the refresh rate required for videos remain beyond the capabilities of electronic paper. Nonetheless, electronic paper is reliable for static images and remains the preference for a niche group of readers who continue to use e-readers. E Ink has improved its screen technologies significantly since 2007. The first update came with the arrival of the Kindle DX, which used E Ink "Pearl," reducing the image update time of text by 50 percent and images by 40 percent.[98] The Oasis, Amazon's flagship e-reader in 2017, used E Ink's updated Carta screens, which refreshed the image on
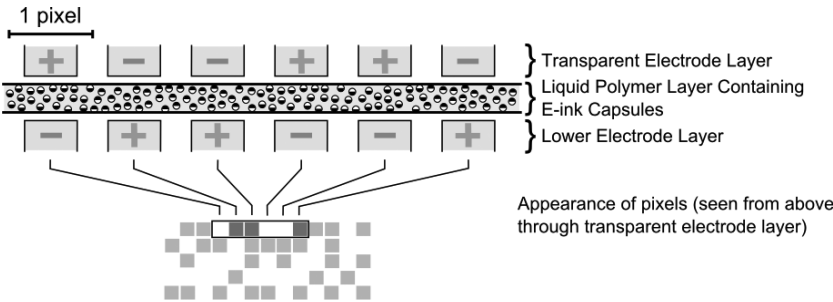
1.3 Electrophoretic display. Source: Run!, "File:E-Ink.Svg," Wikipedia, 2006, https://en.wikipedia.org/wiki/File:E-ink.svg.

a screen in 75 percent of the time of the previous generation, creating a smoother reading experience. E Ink Carta also increased the fidelity of images and text rendering to 300 pixels per inch (PPI), a measure for how visible individual pixels are on a display. This pixel density offered the equivalent of the first generation of Apple's Retina technology, which was marketed as the pixel density exceeding the input capacity of the human eye.[99] This clearly lagged behind the vanguard of mobile screens and came with a premium price, which has led to stasis in one of the most visibly important technologies in the Kindle's stack.

Amazon needed to adapt the Linux libraries for the Kindle to ensure that users could use the hardware's limited audiovisual capabilities through Advanced Linux Sound Architecture (ALSA) and the libraries for JPEG and PNG image formats. Audio and still images were peripheral to the first-generation device but enabled Amazon to offer an "experimental" MP3 player, and publishers could embed images at a low resolution and use up to four shades of gray for images. Despite its continual reliance on electronic paper, the dedicated Kindle e-reader has yet to be commercially viable with more than sixteen shades of gray. The introduction of E Ink Pearl with the Kindle DX upgraded the color palette to sixteen shades of gray, allowing more complex images to appear on the device. As an illustration, we can compare a screen saver image of Jules Verne, author of *Journey to the Center of the Earth*, that appeared on both the Kindle 1 and DX (figure 1.4). The limited palette of the original Kindle required optimization to be effective, an additional cost for publishers. The necessity to display PDFs on the DX required higher fidelity.

Electrophoretic displays remain the most common commercial electronic paper technologies despite continual investment in developing alternate technologies such as "electrowetting," a full-color, flexible "video-speed" form of electronic paper.[100] Amazon invested heavily in the technology and filed over 250 patents containing the keyword "electrowetting," but no commercial product has included the new displays. Companies have also attempted to introduce full color to electrophoretic displays, with E Ink's research and development team demonstrating a prototype in 2016.[101] A paradigm shift to full-color electronic paper will revitalize the e-reader market by offering more direct competition with tablets. The closure of Liquavista, Amazon's electrowetting display spin-off, in early 2018 painted a bleak picture for the future of the display technology.

To overcome the limitations of electronic paper during the production of the first Kindle, Lab126 engineers incorporated a narrow second
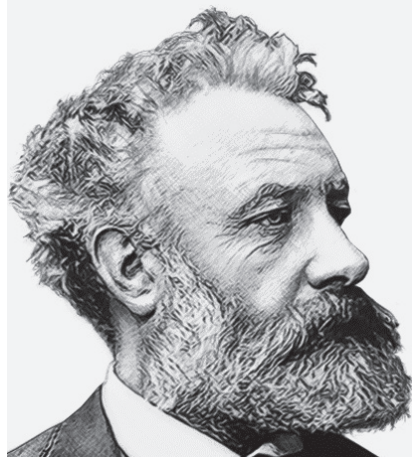
1.4 Comparison of E Ink displays of Jules Verne screen savers. Left: Kindle 1, four shades of gray. Right: Kindle DX, sixteen shades of gray.

screen using a polymer network liquid crystal display (PNLCD), a display technology similar to electronic paper that was not backlit and limited battery consumption to counter the slow refresh rate of the electronic paper (annotation 108 on figure 1.5).[102] The strip updates more quickly than the electronic paper to create a navigation aid so that users knew which line or menu option was selected without refreshing the primary screen. Lab126 hard coded the strip to feature a maximum of two hundred lines, restricting the total number of lines viewable on the Kindle at one time.[103] The navigation bar required constant battery power and thus did not persist once the user switched the display to standby.

While the PNLCD was the final compromise, the Lab126 engineers also investigated the potential of configurable keyboards where touch screen sensors were placed under a second electronic paper screen that could refresh different configurations according to the user's current navigation needs (figure 1.6).[104] Once the reader has opened an ebook, the keyboard is wasted screen real estate, when navigation is paramount. This option would offer more customization but would not solve the problem of finding one's position on the primary screen. The idea would eventually be implemented with the arrival of the Kindle Touch.

Electronic paper offered new opportunities for screen savers. Earlier implementations of screen savers for cathode-ray tube (CRT)
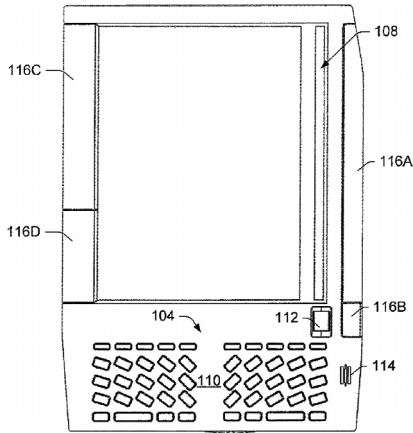
1.5 Navigation features for the Kindle 1 (adopted from patent). Gregg Zehr and Symon J. Whitehorn, Handheld electronic book reader device having dual displays, US Patent 8,950,682 filed March 29, 2006, and issued July 6, 2010, figure 1.
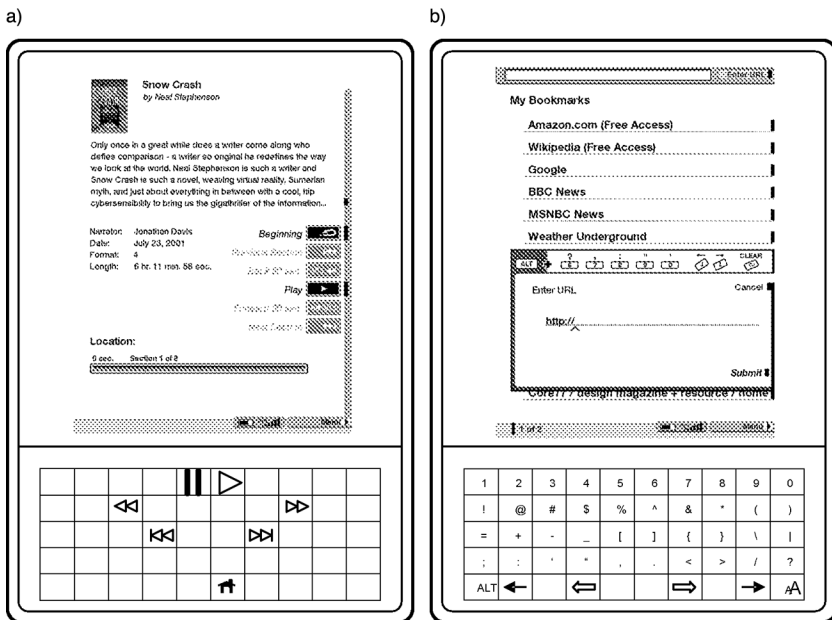
1.6 Configurable keyboards (adapted from patent). Source: Johnston and Zehr, Configurable keypad for an electronic device.

[20]

monitors were designed to avoid screen burn-in, where a static image would imprint a ghostlike permanent image on the display. Conversely, electronic paper is optimized for static use, albeit with the chance for ghosting if a hard screen refresh is not implemented periodically. Screen savers were instead developed for the Kindle to use the bistable properties of the screen: if the screen only draws power when the screen is refreshed, it is possible to display a static image indefinitely when the user turns off the device. The first-generation Kindle featured inspirational screenshots of prominent literary authors including Jane Austen and landmark text technologies including the Lindisfarne Gospels and Charles Babbage's difference engine. Amazon also used the screen saver to request feedback, pairing an image of George Grant's calculating machine with an email address soliciting feedback.

Navigation

The Kindle design team focused on emulating the conditions of print rather than creating something that pushed the limits of books. The Kindle was not too dissimilar from conceptions of the book-as-object: "The Pentagram designers [brought in by Amazon initially for external advice] began by studying the actual physics of reading—the physical aspects of the pastime, such as how readers turn pages and hold books in their hands."[105] The Lab126 team noted several significant properties of print required for ebooks: "It never becomes hot and is designed for ambidextrous use so both 'lefties' and 'righties' can read comfortably at any angle for long periods of time."[106] This lofty ideal was only half realized in the final design with book navigation buttons on both sides of the screen, albeit with a larger "next" button on the right-hand side, designed for the "righties."

Early ebook readers' designs reflect their awkward mix of book-as-object and the desktop computing paradigm, using wedges (e.g., Kindle 1, Rocket eBook) and two-page spreads (e.g., Sony Data Discman), accompanied by QWERTY keyboards, simultaneously upholding and challenging the historical design of books. The hardware keyboard on Kindle devices until 2011 was inspired by the dominant aesthetic of the BlackBerry in the mobile imagination before the launch of the iPhone. Bezos briefed the Kindle designers "to join my BlackBerry and my book."[107]

Ebook hardware launched since the release of the iPad in 2010 dedicates a large surface proportion to the screen with a minimalist interface, mimicking a tablet rather than a book. The appearance of ebook hardware

has become homogeneous to reflect the popularity of tablets since 2010. Apple's introduction of both the iPhone and the iPad emphasized the screen over more diverse hardware interfaces. In following this trend, ebook reader design has shifted from modeling the book-as-object to a flat representation of a page.

Despite following trends in mobile hardware design, ebook reading software is unique among software packages dedicated to presenting text. Ebook software emphasizes reflowability—the concept that text does not have to be fixed to the size of the page but can be changed to fit the reader's preferences and exact screen size—and presentational aspects, beyond typographic formatting, are largely left to the software to interpret.[108] Reflowable text mitigated the problems of zooming and scrolling that burden formats such as PDF, which attempt to re-create the fidelity of a printed page on-screen. The Kindle's early hardware constraints continue to inform contemporary ebook design, where text should be optimized for reflowability with minimal consideration for tables or images. These requirements made ebooks with rigid formatting demands difficult to render on the screen, as reflowability prioritizes text over other elements. For example, word search ebooks and other language puzzle titles can feature errant line breaks if the reader chooses a larger font size than the author's default setup.

The ebook is defined by its relationship to print, particularly as a simulation of the book trade and print culture. For example, page numbers are an invaluable tool for academic citation practices, but the principle converts poorly in reading systems that allow users to alter the unit of the page on the screen. While Amazon has attempted to replicate page numbers through various algorithms including "Real Page Numbers," the introduction of a proprietary "location" mechanism introduced persistent identifiers across the Kindle, even if this does not translate to other ebook platforms. "Locations" are determined by a simple calculation:

$$\frac{\text{Compressed file size in bytes (excluding images)}}{150} + 1$$

The average ebook is divided into 4,000 to 8,000 locations. This allows for technical precision without becoming unwieldy outside of lengthy, text-heavy books such as dictionaries. Locations therefore strike the balance between percentages and byte-level references.[109] This is not entirely transparent, however, as the calculation includes markup and therefore cannot be rendered on a one-to-one basis with the contents visible to the reader's eye. Nonetheless, locations offer a compromise

between the well-understood unit of the page and the lack of universal location standards in digital objects.

