

# From the University Presses — The Hidden Digital Revolution in Scholarly Publishing: POD, SRDP, the “Long Tail,” and Open Access

Column Editor: **Sanford G. Thatcher** (Director, Penn State Press, USB 1, Suite C, 820 N. University Drive, University Park, PA 16802-1003; Phone: 814-865-1327; Fax: 814-863-1408) <sgt3@psu.edu> [www.psupress.org](http://www.psupress.org)

When journalists write about the effects of the digital revolution on publishing, they almost always focus their attention on the progress of the movement toward making publications available in electronic form. Back in the 1990s, when the new dot.com businesses managed to persuade many venture capitalists that they were the wave of the future, there was so much enthusiasm for e-publishing that some pundits were ready to declare the imminent death of the book in its traditional print format. In his keynote address at the **Frankfurt Book Fair** in October 1999, for instance, industry analyst **Mike Shatzkin** spoke about “the inevitable future of the book business...when the printed book will be an artifact or a rich person’s toy.” The article in *Publishers Weekly* (11/15/99) quoting **Shatzkin** went on to say, reporting the gist of his further remarks: “The changes will come about because of the expansion of e-book readers.... Within 10 years [i.e., by 2009], cultural barriers against the e-book will be weakened, in large part because schools and corporations will spread the use of e-books by giving them to students and employees as a cheaper way to facilitate communication. At a certain point, there will be more material available on e-books than in print, leading to what **Shatzkin** called an ‘e-book flip.’” Even today enthusiasts for the eBook are making similar predictions. In an interview with **Amazon’s** CEO on **ABC News** on March 10, 2009, where he announced the launch of the new version of his company’s **Kindle** eBook reader, **Jeff Bezos** “said he thinks that books in their current form are becoming obsolete,” and that “over time...e-books will be the only way people read books.”

Predictions of the rapid growth of e-publishing turned out not to come true in its first phase in the 1990s, however, and most of the large commercial publishers that had invested millions on the strength of this enthusiasm cut way back on their investments in alternative media, some closing down their e-publishing units altogether as the dot.com bust of 2000-2001 put many of the early experimenters out of business or, like **netLibrary**, forced them to sell out to larger, more established entities (OCLC in **netLibrary’s** case), just as in the music industry **Netscape** eventually was sold to **Bertelsmann**.

In more recent years, there has been a resurgence of interest in e-publishing, sparked

in part by massive digitization projects undertaken initially by such ventures as **Project Gutenberg**, the **Internet Archive**, and the **Million Book Project** and later, on an even grander scale, by **Google** first in its alliance with publishers and then more massively with libraries. The development of more sophisticated eBook reader technology, with the invention of electronic “ink” enabling the introduction of the **Sony Reader** and **Amazon’s Kindle**, encouraged publishers to take a look again at the market for hand-held devices. Even more exciting prospectively, because of the sheer number of users worldwide, was the focus on mobile “smart” phones as a preferred single platform offering a potentially huge new market for e-products of all kinds including books. Publishers paid attention when, in February 2009, **Google** announced that 1.5 million books in the public domain from its digitization project would henceforth be available free to anyone having an **iPhone** or another mobile device that carries **Google’s Android** platform: <http://www.downloadsquad.com/2009/02/06/google-offers-1-5-million-public-domain-books-for-your-mobile-iph/>. Though chastened by their earlier disappointments, many publishers are looking forward once more to the takeoff of the eBook market, and sales gains in the range of 300% or more year to year are not uncommon now, even though as a percentage of the overall book market eBooks still constitute a minute segment, under one half of one percent. Yet the increases are impressive enough to be taken very seriously by publishers

— and to be noticed by journalists seeking new stories about the industry. Meanwhile, virtually out of sight to the general public and the journalists who cater to it, digital technology really has been creating a revolution in the industry, perhaps nowhere more crucially and significantly than in scholarly publishing. As the Internet was capturing the public’s imagination in the early 1990s and dot.com startups sought to take advantage of this new medium of communication, the **Xerox Corporation** rolled out a new product in October 1990 called the **DocuTech Production Publisher**, which began this new era in publishing: <http://en.wikipedia.org/wiki/DocuTech>. Although the basic technology had been around since **Xerox** introduced the first photocopier into the marketplace in 1949, the **DocuTech** introduced new features that essentially made

it an entirely self-contained publishing system in one large box, which could perform all the functions that theretofore had required separate typesetting, make-ready, printing, and binding steps to produce a finished book. The machine caught on rapidly and became a staple of commercial copyshops, small printing businesses, and university print centers.

