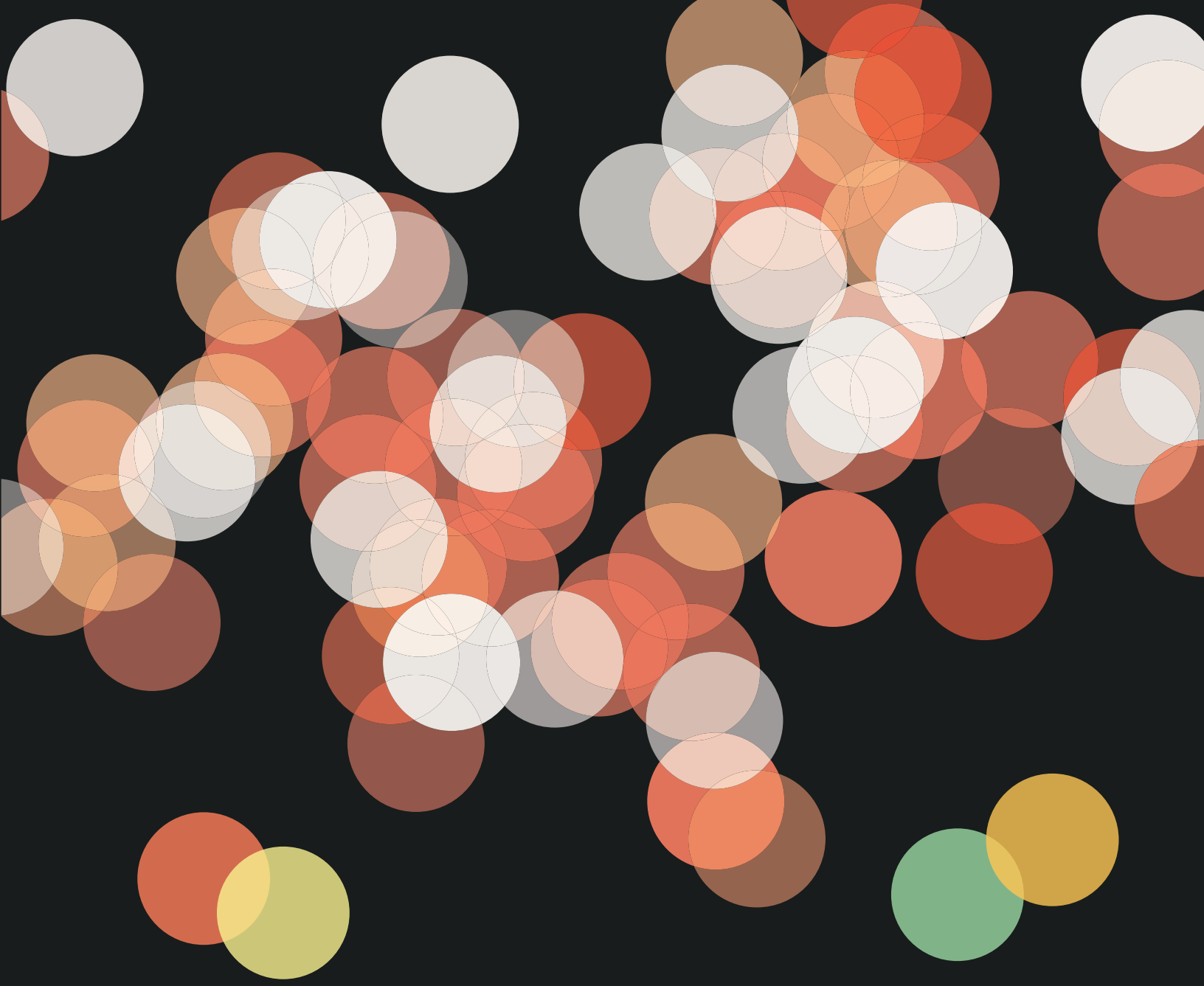

PEARSON NEW INTERNATIONAL EDITION

Digital Planet
Tomorrow's Technology and You

George Beekman Ben Beekman

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and the spacing between lines of text (***leading***). Today's word processing programs include basic page-layout capabilities, too; they're sufficient for creating many types of publications. But to produce more complex layouts for newspapers, newsletters, magazines, and flyers, publishers need the kind of advanced formatting capabilities found only in dedicated desktop publishing applications. (Word processing and desktop publishing software often works hand in hand: For example, writers usually use word processing software to create the text that is poured into a desktop publishing layout.)