Amazon has constantly struggled with navigational structures beyond turning a single page. An early patent reveals that the company wanted to include a "tactile member" that allowed users to apply pressure and scroll rapidly through the text, akin to rapidly flicking through a book (figure 1.7).[110] Lab126 included the tactile member to mitigate the larger-scale navigation otherwise lost in the more straightforward single-unit-forward-or-back navigation system. The table of contents was the dominant midlevel navigational paradigm until the introduction of Page Flip in 2016, which attempted to rectify the lack of macro-level navigation through a "bird's-eye" view of the book.[111] The mechanism relies on a grid structure with the software interface rather than introducing a hardware solution.
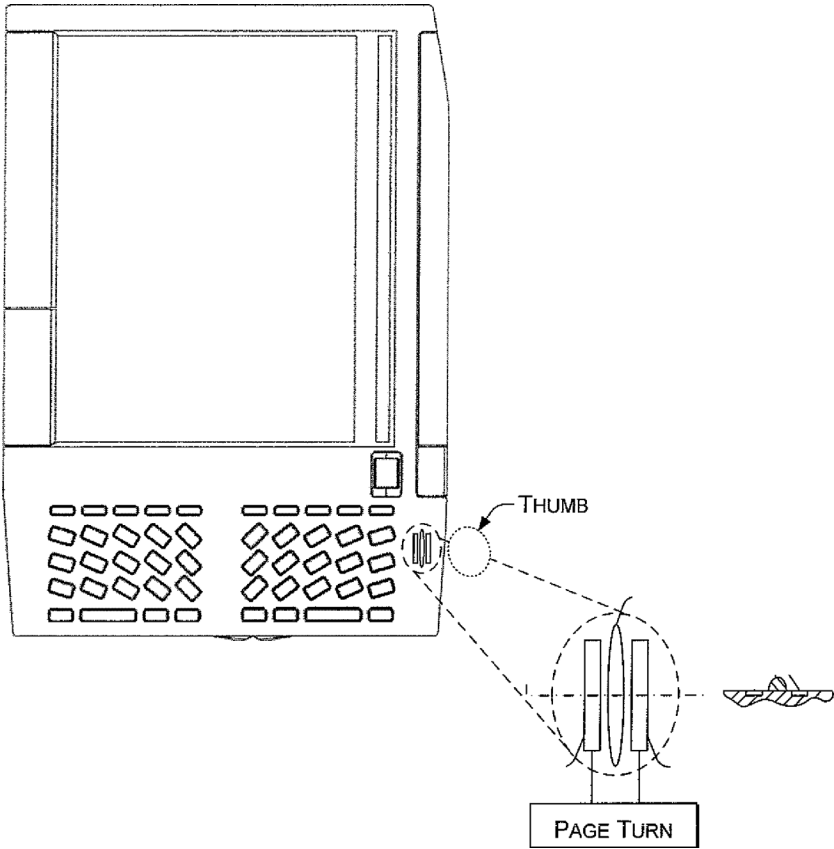
1.7 Detail of the "tactile member" as a page-turning mechanism (adapted from patent)

Connectivity

Amazon's service infrastructure was built around its Evolution-Data Optimized (EV-DO) network, Whispernet. The company partnered with Sprint to offer free data when accessing the Kindle ebook store, paying only for the content. Amazon absorbed the data fees into the cost of the device, as it defrayed the costs associated with subscription, something Bezos was keen to note when critics raised concerns about the high initial price.[112] His strategy revolved around these affordances to entice readers who would otherwise be hesitant to move away from physical books. The product page for the first-generation Kindle boasted: "System requirements: None, because it doesn't require a computer."[113]

Users would need to wait until the release of the Kindle 2 for Wi-Fi. This was the converse of the model established by Apple, where a Wi-Fi-only model was cheaper than the mobile data model, but the strategy allowed geo-blocking, as Amazon could determine exactly where its devices functioned. Users without access would need to use the USB transfer. The Wi-Fi-only model allowed users to choose their access options, skipping the subsidized contract with Sprint. Users who still have working first-generation devices have continued to enjoy the subscription-free service more than a decade after launch. Kindle 1 users still receive sporadic firmware updates. For example, when the company upgraded its Transport Layer Security (TLS) certificates from version 1.0 to 1.2 in March 2016, it pushed an update for the Kindle 1 firmware containing the new certificates, ensuring that users could still access the Kindle Store and third-party websites rather than denying support for the nine-year-old devices.[114]

The release of the Kindle DX and expansion into international markets presented fresh challenges for offering an internationally consistent mobile data network. Amazon upgraded the modem from EVDO to High Speed Packet Access (HSPDA) to offer faster speeds and functionality outside North America.[115] This increased access to over one hundred countries, far exceeding the number of regions where one can purchase a Kindle or natively access Amazon's services, so users could download ebooks while traveling outside their home region.[116] Access was treated equally across countries: a reader with a North American Kindle could use roaming data in all countries with contracts. The company's marketing emphasized the international reach of the Kindle 2's roaming data as "now with global wireless."[117] The move allowed Amazon to offer one of the strongest challenges to print's perceived supremacy, as users could now purchase books on holiday rather than having to plan in advance if traveling to markets with limited access to books in their native language.

[24]

Ebookness

Amazon's careful consideration and integration of the various levels of the ebook platform led to its success where other companies had previously failed. Shifting focus from product to service was instrumental in developing a mature ebook platform. Amazon developed a complex infrastructure in the decade preceding the Kindle's launch, easing the transition to the Kindle's services. Given Amazon's large market advantage, Bezos, Zehr, and Lab126's vision of ebookness is now emblematic of ebook culture. The connection between Amazon and ebooks has at times hindered the acceptance of the medium because of the perceived injustices inflicted by the company on the book trade, but Amazon's core strength lay in envisioning how contemporary developments in technology could be paired with some of the most accessible and useful elements from previous attempts at developing an ebook platform.

Computers, and by extension software, simulate other media environments, such as the book.[118] Ebook reading software designed for operating systems beyond the dedicated hardware are built on the restrictions of e-readers. For example, users of the Kindle for Mac engage with a second-generation simulation of the book that is bound by the rules of both the book and ebook hardware. "Ebookness" emerges from how Amazon has reshaped four principles of print culture: *discrete characters and words*, *mass reproduction*, *paratext*, and *sociality*. By prioritizing the reflowability of discrete characters at the expense of the unity of the printed page, the Kindle team developed a reading experience that could compete with print. Mass reproduction was expanded to include mass distribution made possible by Whispersync. Amazon constantly experimented with the final two elements to ensure the optimal reading experience, offering something supplementary to reading print. While popular narratives have framed a great struggle between print and digital modes of consumption, the two media complement each other, and Amazon's business interests depend on the success of both. As the company has maintained its position as the largest ebook platform, its vision of ebookness has become dominant, for better or worse, and an understanding of these developments must consider the complexities of Amazon's relationship with the book trade.

Bibliography

Kindle Ebooks

Albanese, Andrew Richard (2013). *The Battle of $9.99: How Apple, Amazon, and the Big Six Publishers Changed the E-book Business Overnight* [Kindle for PC 1.21.0]. KFX. B00DH8JCOC. PWxyz. Loc. 981.

Austen, Jane (2010). *Pride and Prejudice* [Kindle for Mac 1.20.2]. AZW. B000JMLFLW. Public Domain Books. Loc. 4584.

Collins, Suzanne (2012). *The Hunger Games* [Kindle for Mac 1.20.2]. AZW. B0083JCCX8. Scholastic & Quadrum. Loc. 4501.

Dorst, Doug, and J. J. Abrams (2014). *S.* [Kindle for Mac 1.20.2]. AZW. B00G99SIO6. Canongate. Loc. 518.

Goldacre, Ben (2013). *Bad Science* [Kindle for Android 8.0.0.68]. AZW3. B002RI9ORI. HarperCollins. Version 2013-09-03. Loc. 5474.

Franzen, Jonathan (2011). *The Corrections* [Kindle for Mac 1.20.2]. AZW. B0043VDEE6. Fourth Estate. Version 2016-02-17. Loc. 10612.

Grahame-Smith, Seth, and Jane Austen (2009). *Pride and Prejudice and Zombies* [Kindle for Mac 1.20.2]. AZW. B004HW7E6U. Quirk Books. Version v3.1r1. Loc. 3681.

Isaacson, Walter (2011). *Steve Jobs: The Exclusive Biography* [Kindle for iPad 4.10]. AZW3. B005J3IEZQ. Little, Brown Book Group. Loc. 12321.

Isaacson, Walter. (2011). *Steve Jobs: The Exclusive Biography* [Kindle Touch 5.3.7.3]. AZW3. B005J3IEZQ. Little, Brown Book Group. Loc. 12321.

Lenart, K. (2010). *Simple Word Find—Sports Edition* [Kindle for Mac 1.20.2]. AZW. B004EEPOYK. K. Lenart and Advanced Design Professions. Loc. 214.

Milton, John (2011). *Paradise Lost* [Kindle for Mac 1.12.24]. AZW. B004UJSYO6. Amazon Media EU S.à r.l. 4609.

Oxford Dictionaries (2008). *New Oxford American Dictionary* [Kindle for Android 7.11.0.115]. AZW3. B003ODIZL6. Oxford University Press. Loc. 683493.

Rowling, J. K. (2015). *Harry Potter and the Philosopher's Stone* [Kindle for Mac 1.20.2]. AZW. B019PIOJYU. Pottermore. Loc. 3912.

Sewell, Anna, and Jose Emorca Flores (2017). *Black Beauty (Kindle in Motion Edition)* [Kindle for iPhone 6.3.1]. KFX. B01N6QRN08. Two Lions. Loc. 2595.

Sloan, Robin (2012). *Mr. Penumbra's 24-Hour Bookstore, a Novel* [Kindle Cloud Reader 011201999]. B00A25NLOU. Farrar, Straus and Giroux. Loc. 4158.

Stephenson, Neal (1998). *The Diamond Age* [Kindle Cloud Reader 011201999]. B002RI9DQ0. Penguin Random House. Loc. 8301.

Stoker, Bram (2012). *Dracula* [Kindle for iPhone 6.3.1]. AZK. B0084B5TK8. Amazon Media EU S.à r.l. Loc. 5741.

Tartt, Donna (2013). *The Goldfinch* [Kindle for Android 7.11.0.115]. AZW3. B00C74SHRK. Little, Brown. Loc. 13582.

Достоевский, Федор Михайлович (2014). *Преступление и наказание (Russian Edition)* [Kindle Touch 5.3.7.3]. AZW3. B00KHRXSMI. Общественное достояние. Loc. 13971.

Secondary Sources

Abandoned Bookshop. "About," 2017. https://www.abandonedbookshop.com/about/.

Abbate, Janet. *Inventing the Internet*. Cambridge, MA: MIT Press, 2000.

"Acorn." "DIY Kindle Voice Control (Simulating Key Presses)—MobileRead Forums." MobileRead Forums, 2011. https://www.mobileread.com/forums/showthread.php?t=118480.

Adams, Caryn J. "Random House v. Rosetta Books." *Berkeley Technology Law Journal* 17, no. 1 (2002): 29–46.

Adams, Thomas R., and Nicolas Barker. "A New Model for the Study of the Book." In *A Potencie of Life: Books in Society*, edited by Nicolas Barker, 5–43. London: British Library, 2001.

Aegitas. "Aegitas Digital Publishing." Aegitas Digital Publishing, 2017. https://www.aegitas.com.

AFNIL. "AFNIL," 2017. http://www.afnil.org/.

Allen School. "Carlos Guestrin and Emily Fox Join the University of Washington." *Allen School News* (blog), April 27, 2012. https://news.cs.washington.edu/2012/04/27/carlos-guestrin-and-emily-fox-join-the-university-of-washington/.

Allington, Daniel. "'Power to the Reader' or 'Degradation of Literary Taste'? Professional Critics and Amazon Customers as Reviewers of *The Inheritance of Loss*." *Language and Literature* 25, no. 3 (2016): 254–278.

Alsever, Jennifer. "The Kindle Effect." *Fortune*, December 30, 2016. http://fortune.com/2016/12/30/amazon-kindle-digital-self-publishing/.

Altice, Nathan. *I AM ERROR: The Nintendo Family Computer / Entertainment System Platform*. Cambridge, MA: MIT Press, 2015.

Amazon Web Services. "AWS Programs for Research and Education," 2017. http://aws.amazon.com/grants/.

Amazon.com Inc. "2006 Annual Report." Seattle: Amazon.com, 2007. http://media.corporate-ir.net/media_files/irol/97/97664/2006AnnualReport.pdf.

Amazon.com Inc. "2019 Annual Report." Seattle: Amazon.com, 2020. https://s2.q4cdn.com/299287126/files/doc_financials/2020/ar/2019-Annual-Report.pdf.

Amazon.com Inc. "About Amazon—Our Innovations—Fulfillment by Amazon." Accessed June 29, 2017. https://www.amazon.com/p/feature/pxekbkm47y7c9fd.

Amazon.com Inc. "About Your Kindle [2006 Version for FCC]," 2006. https://apps.fcc
.gov/eas/GetApplicationAttachment.html?id=862803.

Amazon.com Inc. "All-New Kindle Oasis." Amazon.com, October 12, 2017. http://web
.archive.org/web/20171012113732/https://www.amazon.com/dp/B06XD5YCKX.

Amazon.com Inc. "Amazon Announces Kindle Development Kit—Software Devel-
opers Can Now Build Active Content for Kindle." Amazon Press Room, 2010.
https://press.aboutamazon.com/news-releases/news-release-details/amazon
-announces-kindle-development-kit-software-developers-can.

Amazon.com Inc. "Amazon Books," 2017. https://www.amazon.com/b?ie=UTF8&
node=13270229011.

Amazon.com Inc. "Amazon Catalyst," 2017. https://catalyst.amazon.com/.

Amazon.com Inc. "Amazon Fiona Reading Light [X7198.2014]." Computer History
Museum, 2006. http://www.computerhistory.org/collections/catalog/102747856.

Amazon.com Inc. "Amazon Fiona Rear Cover [102747848]." Computer History Museum,
2006. http://www.computerhistory.org/collections/catalog/102747848.

Amazon.com Inc. "Amazon Fiona Rear Cover [102747850]." Computer History Museum,
2006. http://www.computerhistory.org/collections/catalog/102747850.

Amazon.com Inc. "Amazon Go," 2016. https://www.amazon.com/b?ie=UTF8&node
=16008589011.

Amazon.com Inc. "Amazon Ion." GitHub, 2017. https://amzn.github.io/ion-docs/index
.html.

Amazon.com Inc. "Amazon Kindle 3G Coverage," 2017. http://web.archive.org/web
/20190326131601/http://cliento.cellmaps.com/viewer.html?view=intl&cov=3.