Its full potential for the publishing industry, however, did not become evident until a subsidiary of the major book wholesaler, **Ingram**, opened for business in 1997 under the name **Lightning Print** (later changed to **Lightning Source**). What this company uniquely provided was the means for integrating the digital printing technology pioneered by **Xerox** into the traditional channels for book distribution, which made it possible for scholarly publishers to free themselves from their imprisonment by the offset printing technology that had defined the parameters of publishers’ business models for centuries. For the first time, publishers were presented with the option of never allowing a book to go out of print because now there was an inexpensive method of both printing a book one copy at a time and selling it into the marketplace through normal commercial channels. Scholarly publishers were quick to recognize the revolutionary potential of this new approach to backlist publishing. **Penn State Press** signed an agreement with **Lightning Source** on September 1, 1998, and like many other university presses, we began having our older titles — some already out of print or “out of stock indefinitely” (which is the euphemism the industry uses to alleviate the pain of terminal out-of-print status for a while) where copyrights had not reverted to authors and others with too much stock left ever to sell out — converted to electronic form and stored in **Lightning Source’s** database to “print on demand” (POD), a term that fast became a standard part of the publishing lexicon. Our own determination, as a scholarly publisher dedicated to disseminating knowledge far and wide, was to keep every book we had ever published in print forever, except for those where rights had reverted to the authors and retrieving them would have been difficult and for those highly illustrated books where the digital printing technology had not improved to the point of being able to reproduce illustrations at an acceptable level of quality (especially for art books). We now have 432 titles in **Lightning Source’s** system (out of a total of about 1,500 in print overall) and are still adding them as time and funding allow. We also have many titles in the database of **BookSurge**, another POD company that **Amazon** bought in 2005 and began pressuring publishers to use if they

*continued on page 61*



wanted to have their titles continue to be listed on **Amazon's** site: <http://www.publisher-sweekly.com/article/CA6545772.html>. POD also gave a huge impetus to the self-publishing part of the industry, with **Xlibris** pioneering the way with a new eBook/POD service it announced in December 1997, to be followed by many other companies offering a cheap way for authors to get their self-published books into the channels of book distribution also. As a result, the annual output of the U.S. publishing industry, which had hovered in the range of 60,000 new titles for a long time, suddenly increased tenfold and swamped the marketplace with a deluge of unbranded books, a very tiny handful of which might ever gain wider recognition and make it into the branded sector (as such eventual best-selling titles as *The Celestine Prophecy* and *The Purpose-Driven Life* had managed to do for their self-publishing authors).

But POD was only the first step in this new hidden revolution. Another acronym soon came along to share the space in the emerging digital lexicon: SRDP, which stands for "short-run digital printing". While POD solved the problem of keeping books in print indefinitely, SRDP permitted publishers to minimize the risks of speculating on print runs. The bane of the entire publishing industry for centuries had been the need — rooted in the simple economic fact that unit costs decrease rapidly with the increase in the size of print runs when offset printing technology is used — to make guesses up front about the lifetime sales potential of each book. And naturally, in their excitement about the new books they had acquired, editors were forever optimistic about their prospects in the marketplace and urged initial printings to be correspondingly generous. (In the cutthroat world of commercial trade publishing, there was the additional incentive to earn back huge advances given out to "star" authors). Large print runs resulted in low unit costs, but they also, much more often than not, ended up creating large inventories of unsold books, which had come back from bookstores as returns (sometimes running, in commercial publishing, as high as 50% and even in scholarly publishing up to 30%). An **IRS** tax ruling upheld by the **U.S. Supreme Court** in 1979 known popularly as the **Thor** ruling made it costly for commercial publishers to keep excess quantities of books on hand for long, and the "remainder" book market accordingly flourished. University presses, though exempt as non-profit entities from the exigencies of the **Thor** ruling, also paid a price to keep too many books in their warehouses, and some suffered in financial audits from having failed to write down their inventory quickly enough. (Press directors were annually admonished by the accountant hired to prepare annual operating statistics for the **Association of American University Presses** that they were not writing down inventory quickly or thoroughly enough). What the new digital printing technology made possible was less guesswork. Scholarly publishers were particularly at risk because

