

Book Review

History of Desktop Publishing

by Frank Romano with Miranda Mitrano

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In the era from the 1970s when the microcomputer started to have its first appearance, the application of microcomputers to desktop publishing (DTP) was a long way off and not in the sights of those working with such systems. Most use of computers remained in the domain of time-sharing systems such as mainframes and mini-computers. Furthermore, these systems were almost the exclusive use of governments, larger corporations and universities owing to their high cost not only in initial investment, but ongoing costs associated with maintenance and very specialised personnel required for operation. In short, computing power was expensive and was only used where it was absolutely necessary and offered a significant economic savings.

Even into the 1980s, I recall a summer job in 1986 where I had the opportunity to use an IBM compatible PC with a 10 MB hard disk using the word processing software *Volkswriter*. It was also the first opportunity that I had to use a desktop laser printer on a few select occasions, though most output was done on a dot-matrix printer. Such was the state of the typical office of the day. A few years prior to this in high school there was some exposure to early versions of the Apple II and Commodore PET microcomputers, this was not so much for word processing but for learning programming.

For the document examiner, a historical review of the development of DTP is appropriate and needed for documents that date from that era

when DTP grew from pre-infancy to what might be termed adolescence. Frank Romano had not only a front row seat to all these changes, but also knew many of those who were instrumental in the changes. As he describes in the introduction, he began his career with the Mergenthaler Linotype Company at the time of the transition from hot metal type to photo typesetting. Later in his career at other companies he saw the emergence of computer systems being used for photo typesetting. Towards the 1980s he published in magazines and newsletters on the emerging DTP industry.

At the outset, Mr Romano states that the book has a focus on the period of 1984 to 1995. This is arguably during the period of the most significant shifts in desktop computers and affiliated software/hardware that would enable what became to be recognised as DTP. Several key points in this development are discussed including the launch of the Apple Macintosh in 1984 and Aldus PageMaker in 1985. A large portion of the book focusses on the professional printing industry rather than the commercial office or home office. Some sections of the book repeat topics as needed to improve clarity and context.

Early chapters provide some context as to how professional publishing was done, from typesetting, compilation of graphics including photos, paste up and proofing, all the very manual pre-press work. He provides a particularly good summary of many of the publishing and printing

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methods that have existed or still exist. For example, stencil duplication and ditto are defunct processes, whereas lithography and electrophotography and still going strong.

He dedicates an entire chapter to typewriters from their invention to their evolution as electric machines, single element devices to the IBM Composer in 1966 which could produce camera ready typeset materials. This chapter provides a very solid overview of what typewriters could produce and how the added capabilities of data storage were the precursors to dedicated word processors.

The early word processors from the 1970s are discussed, these include several from Xerox and Wang, among others. Such systems were proprietary which meant that data from one system could not be read on another. These were the early systems with a screen and output done with compatible IBM Selectric, Diablo or Xerox typewriters/daisy wheel printers, alternatively, draft quality output on early Epson dot-matrix machines was possible. All of this for the eye watering price of about \$10,000 which is about \$40,000 in 2021 dollars!

The emergence of microcomputers from mainframes and other time-sharing computers receives a dedicated chapter. While the focus of the chapter is on Apple and IBM microcomputers, there are sections that summarise some of the other microcomputers of the time such as Atari, Commodore, Sinclair, Radio Shack TRS-80, among others. The common computers of the period from the 80s to the mid-90s including some that were in the high-end market such as those from Digital Equipment Corporation, Silicon Graphics and Sun are provided. In doing so Mr Romano includes these high-end systems that were the foundation to what was to become DTP. The chapter closes with some information about the rise in computer sales from the 1970s to the 2000s, for example, in 2001 about 125 million personal computers were sold compared to 48,000 in 1977.

A brief overview of typesetting follows, although the chapter title is *Typesetting—From Gutenberg to Zuckerberg*, the chapter focusses on the progressive steps in typesetting automation. Historical stages in this from typewriter typesetters such as the Varityper, to phototypesetters, to interactive displays, and to those with storage capability. More fundamentally, Mr Romano explains how the process of typesetting is actually many steps, it is not simply the input

of content but the use of codes to specify proper typeset format. This includes pagination, line breaks, hyphenation, justification, and headers among other codes.