Amazon.com Inc. "Amazon Kindle Lite—2MB. Read Millions of EBooks." Android Apps
on Google Play, November 8, 2017. http://web.archive.org/web/20171108124044
/https://play.google.com/store/apps/details?id=com.amazon.klite.

Amazon.com Inc. "Amazon Kindle Project Fiona Prototype Unit [X7198.2014]." Com-
puter History Museum, 2005. http://www.computerhistory.org/collections/catalog
/102747839.

Amazon.com Inc. "Amazon Prime Air." Amazon.com, 2013. http://www.amazon.com
/b?node=8037720011.

Amazon.com Inc. "Amazon Shorts." Amazon.com Message, December 7, 2006.
http://web.archive.org/web/20061207162318/http://www.amazon.com:80/exec
/obidos/tg/feature/-/570212/.

Amazon.com Inc. "Amazon Upgrade." Amazon Device Support, 2016. https://www
.amazon.com/gp/help/customer/display.html?ie=UTF8&nodeId=110744011.

Amazon.com Inc. "Amazon.com Invites Music Lovers to Help Build the Ultimate
Music Store." Amazon Press Room, April 23, 1998. https://press.aboutamazon
.com/news-releases/news-release-details/amazoncom-invites-music-lovers
-help-build-ultimate-music-store.

Amazon.com Inc. "Amazon.com Launches Three Innovations to Advance E-Commerce
for Shoppers, Sellers." Amazon Press Room, September 30, 1999. https://press
.aboutamazon.com/news-releases/news-release-details/amazoncom-launches
-three-innovations-advance-e-commerce-shoppers.

Amazon.com Inc. "Announcement: This Amazon Forum Is Retiring October 13, 2017."
Kindle Forum, 2017. http://web.archive.org/web/20171004091808/https://
www.amazon.com/forum/kindle/ref=cdForum=Fx1D7SY3BVSESG&cdThread
=Tx13YCUTDID1DJD.

Amazon.com Inc. "Annual Report 2017," 2018. http://web.archive.org/web/20210
623092704/https://s2.q4cdn.com/299287126/files/doc_financials/annual
/Amazon_AR.PDF.

Amazon.com Inc. "@author." Amazon.com, September 25, 2011. http://web.archive
.org/web/20110925001802/http://www.amazon.com:80/gp/feature.html?ie
=UTF8&docId=1000714331.

Amazon.com Inc. "Bone Music." Kindle Store, 2018. http://web.archive.org/web
/20180206133911/https://www.amazon.co.uk/gp/product/B07354S1K7/.

Amazon.com Inc. "Catan: USM." Kindle Store, 2012. http://web.archive.org/web
/20171013122311/https://www.amazon.com/Catan/dp/B007JV4WGQ/?tag=ter
rania-20.

Amazon.com Inc. "Clancy on Kindle." Amazon Kindle's Blog, 2009. http://web
.archive.org/web/20090217191756/http://www.amazon.com/gp/blog/A1F8Z
0JAEIDVRY/.

Amazon.com Inc. "Critical Software Update for Kindle E-Readers." Amazon.com
Help, 2016. http://www.amazon.com/gp/help/customer/display.html?nodeId
=201994710&tag=mr060-20.

Amazon.com Inc. "Fiction—Most Read—Week of May 14, 2017." Amazon Charts, 2017.
https://www.amazon.com/charts/2017-05-14/mostread/fiction?ref=chrt_bk_rd
_fc_sh_lp.

Amazon.com Inc. "Form 10-K," 1998. http://media.corporate-ir.net/media_files/irol
/97/97664/reports/123197_10k.pdf.

Amazon.com Inc. "Form 10-K," 1999. http://web.archive.org/web/20210623093958
/https://d18rnop25nwr6d.cloudfront.net/CIK-0001018724/07ab23e8-be7f
-44ba-9765-44979c4516a1.pdf.

Amazon.com Inc. "Form 10-K," 2019. http://web.archive.org/web/20210105150403
/http://d18rnop25nwr6d.cloudfront.net/CIK-0001018724/bed19367-fa6b-41ff
-a973-df19510b0bba.pdf.

Amazon.com Inc. "Form 10-Q: Q2 2020," June 2020. http://d18rnop25nwr6d.cloud
front.net/CIK-0001018724/a77b5839-99b8-4851-8f37-0b012f9292b9.pdf.

Amazon.com Inc. "Good Night Stories for Rebel Girls Kindle Edition." Amazon.co.uk,
2017. https://www.amazon.co.uk/dp/B01MZ9ARCZ/.

Amazon.com Inc. "How to Make Books Available for the Kindle Platform. Version
2018.2." Amazon Kindle Publishing Guidelines, 2018. http://kindlegen.s3.ama
zonaws.com/AmazonKindlePublishingGuidelines.pdf.

Amazon.com Inc. "Ian Bogost Newsgames." Amazon.com, July 13, 2017. http://web
.archive.org/web/20170713121105/https://www.amazon.com/s/ref=nb_sb_noss
?url=search-alias%3Dstripbooks&field-keywords=ian+bogost+newsgames&rh
=n%3A283155%2Ck%3Aian+bogost+newsgames.

Amazon.com Inc. "Kindle (8th Generation) Source Code," 2017. https://s3.ama
zonaws.com/kindledownloads/Kindle_src_5.8.10_3202100019.tar.gz.

Amazon.com Inc. "Kindle: Amazon's Original Wireless Reading Device." Amazon.
com, 2011. http://www.amazon.com/dp/B000FI73MA.

Amazon.com Inc. "Kindle DX Wireless Reading Device." Amazon.com, 2010. http://
web.archive.org/web/20100131052954/http://www.amazon.com:80/Kindle
-Wireless-Reading-Device-Display/dp/B0015TCML0.

Amazon.com Inc. "Kindle Keyboard 3G, Free 3G + Wi-Fi, 6" E Ink Display." Amazon.com, 2010. https://www.amazon.com/Kindle-Wireless-Reading-Display-Globally/dp/B002LVUX1W/.

Amazon.com Inc. "Kindle Million Club." Accessed May 30, 2016. https://kdp.amazon.com/help?topicId=A3OG0G04TL5KMG.

Amazon.com Inc. "Kindle Popular Highlights," 2014. https://kindle.amazon.com/most_popular.

Amazon.com Inc. "Kindle Source Code 1.0.0.292." Kindle Amazon Web Services, 2007. https://s3.amazonaws.com/kindle/Kindle_src.1.0.0.292.tar.

Amazon.com Inc. "Kindle Source Code 2.2." Kindle Amazon Web Services, 2009. https://kindle.s3.amazonaws.com/Kindle_src_2.0_291330095.tar.gz.

Amazon.com Inc. "Kindle User Guide (2nd Edition)," 2007. http://s3.amazonaws.com/kindle/Kindle_User_Guide.pdf.

Amazon.com Inc. "Kindle Wireless Reading Device (6" Display, Global Wireless, Latest Generation)." Kindle Store, November 27, 2009. http://web.archive.org/web/20091127191626/http://www.amazon.com:80/Kindle-Wireless-Reading-Display-Generation/dp/B0015T963C.

Amazon.com Inc. "Kindle with Special Offers." Amazon Advertising, November 9, 2016. http://web.archive.org/web/20161109151930/https://advertising.amazon.com/ad-specs/en/kindle.

Amazon.com Inc. "La Belle Sauvage: The Book of Dust Volume One (Book of Dust Series) Kindle Edition." Amazon.co.uk, 2017. https://www.amazon.co.uk/dp/B01N5URPMC/.

Amazon.com Inc. "Lab126." Lab126, 2005. http://web.archive.org/web/20051124085428/http://www.lab126.com:80/.

Amazon.com Inc. "The Lab126 Vision." Lab126, 2014. http://web.archive.org/web/20140701154134/http://lab126.com/our-vision.htm.

Amazon.com Inc. "Les jeunes dans la société Broché." Amazon.fr, 2011. https://www.amazon.fr/jeunes-dans-société-Hélène-Dubouis/dp/B0065GAW9M/.

Amazon.com Inc. "Page Flip." Amazon.com, 2016. https://www.amazon.com/b?ie=UTF8&node=13632018011.

Amazon.com Inc. "The Pillars of the Earth." Kindle Store, 2007. http://web.archive.org/web/20071122135800/http://www.amazon.com:80/The-Pillars-of-the-Earth/dp/B000UZPI2U.

Amazon.com Inc. "Read More Challenging Books." Amazon.com, March 17, 2015. http://web.archive.org/web/20150317030835/https://www.amazon.com/gp/feature.html?ie=UTF8&docId=1002989731.

Amazon.com Inc. "Read Your Books Online," September 27, 2014. http://web.archive.org/web/20140927045348/https://www.amazon.com/gp/digital/sitb/help/learn.html/ref=si3_learn_dtls?ie=UTF8&details=1&navbar=0.

Amazon.com Inc. "Reading Enhancements." Amazon.co.uk Help, 2012. https://www.amazon.co.uk/gp/help/customer/display.html?nodeId=200729910.

Amazon.com Inc. "Reading Group Guides and More." Book Clubs, January 15, 2012. http://web.archive.org/web/20120115102914/http://www.amazon.com:80/gp/feature.html?ie=UTF8&docId=1000487921.

Amazon.com Inc. "Search Inside!" Amazon.co.uk Help, 2017. https://www.amazon.co.uk/gp/help/customer/display.html/?nodeId=200182580.

Amazon.com Inc. "Securely Accept Payments Online." Amazon Pay, 2017. https://pay.amazon.com/uk/.

Amazon.com Inc. "Statement from Amazon.com Regarding Kindle 2's Experimental Text-to-Speech Feature," February 27, 2009. https://press.aboutamazon.com/news-releases/news-release-details/statement-amazoncom-regarding-kindle-2s-experimental-text-speech.

Amazon.com Inc. "Stephen H Branch's Alligator—Kindle Edition by Stephen H Branch." Amazon.com, 2017. https://www.amazon.com/dp/B075RCFPTX/.

Amazon.com Inc. "Terms and Conditions." Kindle Direct Publishing, September 1, 2016. https://kdp.amazon.com/terms-and-conditions.

Amazon.com Inc. "Whispersync for Voice." Amazon.com, April 15, 2016. http://web.archive.org/web/20160415082009/http://www.amazon.co.uk/gp/feature.html?ie=UTF8&docId=1000812303.

Amazon.com Inc. "Word Runner." Kindle Store, October 6, 2017. http://web.archive.org/web/20171006083018/https://www.amazon.com/Word-Runner-Kindle-Store/b?ie=UTF8&node=11953645011.

Andersen Consulting. "Reading in the New Millennium, a Bright Future for Ebook Publishing: Facilitating Open Standards." Washington, DC: AAP Annual Meeting, March 22, 2000. http://web.archive.org/web/20021227113121/http://www.publishers.org/digital/dec2000anderson.ppt.

Anderson, Chris. *The Longer Long Tail*. London: Random House Business Books, 2009.

Anderson, Emily Margaret, and Tom Killalea. Personal user highlight from popular highlights. US Patent 9,965,150, filed October 27, 2014, and issued May 8, 2018.

Anderson, Emily Margaret, Tom Killalea, Daniel Leng, and Peter A. Larsen. Author interactions using online social networks. US Patent 9,183,172, filed June 22, 2011, and issued November 10, 2015.

Antley, Jeremy. "From Data Self to Data Serf." *Peasant Muse* (blog), 2012. http://www.peasantmuse.com/2012/06/from-data-self-to-data-serf.html.

Apperley, Thomas, and Jussi Parikka. "Platform Studies' Epistemic Threshold." *Games and Culture* 13, no. 4 (2018): 327–348.

Archer, Jodie, and Matthew L. Jockers. *The Bestseller Code*. London: Allen Lane, 2016.

Arrington, Michael. "Amazon Invests in Shelfari." *TechCrunch* (blog), February 25, 2007. http://social.techcrunch.com/2007/02/25/amazon-invests-in-shelfari/.

Atasoy, Ozgun, and Carey K. Morewedge. "Digital Goods Are Valued Less Than Physical Goods." *Journal of Consumer Research*, October 9, 2017. https://doi.org/10.1093/jcr/ucx102.

Azari, David, Lee M. Miller, Maksym Kovalenko, Jonathan D. Sanford, Anthony C. Martinelli, Alan Kipust, and Kelly Watson. Public-domain analyzer. US Patent 9,691,068, filed December 15, 2011, and issued June 27, 2017.

Bai, Peng Fei, Robert Andrew Hayes, Mingliang Jin, Lingling Shui, Zi Chuan Yi, Li Wang, Xiao Zhang, and Guofu Zhou. "Review of Paper-Like Display Technologies." *Progress in Electromagnetics Research* 147 (2014): 95–116.

Balota, David A. "Speed Reading: You Can't Always Get What You Want, but Can You Sometimes Get What You Need?" *Psychological Science in the Public Interest* 17, no. 1 (2016): 1–3.

Barnett, Tully. "Platforms for Social Reading: The Material Book's Review." *Scholarly and Research Communication* 6, no. 4 (2015). https://doi.org/10.22230/src.2015v6n4a211.

Barnett, Tully. "Social Reading: The Kindle's Social Highlighting Function and Emerging Reading Practices." *Australian Humanities Review* 56 (May 2014): 141–162.

Baron, Naomi S. *Words Onscreen: The Fate of Reading in a Digital World*. Oxford: Oxford University Press, 2015.