the market for their books was small to begin with, and many feared that when potential lifetime sales dropped below 500 copies, they would simply not be able to publish the books at all as offset technology was uneconomical to use at such a low level of print run (chiefly because of the make-ready costs that go into preparing a printing press to produce even the first copy). The unit cost for digital printing is the same for the first copy as it is for the thousandth, however, and even though it cannot compete in cost with offset at higher levels of print run (and thus is unlikely ever to be used by commercial publishers for their frontlist trade books), it becomes the only viable approach at quantities of just a few hundred, even down to pure POD, one copy at a time. And in the form of SRDP, it gives scholarly publishers the opportunity to "test the waters" without a substantial investment up front — and without filling their warehouses with copies that may never sell at all. This is good not only for the environment (as far fewer books ever have to be pulped) and for cash flow (since less capital is tied up in inventory at any given point during the life cycle of a book) but for experimentation also: a publisher can try out a book for course adoption, for instance, with a printing of just 100, say, or it can take the chance that a book may have some potential to break into the general trade market without overcommitting and ending up with lots of boxes of unsold books in the warehouse.

Digital printing has, indeed, spawned a whole new way of thinking about publishing, which breaks down the "life cycle" (the term commonly applied to this approach) of a book into discrete segments. Many scholarly publishers, like **Penn State Press**, have long since ceased publishing new books in dual formats, mainly because too many libraries will opt to purchase a paperback edition if it is immediately available. Without the income from selling a few hundred hardbacks, a publisher is compelled either to set a much higher price for the paperback than it would otherwise do if the paperback edition was delayed or to jack up the price of the hardback even further so that a sale of 100 copies would bring in as much revenue as a sale of 300 or 400. For our press, a typical life cycle for a book proceeds as follows. First, a hardback is produced in a print run of 400 to 500 copies, using offset technology that provides the highest quality associated with traditional publishing. (It has become feasible to use offset for such low quantities because competition from digital printers has forced offset printers to drop their prices to keep too much business from migrating to digital printing companies, but even then an offset printer will never print as few as 100 or even 200). Second, once the hardback sells through, usually anywhere between six and sixteen months after publication, with twelve months being the average, a paperback edition is issued via SRDP, with a first printing of between 100 and 300 copies. SRDP is used

again and again, to replenish inventory, as long as annual sales continue at a minimum of 100 copies. Once a level of annual sale below that number is reached, the book is sent to **Lightning Source** or **BookSurge**, or both at once, to begin its stage of life as POD. It will remain in that stage forever, unless for some reason the author wants to retrieve the rights. All POD titles are available for purchase through normal channels of commerce, including e-retailers like **Amazon.com** and **barnesandnoble.com**. Regular bricks-and-mortar stores order these titles from **Ingram** just as they do any other books, and the customer whose special order is filled in this way never knows, when the order is placed, that no physical copy of the book exists at that time in any warehouse. Individuals can also order online through the publisher's Website and a seamless process of electronic data exchange results in a book being sent to the customer from **Amazon** or **Ingram** with a label that makes it appear to the customer as though it had been shipped from the publisher's own warehouse.

About the time **Lightning Source** was beginning to take off, a dot.com company called **Google** was beginning to make its presence felt also. When **Google** began approaching publishers about digitizing books in October 2004, **Penn State Press** leapt at this opportunity and became the first university press to sign up. (**Google** later posted a "case study" of our experience, which is available here: <http://books.google.com/googlebooks/pennstate.html>). We early recognized the potential that the **Google Book Search** program had for stimulating new interest in backlist titles, a phenomenon to which **Wired** editor **Chris Anderson** applied the moniker of "the long tail" in his classic article of October 2004, and it has indeed generated a healthy, if not huge, new revenue stream for our press as it has for many others that joined later. The pending

**Google** settlement will only extend the long tail further, especially into the large untapped potential market of out-of-print books that publishers have yet to digitize themselves. And through another digital printing device called the **Espresso** machine, which is inexpensive compared with the **Xerox DocuTech** and similar high-end machines used by digital printers, the possibility opens up for the first time for libraries to go into the business of printing on site for their patrons' convenience. It is said to take only about 15 minutes to turn out a bound book from this machine once the order is placed. This will be decentralized printing with a vengeance and raises the specter of a day not long henceforth when the technology will become cheap and compact enough to appear in many homes, just as "desktop publishing" became possible through the spread of PCs in the 1980s.

