

EXCERPT FROM **DIGITAL INC.**

From Print to E-Book—
Inside the Transformation
of the Book Industry

RICHARD CURTIS

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BOOKS**

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PRELUDE: APPOINTMENT IN GAITHERSBURG

[1998]

*But are our values turning asswards
When opening books requires passwords?**

IN 1998, AT THE DAWN of the digital book era, while still the head of a literary agency, I started an e-book publishing venture. Or should I say “adventure”? Though not exactly an expedition to the crocodile-infested headwaters of the Nile—indeed, my journey was largely sedentary—it was nevertheless bold, exhilarating, and even perilous. I was not young in 1998, but I’m ready to swear I am in greater possession of my wits today than I was when I launched that company, for I was blissfully ignorant of the risks and obstacles that lay ahead. Looking back, I wonder how I got through it with a measure of success; indeed, how I got through it at all.

The story actually starts thirteen years earlier, on a fine spring day in 1985. As I walked from the subway to my office on East 64th Street, listening to music

**Author’s note:* In 1985, I began composing end-of-year poems for *Publishers Weekly* magazine, offering comments on notable publishing people, events and trends of the preceding twelve months. Excerpts from these verses are offered at the start of each chapter of this book, representing my at-the-moment impressions of the unfolding history of our industry. I gave up the practice in 2024, feeling all rhymed-out after decades of brain-wracking annual versification.

on my Sony Walkman, an image suddenly flashed in my mind's eye. Instead of inserting a music cassette in the device, what if I could insert one to read?

I shunted the image aside when I arrived at my office. Yet, in idle moments that day, this epiphany flared anew, evoking fantasies of texts projected onto the screens of portable paperback-size devices. The image lodged itself in my brain, and as time went by, I came across news stories that researchers were actually working on such a device. I strongly felt the allure of this emerging technology, and every report of progress intensified it. Over the next thirteen years, as I tracked developments, I grew more and more certain the scenario I had imagined was going to become a reality.

I was therefore intrigued to receive an invitation to a conference on October 8 and 9, 1998, called Electronic Book '98 Workshop, sponsored by the National Institute of Standards and Technology (NIST), in Gaithersburg, Maryland, a suburb of Washington DC. The subtitle of the event, "Turning a New Page in Knowledge Management," sounded rather academic, so I was totally unprepared for the buzz of excitement when I entered the elegant wood-paneled Green Auditorium. Starry-eyed scientists, technologists and publishing people filled every one of the room's 293 seats, forcing another hundred to stand at the back of the room.¹

Although the convocation was billed hyperbolically as "the first of its kind," there had been other such events before this one. Just eight months earlier, a conference called Book Tech '98, held in New York City's Marriott Marquis Hotel, drew some 2,600 publishing professionals to 1,400 booths displaying the latest advances. Yet that expo did not generate the galvanic charge that animated this event, perhaps because this one was hosted by the U.S. government, suggesting Uncle Sam's official blessing over the proceedings.²

Three recent game-changing breakthroughs enhanced the excitement of the attendees. The first was the rollout of the earliest commercial e-book readers, the Rocket eBook and Softbook. The second was the introduction at Chicago's Book Expo, in the summer of 1998, of a print-on-demand machine that enabled users to feed a digital text file into a printer at one end and a printed book would come out of the other. The third was the realization that the principal source of texts to feed e-books was not cassettes, floppy disks or ROM cards; it was the Internet.

The air crackled with the evangelical zeal of true believers who had been inspired by a vision similar to my own. As I talked to them, it became clear that for many, this was the realization of a decades-old dream. They had long toiled

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in narrow and obscure corners of research and development, and this was the first time they would be able to see the larger picture and hear or meet researchers whose work dovetailed with their own. Now, at last, their labors would achieve recognition and acclaim.

I had often speculated on what role I might play when this medium finally came to fruition. For reasons I couldn't express, the traditional literary agent's model of licensing rights for a commission didn't satisfy me. I wanted to be more proactive but didn't yet know what that would look like. Maybe I would find the answer here.

I scanned the audience but found no familiar face. The attendees seemed to be divided between tech people casually dressed in jeans and sport shirts, and publishing people in business attire. The former outnumbered the latter by a serious multiple, and the predominant feeling was definitely geeky.