For users without backgrounds in layout and design, most page-layout and word processing programs include professionally designed **templates**—"empty" documents that can be easily adapted to specific user needs. Most programs have options for saving documents as templates, so future documents can be created using the same layout and styles. Even without templates, it's possible for beginners to create professional-quality publications with a modest investment of money and time.

Desktop publishing becomes more complicated when color is introduced. ***Spot color***—the use of a single ink color (or sometimes two) to add interest—is relatively easy. But ***full-color*** desktop publishing, including color photos, drawings, and paintings, must deal with the inconsistencies of different color output devices. Because printers and monitors use different types of color-mixing technologies, what you see on the screen isn't always what you get when you print it. It's even difficult to get two monitors (or two printers) to produce images with exactly the same color balance. Still, color desktop publishing is big business, and advances in ***color-matching*** technology are making it easier all the time.

Most desktop publications are printed on color laser printers capable of producing output with a resolution of at least 600 dots per inch (dpi). The number of dots per inch influences the resolution and clarity of the image. Output of 600 dpi is sufficiently sharp for most applications, but it's less than the 1200 dpi that is the traditional minimum for professional typesetting. High-priced devices, called phototypesetting machines or imagesetters, enable desktop publications to be printed at 1200 dpi or higher. Many desktop publishers rely on outside service bureaus with phototypesetting machines to print their final camera-ready pages—pages that are ready to be photographed and printed.

Why Desktop Publishing?

Desktop publishing offers several advantages for businesses. Desktop publishing saves money. Publications that used to cost hundreds or thousands of dollars to produce through outside publishing services can now be produced in-house for a fraction of their former cost. Desktop publishing also saves time. The turnaround time for a publication done on the desktop can be a few days instead of the weeks or months it might take to publish the same thing using traditional channels. Quality control is easier to maintain when documents are produced in-house. And desktop publishing makes it easy to repurpose content for use on the Web.

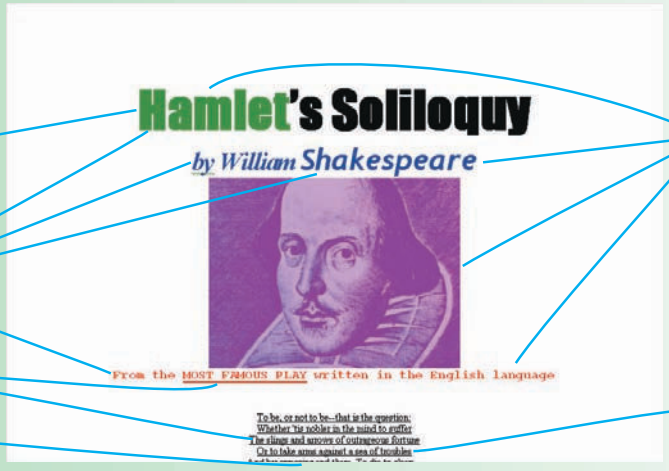
The real winners in the desktop publishing revolution might turn out to be not big businesses, but everyday people with something to say. With commercial TV networks, newspapers, magazines, and book publishers increasingly controlled by a few giant corporations, many media experts worry that the free press (guaranteed by the U.S. First Amendment and similar proclamations in other countries) is seriously threatened by de facto media monopolies. Desktop publishing technology offers hope for every individual's right to publish. Writers, artists, and editors whose work is shunned or ignored by large publishers and mainstream media have affordable publishing alternatives. If, as media critic A. J. Liebling suggested, freedom of the press belongs to the person who owns one, that precious freedom is now accessible to more people than ever before.

Working Wisdom — Creating Professional-Looking Documents

Many first-time users of word processing and desktop publishing systems become intoxicated with all the power at their fingertips. It's easy to get carried away with all those fonts, styles, and sizes and to create a document that makes supermarket tabloids look tasteful. Although there's no substitute for a good education in the principles of design, it's easy to avoid tacky-looking documents if you follow a few simple guidelines:

- Plan before you publish. Design (or select) a simple, visually pleasing format for your document, and use that format throughout the document.
- Use appropriate fonts. Limit your choices to one or two fonts and sizes per page, and be consistent throughout your document.
- Don't go style crazy. Avoid overusing italics, boldface, ALL CAPS, underlines, and other styles for emphasis. When in doubt, leave it out.
- Don't go color crazy. Sometimes less is more. Choose a limited palette of colors that work together and stick to it.
- Look at your document through your reader's eyes. Make every picture say something. Don't try to cram too much information on a page. Don't be afraid of white space. Use a format that speaks clearly to your readers. Make sure the main points of your document stand out.
- Learn from the masters. Study the designs of successful publications. Use design books, articles, and classes to develop your aesthetic skills along with your technical skills. With or without a computer, publishing is an art.
- Know your limitations. Desktop publishing technology makes it possible for anyone to produce high-quality documents with a minimal investment of time and money. But your equipment and skills may not be up to the job at hand. For many applications, personal desktop publishing is no match for a professional design artist or typesetter. If you need the best, work with a pro.
- Remember the message. Fancy fonts, tasteful graphics, and meticulous design can't turn shoddy ideas into words of wisdom, or lies into the truth. The purpose of publishing is communication; don't try to use technology to disguise the lack of something to communicate.

BAD



Title is out of proportion to rest of page.

Page uses too many different fonts.

Underlining adds no value here.

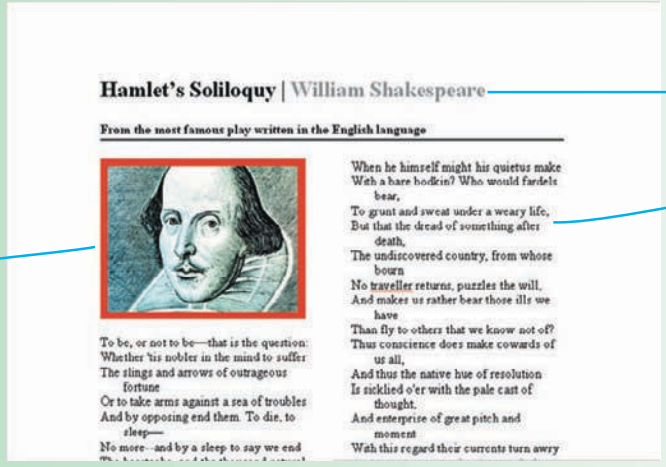
Center-justified text is harder to read.

Colors are garish and distracting.

There's not enough white space around the image.

If the audience includes readers over 50 years old, a 9-point font is too small.

GOOD



The Economist magazine inspires this design.

Color enlivens the black-and-white etching without dominating the text.

The heading is in proportion to the rest of the page.

A 12-point font and left-justified text make Shakespeare's words easy to read.

FIGURE 15

Beyond the Printed Page

Paper, often underrated as a communication medium, will not be eliminated by the growth of electronic media. It remains inexpensive, extremely portable, and capable of carrying very high-resolution images.

—Mark Duchesne, Vice President, AM Multigraphics

The first books were so difficult to produce that they were considered priceless. They were kept in cabinets with multiple locks so they couldn't be removed without the knowledge and permission of at least two monks. Today we can print professional-quality publications in short order using equipment that costs less than a used car. But the publishing revolution isn't over yet.

Paperless Publishing and the Web

A common prediction is that paper publishing will be replaced by paperless electronic media. Paper still offers advantages for countless communication tasks. Reading printed words on pages is easier on the eyes than reading from a screen. Paper documents can be read and scribbled on almost anywhere, with or without electricity. And there's no electronic equivalent for the aesthetics of a beautifully designed, finely crafted book. Predictions aside, the printed word isn't likely to go away anytime soon.

Still, digital media forms are likely to eclipse paper for many applications. Email messages now outnumber post office letter deliveries. Online encyclopedias have all but replaced their overweight paper counterparts. Adobe's ***PDF (Portable Document Format)*** enables documents of all types to be stored, viewed, or modified on virtually any PC making it possible for organizations to reduce paper flow.

The Web offers unprecedented mass publishing possibilities to millions of Internet users. Programs as diverse as Microsoft Word, Adobe InDesign, and Apple Pages can save documents in HTML format, so they can be published on the Web. Other programs, specifically designed for Web publishing, offer advanced capabilities for Web layout, graphics, animation, and multimedia publishing.