"Bartleby.com: Great Books Online—Quotes, Poems, Novels, Classics and Hundreds More." Bartleby.com, 2018. http://www.bartleby.com/.

Barton-Davis, Paul. "I Oppose Amazon.com's 1-Click Patent." Equal Area, 2000. http://www.equalarea.com/paul/amazon-1click.html.

Baverstock, Alison. "Why Self-Publishing Needs to Be Taken Seriously." *Logos* 23, no. 4 (2012): 41–46.

BBC News. "Budget 2020: VAT on E-books and Newspapers Scrapped." BBC News, March 11, 2020. http://web.archive.org/web/20200312133446/https://www.bbc.co.uk/news/technology-51832899.

Belin, Gilles Jean Roger, and Hannah Rebecca Lewbel. Cover display. US Patent 9,495,322, filed September 21, 2010, and issued November 15, 2016.

Benzon, Paul. "Bootleg Paratextuality and Digital Temporality: Towards an Alternate Present of the DVD." *Narrative* 21, no. 1 (2013): 88–104.

Bezos, Jeffrey P. "An Apology from Amazon." Customer Discussions, 2009. https://www.amazon.com/tag/kindle/forum/cdForum=Fx1D7SY3BVSESG&cdThread=Tx1FXQPSF67X1IU.

Bezos, Jeffrey P. "An Open Letter from Jeff Bezos." Amazon.com, April 15, 2000. http://web.archive.org/web/20000415152112/http://www.amazon.com/exec/obidos/subst/misc/patents.html.

Bezos, Jeffrey P. "2015 Letter to Shareholders." Investor Relations, 2016. https://amazonir.gcs-web.com/annual-reports.

Bezos, Jeffrey P. *Opening Keynote—MIT World*. MIT, 2006.

Bezos, Jeffrey P. Secure method for communicating credit card data when placing an order on a non-secure network. US Patent 5,727,163, filed March 30, 1995, and issued March 10, 1998.

Birkerts, Sven. *The Gutenberg Elegies: The Fate of Reading in an Electronic Age*. New York: Fawcett Columbine, 1994.

Block, Ryan. "Amazon Kindle: Meet Amazon's E-book Reader." *Engadget*, September 11, 2006. https://www.engadget.com/2006/09/11/amazon-kindle-meet-amazons-e-book-reader/.

Blosch, Marcus, and Jackie Fenn, "Understanding Gartner's Hype Cycles," Gartner Research, August 20, 2018, https://www.gartner.com/en/documents/3887767/understanding-gartner-s-hype-cycles.

Blum, Andrew. *Tubes: Behind the Scenes at the Internet*. London: Viking, 2012.

Bodapati, Sravan Babu, and Venkatraman Kalyanapasupathy. Automated identification of start-of-reading location for ebooks. US Patent 10,042,880, filed January 6, 2016, and issued August 7, 2018.

Boellstorff, Tom, and Braxton Soderman. "Transplatform: Culture, Context, and the Intellivision/Atari VCS Rivalry." *Games and Culture* 14, no. 6 (2019): 680–703.

Bookeen. "Bookeen Cybook." Bookeen, 2007. http://web.archive.org/web/20071002212414/http://www.bookeen.com:80/specs/ebook-specs.aspx.

Borenstein, Nathaniel S. "Perils and Pitfalls of Practical Cybercommerce." *Communications of the ACM* 39, no. 6 (June 1996): 36–44.

Borsuk, Amaranth, and Brad Bouse. *Between Page and Screen*. Los Angeles: Siglio, 2012.

Bothma, Theo J. D., and D. J. Prinsloo. "Automated Dictionary Consultation for Text Reception: A Critical Evaluation of Lexicographic Guidance in Linked Kindle e-Dictionaries." *Lexicographica* 29, no. 1 (2013): 165–198.

Bowers, Fredson. *Principles of Bibliographical Description*. New York: Russell & Russell, 1962.

Bowker, Geoffrey C. *Memory Practices in the Sciences*. Cambridge, MA: MIT Press, 2005.

Branch, Stephen H., ed. *Stephen H. Branch's Alligator* 1, no. 18 (August 21, 1858). Project Gutenberg, 2017. http://www.gutenberg.org/ebooks/55004.

Brandt, Richard. *One Click: Jeff Bezos and the Rise of Amazon.com*. London: Portfolio Penguin, 2011.

Braslavski, Pavel, Vivien Petras, Valery Likhosherstov, and Maria Gäde. "Large-Scale Log Analysis of Digital Reading." ASIST 2016. https://dl.acm.org/doi/abs/10.5555/3017447.3017491.

Brigham Young University. "NOW Corpus (News on the Web)." BYU Corpora, 2017. corpus.byu.edu/now/.

Broadcom Corp. v. Qualcomm Inc., 501 F. 3d 297 (Court of Appeals, 3rd Circuit 2007).

Broder, Andrei, Ravi Kumar, Farzin Maghoul, Prabhakar Raghavan, Sridhar Rajagopalan, Raymie Stata, Andrew Tomkins, and Janet Wiener. "Graph Structure in the Web." *Computer Networks* 33, nos. 1–6 (June 2000): 309–320.

Brown, Bob, and Craig Saper. *The Readies*. Roving Eye Press, 2014.

Brunton, Finn. *Spam: A Shadow History of the Internet*. Cambridge, MA: MIT Press, 2013.

Buchmueller, Daniel, Louis Leroi LeGrand III, Jack Erdozain Jr., Scarlett Elizabeth Koller, Eric Alexander Riehl, and Trevor Barr Walker. Stabilized airborne drop delivery. US Patent 9,688,404, issued June 27, 2017.

Burns, Stephanie. "FCC ID No. UUU-L7E20070323 Short Term Confidentiality Request." Federal Communications Commission, October 19, 2007. http://web.archive.org/web/20210623100724/https://fccid.io/UUU-L7E20070323/Letter/Short-Term-Confidentiality-Request-862773.pdf.

Burrington, Ingrid. "Why Amazon's Data Centers Are Hidden in Spy Country." *The Atlantic*, January 8, 2016. http://www.theatlantic.com/technology/archive/2016/01/amazon-web-services-data-center/423147/.

Bush, Vannevar. "As We May Think." *The Atlantic* 176 (July 1945): 101–108.

Business Wire. "Prime View International Reaches Agreement to Acquire E Ink." Business Wire, June 1, 2009. http://web.archive.org/web/20100920185513/https://www.businesswire.com/news/home/20090601005656/en/Prime-View-International-Reaches-Agreement-Acquire-Ink.

Cadwalladr, Carole. "My Week as an Amazon Insider." *The Guardian*, December 1, 2013, Technology. http://www.theguardian.com/technology/2013/dec/01/week-amazon-insider-feature-treatment-employees-work.

CamelCamelCamel. "Amazon Price Tracker, Amazon Price History Charts, Price Watches, and Price Drop Alerts." camelcamelcamel.com. Accessed June 27, 2016. http://uk.camelcamelcamel.com/.

Cameron, Lauren. "Marginalia and Community in the Age of the Kindle: Popular Highlights in *The Adventures of Sherlock Holmes*." *Victorian Review* 38, no. 2 (2012): 81–99.

Campbell, Lisa. "Dropbox Buys Readmill." *The Bookseller*, 2014. https://www.thebook seller.com/news/dropbox-buys-readmill.

Canelo. "Vision." Canelo, 2017. https://www.canelo.co/vision/.

Carmack, Scott Gerard, Narasimha Rao Lakkakula, and Nima Sharifi Mehr. Detecting of navigation data spoofing based on image data. US Patent 9,689,686, filed September 25, 2015, and issued June 27, 2017.

Casey, Eoghan. *Digital Evidence and Computer Crime: Forensic Science, Computers and the Internet*. 3rd ed. Amsterdam: Elsevier, 2011.

Chamberlain, Gethin. "Underpaid and Exhausted: The Human Cost of Your Kindle." *The Guardian*, June 9, 2018, Technology. http://www.theguardian.com/technol ogy/2018/jun/09/human-cost-kindle-amazon-china-foxconn-jeff-bezos.

Chen, Brian X. "iPhone 4's 'Retina' Display Claims Are False Marketing." *Wired*, June 9, 2010. https://www.wired.com/2010/06/iphone-4-retina/.

The Chicago Manual of Style. Chicago: University of Chicago Press, 2017. http://chicago manualofstyle.org/home.html.

CNET. "Amazon, B&N Settle Lawsuit." CNET, October 21, 1997. https://www.cnet.com /news/amazon-b-n-settle-lawsuit/.

Colbjørnsen, Terje. "The Construction of a Bestseller: Theoretical and Empirical Approaches to the Case of the Fifty Shades Trilogy as an eBook Bestseller." *Media, Culture and Society* 36, no. 8 (2014): 1100–1117.

Coldewey, Devin. "How the Kindle Was Designed through 10 Years and 15 Generations." *TechCrunch* (blog), 2017. http://social.techcrunch.com/2017/11/20/how -the-kindle-was-designed-through-10-years-and-15-generations/.

Coleman, Gabriella. *Coding Freedom: The Ethics and Aesthetics of Hacking*. Princeton, NJ: Princeton University Press, 2013.

Cook, John. "Shelfari: An Online Meeting Place for Bibliophiles." Seattle PI, October 10, 2006. http://web.archive.org/web/20160305202110/http://www.seattlepi .com/business/article/Shelfari-an-online-meeting-place-for-bibliophiles -1216875.php.

Corns, Thomas N. "The Early Modern Search Engine: Indices, Title Pages, Marginalia and Contents." In *The Renaissance Computer: Knowledge Technology in the First Age of Print*, edited by Neil Rhodes and Jonathan Sawday, 95–105. London: Routledge, 2000.

Costello, Megan. "'Radio Paper' from E Ink." *Publishers Weekly* 248, no. 12 (March 19, 2001).

Cowdrey, Katherine. "Touchpress Unveils New Strategic Direction and Rebrands as Amphio." *The Bookseller*, 2016. https://www.thebookseller.com/news/touchpress -announces-new-strategic-direction-and-rebrand-amphio-407456.

Cranfill, Elizabeth Caroline, Mikio Inose, and Stephen O. Lemay. Display screen or portion thereof with animated graphical user interface. US Patent D 670,713, filed December 19, 2011, and issued November 13, 2012.

Cuneo, Joshua. "'Hello, Computer': The Interplay of *Star Trek* and Modern Computing." In *Science Fiction and Computing: Essays on Interlinked Domains*, edited by David L. Ferro and Eric G. Swedin, 131–147. Jefferson, NC: McFarland, 2011.

Curtis, Michael G. Facilitating discussion group formation and interaction. US Patent 8,892,630, filed September 29, 2008, and issued November 18, 2014.

Darnton, Robert. "Booksellers / Literary Demand." A Literary Tour de France, 2016. www.robertdarnton.org/literarytour/booksellers.

Darnton, Robert. "What Is the History of Books?" In *The Book History Reader*, edited by David Finkelstein and Alistair McCleery, 2nd ed., 9–26. Oxford: Routledge, 2006.

Davis, Mark. "E-books in the Global Information Economy." *European Journal of Cultural Studies* 18, nos. 4–5 (2015): 514–529.

Davis, Mark. "Five Processes in the Platformisation of Cultural Production: Amazon and Its Publishing Ecosystem." *Australian Humanities Review* 66 (May 2020): 83–103.

Davis, Mark, and Michel Suignard. "UTR #36: Unicode Security Considerations." Unicode Technical Reports, 2014. http://www.unicode.org/reports/tr36/.

Deahl, Rachel. "The YA Bestseller Brought Down by the YA Community." *Publishers Weekly*, August 24, 2017. https://www.publishersweekly.com/pw/by-topic/childrens/childrens-book-news/article/74592-the-ya-book-that-has-the-ya-community-crying-foul.html.

Delfanti, Alessandro. "Machinic Dispossession and Augmented Despotism: Digital Work in an Amazon Warehouse." *New Media and Society*, December 2, 2019. https://doi.org/10.1177/1461444819891613.

Delfanti, Alessandro, and Bronwyn Frey. "Humanly Extended Automation or the Future of Work Seen through Amazon Patents." *Science, Technology, and Human Values*, July 29, 2020. https://doi.org/10.1177/0162243920943665.

Denny, Neill. "The Kindle Has Landed." *The Bookseller*, October 9, 2009. https://www.thebookseller.com/blogs/kindle-has-landed.

Dixon, Scott. Edge navigation user interface. US Patent 9,026,932, filed April 16, 2010, and issued May 5, 2015.

Douglas, J. Yellowlees. *The End of Books—or Books without End? Reading Interactive Narratives*. Ann Arbor: University of Michigan Press, 2000.

Driscoll, Beth, and Claire Squires. "'Oh Look, a Ferry'; or The Smell of Paper Books." *Lifted Brow*, October 24, 2018. https://www.theliftedbrow.com/liftedbrow/2018/10/24/oh-look-a-ferry-or-the-smell-of-paper-books-by-beth-driscoll-and-claire-squires.

Drucker, Johanna. *SpecLab: Digital Aesthetics and Projects in Speculative Computing*. Chicago: University of Chicago Press, 2009.

dtpadmin. "Why Should I Publish My Content on Digital Text Platform?" Digital Text Platform Forum, May 17, 2007. http://web.archive.org/web/20071123032624/http://forums.digitaltextplatform.com:80/dtpforums/thread.jspa?threadID=56&tstart=15.