The contrast in clothing belied a deeper clash of cultures. As I circulated among the conferees, I could sense the deep divide. Whereas publishing people felt that books were the finest means of communicating information ever created, the tech element saw them as the doomed artifacts of another era. One contingent envisioned a revolutionary new medium; the other's attitude was "If it ain't broke, don't fix it."

I had to sympathize with the revolutionaries. Although computerization had manifested itself in various editorial and production aspects of book publishing, in 1998 the fundamental process of taking a text from paper manuscript to bound, printed volume was not vastly different from what it had been in the early twentieth century or, for that matter, in the early eighteenth. Editorial relationships were established via lunches, drink dates and parties, and business negotiations conducted on landline phones. Manuscripts were submitted by mail or messenger, contracts and checks transmitted via the U.S. postal system. Paper copies of contracts, correspondence and reviews were stored in metal file cabinets.

So many book production procedures were performed manually, from copyediting with pencil on paper to production of galley proofs, from cover paintings to catalogs. Editor and publishing consultant Stephen S. Power, reminiscing about his employment at that time, recounts how "I personally took the script around to every department so that I had face time with everyone involved in the process, from jacket copy to cover art to tip sheets to sales to marketing to publicity."

I studied the convocation's program and attendee list. Speaking, serving on panels or simply observing the proceedings (taking notes on laptops) were delegates from such prominent corporations as Intel, Motorola, 3M, Xerox, Sony, Lucent Technologies, Hewlett Packard, Hitachi, Kodak, Minolta, IBM and Microsoft. The list was filled with e-book developers sporting sexy futuristic names: Nuvomedia, Autotext, Netopolis, Librius, TeleRead, Pixelworks, Electric Press, Glassbook, Softbook, Cybook, Everybook and Hardshell Word Factory.

Interspersed with them (taking notes with pens on paper) were people from the publishing sector, ranging from Simon & Schuster in New York to Editora Atica in Brazil to Kadokawa Shoten in Japan; also librarians from New York City's Columbia University and from as far away as Alaska, and educators from California, Wisconsin, North Carolina and Maryland, among them, numerous librarians and representatives of organizations for the blind and physically handicapped. And listed as well were some whose connection to e-books seemed remote: Procter & Gamble? The U.S. Supreme Court? The Naval Surface Warfare Center? Boeing Flight Safety?

A few attendees had feet in both worlds, men and women from the technology sector engaged by publishers to translate technical jargon for the hide-bound world of book publishing. (The day when every big publisher had a "Chief Digital Officer" in the executive suite was still over the horizon.)

Strangely—almost bizarrely—no one from Amazon attended despite its boast of being "Earth's biggest bookstore." A word search through NIST's proceedings did not even produce a mention of the company's name or representative from the behemoth.

Some other absences were also conspicuous. No one from OverDrive, Inc., which was on its way to building a gargantuan network of digital-book lending libraries, was on the roster. Nor was anyone from Franklin Electronics, which had been producing handheld electronic reference books, dictionaries, translators and Bibles for over a decade. And though the name of Gutenberg was frequently invoked at the convocation, no one was there from Project Gutenberg, which had pioneered digital commerce more than twenty-five years earlier by means of public domain texts delivered via a primitive precursor of the Internet. (There was, however, an attendee named Jonathan Guttenberg, President of New Media at Random House.)

Despite the nonattendance of these key players, the anticipation of the throng was sky high. When NIST Director Raymond Kammer took the podium and declared, "Welcome to the first Electronic Book Workshop!" the audience

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erupted in cheers. The man next to me said, “This is the biggest moment since 1455.”³

The presentations began, and everyone sat patiently through talk after talk wondering where they fit in and how they could make money in this emerging technology. Many were struggling with nomenclature. Today we all know what we mean when we refer to electronic books. But it was far from clear that everyone in the room shared a common understanding or (except for terms like “Lunch in the Cafeteria”) even spoke the same language. Book people grappled with terminology like “microencapsulated electrophoretic display,” “electrowetting” and “plasmonic nanostructures.” Was “64-bit Random Access Memory” a lot or a little? Was a gigabyte a little or a lot?

The geek element struggled to understand publishingspeak terms like “trim size,” “fair use” and “hard-soft deals.” Did “sub rights” have something to do with fighting ships? Was “pub date” a rendezvous where editors went for drinks with agents?