The significance of this digital printing revolution does not end there, however. It is, in fact, probably the single most important

*continued on page 62*

---

*"What the new digital printing technology made possible was less guesswork."*

---

contributor to the eventual success of “open access” for book publishing. Even though the aim of open access is to make publications available for unobstructed full-text browsing online, it is unlikely to succeed in the arena of book publishing without the appendage of POD unless and until an even greater revolution occurs in how the costs of migrating monographs to open access are paid. In journal publishing, the transition is well under way, and various funding models to cover upfront costs have been tried, including fees from authors, subsidies from foundations, and costs built into the prices of subscriptions (so that faculty from a university whose library pays the premium can publish in these journals for no additional fee). No one has yet confronted the fact that the upfront costs for publishing a monograph are at a whole different level, from about \$20,000 on the low end to many multiples of that for certain types of complicated books. There seems to be no inclination on the part of university administrators to encourage the movement of open access into monograph publishing, partly no doubt because they are at least dimly aware of what the higher level of upfront costs involved would be. (Sometimes reference is made in this context to the royalties that authors earn from publishing books, compared with articles, but this is a disingenuous argument since few academic authors earn enough to be concerned about protecting this income stream if the opportunity to publish open access were to be made available to them). For the time being, then, the only feasible way economically to proceed toward open access for monographs is to provide a system, as the **National Academies Press** has done since the mid-1990s and we at **Penn State Press** have done for our Romance Studies series since 2006, whereby the purchase of books in print form through POD produces enough income to support the whole enterprise: <http://www.romcestudies.psu.edu>. From the perspective of authors, of course, this kind of system represents the best of both worlds: a print copy may be used for all the various purposes where eBooks are not yet fully accepted, such as promotion-and-tenure reviews, nomination for book prizes, submission to professional journals for review, and even gifts to family members; meanwhile, the entire community of scholars worldwide who may have an interest in the author’s research can have immediate access to it over the Internet; and teachers who may want to assign a chapter or two for their classes simply need to include the URLs in their syllabi. Mention of this last advantage, of course, reveals one difference between the open access and print only models: with the dual OA/POD model, the publisher does sacrifice the subsidiary income that would normally come from licensing course use through the **Copyright Clearance Center** or directly. A dollar or two added to the retail price for the POD edition would, for most books, suffice to make up this difference, however, so it is not a crippling concern. And the greater access OA affords to use of these books is a significant contribution the schol-

arly publisher can make to the dissemination of knowledge far and wide, which is after all the fundamental mission of a university press. Only if the online access were to completely displace the sale of paperback editions for course use would this economic model break down. But since teachers often do not assign entire books anyway but have chapters photocopied or scanned into e-reserve systems, there would appear to be little reason to fear that this greater erosion of sales will occur. It has not so far, anyway, in our experience with the Romance Studies series.

Thus has this hidden revolution permeated the world of scholarly publishing over the past decade and given a new lease on life not only to backlist titles, through POD, but also to frontlist titles whose publication through SRDP does not involve the same level of economic risk as it once did. POD, as shown here, has also facilitated experiments in “open access” publishing for monographs. It has hugely helped university presses to improve their cash flow and keep their inventory at a much lower level than hitherto feasible, while also being better stewards of the environmental impact of their business.

It even makes possible dispensing with warehousing altogether, a move that **Penn State Press** is taking in the European market, where books can be supplied via POD to individual buyers or SRDP for course orders through **Lightning Source UK** (opened in 2001) or **BookSurge’s** many outlets overseas.