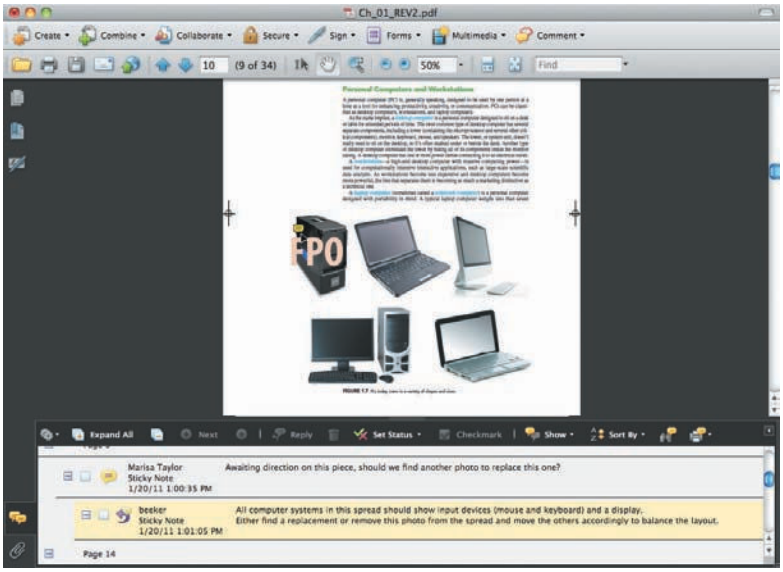


FIGURE 16 Adobe Acrobat Pro is a cross-platform software program that enables the electronic sharing of PDF documents, eliminating the need for paper in many publishing projects. People who worked on Digital Planet attached their comments to PDF pages and shared them electronically using Acrobat Pro. (Adobe's free Acrobat Reader can display, but not edit, PDF documents.)

Lourens Smak/Alamy Images

FIGURE 17 Mountains of waste paper such as this one should become less common as paperless publishing grows in popularity. That's the theory, anyway.

Never before has a communication medium made it so easy or inexpensive for an individual to reach such a wide audience. For a few dollars a month, an Internet service provider can supply you with space to publish blogs, essays, stories, reviews, photos, and art. It doesn't matter whether you're a student, a poet, an artist, a government official, a labor organizer, or a corporate president; on the Web all URLs are created equal.

Of course, the most popular commercial Web sites cost their owners more than a few dollars a month. A typical Web storefront costs a million dollars just to build. And one of the biggest challenges in Web publishing is attracting people to your site once it's online. Copyright protection is another problem for Web publishers; anything that's published on the Web for the world to see is also available for the world to copy. How can writers and editors be paid fairly for their labors if their works are so easy to duplicate?

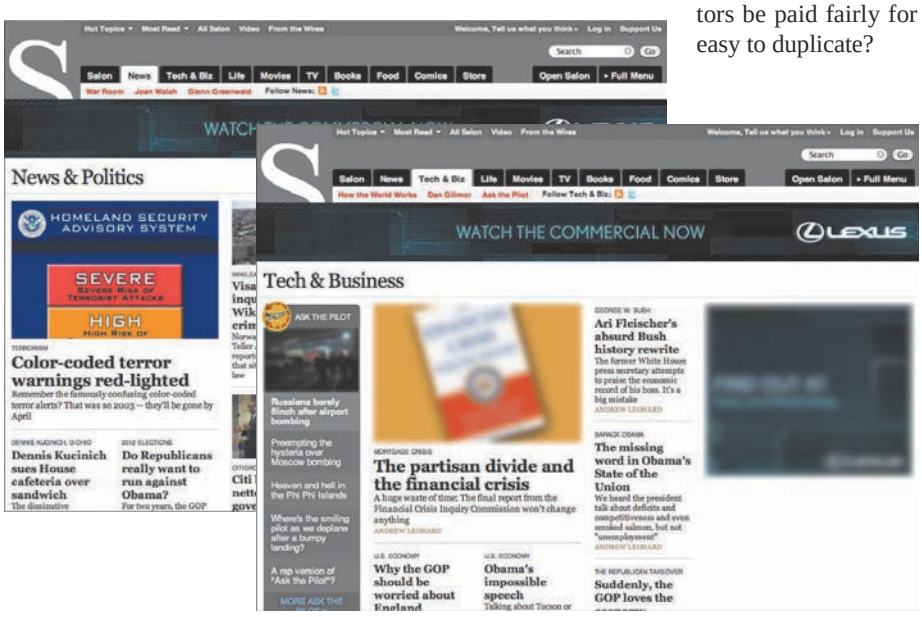


FIGURE 18 Many popular periodicals, from Wired to Rolling Stone, are published electronically on the Web. Salon is an example of a high-quality, popular magazine that is available only on the Web.