In this Babel-like atmosphere, the application of “digital” to “publishing” threw familiar terms into a cocked hat. If authors were now able to sell and distribute their work directly to readers—as this evolving technology empowered them to do—didn’t that make them publishers? If publishers created original, copyrightable digital content, didn’t that make them authors? If a literary work took the form of a digital file delivered electronically, was it still a book?

Hypertext, the nonlinear computerized language developed in the 1960s, raised bewildering issues for publishing people. If you could not only choose your own ending to a book but the beginning and middle as well, what was a story? And if, using hypermedia to link to video and audio, you could (in science fiction author Greg Bear’s term) “type a movie”—well, what then was a movie? Did that make authors auteurs?

During a break I chatted with an engineer type. “What do you for a living?” he asked. I said, “I’m a literary agent.” He looked puzzled. “I represent authors,” I explained. Another blank stare. “I sell their manuscripts to publishers. I negotiate their book contracts.”

He brightened and snapped his fingers. “Ah! You’re a content provider!”

The head-spinning complexity of the issues was exemplified in a number of talks about paper and ink. Not your grandparents’ paper and ink—electronic paper and ink. The future of reading was no longer bound sheaths of paper but texts on screen. We were introduced to a number of ingenious variations on paper, such as lightweight plastic sheets that you could literally turn like the

leaves of a book. All these products employed plastic or glass sheets in which a matrix of crystals, beads or transistors was embedded or suspended in liquid. When charged by an electric current, the beads in the matrix arranged themselves as texts or images.

Most promising was what MIT researchers called E Ink, which displayed texts and images on screens clearly and rapidly. There was an undercurrent of sniggering in the audience as a straight-faced scientist explained how an electric current could turn your white balls black and your black balls white. (MIT had the last laugh when E Ink was sold to Prime View International, a Taiwan company, for \$215 million.)⁴

All joking aside, electronic paper and E Ink were clearly essential to the future of e-books. But making them as legible and convenient as their analog prototypes—well, easier said than done.

Take a traditional book—what many publishing people smilingly call a “book book” to distinguish it from its electronic counterpart. The pages are bright white. You can read them in sunlight. You can read them in the shade. You can read them in candlelight. Graphs, charts and photos are easily inserted adjacent to the text referring to them. Books come not just in black-and-white but in every color of the rainbow. When you turn a page, there is no lag while you wait for the next to appear. If you accidentally drop it on the sidewalk, it doesn’t shatter or cease operating. When you put it down, you can save your place by inserting a bookmark or (if you are a barbarian) dog-earing the page. And if you close it for a day, a week or a decade, it will start up instantaneously and function exactly as it did when you last put it on the shelf.

Best of all? Book books don’t require batteries.

We hold those truths to be self-evident. But for scientists and engineers, reproducing the look, feel, flexibility and durability of book books was a maddening challenge. Some screens, such as those in tablet computers using LCDs (liquid crystal displays) glared blindingly in sunlight. On the other hand, LCD screens, which are backlit, could be read in the dark; E Ink screens then in development could not. LCDs could display color; E Ink could not.

A big deal was screen angle. You can read a printed book even if you hold it nearly horizontally, but the state of screen technology in 1998 made it hard to read the text unless you held the screen perpendicularly.

Pagination was another huge headache: When you enlarged the font, the text on page 50 became page 80. A caption that went with a photo on page 100 now shot to page 125 if you enlarged the font or to page 75 if you reduced it. If

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you had to turn your screen from portrait to landscape in order to see an illustration, the graphic flipped back to portrait, requiring you to tilt your head 90 degrees to make the image out.

And then there was that damn refresh rate, the time it took for the text to appear when you clicked to the next page. The delay was annoyingly, unacceptably long, like the lag in some early digital cameras between the press of the finger and the click of the shutter.

Dan Munyan, CEO of Everybook, Inc., summed it up neatly: “What a computer does best, a book cannot do, but what a book does best, a computer cannot.”

One more thing: On a dedicated e-book reader you couldn’t make a phone call, watch a movie, play a videogame or listen to music, applications long visualized by science fiction writers. Consumers yearning for a handheld device incorporating audiovisual media and telephonic capability would profoundly affect the future industry. But today, at NIST, the focus was on the elusively simple task of reproducing the experience of reading a printed book.