E Ink. "E Ink Pearl Imaging Film," 2017. http://www.eink.com/sell_sheets/pearl_spec_sheet.pdf.

eBay. "Search: Kindle DX." eBay, 2018. http://web.archive.org/web/20180122115624/https://www.ebay.com/sch/i.html?_from=R40&_sacat=0&LH_Complete=1&LH_Sold=1&_nkw=kindle+dx&_sop=16.

Edwards, Paul N., Steven J. Jackson, Geoffrey C. Bowker, and Cory P. Knobel. "Understanding Infrastructure: Dynamics, Tensions, and Design," 2007. http://hdl.handle.net/2027.42/49353.

Eichelberg, John William, Brock Robert Gardner, and Alan Donald Gillooly. Cooling system for data center. US Patent 9,690,337, filed December 9, 2013, and issued June 27, 2017.

[226]

Eisen, Michael. "Amazon's $23,698,655.93 Book about Flies." *It Is NOT Junk* (blog), April 22, 2011. http://www.michaeleisen.org/blog/?p=358.

Eisenstein, Elizabeth L. *The Printing Press as an Agent of Change*. Cambridge: Cambridge University Press, 1980.

Ellenberg, Jordan. "The Summer's Most Unread Book Is . . ." *Wall Street Journal*, July 3, 2014, Life and Style. http://www.wsj.com/articles/the-summers-most-unread-book-is-1404417569.

Elsey, Teresa. "Building Ebooks That Last." YouTube, May 2, 2019. https://www.youtube.com/watch?v=8OOHyBT-l_o.

Elsey, Teresa. "When Nothing Ever Goes Out of Print: Maintaining Backlist Ebooks." *Medium* (blog), April 6, 2016. https://medium.com/@teresaelsey/when-nothing-ever-goes-out-of-print-maintaining-backlist-ebooks-fcd63e680667.

Eve, Martin Paul. "'You Have to Keep Track of Your Changes': The Version Variants and Publishing History of David Mitchell's *Cloud Atlas*." *Open Library of Humanities* 2, no. 2 (2016): 1. https://doi.org/10.16995/olh.82.

fbdev. "Kinamp (v2) Audio Player for Kindle." MobileRead Forums, 2011. https://www.mobileread.com/forums/showthread.php?t=147854.

Febvre, Lucien, and Henri-Jean Martin. *The Coming of the Book: The Impact of Printing, 1450–1800*. Edited by Geoffrey Nowell-Smith and David Wootton. Translated by David Gerard. London: Verso, 2010.

Feldstein, Paul. "Routes into the American Book Trade, 2008." London: Publishers Association, 2008.

Fernandez, Emilio A. Microprocessor based simulated book. US Patent 4,855,725, filed December 28, 1988, and issued August 8, 1989.

Finn, Ed. "Becoming Yourself: The Afterlife of Reception." In *The Legacy of David Foster Wallace*, edited by Samuel Cohen and Lee Konstantinou, 151–176. Iowa City: University of Iowa Press, 2012.

Finn, Ed. "New Literary Cultures: Mapping the Digital Networks of Toni Morrison." In *From Codex to Hypertext: Reading at the Turn of the Twenty-First Century*, edited by Anouk Lang, 177–202. Amherst and Boston: University of Massachusetts Press, 2012.

Finn, Ed. "Revenge of the Nerd: Junot Díaz and the Networks of American Literary Imagination." *Digital Humanities Quarterly* 7, no. 1 (2013). http://www.digitalhumanities.org/dhq/vol/7/1/000148/000148.html.

Flynn, Jacob, Rebecca Giblin, and François Petitjean. "What Happens When Books Enter the Public Domain? Testing Copyright's Underuse Hypothesis across Australia, New Zealand, the United States and Canada." *University of New South Wales Law Journal* 42, no. 4 (November 2019). https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3401684##.

Ford, Paul. "Does Amazon Data Speak for Itself?" *New Republic*, February 18, 2016. https://newrepublic.com/article/129026/amazons-data-speak-itself.

Forston, Danny, and Simon Duke. "Alexa, What Shall We Do Next? Take Over the World, Jeff." *Sunday Times*, June 18, 2017.

Fowler, Geoffrey A. "E-Readers: They're Hot Now, but the Story Isn't Over." *Wall Street Journal*, December 1, 2009, Tech. http://www.wsj.com/articles/SB10001424052748704328104574519851557848662.

Fowler, Geoffrey A., and Jeffrey A. Trachtenberg. "New Kindle Audio Feature Causes a Stir." *Wall Street Journal*, February 10, 2009, Tech. http://www.wsj.com/articles/SB123419309890963869.

Fowler, Gerald C., and Terence D. Hughey. Reading machine. US Patent 4,160,242, filed June 28, 1977, and issued July 3, 1979.

Franklin Electronic Publishers Inc. "Mobipocket and Franklin Electronic Publishers Announce Opening of EBookBase, the First Wholesale Ebook Distribution Service Exclusively Targeted at Mobile Devices," 2003. http://web.archive.org/web/20031011064358/http://biz.yahoo.com/prnews/031008/phw011_1.html.

Franklin, M. J. "Amazon Just Revealed the Most Popular Kindle Books of All Time." *Mashable*, November 14, 2017. http://mashable.com/2017/11/14/amazon-kindle-most-popular-books-all-time/.

Galloway, Alexander R. *Protocol: How Control Exists after Decentralization*. Cambridge, MA: MIT Press, 2004.

Gani, Aisha. "Amazon Sues 1,000 'Fake Reviewers.'" *The Guardian*, October 18, 2015, Technology. http://www.theguardian.com/technology/2015/oct/18/amazon-sues-1000-fake-reviewers.

Garner, Dwight. "Miniature E-Books Let Journalists Stretch Legs." *New York Times*, March 6, 2012, Books. https://www.nytimes.com/2012/03/07/books/kindle-singles-genre-between-magazine-articles-and-books.html.

Gaughran, David. "Amazon Has a Fake Book Problem." *David Gaughran* (blog), June 3, 2017. https://davidgaughran.com/amazon-has-a-fake-book-problem/.

Gaughran, David. "Amazon's Hall of Spinning Knives." *David Gaughran* (blog), October 20, 2017. https://davidgaughran.com/amazons-hall-of-spinning-knives/.

Gaughran, David. "Scammers Break the Kindle Store." *David Gaughran* (blog), July 15, 2017. https://davidgaughran.com/scammers-break-the-kindle-store/.

Gemstar TV Guide International. "Another Important EBook Announcement." Gemstar eBook, February 9, 2006. http://web.archive.org/web/20060209023520/http://www.gemstar-ebook.com:80/cgi-bin/WebObjects/eBookstore.woa/wa/.

Genette, Gérard, and Marie Maclean. "Introduction to the Paratext." *New Literary History* 22, no. 2 (Spring 1991): 261–272.

Gill, Harsimran. "'The Ebook Is a Stupid Product: No Creativity, No Enhancement,' Says the Hachette Group CEO." Scroll.in, 2018. https://scroll.in/article/868871/the-ebook-is-a-stupid-product-no-creativity-no-enhancement-says-the-hachette-group-ceo.

Gillespie, Tarleton. "The Politics of 'Platforms.'" *New Media and Society* 12, no. 3 (2010): 347–364.

Given, David. "Hacking the Kindle." *Cowlark.com* (blog), December 10, 2015. http://web.archive.org/web/20121022145738/http://cowlark.com/kindle/combined.html.

Glaze, Deanna. "Amazon Kindle." I am monkeyshine, 2010. http://web.archive.org/web/20141018134751/http://deanna-glaze.squarespace.com/test-ms-page-1.

Gooding, Paul, and Melissa Terras. *Electronic Legal Deposit: Shaping the Libraries of the Future*. London: Facet Publishing, 2020.

Goodreads. "Got a Kindle E-Reader? Now Your Goodreads Want to Read List Is on the Kindle Home Page!" Goodreads Blog, January 27, 2017. http://web.archive.org/web/20170127192507/https://www.goodreads.com/blog/show/611-got-a-kindle-e-reader-now-your-goodreads-want-to-read-list-is-on-the-ki.

Goodspeed, Joshua M., Janna S. Hamaker, Adam J. Iser, Tom Killalea, Abhishek Patnia, and Alla Taborisskaya. Identifying topics in a digital work. US Patent 9,613,003, filed March 28, 2012, and issued April 4, 2017.

Graham, Timothy. "Platforms and Hyper-choice on the World Wide Web." *Big Data and Society* 5, no. 1 (June 1, 2018). https://doi.org/10.1177/2053951718765878.

Greene, Jay. "E-books' Brass Band." *BusinessWeek*, April 3, 2000. https://web.archive .org/web/20060623065325/http:/www.businessweek.com/archives/2000 /b3675033.arc.htm.

Greenfield, Rebecca. "Amazon's Kindle MatchBook: Good Idea, Not Such a Great Deal." *The Atlantic*, September 3, 2013. https://www.theatlantic.com/technology /archive/2013/09/amazons-kindle-matchbook-program-isnt-good-deal-most -time/311521/.

Ha, Thu-Huong. "Amazon Has Laid Out Exactly How to Game Its Self-Publishing Platform." *Quartz* (blog), September 20, 2017. https://qz.com/1077996/self-pub lishing-on-amazon-amzn-how-an-author-can-hack-a-books-success-sales -and-royalties/.

Ha, Thu-Huong. "Amazon Just Deleted over 900 Reviews of Hillary Clinton's New Book." *Quartz* (blog), September 13, 2017. https://qz.com/1076357/hillary-clin tons-what-happened-amazon-just-deleted-over-900-reviews-of-hillary -clintons-new-book/.

Hamaker, Janna, Tom Killalea, Christopher F. Weight, Bruno A. Posokhow, and Daniel B. Rausch. Aligning content items to identify differences. US Patent 9,069,767, filed March 17, 2011, and issued June 30, 2015.

Harbick, Andrew V., Ryan J. Snodgrass, and Joel R. Spiegel. Playlist-based detection of similar digital works and work creators. US Patent 8,468,046, filed August 2, 2012, and issued June 18, 2013.

Hart, Michael. "Re: 3.301 e-Texts (65)." *Humanist*, July 29, 1989. https://humanist.kdl .kcl.ac.uk/Archives/Virginia/v03/0305.html.

Hartman, Peri, Jeffrey P. Bezos, Shel Kaphan, and Joel Spiegel. Method and system for placing a purchase order via a communications network. US Patent 5,960,411, filed September 12, 1997, and issued September 28, 1999.

Hayes, Robert A., and B. J. Feenstra. "Video-Speed Electronic Paper Based on Elec-trowetting." *Nature* 425, no. 6956 (September 2003): 383–385.

Hayler, Matt. *Challenging the Phenomena of Technology: Embodiment, Expertise, and Evolved Knowledge*. Basingstoke: Palgrave Macmillan, 2015.

He, Ruining, and Julian McAuley. "Ups and Downs: Modeling the Visual Evolution of Fashion Trends with One-Class Collaborative Filtering." In *Proceedings of the 25th International Conference on World Wide Web*, 507–517. New York: ACM, 2016.

Heffernan, Virginia. "E-Readers Collective." *New York Times*, October 15, 2010. http:// www.nytimes.com/2010/10/17/magazine/17FOB-medium-t.html.

Heller, Steven. "Who Named the Kindle (and Why)?" *Print Magazine* (blog). Accessed July 27, 2015. http://www.printmag.com/article/who-named-the-kindle-and -why/.

Henkel, Guido. "The Horrors of Kindle Format X." *Guido Henkel* (blog), October 27, 2015. http://guidohenkel.com/2015/10/the-horrors-of-kindle-format-x/.

Hennen, Thomas J. "OCLC Invitational Conference: Public Librarians Take Cool View of Future." *American Libraries* 19, no. 5 (1988): 390–392.

Hertz, Garnet, and Jussi Parikka. "Zombie Media: Circuit Bending Media Archaeology into an Art Method." *Leonardo* 45, no. 5 (2012): 424–430.

Hillerson, Gary. "Palm File Format Specification," 2001. Original unavailable via Wayback Machine. http://lauriedavis9.tripod.com/copilot/download/Palm_File_Format_Specs.pdf.

Hilts, Paul. "Book Tech Looks at E-Publishing." *Publishers Weekly* 248, no. 10 (March 5, 2001): 46.

Hoffelder, Nate. "Amazon Drops Support for Kindle Active Content from the Kindle Voyage." Digital Reader, October 27, 2014. https://the-digital-reader.com/2014/10/27/amazon-drops-support-kindle-active-content-kindle-voyage/.

Howsam, Leslie. *Old Books and New Histories: An Orientation to Studies in Book and Print Culture*. Toronto: University of Toronto Press, 2006.

IBM. "Virtualization in Education," 2007. http://www-07.ibm.com/solutions/in/education/download/Virtualization%20in%20Education.pdf.

IDPF. "EPUB 3 Open Container Format (OCF) 3.0.1." EPUB 3, 2014. http://www.idpf.org/epub/301/spec/epub-ocf.html.

IDPF. "EPUB 3 Overview." EPUB 3, 2014. http://www.idpf.org/epub/301/spec/epub-overview.html.

IDPF. "EPUB 3 Publications 3.0.1." EPUB 3, 2014. http://www.idpf.org/epub/301/spec/epub-publications.html.

iFixit. "Kindle 1st Generation Repair." iFixit, 2017. https://www.ifixit.com/Device/Kindle_1st_Generation.

IKEA Singapore. "Experience the Power of a Bookbook™." YouTube, September 3, 2014. https://www.youtube.com/watch?v=MOXQ07nURso.