Still, the Web is far more accessible to small-budget writers and publishers than any other mass medium. And many experts predict that Web technology will eventually include mechanisms for automatic payment to content creators whose works are downloaded. In any case, the free flow of ideas may be more significant than the flow of money. In the words of writer Howard Rheingold, the World Wide Web "might be important in the same way that the printing press was important. By expanding the number of people who have the power to transmit knowledge, the Web might trigger a power shift that changes everything."

E-Books, E-Readers, and E-Paper

Paper publications also have growing competition from **e-books (electronic books)** and other digital publications. An e-book is a digital version of a book. An e-book might be readable on a computer, a PDA, a smart phone, and/or an **e-reader (e-book reader)**—a handheld device designed primarily for reading digital publications. E-book readers have been produced and marketed by Amazon, Sony, Barnes and Noble, and other companies. Apple's iPad isn't a *single-purpose* e-reader, but it was the first major multifunction device designed to compete with e-readers as a delivery platform for digital publications. Depending on how it's designed, an e-reader (or similar device) might download digital publications from a connected computer, from an online bookstore via a wireless connection, or both.

The iPad and most other tablet computers use the same LCD display technology found in most computers and smart phones. There are many advantages to LCD: They can produce vivid color images, they can display and respond to rapid movements, and they can provide bright backlit images even in the dark. But LCD displays lose their images when they run out of power, and they can be hard to read in bright sunlight. Most e-readers use another display technology called **e-paper (electronic paper)**. E-paper is designed to look more like ordinary paper. An e-paper display can't refresh (change) as quickly as an LCD display. An e-paper display isn't backlit—it reflects light like a paper page does—so it can't be seen in the dark, but it doesn't lose visibility in bright sunlight. An e-paper display can stay on even when the device is powered down. Some types of e-paper are flexible, so foldable digital newspapers might make their way into our daily lives as the technology improves.

One advantage of an e-book, e-magazine, or e-newspaper, is that it can be downloaded into, and read on, a variety of devices. You might start reading a book on the beach using the Amazon Kindle's e-paper display. After the sun goes down you might switch to an iPad (or even an iPhone) because of its bright backlit display. And you might refer back to the book later on your desktop PC.

E-books also offer advantages in convenience and portability. A student might be able to download a year's worth of textbooks into an e-reader the size of a small notebook, and receive automatic updates from the publisher when books are revised. Assuming, of course, that all of those books are available in a digital format that's compatible with the student's e-reader.

Unfortunately, there is no universal standard for e-books. E-books, like digital music files, come in many different formats. An e-book might be a simple text file or a PDF document. More often, it's encoded in a format developed specifically for e-books. Many are encoded using an open standard called EPUB, a format supported by many companies and compatible with many e-readers and other devices. Some e-book files include

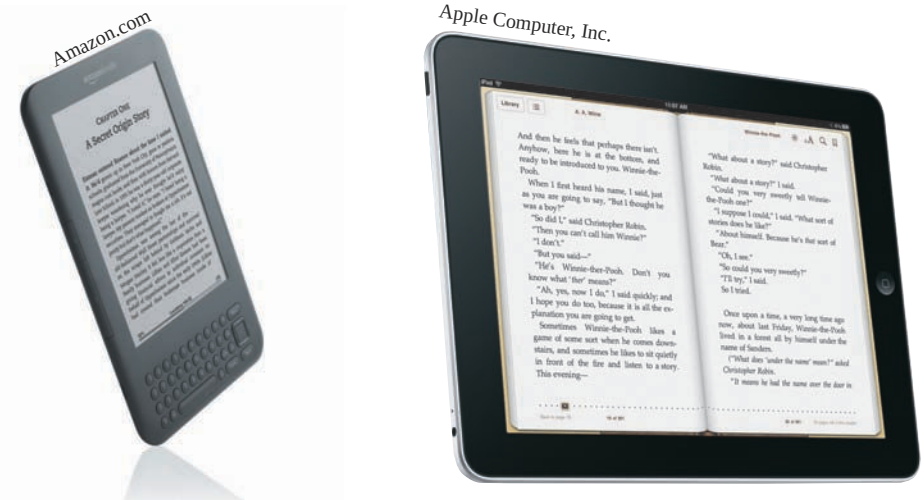


FIGURE 19 Amazon's Kindle is a popular electronic book reader. Apple's iPad includes an app that turns it into an e-book reader. Both products are designed to work seamlessly with online bookstores, making it easy to browse, buy, and download books wirelessly.