To laypeople in the audience, the presentations were not easy to follow. Some of the papers and PowerPoint demonstrations were abstruse, complex and boring. And so, when the talk about batteries was announced, the audience buckled down for another tedious presentation. They knew of course that the battery was (to borrow Tracy Kidder’s phrase) the soul of this new machine, an indispensable component of any portable electronic device. But it was not going to be easy to endure a lecture devoted to “phase-controlled metal-oxide-based materials for improved energy storage.”

Then the Battery Lady stepped up to the podium and magic happened.

Svelte, beautiful, charming, a trained opera singer, Swedish scientist Dr. Christina Lampe-Önnerud had been a dedicated researcher in the battery field since 1991 and had invented a number of innovative techniques (today she holds over 80 patents and a superabundance of honors).⁵ Her talk alliteratively focused on five factors dictating the future of batteries, all of which were still wanting at this point in time: “Coverage, Convenience, Clarity, Control and Cost.” Though the pages of her PowerPoint presentation seem dry and monotonous to read, her artless and soft-spoken delivery, with the faintest of Swedish accents, mesmerized the crowd. One observer quipped that her enunciation of “lithium ion” was as seductive as Eartha Kitt’s rendition of “Santa Baby.”

As the conference wound up on the second day, a significant truth became manifest: Despite the messianic zeal of the participants and breathtaking

progress on numerous scientific fronts, e-books simply weren't ready for prime time. Aside from shortcomings in the devices' science and technology, few standards had been developed on which everyone could agree. Many fields of research and development were in competition or not ready to integrate with each other, harking back to such standards battles as the videotape format war between the Betamax video cassette recorders (VCR) and VHS (Video Home Systems) in the 1970s and '80s.

Lack of standards and the absence of a clear business model plagued the embryonic e-book industry. How much would consumers pay for an e-book reader? How much would they pay to download a book? When, after print publication, should the e-book edition be released? If you bought a printed book, did you have to pay extra for the e-book? How much royalty would publishers pay to authors? What means would be used to load digital texts into e-books? Floppy disks? Smart cards? Internet? Could you enhance an e-book with audio, photos and videos? Could you embed links to a dictionary and thesaurus, to other books, to movies? How could you maintain control over the public dissemination of digital files? How could you protect your properties against piracy?

A number of essential publishing channels were being neglected. Julia Blixrud, Senior Program Officer of the Association of Research Libraries, described some fiendishly challenging issues in digitizing, formatting, cataloging and circulating library-compatible e-books. Another source of turmoil was books for the blind, dyslexic and handicapped. Judith M. Dixon, PhD, Consumer Relations Officer at the National Library Service for the Blind and Physically Handicapped, Library of Congress, reported how desperately e-books were needed for some forty-four million visually impaired people forty-five or older, four million of whom were severely afflicted. The only available resources were in Braille or on records and cassettes, and only three to five percent of print books and one half of one percent of magazines were produced in recorded or Braille formats. Electronic media, including Braille-speech combinations, could be an enormous force for good—if the people at this conference would only apply themselves to developing the technology.

Perhaps the most important issue of all was almost entirely overlooked. Because the thrust of the conference was technological, the matter of copyright scarcely had the same impact as touch screens, E Ink and battery life. Indeed, there seemed to be a pervasive air of ignorance, indifference or insouciance about the subject among the attendees. Carol Risher, Vice President of

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Copyright and New Technology Association of American Publishers, recognized this truth in a cautionary speech. “In the enthusiasm to consider the wealth and variety of literature and information products that will be available to import to e-book devices, there hasn’t been much mention of the issues raised by copyright—ownership, control, protection against copying, licensing, derivative works, authenticity.”

The significance of Risher’s talk didn’t seem to register, as evidenced by one speaker who gushed that the new technology would enable users to scan all of the world’s literature and make it available to the masses free of charge. At a subsequent convocation I felt compelled to stand up and say something:

It must come as painful news to those of you who have grown up believing that if you see a piece of text you like, you just hit the “Copy” command, paste it, and forward it to all your friends on the Net. Unlike us folks from the content sector who jealously protect the sanctity of intellectual property, many of you grew up with a strong sense of entitlement to it during the freewheeling early days of the Internet. And many of you still believe content should be given away free—unless of course you created it, in which case you will sue the ass off anybody infringing your work.