Early mainframe computers were one of the early steps in automation although this was not widely available due to high costs. When desktop systems with greater computational power and graphics became available the emergence of WYSIWYG (what you see is what you get) became possible. The typesetting systems that are reviewed were those used in the professional industry. At the close of the chapter, he summarises how DTP had the greatest impact on the typesetting industry with many typesetters going out of business due to a significant decline in business.

In the following chapter, *Printing from Computers*, Mr Romano reviews the progression from Morse Code to typewriters used for computer printers to the familiar printers of today. Along the way he provides a well written description of what became standards for computer printing and commercial printing; Page Description Languages (PDL) and Raster Image Processor (RIP).

While the history of Apple and the influence of Steve Jobs is well known on many aspects of the micro computer, what may not be so well known is the impact of calligraphy on Steve Jobs.

Steve Jobs is quoted from the 2005 Stanford University commencement speech, "If I had never dropped in on that single calligraphy course in college, the Mac would have never had multiple typefaces or proportionally spaced fonts." While that alone is not responsible for the position that Apple was to take in leading the microcomputer deployment of DTP it was certainly a significant contribution. Apple released several different computers in that period of 1983 to 1996 besides the Macintosh, some readers may be aware of the Apple Lisa which was one of the earliest desktop computers to have a graphical user interface which became well known during the introduction of the Macintosh. At its introduction in January 1983 the Lisa was listed at a price of \$9,995.

Computers are one part that make DTP, one other part is software. Several sections of the book describe how many software programs in DTP came to be. Descriptions of the capabilities of these early programs are provided from the ringside seat that the author had. Some but not all these programs have faded to history while others set the benchmark and became commonplace. Perhaps of the greatest interest will be the section that describes how Adobe with Postscript

and Portable Document Format (PDF) became popular. Included is an excellent non-technical introduction to PDF as well as Postscript.

As is well known, the flexibility given by DTP opened up more font creation. However, the road to the standard of Open Type which is in common use now was not immediate. During the time of the late 1980s to the late 1990s there were several different ways that fonts were handled.

This may be of significance if dealing with documents of that period. For example, did a particular font exist during the purported time of the document's creation?

A review of data storage devices is given a short chapter. In this, several of the storage disks of the 1980s and 1990s can be seen, many of them are not in use today. Another chapter describes how the computer screens changed from single colour screens with pre-defined columns to graphical user interfaces. Along the way Mr Romano provides an interesting recap of the common types of displays available at different times and their cost. In 1994 the prices for cathode ray tube (CRT) 17" displays were listed at \$900, and the 22" Apple Cinema Display cost \$3,999 when introduced in 1999. This has bearing on the capability of DTP as during that period there was an increasing expectation to have screens display the document as it was going to appear.

Within the commercial printing industry, the shift to "Direct To" and "Computer To" became the normal practice. This included the plates used in offset lithography and the industrial printing processes such as those used in large format inkjet printing for posters. Even with this, plateless printing has not taken over the entire market share of commercial printing, its market share in the US grew from 8% in 1997 to about 20% in 2012.

Graphic design is given its own chapter. Within it there is some discussion that graphic design-

ers have been critical of DTP in lowering standards. This may be the case as anyone who has the desktop software and hardware can produce materials without having the appropriate knowledge of what constitutes good design. A valuable section within this chapter provides a photo gallery of the traditional steps in design and pasteup to create a plate. It shows the labour-intensive process and the special skills that were required to perform such work prior to the DTP era.

The development of scanners for the input of graphics is provided in a timeline with the improvements in technology. Within this review there are listings of the resolutions, file format types and how this was brought together in DTP. At the end of the chapter there is a listing of some of the scanners that were available for the different markets 1996, as well as a chart of early charge-coupled device (CCD) scanners that were compatible with the Macintosh.

The last section of the book provides information on the variety of the DTP publications and events that took place over the decades. The publications of years past may prove to be very valuable when researching the capabilities of DTP systems of that era. For example, the trade publications *Byte*, *PC World* and *TypeWorld* were published for many years. Older issues have articles and advertisements describing the types of products that were available at that time.

Within the book, a comprehensive listing of the *TypeWorld* articles with key descriptions is provided from 1983 to 1995 giving the reader a kind of "time machine" to see what was available back then.

In addition to providing a valuable description of DTP over the course of the time from 1984 to 1995 the book provides several useful references for matters related to DTP. The book should be within the library of every document examiner.