Ingold, David, and Spencer Soper. "Amazon Doesn't Consider the Race of Its Customers. Should It?" Bloomberg, April 21, 2016. http://www.bloomberg.com/graphics/2016-amazon-same-day/.

Intel. "Marvell to Purchase Intel's Communications and Application Processor Business for $600 Million." Intel Press Room, 2006. https://www.intel.com/pressroom/archive/releases/2006/20060627corp.htm.

Intel-GE Care Innovations. "Intel Reader." Intel-GE Care Innovations, 2009. http://web.archive.org/web/20110225013439/http://www.careinnovations.com/Products/Reader/Default.aspx.

IPO. "Top 300 Organizations Granted U.S. Patents in 2018." IPO, 2019. https://ipo.org/wp-content/uploads/2019/07/2018-Top-300-Final.pdf.

Irani, Lilly. "Difference and Dependence among Digital Workers: The Case of Amazon Mechanical Turk." *South Atlantic Quarterly* 114, no. 1 (2015): 225–234.

Jackson, H. J. *Marginalia: Readers Writing in Books*. New Haven, CT: Yale University Press, 2002.

Jahagirdar, Sonjeev, Matthew Joseph Cole, David Paul Ramos, Utkarsh Prateek, Emilie Noelle McConville, Ankur Datta, Laura Varnum Finney, et al. Recognizing text from frames of image data using contextual information. US Patent 9,355,336, filed April 23, 2014, and issued May 31, 2016.

Johns, Adrian. *The Nature of the Book: Print and Knowledge in the Making*. Chicago: University of Chicago Press, 1998.

Johnston, John E., and Gregg E. Zehr. Configurable keypad for an electronic device. US Patent 8,692,736, filed June 14, 2007, and issued April 8, 2014.

Johnstone, Bob. "Electronic Paperbacks." *Wired*, March 1, 1994. https://www.wired.com/1994/03/electronic-paperbacks/.

Jones, Derek T., and Oleksandr Berezhnyy. Electronic book pagination. US Patent 9,892,094, filed June 19, 2014, and issued February 13, 2018.

Joshi, Lokesh, and Eric A. Menninga. Generation of electronic books. US Patent 9,081,529, filed June 22, 2012, and issued July 14, 2015.

Kane, Francisco J., Jr., Tom Killalea, and Llewyn Mason. Recommendations based on progress data. US Patent 9,153,141, filed June 30, 2009, and issued October 6, 2015.

Kang, Hyo Yoon. "Science inside Law: The Making of a New Patent Class in the International Patent Classification." *Science in Context* 25, no. 4 (2012): 551–594.

Kantor, Jodi, and David Streitfeld. "Inside Amazon: Wrestling Big Ideas in a Bruising Workplace." *New York Times*, August 15, 2015. http://www.nytimes.com/2015/08/16/technology/inside-amazon-wrestling-big-ideas-in-a-bruising-workplace.html.

Karlinsky, Neal. "The Inside Story of How the Kindle Was Born." US Day One Blog, November 15, 2017. https://blog.aboutamazon.com/devices/the-inside-story-of-how-the-kindle-was-born.

Kay, A., and A. Goldberg. "Personal Dynamic Media." *Computer* 10, no. 3 (March 1977): 31–41.

Kilgour, Frederick. *The Evolution of the Book*. New York: Oxford University Press, 1998.

Killalea, Tom, Thomas Dimson, Janna Hamaker, and Eugene Kalenkovich. Aggregation of highlights. US Patent 9,087,032, filed January 26, 2009, and issued July 21, 2015.

Killalea, Tom, and Janna S. Hamaker. Disambiguation of term meaning. US Patent 8,250,071, filed June 30, 2010, and issued August 21, 2012.

"Kindle DX Marks Gear Shift for Amazon." *The Bookseller*, May 22, 2009, 8.

"Kindle Ready on UK Launchpad." *The Bookseller*, October 2, 2009, 3.

King, Stephen. "Messages from Stephen." StephenKing.com, 2000. http://web.archive.org/web/20081007114133/http://stephenking.com/stephens_messages.html.

Kirschenbaum, Matthew G. "Book.Files: Preservation of Digital Assets in the Contemporary Publishing Industry; A Report." College Park, MD, and New York: University of Maryland and Book Industry Study Group, April 2020. https://drum.lib.umd.edu/handle/1903/25605.

Kirschenbaum, Matthew G. *Mechanisms: New Media and the Forensic Imagination*. Cambridge, MA: MIT Press, 2012.

Kirschenbaum, Matthew, and Sarah Werner. "Digital Scholarship and Digital Studies: The State of the Discipline." *Book History* 17 (2014): 406–458.

Kiss, Imre Attila, Lambert Mathias, and Jeffrey Penrod Adams. Named entity recognition with personalized models. US Patent 9,190,055, issued November 17, 2015.

knc1. "K5 Notice from Amazon." MobileRead Forums, March 4, 2016. https://www.mobileread.com/forums/showpost.php?p=3274121&postcount=8.

Knecht, G. Bruce. "Wall Street Whiz Finds Niche Selling Books on the Internet." *Wall Street Journal*, May 16, 1996. http://www.wsj.com/articles/SB832204437381952500.

Knight, Jeffrey Todd. *Bound to Read: Compilations, Collections, and the Making of Renaissance Literature*. Philadelphia: University of Pennsylvania Press, 2013.

Kobo. "Publishing in the Era of Big Data," 2014. http://cafe.kobo.com/_ir/159/20149
/Publishing%20in%20the%20Era%20of%20Big%20Data%20-%20Kobo
%20Whitepaper%20Fall%202014.pdf (link no longer exists).

Krebs, Brian. "Money Laundering via Author Impersonation on Amazon?" *Krebs on Security* (blog), February 20, 2018. https://krebsonsecurity.com/2018/02/money
-laundering-via-author-impersonation-on-amazon/.

Kristol, David M., and Lou Montulli. "RFC2109: HTTP State Management Mechanism." Network Working Group Request for Comments, 1997. https://tools.ietf
.org/html/rfc2109.

Kunsthal Aarhus. "Ubermorgen—the Project Formerly Known as Kindle Forkbomb." Kunsthal Aarhus, 2013.

Kushwaha, Anubhav. Digital work compression. US Patent 9,646,015, filed June 3, 2014, and issued May 9, 2017.

Lanier, Jaron. *You Are Not a Gadget*. London: Penguin, 2011.

Laquintano, Timothy. *Mass Authorship and the Rise of Self-Publishing*. Iowa City: University of Iowa Press, 2016.

The Legal Deposit Libraries (Non-print Works) Regulations 2013, no. 777 (2013).

Levy, Steven. "The Future of Reading." *Newsweek*, November 26, 2007, 57–64.

Library of Congress. "Textual Works and Musical Compositions." Recommended Formats Statement, 2017. http://web.archive.org/web/20190708145942/https://
www.loc.gov/preservation/resources/rfs/textmus.html.

Liu, Alan, Paxton Hehmeyer, James Hodge, Kimberly Knight, David Roh, and Elizabeth Swanstrom. "The *Agrippa* Files," 2005. http://agrippa.english.ucsb.edu/.

Liu, Wendy. "Coronavirus Has Made Amazon a Public Utility—So We Should Treat It like One." *The Guardian*, April 17, 2020, Opinion. https://www.theguardian.com
/commentisfree/2020/apr/17/amazon-coronavirus-public-utility-workers.

Livingstone, David. "Homefront." *Star Trek: Deep Space Nine*. CBS, January 1, 1996.

Lorusso, Silvio, and Sebastian Schmeig. *56 Broken Kindle Screens*. Lulu, 2012.

Luke, Karina. "BIC Statement on Best Practice for Subtitle Field in Metadata Feeds." BIC, March 9, 2018. http://www.bic.org.uk/files/pdfs/BIC%20Statement
%20on%20Best%20Practice%20for%20Sub-title%20field%20FINAL%209th
%20March%202018.pdf.

Lynch, Clifford. "Stewardship in the 'Age of Algorithms.'" *First Monday* 22, no. 12 (December 2017). https://doi.org/10.5210/fm.v22i12.8097.

Mandell, Laura. "The Original Author: How Digital Technology Reconceptualizes the Author (and the Self)." *International Journal of the Book* 1 (2003): 207–213.

Mangen, Anne, Bente R. Walgermo, and Kolbjørn Brønnick. "Reading Linear Texts on Paper versus Computer Screen: Effects on Reading Comprehension." *International Journal of Educational Research* 58 (2013): 61–68.

Manjoo, Farhad. "Which Tech Giant Would You Drop?" *New York Times*, May 10, 2017. https://www.nytimes.com/interactive/2017/05/10/technology/Ranking-Apple
-Amazon-Facebook-Microsoft-Google.html.

Manthorpe, Rowland. "Cory Doctorow Dreams of a DRM-Free Utopia—So He's Suing the US Government to Get It." *Wired UK*, April 25, 2017. http://www.wired.co.uk
/article/cory-doctorow-walkaway-science-fiction-drm.

Marcus, James. *Amazonia: Five Years at the Epicenter of the Dot.com Juggernaut*. New York: New Press, 2004.

Marmarelli, Trina, and Martin Ringle. "The Reed College Kindle Study." Reed College, 2010.

Maxwell, John. "E-Book Logic: We Can Do Better." *Papers of the Bibliographical Society of Canada* 51, no. 1 (2013). http://jps.library.utoronto.ca/index.php/bsc/article/view/20761/16996.

Maxwell, John. "XML Production Workflows? Start with the Web." *Journal of Electronic Publishing* 13, no. 1 (Winter 2010). http://hdl.handle.net/2027/spo.3336451.0013.106.

McAuley, Julian, Christopher Targett, Qinfeng Shi, and Anton van den Hengel. "Image-Based Recommendations on Styles and Substitutes." In *Proceedings of the 38th International ACM SIGIR Conference on Research and Development in Information Retrieval*, 43–52. ACM, 2015.

McCracken, Ellen. "Expanding Genette's Epitext/Peritext Model for Transitional Electronic Literature: Centrifugal and Centripetal Vectors on Kindles and iPads." *Narrative* 21, no. 1 (2013): 105–124.

McDonald, Peter D. "Implicit Structure and Explicit Interactions: Pierre Bourdieu and the History of the Book." *The Library*, 6th ser., 19, no. 2 (June 1997): 105–121.

McDonough, Jerome, Matthew Kirschenbaum, Doug Reside, Neil Fraistat, and Dennis Jerz. "Twisty Little Passages Almost All Alike: Applying the FRBR Model to a Classic Computer Game." *Digital Humanities Quarterly* 4, no. 2 (2010). http://www.digitalhumanities.org/dhq/vol/4/2/000089/000089.html.

McEnery, Tony, and Andrew Hardie. *Corpus Linguistics*. Cambridge: Cambridge University Press, 2011.

McGinn, Daniel. "The Numbers in Jeff Bezos's Head." *Harvard Business Review* 92, no. 11 (November 2014): 58–61.

McIlroy, Thad. "Startups within the U.S. Book Publishing Industry." *Publishing Research Quarterly* 33, no. 1 (2017): 1–9.

McKenzie, D. F. "'What's Past Is Prologue': The Bibliographical Society and History of the Book." In *Making Meanings: "Printers of the Mind" and Other Essays*, edited by Peter D. McDonald and Michael Suarez, 259–275. Amherst and Boston: University of Massachusetts Press, 2002.

McKitterick, David. *Print, Manuscript and the Search for Order, 1450–1830*. Cambridge: Cambridge University Press, 2003.

"MemoWare—the PDA Document Repository," May 10, 2000. https://web.archive.org/web/20000510062641/http://www.memoware.com/.

Menninga, Eric A. "Eric Menninga." LinkedIn, 2018. https://www.linkedin.com/in/eric-menninga-3716bb1.

Merchant, Brian. "How Google, Microsoft, and Big Tech Are Automating the Climate Crisis." Gizmodo, February 21, 2019. https://gizmodo.com/how-google-microsoft-and-big-tech-are-automating-the-1832790799.

Meyers, James David, and Kurt Wesley Piersol. Methods and devices for selectively ignoring captured audio data. US Patent 9,691,378, filed November 5, 2015, and issued June 27, 2017.

Mickle, Tripp. "Among the iPhone's Biggest Transformations: Apple Itself." *Wall Street Journal*, June 20, 2017, Tech. https://www.wsj.com/articles/among-the-iphones-biggest-transformations-apple-itself-1497951003.

Milliot, Jim. "Amazon Upgrade Tops 100,000 Titles." *Publishers Weekly*, December 24, 2007, 5.

Milliot, Jim. "The Nook Arrives." *Publishers Weekly*, October 26, 2009, 6.

Milroy, Rollin. *About Agrippa*. Vancouver: Heavenly Monkey, 2015.

"MIT Press Announces a New Collaboration." MIT Press, 2017. https://mitpress.mit.edu/blog/mit-press-announces-new-collaboration.

MobileRead. "Kindlet Index." MobileRead Wiki, 2016. http://wiki.mobileread.com/wiki/Kindlet_Index.

Mobipocket. "OPF X-Metadata Tags." Mobipocket Developer Center, 2007. http://web.archive.org/web/20090116182003/http://www.mobipocket.com/dev/article.asp?BaseFolder=prcgen&File=tagref_opfxmetadata.xml.

Modern Language Association of America. *MLA Handbook*. 8th ed. New York: Modern Language Association of America, 2016.