So, I can’t blame you technical people for fuzzy thinking about content. I can only remind you that a book is protected by copyright law the moment it comes out of an author’s brain and it is fixed on a medium like paper, and until and unless that author assigns or licenses the rights to another party, the law prohibits reproduction or dissemination without the owner’s express permission. Failure to do so is called infringement, a legal term meaning you can’t do it.

Publishers and authors controlled a stupendous storehouse of copyrighted content—books, stories, articles. But with so many unanswered questions, so much confusion and contradictory information, so many loose ends flapping in the breeze, the possessors of this treasure were reluctant to venture out with it. Until perfect clarity in all these matters was achieved, the realization of a thriving e-book industry would be stalled.

Given the fact that the conference was sponsored by the National Institute of Standards and Technology, a number of presentations focused on the imperative need to develop standards. The abstract of one by Steve Stone, Director of Electronic Books Development at Microsoft, read:

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For electronic books to succeed, tens of thousands of titles must be available immediately upon release of the electronic book devices. Publishers are willing to provide content if a standard file format and content structure exists into which they can write their content as well as a digital rights management system that can protect their content. Companies that understand this will work quickly and aggressively to correct this by developing electronic book standards with the correct content structure as well as content protection features.

In his closing remarks, Victor McCrary, Technical Manager of the Information Storage and Interconnect Systems Team in NIST's Information Technology Laboratory, described the road map for a successful e-book industry and called for committees to come back the following year with a set of universal standards that would put everyone on the same page (pun intended) in such matters as device weight, power requirements, content format, display reflectivity, voice recognition, content security and integrity—and above all, software platform. Only when the end users—readers—were satisfied would the industry take off. That meant a device that looked and felt like a book: portable and lightweight, with pages bright in light or darkness; possessing such software features as dictionary, highlighting and font resizing; low power consumption; capable of carrying illustrations; and “multi-path distribution of content—wire, wireless or portable media.”

Two years earlier, Microsoft cofounder Bill Gates had written an influential article entitled “Content Is King.”⁶ But at the NIST conference, the throne was occupied not by content but by hardware. The realization of the e-book dream would be postponed for years while countless issues were sorted out.

Though everyone who attended still believed that e-books were inevitable, e-books obviously weren't arriving tomorrow morning, and the conference adjourned beneath a cloud of uncertainty. The bottom line? No standards, no business model; no business model, no business.

In short, the challenges facing the nascent industry in 1998 could not be more daunting. It was a precarious time to be an e-book publisher.

By the time I boarded the train for New York I had made up my mind to become one.

DIGITAL INC.



THE DIGITAL TRANSFORMATION of the past fifty years has been widely chronicled, but the story of how the book industry went from print to digital has never been adequately told.

As a widely admired literary agent and the founder of one of the very first e-book publishers, Richard Curtis was present at the creation. He knows the whole story as only an insider can. *Digital Inc.* is the first book to recount in detail the conversion of printed books to digital and the struggles of publishers to embrace a new business and creative paradigm after five hundred years of dedication to print on paper. The upheaval changed not just books but the people who write, read, and publish them.

Digital Inc. blends a thoroughly researched history with an account of how Curtis and a team of hotshots built their electronic book company from scratch and turned it into a

multimillion-dollar company in the vanguard of digital transformation, pioneering innovations that still shape the book business today. The story of how the e-book morphed from an idle fantasy into an industry-shaping powerhouse is told against the backdrop of decades of tumult in publishing, from the birth of international media conglomerates and the explosion of social media to the rise of Amazon and the emergence of new business models unimaginable a generation ago.

In the tradition of *Hackers*, *Fire in the Valley*, and *Soul of a New Machine*, *Digital Inc.* explores the personal, social, and creative complexities—as well as the daunting technical and economic hurdles—that the progenitors of the e-book revolution had to overcome. Curtis's wise and witty voice brings to life the colorful characters who revolutionized publishing and continue to transform it in the rapidly-dawning age of AI.

For everyone who cares about books and their continuing impact on our culture—from writers and publishing professionals to countless avid readers—*Digital Inc.* is an absorbing, eye-opening guide to today's new world of books and how it came to be.



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