The sole area of resistance to this revolution so far has been the publication of illustrated books that demand the highest quality in reproduction, such as art history monographs. Digital printing technology has greatly improved in its capabilities over the past decade, and that progress leaves one hopeful that this final obstacle will be overcome in the not too distant future. Already digital printing is poised to provide four-color charts, graphs, maps, etc..., which will be a great advance for publishing in the social sciences where editors always feel as though they are disappointing authors who can produce wondrous figures on their computers in multiple colors but then have to be told that their books can have these figures reproduced only in shades of gray. Art history remains the problem child of scholarly publishing because its requirements for high-quality reproductions of artworks currently exceed the capacity of digital printing technology while it also faces special difficulties in securing permissions for digital uses that prevent its transition to eBook publishing. In time, we may hope, solutions will be found to both of these challenges. Digital printing is also no panacea for the challenges of developing new types of publications that were the goal of the **Gutenberg-e** and **ACLS Humanities E-Book** projects, for the very simple reason that these multilayered texts have no feasible counter-

part at all in the world of print; they are “born digital” and must, in large part, remain in that form forever to accomplish their ambitious aims. (See my post-mortem on **Gutenberg-e** in the February issue of *ATG* for a fuller explanation of the reasons why).

Where digital technology was expected to have its greatest triumph and impact, in the emerging market of eBooks, it has failed to create a revolution yet and only is now beginning to show new signs of becoming a sector of measurable, if still very small, economic importance. But all the while, behind the scenes in publishing houses across the country, a quiet revolution has been going on, mostly unheeded by journalists who can’t get very excited about cash flow and inventory control, but greatly appreciated especially by scholarly publishers whose very survival has been at stake. And herein lies the great irony of this all, as well described by **Polity Press** publisher and **Cambridge** sociologist **John**

**Thompson**, who first limned its dimensions in his *Books in the Digital Age* (2005) in a chapter titled “The Hidden Revolution: Reinventing the Life Cycle of the Book”: “It is one of the great

---

*“No one has yet confronted the fact that the upfront costs for publishing a monograph are at a whole different level ...”*

---

ironies of the digital revolution that only ten years ago, in the mid-1990s, there were many commentators who were predicting the death of the book. The digital revolution will usher in the era of the eBook, they proclaimed, and the printed book will increasingly look like the relic of a bygone age. While it is still too early to say exactly how the online dissemination of content will affect different publishing fields, one can say with some confidence that the prognostications of the early eBook champions were wide of the mark. But this does not mean that the digital revolution has had little impact on the world of book publishing — on the contrary, it has transformed it profoundly. And in so doing, rather than spelling the demise of the printed book, it has given it a new lease of life, allowing it to live well beyond the age at which it would have died in the pre-digital world and, indeed, rendering it potentially immortal.”

One is tempted to reply to the eBook enthusiasts as one wag did during the first wave of journalistic buzz back in the late 1990s, by announcing a “major breakthrough for academics struggling with technology: the new **Built-in Orderly Organized Knowledge** device called the **BOOK**... [it] is a revolutionary breakthrough in technology: no wires, no electric circuits, no batteries, nothing to be connected or switched on. It’s so easy to use even a child can operate it. Just lift its cover! Here’s how it works. Each **BOOK** is constructed of sequentially numbered sheets of paper (recyclable), each capable of holding thousands of bits of information. These pages are locked together with a custom-fit device called a binding,

*continued on page 63*

which keeps the sheets in their correct sequence. Opaque Paper Technology (OPT) allows manufacturers to use both sides of the sheet, doubling the information density and cutting costs in half. Each sheet is scanned optically, registering information directly into your brain. The **BOOK** never crashes and never needs rebooting, though like other display devices it can become unusable if dropped overboard. The 'browse' feature allows you to move instantly to any sheet, and move forward or backward as you wish. Many come with an 'index' feature, which pinpoints the exact location of any selected information for instant retrieval. You can also make personal notes next to **BOOK** text entries with an optional programming tool, the **Portable Erasable Nib Cryptic Intercommunication Language Stylus (PENCILS)**. Portable, durable, and affordable, the **BOOK** is being hailed as the entertainment wave of the future. The **BOOK's** appeal seems so certain that thousands of content creators have committed to the platform. Look for a flood of new titles soon."

So, **Mr. Bezos**, do not expect the book (or **BOOK**) to disappear anytime soon! 🐜