Montfort, Nick. "Continuous Paper: The Early Materiality and Workings of Electronic Literature," 2005. http://nickm.com/writing/essays/continuous_paper_mla.html.

Montfort, Nick, and Ian Bogost. *Racing the Beam: The Atari Video Computer System*. Cambridge, MA: MIT Press, 2009.

Morris, Jeremy Wade. "Curation by Code: Infomediaries and the Data Mining of Taste." *European Journal of Cultural Studies* 18, nos. 4–5 (2015): 446–463.

Murray, Simone. *The Digital Literary Sphere*. Baltimore, MD: Johns Hopkins University Press, 2018.

Nakamura, Lisa. "'Words with Friends': Socially Networked Reading on Goodreads." *PMLA* 128, no. 1 (2013): 238–243.

National Library of Scotland. "The Silent Corner / Dean Koontz." National Library of Scotland, 2017. http://main-cat.nls.uk/vwebv/holdingsInfo?bibId=9420635.

Neate, Rupert. "Amazon's Jeff Bezos Pays Out $38bn in Divorce Settlement." *The Guardian*, June 30, 2019, Technology. https://www.theguardian.com/technology/2019/jun/30/amazon-jeff-bezos-ex-wife-mackenzie-handed-38bn-in-divorce-settlement.

Neilan, Catherine. "Amazon Urges Indies to Digitise." *The Bookseller*, March 13, 2009, 10.

Neilan, Catherine. "Digital Will Overtake Print in 2018, Says FBF Survey." *The Bookseller*, 2008. https://www.thebookseller.com/news/digital-will-overtake-print-2018-says-fbf-survey.

Neill, Graeme, and Catherine Neilan. "Amazon Launches Kindle Worldwide." *The Bookseller*, October 12, 2009, 3.

Nelson, Theodor Holm. *Computer Lib / Dream Machines*. Redmond, WA: Tempus, 1987.

New York Times Book Review. "About the Best Sellers." *New York Times Book Review*, 2017. https://www.nytimes.com/books/best-sellers/methodology/.

New York Times Editorial Desk. "King Closure." *New York Times*, December 1, 2000, A36.

Newman, Jared. "Amazon Settles Kindle '1984' Lawsuit." *PC World*, October 1, 2009. https://www.pcworld.com/article/172953/amazon_kindle_1984_lawsuit.html.

Noorda, Rachel, and Stevie Marsden. "Twenty-First Century Book Studies: The State of the Discipline." *Book History* 22, no. 1 (2019): 370–397.

Nosowitz, Dan. "A Penny for Your Books." *New York Times*, October 26, 2015. http://www.nytimes.com/2015/10/25/magazine/a-penny-for-your-books.html.

Nuovo, Frank. Portable communication device. US Patent Application Publication no. 2002/0050981, filed June 25, 2001, and issued May 2, 2002.

O'Donovan, Caroline, and Ken Bensinger. "The Cost of Next-Day Delivery: How Amazon Escapes the Blame for Its Deadly Last Mile." BuzzFeed News, September 6, 2019. https://www.buzzfeednews.com/article/carolineodonovan/amazon-next-day-delivery-deaths.

Ooba, Seiichi, Shingo Ooue, Hiroyuki Ueda, Hirotoshi Endo, Makoto Murakoshi, and Masashi Yanagida. Dictionary reading device. US Patent 3,612,676, filed November 22, 1968, and issued October 12, 1971.

Open eBook Authoring Group. "Supporters." Open eBook, October 4, 1999. http://web.archive.org/web/19991004043319/http://openebook.org/who.htm.

ORCID. "ORCID: Connecting Research and Researchers." ORCID, 2018. https://orcid.org/.

O'Reilly, Tim. "An Open Letter to Jeff Bezos." O'Reilly and Associates, 2000. http://www.oreilly.com/amazon_patent/amazon_patent.comments.html.

Ota, Isao. Electrophoretic display device. US Patent 3,668,106, filed April 9, 1970, and issued June 6, 1972.

Ota, I., J. Ohnishi, and M. Yoshiyama. "Electrophoretic Image Display (EPID) Panel." *Proceedings of the IEEE* 61, no. 7 (July 1973): 832–836.

OverDrive. "Enhanced Media Publishing." OverDrive, 2017. https://www.overdrive.com/publishers/enhanced-media-publishing.

Overell, Simon, and William Tunstall-Pedoe. Extracting structured knowledge from unstructured text. US Patent 9,110,882, filed May 12, 2011, and issued August 18, 2015.

Packer, George. "Cheap Words." *New Yorker*, February 10, 2014. https://www.newyorker.com/magazine/2014/02/17/cheap-words.

Panoz, Jiminy. "Ebooks, Beta Testing, and the Apocalypse." GitHub, 2017. https://jay-panoz.github.io/ebookcraft2017/#/.

Panoz, Jiminy. "Re: Thoughts on the Future of EPUB 3." epub3@w3.org, January 19, 2018. https://lists.w3.org/Archives/Public/public-epub3/2018Jan/0012.html.

Pargman, Daniel, and Jacob Palme. "ASCII Imperialism." In *Standards and Their Stories: How Quantifying, Classifying, and Formalizing Practices Shape Everyday Life*, edited by Martha Lampland and Susan Leigh Star, 177–199. Ithaca, NY: Cornell University Press, 2009.

Parkes, M. B. *Pause and Effect: An Introduction to the History of Punctuation in the West*. Aldershot: Scolar Press, 1992.

Patankar, Rashmi Arun, Jeffrey Matthew Bilger, and Colin Ian Bodell. Providing opaque recommendations. US Patent 10,049,397, filed March 6, 2013, and issued August 14, 2018.

Patel, Pankaj C., Arash Azadegan, and Lisa M. Ellram. "The Effects of Strategic and Structural Supply Chain Orientation on Operational and Customer-Focused Performance." *Decision Sciences* 44, no. 4 (2013): 713–753.

Pearson. "Penguin Signs Up to 'Search Inside!' Programme with Amazon.co.uk." Pearson, 2006. https://www.pearson.com/corporate/news/media/news-announcements/2006/10/penguin-signs-up-to-search-inside!-programme-with-amazoncouk.html.

Peckham, Matt. "Play *Doom* on a Printer—Thanks to a Serious Security Flaw." *Wired*, September 23, 2014. http://www.wired.com/2014/09/doom-printer/.

Perez, Thomas E., Samuel R. Bagenstos, John L. Wodatch, Allison Nichol, and Kate Nicholson. "Letter of Resolution between the United States and Reed College."

Information and Technical Assistance on the Americans with Disabilities Act, 2009. http://www.ada.gov/reed_college.htm.

Petts, James C., Aaron James Dykstra, Laura Ellen Grit, Lindsey Christina Fowler, Dennis H. Harding, George M. Ionkov, and Samuel A. Minter. Ebook citation enhancement. US Patent 9,639,877, filed July 6, 2012, and issued May 2, 2017.

Phillips, Angus. "Have We Passed Peak Book? The Uncoupling of Book Sales from Economic Growth." *Publishing Research Quarterly* 33, no. 3 (2017): 310–327.

Plantin, Jean-Christophe, Carl Lagoze, Paul N. Edwards, and Christian Sandvig. "Infrastructure Studies Meet Platform Studies in the Age of Google and Facebook." *New Media and Society* 20, no. 1 (2018): 293–310.

Platt, Charles. "Digital Ink." *Wired*, May 1, 1997. https://www.wired.com/1997/05/ff-digitalink/.

Preda, Alex. "Socio-technical Agency in Financial Markets: The Case of the Stock Ticker." *Social Studies of Science* 36, no. 5 (2006): 753–782.

Pressman, Jessica. "The Aesthetics of Bookishness in Twenty-First-Century Literature." *Michigan Quarterly Review* 48, no. 4 (Fall 2009).

Publishers Association. *PA Publishing Yearbook 2016*. London: Publishers Association, 2017.

Publishers Weekly. "S&S to Distribute Kindle Bestseller John Locke." *Publishers Weekly*, August 22, 2011. https://www.publishersweekly.com/pw/by-topic/digital/content-and-e-books/article/48433-s-s-to-distribute-kindle-bestseller-john-locke.html.

Purgathofer, Peter. *DIY Kindle Scanner*. Vimeo, 2013. http://vimeo.com/73675285.

Quincey, Andrew de. "KIF: An Infocom Text Adventure Interpreter for the Kindle." *Andrew de Quincey's Livejournal* (blog), October 9, 2010. http://adq.livejournal.com/108011.html.

Quittner, Josh. "Jeff Bezos: Bio: An Eye on the Future." *Time*, December 27, 1999. http://content.time.com/time/magazine/article/0,9171,992928,00.html.

Radder, Hans. "Exploring Philosophical Issues in the Patenting of Scientific and Technological Inventions." *Philosophy and Technology* 26, no. 3 (2013): 283–300.

Ragen, Brian Abel. "Reading Becomes Electric: The Amazon Kindle." *Papers on Language and Literature* 44, no. 3 (Summer 2008): 328–332.

Rausch, Daniel B. Determining reading levels of electronic books. US Patent 8,744,855, filed August 9, 2010, and issued June 3, 2014.

Ray Murray, Padmini, and Claire Squires. "The Digital Publishing Communications Circuit." *Book 2.0* 3, no. 1 (2013): 3–23.

Reagle, Joseph Michael, Jr. *Good Faith Collaboration: The Culture of Wikipedia*. Cambridge, MA: MIT Press, 2010.

Reid, Calvin. "Random House, Modern Library to Offer E-books." *Publishers Weekly* 247, no. 32 (August 7, 2000): 10.

Reid, Calvin, and Karen Holt. "Barnes & Noble.com Exits E-book Market." *Publishers Weekly* 250, no. 37 (September 15, 2003): 9.

Reid, Calvin, and Steven Zeitchik. "Gemstar E-books Shutdown." *Publishers Weekly* 250, no. 25 (June 23, 2003): 10.

rodrigoccurvo. "Correct Mobi Location Formula (Maybe)." MobileRead Forums, 2011. https://www.mobileread.com/forums/showthread.php?t=159357.

Rose, Charlie. "Interview with Jeff Bezos," November 19, 2007. https://charlierose.com/videos/11791.

Rose, Charlie. "Interview with Jeff Bezos," February 26, 2009. https://charlierose.com/videos/22164.

Roseman, Neil C., Paul Kotas, Jeffrey P. Bezos, Bruce C. Moore, Richard L. Dalzell, and Jeffrey M. Blackburn. User interfaces and methods for facilitating user-to-user sales. US Patent 7,472,077, filed May 9, 2002, and issued December 30, 2008.

Rosen, Rebecca. "The Missing 20th Century: How Copyright Protection Makes Book Vanish." *The Atlantic*, March 30, 2012. http://www.theatlantic.com/technology/archive/2012/03/the-missing-20th-century-how-copyright-makes-books-vanish/255282/.

Rosenblatt, Bill. "Amazon.com Acquires Mobipocket." *Ebooklyn* (blog), 2005. http://web.archive.org/web/20160324100829/http://www.ebooklyn.net/p/amazoncom-acquires-mobipocket.html.

Rowberry, Simon Peter. "Commonplacing the Public Domain." *Language and Literature* 25, no. 2 (2016).

Rowberry, Simon Peter. "The Limits of Big Data for Analyzing Reading." *Participations* 16, no. 1 (May 2019): 237–257.

Rubincam, David P. Electronic book. US Patent 4,159,417, filed October 28, 1977, and issued June 26, 1979.

Run! "File:E-ink.svg." Wikipedia, 2006. https://en.wikipedia.org/wiki/File:E-ink.svg.

Salvador, Stan Weidner, and Vlad Magdin. Predictive natural language processing models. US Patent 9,336,772, filed March 6, 2014, and issued May 10, 2016.

Saroyan, Strawberry. "Amanda Hocking, Storyseller." *New York Times*, June 17, 2011. http://www.nytimes.com/2011/06/19/magazine/amanda-hocking-storyseller.html.

Satariano, Adam, Karl Russell, Troy Griggs, Blacki Migliozzi, and Chang W. Lee. "How the Internet Travels across Oceans." *New York Times*, March 10, 2019, Technology. https://www.nytimes.com/interactive/2019/03/10/technology/internet-cables-oceans.html.

Schaffert, R. M., and C. D. Oughton. "Xerography: A New Principle of Photography and Graphic Reproduction." *Journal of the Optical Society of America* 38, no. 12 (December 1948): 991–998.

Schlesinger, Jacob M. "Walkman of Words: Sony's Data Discman Can Squeeze an Encyclopedia into a Portable Electronic Book." *Wall Street Journal*, October 21, 1991, r12.

Schuessler, Jennifer. "A Tribute to the Printer Aldus Manutius, and the Roots of the Paperback." *New York Times*, February 26, 2015. http://www.nytimes.com/2015/02/27/arts/design/a-grolier-club-tribute-to-the-printer-aldus-manutius.html.

Seely Brown, John. "1997 Objectives," 1997. Mark Weiser papers, ca. 1975–1999. Series 5, box 41, folder 10.

Shah, Mehal. Dynamic character biographies. US Patent 9,690,451, filed April 9, 2015, and issued June 27, 2017.

Sharma, Sudeep. "Netflix and the Documentary Boom." In *The Netflix Effect: Technology and Entertainment in the 21st Century*, edited by Kevin McDonald and Daniel Smith-Rowse, 143–154. London: Bloomsbury, 2016.

Shelfari. "About the Shelfari Librarians & Editors Group," February 25, 2011. http://web.archive.org/web/20110225161532/http://www.shelfari.com/groups/10713/about.

