Modern Typography:
A Primer for Desktop Publishers

Regular readers of *Printips* know that we are proud to be part of a centuries-old industry that has contributed significantly to the development of human enterprise. Printing as a profession dates back to the mid-1400s when Johannes Gutenberg invented movable type, a breakthrough technology of the day. When combined with a printing press, movable type changed forever both the content and quantity of what could be printed.

Gutenberg's invention gave rise to *typography* – the art of designing type and also of arranging or *setting* type. Until the invention of digital type, typography required either the manufacturing of individual letters in character sets called *fonts* or a machine to transform molten lead into lines of type. In both cases, type had a physical form and could not be easily used outside of printing and publishing businesses.

More than 500 years after Gutenberg's contribution, the confluence of three new developments – the personal computer, page layout software, and digital type – moved typography to the desktop, making it accessible outside of the printing and publishing industry.

The development of personal computers

The first step in developing a computer small enough to fit on a desktop was to change the source of signals that set the binary digits–from vacuum tubes to transistors to a microprocessor holding millions of transistors. In 1974, Intel invented the 8088, the first microprocessor powerful enough to run a computer. It was put to use in 1975 in the first personal computer, the Altair 8800. The Altair needed a programming language and in 1975 a company in Albuquerque released a program called Altair BASIC, developed by Bill Gates and Paul Allen as Micro-Soft.

The Altair and its competitors were hobbyist computers that came in kit form and required programming. In 1977 Apple Computer, owned by Steve Jobs and Steve Wozniak, introduced the Apple II, an assembled microcomputer that could be used by anyone. In 1980 IBM introduced its personal computer with an operating system (a program that handled the communications between other software and the hardware) from Microsoft. Finally, in 1984 Apple introduced the Macintosh, the first personal computer with a graphical user interface (GUI).

The development of software and digital type

Because the original Macintosh computer had almost no software, it was not widely used for business applications. That changed in 1985 with the release of the Apple LaserWriter printer. The LaserWriter used a new page description language developed by John Warnock, co-founder of Adobe Systems, called PostScript that printed on paper a true rendering of the image on the computer screen.

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PostScript drew character *glyphs* (or shapes) as line art that could be rendered at any resolution, thus producing various point sizes. PostScript used *hints* – additional information that identifies the features of each glyph that are important for correct raster image processing – to create proportional characters in every point size.

Desktop publishing – a term attributed to Paul Brainerd, the founder of Aldus Corporation – began in 1985 when Aldus released its PageMaker page layout software for the Apple LaserWriter. What PageMaker created on the computer screen was identical to what printed on the LaserWriter in 300 dpi and was termed WYSIWYG (What You See Is What You Get).

The LaserWriter came with 13 fonts – four variations of Times, Helvetica, Courier and one variation of Symbol. The LaserWriter Plus added 22 more fonts, for a total of 35 (Avant Garde, Bookman, New Century Schoolbook, Palatino, Helvetica Narrow, Zapf Chancery Medium and Zapf Dingbats). These fonts remain among the most commonly-used fonts today.

After PageMaker, other software quickly followed – Adobe Illustrator that worked with PostScript to produce vector graphics, and Adobe Photoshop to manipulate digital photographs.

Desktop publishing today

Although desktop publishing began as a tool for home computers, it has spread throughout printing and publishing. Now users at all levels, from amateur to professional, can create page layouts with text, graphics, photographs, and line art. Besides PageMaker, Adobe offers InDesign; there is also Quark XPress, MS Publisher and other programs for page layout. In addition, desktop publishing has spread beyond printing and publishing into other industries that require manipulation of images.

For graphic arts professionals such as art directors, graphic designers, prepress technicians, multimedia developers, and marketing and public relations executives, desktop publishing skills have become a necessary part of their jobs.

For business users, desktop publishing improves the look of business documents and allows for printing of small quantities of documents on a desktop printer. It also means that business users must develop desktop publishing skills, including graphic design, effective use of type, and how to make documents readable. That is one of the reasons we send you *Printips* each month and keep the topics about printing.

Good practices in desktop publishing design

To help you develop your skills as a desktop publisher, we offer these five principles of good design:

Principal 1: Good design has a purpose. Before you begin to design, think about what the document is to accomplish. Think about the audience, the image you want to portray, and what reaction you want to invoke. This will guide all your selections – the typeface, the color palette, the layout itself.

Principal 2: Good design makes things seem simple. A good design can make a difficult concept understandable by guiding the audience through the presentation. Well chosen stock photographs, charts, illustrations or other graphic elements improve audience comprehension.

Principal 3: Good design holds the reader's attention. Engage the reader immediately with an eye-catching headline, graphic image, photograph, white space, or unusual layout. Then guide the reader through the important points so nothing important is missed.

Principal 4: Good design has an underlying logic. The audience will see not only the text, graphics and photographs on the page; they will react to the underlying organizational structure of the document. Be sure you have one, and be sure it is consistent.

Principal 5: Good design doesn't call attention to itself. One measure of a good design is when the reader gets the intended message and enjoys the experience.

And in conclusion

We hope you have enjoyed this brief history of typography and desktop publishing.