Shelfari. "*Harry Potter and the Deathly Hallows* (Harry Potter 7) by J. K. Rowling," October 23, 2011. http://web.archive.org/web/20111023055435/http://www.shelfari.com:80/books/1064883/Harry-Potter-and-the-Deathly-Hallows.

Shelfari. "Questions and Feedback," November 13, 2009. http://web.archive.org/web/20091113093818/http://www.shelfari.com:80/faq/29.

Sheridon, N. K., and M. A. Berkovitz. "The Gyricon—a Twisting Ball Display." *Proceedings of the Society for Information Display* 18, no. 34 (1977): 289–293.

Sherman, William H. *Used Books: Marking Readers in Renaissance England*. Philadelphia: University of Pennsylvania Press, 2008.

Siegel, Hilliard B., Udi Manber, and Jonathan Leblang. Method and system for providing annotations of a digital work. US Patent 8,131,647, filed January 19, 2005, and issued March 6, 2012.

Sims, Andrew. "The Most Moving Parts of 'Cursed Child,' According to Kindle." *Hypable* (blog), August 12, 2016. http://www.hypable.com/cursed-child-kindle-popular-highlights/.

Skochinsky, Igor. "Hacking the Kindle Part 3: Root Shell and Runtime System." *Reversing Everything* (blog), December 21, 2007. http://igorsk.blogspot.com/2007/12/hacking-kindle-part-3-root-shell-and.html.

Sloan, Robin. "The Kindle Wink." *The Message* (blog), April 23, 2014. https://medium.com/message/the-kindle-wink-4f61cd5c84c5.

Smith, Kelvin. *The Publishing Business: From P-books to E-books*. Lausanne: AVA Publishing, 2012.

Snodgrass, Ryan J., James C. Slezak, Matthew E. Goldberg, Jeremie Leproust, Guillaume Jeulin, and Felix F. Antony. Ebook encryption using variable keys. US Patent 8,826,036, filed June 28, 2010, and issued September 2, 2014.

Somers, James. "Torching the Modern-Day Library of Alexandria." *The Atlantic*, April 20, 2017. https://www.theatlantic.com/technology/archive/2017/04/the-tragedy-of-google-books/523320/.

Sorotokin, Peter, Garth Conboy, Brady Duga, John Rivlin, Don Beaver, Kevin Ballard, Alastair Fettes, and Daniel Weck. "EPUB Canonical Fragment Identifiers 1.1," 2017. http://www.idpf.org/epub/linking/cfi/.

Squires, Claire. "Taste and/or Big Data? Post-digital Editorial Selection." *Critical Quarterly* 59, no. 3 (2017): 24–38.

Stallman, Richard. "(Formerly) Boycott Amazon!" GNU Operating System. Accessed February 6, 2017. https://www.gnu.org/philosophy/amazon.html.

Standage, Tom. *The Turk: The Life and Times of the Famous Eighteenth-Century Chess-Playing Machine*. New York: Berkley Trade, 2003.

Star, Susan Leigh, and Martha Lampland. "Reckoning with Standards." In *Standards and Their Stories: How Quantifying, Classifying, and Formalizing Practices Shape Everyday Life*, edited by Martha Lampland and Susan Leigh Star, 3–24. Ithaca, NY: Cornell University Press, 2009.

Starosielski, Nicole. *The Undersea Network*. Durham, NC: Duke University Press, 2015.

Stefik, Mark. "The Digital Document Company." Palo Alto, CA: Xerox PARC, July 29, 1995. Mark Weiser papers, ca. 1975–1999. Series 2, box 8, folder 12.

Steiner, Ann. "Private Criticism in the Public Space: Personal Writing on Literature in Readers' Reviews on Amazon." *P@rticipations* 5, no. 2 (2008). https://lup.lub.lu.se/record/1288297.

Sterne, Jonathan. *MP3: The Meaning of a Format*. Durham, NC: Duke University Press, 2012.

Stone, Brad. "Amazon Erases Orwell Books from Kindle Devices." *New York Times*, July 17, 2009. http://www.nytimes.com/2009/07/18/technology/companies /18amazon.html.

Stone, Brad. *The Everything Store: Jeff Bezos and the Age of Amazon*. London: Bantam, 2013.

Streitfeld, David. "Book Reviewers for Hire Meet a Demand for Online Raves." *New York Times*, August 25, 2012. http://www.nytimes.com/2012/08/26/business /book-reviewers-for-hire-meet-a-demand-for-online-raves.html.

Striphas, Ted. *The Late Age of Print: Everyday Book Culture from Consumerism to Control*. New York: Columbia University Press, 2011.

Swanson, Clare. "The Bestselling Books of 2014." *Publishers Weekly*, January 2, 2015. https://www.publishersweekly.com/pw/by-topic/industry-news/bookselling /article/65171-the-fault-in-our-stars-tops-print-and-digital.html.

Sweney, Mark. "Amazon Breaks Premier League Hold of Sky and BT with Prime Streaming Deal." *The Guardian*, June 7, 2018, Media. http://www.theguardian .com/media/2018/jun/07/amazon-breaks-premier-league-hold-of-sky-and -bt-with-streaming-deal.

Sweney, Mark. "'Screen Fatigue' Sees UK Ebook Sales Plunge 17% as Readers Return to Print." *The Guardian*, April 27, 2017. https://www.theguardian.com/books/2017 /apr/27/screen-fatigue-sees-uk-ebook-sales-plunge-17-as-readers-return-to -print.

Tartt, Donna. *The Goldfinch*. London: Abacus, 2014.

Telfer, Stephen J., and Michael D. McCreary. "A Full-Color Electrophoretic Display." *SID Symposium Digest of Technical Papers* 47, no. 1 (2016): 574–577.

Terry, Ana Arias. "Electronic Ink Technologies: Showing the Way to a Brighter Future." *Library Hi Tech* 19, no. 4 (2001): 376–389.

Thompson, Ben. "Amazon's New Customer." Stratechery, June 19, 2017. https://strat echery.com/2017/amazons-new-customer/.

Thompson, John B. *Merchants of Culture: The Publishing Business in the Twenty-First Century*. 2nd ed. London: Polity, 2012.

Thylstrup, Nanna Bonde. *The Politics of Mass Digitization*. Cambridge, MA: MIT Press, 2019.

Tian, Xuemei, and Bill Martin. "Impacting Forces on eBook Business Models Development." *Publishing Research Quarterly* 27, no. 3 (2011): 230–246.

Tillett, Barbara. "What Is FRBR? A Conceptual Model for the Bibliographic Universe." Washington, DC: Library of Congress, 2004. http://www.loc.gov/cds/downloads /FRBR.PDF.

Tremblay, Geoffroy. "KindleBerry Pi." *Ponnuki—Electronic Media Art and Yoga* (blog), 2012. http://www.ponnuki.net/2012/09/kindleberry-pi/.

Trettien, Whitney Anne. "A Deep History of Electronic Textuality: The Case of *English Reprints Jhon Milton Areopagitica*." *Digital Humanities Quarterly* 7, no. 1 (2013). http://www.digitalhumanities.org/dhq/vol/7/1/000150/000150.html.

Tseng, Walter Manching, Adam J. Iser, Michel L. Goldstein, Ravi Shankar Thangavel, Janna S. Hamaker, and Ankur Jain. Generating a game related to a digital work. US Patent 9,449,526, filed March 19, 2012, and issued September 20, 2016.

Tsukayama, Hayley. "Why Amazon Is Paying Nearly $1 Billion to Acquire Twitch." *Washington Post*, August 25, 2014, The Switch. https://www.washingtonpost.com/news/the-switch/wp/2014/08/25/amazon-said-to-be-close-to-acquiring-twitch/.

"U.P.C.s, Barcodes, & Prefixes." GS1 US. Accessed July 3, 2017. https://www.gs1us.org/upcs-barcodes-prefixes/overview.

Usbourne, David. "Amazon's Electronic Book Turns a New Page in the History of the Written Word." *The Independent*, November 20, 2007.

Van der Weel, Adriaan. *Changing Our Textual Minds: Towards a Digital Order of Knowledge*. Manchester: Manchester University Press, 2011.

Vogels, Werner. "Amazon and the Lean Cloud." HackFwd Build 0.7, posted to Vimeo, September 2011. https://vimeo.com/29719577.

Vogels, Werner. "How and Why Did Amazon Get into the Cloud Computing Business?" Quora, January 14, 2011. https://www.quora.com/How-and-why-did-Amazon-get-into-the-cloud-computing-business.

W3C. "W3C Publishing Working Group." W3C, 2017. https://www.w3.org/publishing/groups/publ-wg/.

Ward, Charles L., Donald Ryan Willhoit, Lars C. Ulness, Robert C. Borja Jr., James D. Mackraz, and Edward J. Gayles. Selecting content-enhanced applications. US Patent 9,268,734, filed March 14, 2011, and issued February 23, 2016.

Ward, Miles J. Physical store online shopping control. US Patent 9,665,881, filed May 4, 2012, and issued May 30, 2017.

Warner, M. "Can Amazon Be Saved?" *Fortune* 144, no. 11 (November 26, 2001): 156.

Warren, John W. "Zen and the Art of Metadata Maintenance." *Journal of Electronic Publishing* 18, no. 3 (2015). https://doi.org/10.3998/3336451.0018.305.

WashPostPR. "The Washington Post Launches Most Comprehensive Bestselling Books Lists." *Washington Post*, February 8, 2018, WashPost PR Blog. https://www.washingtonpost.com/pr/wp/2018/02/08/the-washington-post-launches-most-comprehensive-bestselling-books-lists/.

Weight, Christopher F., Andrew D. Birkett, Janna Hamaker, Tom Killalea, and Alexander William Robb Nelson. Identifying book title sets. US Patent 9,881,009, filed March 15, 2011, and issued January 30, 2018.

Weight, Christopher F., Janna Hamaker, Tom Killalea, Bruno A. Posokhow, and Daniel B. Rausch. Book version mapping. US Patent 9,846,688, filed December 28, 2010, and issued December 19, 2017.

Weingart, Scott B. "The Route of a Text Message, a Love Story." *Vice* (blog), February 22, 2019. https://www.vice.com/en_us/article/kzdn8n/the-route-of-a-text-message-a-love-story.

Weiss, Steven K., Craig S. Griffin, John Lattyak, Lawrence Arnold Lynch-Freshner, and Thomas A. Ryan. Dynamic display dependent markup language interface. US Patent 8,453,051, filed March 31, 2008, and issued May 28, 2013.

Weltevrede, Esther, and Erik Borra. "Platform Affordances and Data Practices: The Value of Dispute on Wikipedia." *Big Data and Society* 3, no. 1 (June 1, 2016). https://doi.org/10.1177/2053951716653418.

Wheat, Alynda. "10 Years, 10 Books—a Look Back at Kindle Best Sellers." This Week in Books, November 15, 2017. https://www.amazon.com/article/twib/kindle-tenth-anniversary.html.

Wingfield, Nick. "Amazon Pushes Facial Recognition to Police. Critics See Surveillance Risk." *New York Times*, May 24, 2018, Technology. https://www.nytimes.com/2018/05/22/technology/amazon-facial-recognition.html.

Wingfield, Nick. "Inside Amazon Go, a Store of the Future." *New York Times*, January 21, 2018, Technology. https://www.nytimes.com/2018/01/21/technology/inside-amazon-go-a-store-of-the-future.html.

Wisher, Robert A., and J. Peter Kincaid. "Personal Electronic Aid for Maintenance: Final Summary Report." Alexandria, VA: US Army Research Institute for the Behavioral and Social Sciences, March 1989.

Wolf, Gary. "The Great Library of Amazonia." *Wired*, December 1, 2003. http://www.wired.com/wired/archive/11.12/amazon.html.

Wrangham, Richard. *Catching Fire: How Cooking Made Us Human*. London: Profile Books, 2010.

Wright, Jan. "The Devil Is in the Details: Indexes versus Amazon's X-Ray." *The Indexer* 30, no. 1 (2012): 11–16.

Wykes, Zoë. *ISBN-13 for Dummies, Special Edition*. Hoboken, NJ: Wiley, 2005.

Yamazaki, Shunpei, and Toshiji Hamatani. Paperless portable book. US Patent 5,339,091, filed October 14, 1992, and issued August 16, 1994.

Zagorie, Aviram, Michael V. Rykov, Craig S. Griffin, and John Lattyak. Device specific presentation control for electronic book reader devices. US Patent 8,423,889, filed December 11, 2008, and issued April 16, 2013.

Zehr, Gregg E., John E. Johnston, Jateen P. Parekh, Symon J. Whitehorn, and Thomas J. Hobbs. Page turner for handheld electronic book reader device. US Patent 8,018,431, issued September 13, 2011.

Zehr, Gregg, and John Hollar. "Zehr, Gregg, Oral History," May 14, 2014. http://www.computerhistory.org/collections/catalog/102739920.

Zehr, Gregg, and Symon J. Whitehorn. Handheld electronic book reader device having dual displays. US Patent 8,950,682 , filed March 29, 2006, and issued July 6, 2010.

Zhou, Hanning, Jian Liang, and Sherif M. Yacoub. On-demand generating e-book content with advertising. US Patent 9,892,427, filed September 2, 2014, and issued February 13, 2018.

Zittrain, Jonathan. *The Future of the Internet*. London: Penguin, 2009.

Zuboff, Shoshana. *The Age of Surveillance Capitalism: The Fight for a Human Future at the New Frontier of Power*. London: Profile Books, 2019.