



# Font Management



## Basic Terminology

### I. Font Definition

- A. Strictly speaking the contents of the two cases - upper and lower - in metal type (for one size)
- B. Nowadays, the word font means all the **glyphs** (symbols) for a font in all sizes.  
Examples; **Century**, **Fritz Quadrata**, Myriad, *Bickham. Script*, *Giddyoq*, **Gill Sans Ultra Bold**
- C. The term **typeface** is interchangeable with font in today's modern computer world
- D. All the variations for a font is called a **font family** — this includes different weights (thicknesses like **bold** and light) and glyph widths (*condensed* and **extended**).

- A. Myriad Italic
- B. Myria Regular
- C. Myriad Light
- D. Myriad Bold**
- E. Myriad SemiboldCondensed
- F. Myriad Semibold Italic**

### II. Acquiring Fonts

- A. Computer fonts: postscript, True type and Open Type
- B. Font foundries: companies that create fonts
- C. Special system fonts:

Microsoft has special TT fonts used in the Windows OS

Apple has special TT fonts used in their OS and dfonts.

- D. Application fonts:

Microsoft auto installs numerous True type fonts during Office installation

Adobe auto installs numerous OpenType fonts during Adobe CS installation

- E. Purchased fonts
  - 1. Adobe (no longer creates new PostScript fonts but supports them — the focus is now on Open Type fonts)
  - 2. High end fonts for home use and professional printing: OpenType and PostScript
  - 3. Be careful buying fonts! The same typeface is sometimes available from different foundries.
  - 4. Some websites where you can purchase fonts and where foundries are listed.

[fonts.com](http://fonts.com)

[myfonts.com](http://myfonts.com)

[philsfonts.com](http://philsfonts.com)

5. Some Foundries

**[linotype.com](http://linotype.com)**

**[itcfonts.com](http://itcfonts.com)**

**[bertholdtype.com](http://bertholdtype.com)**

**[adobe.com/type](http://adobe.com/type)**

Licensing agreements for purchased fonts — how can you legally use a font?

6. When you purchase a font, always read the licensing agreement
  7. Is it for use on one computer? Two computers? Site license?
  8. If you send your original document for professional output, it's expected that you'll also be sending the font to the printer
- F. Are there free fonts?
1. Many many sites
  2. You get what you pay for.
  3. Probably TrueType fonts
  4. Some "freebies" will cause printing problems when sent to high-end printing devices
  5. Some sites that are reliable

**[dafont.com](http://dafont.com)**

**[simplythebest.net/fonts](http://simplythebest.net/fonts)**

**[dingbatpages.com](http://dingbatpages.com)**

III. This is not a class on typography (below) This is a class on font technology and font management. However, typography is a fascinating subject.

## TYPEFACE Anatomy

The diagrams below show some basic anatomy of type. Learning about these parts will help you find the distinguishing features of a typeface. This in turn should help you identify type in the future. For example, ITC Kabel has no serifs, a large x-height and a slanted counter for the letter e. Note how different the letter e is in each set of typefaces.

**Sans Serif Type** (ITC Kabel)

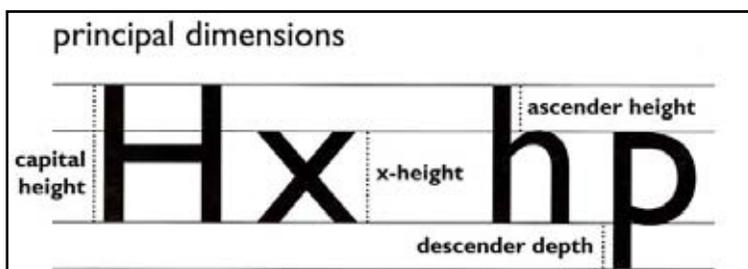
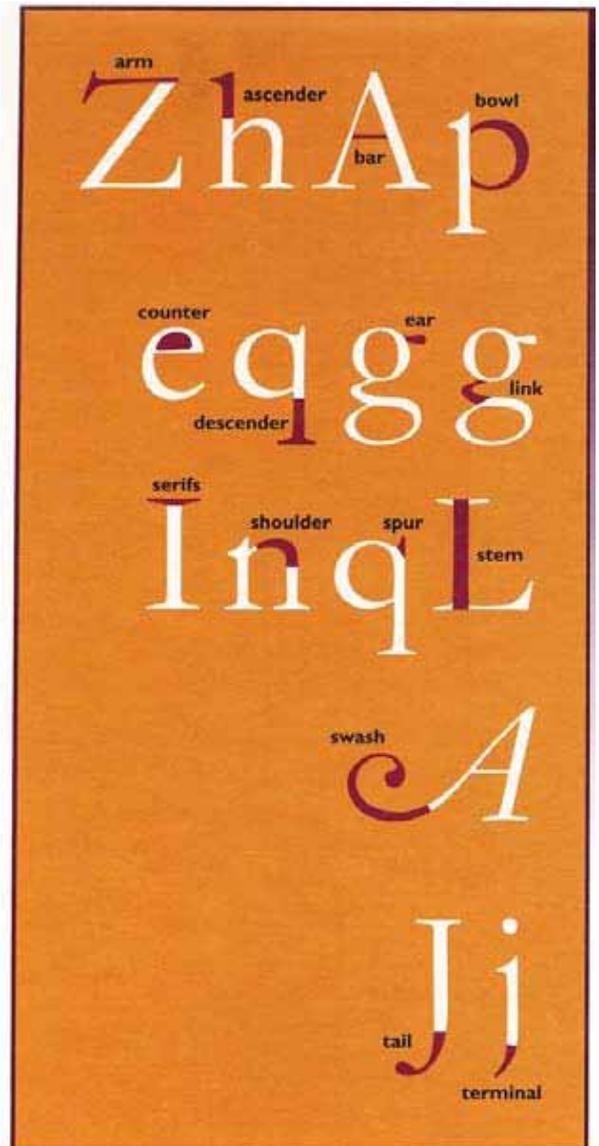
**Sans Serif Type** (Myriad Pro)

*Script Type* (Snell Roundhand)

*Script Type* (Edwardian Script)

**Serif Type** (Minion Pro)

**Serif Type** (Adobe Garamond Pro)



# The Prologue

## I. Before digital fonts — pre-Macintosh (The dark era)

- A. No word-processing programs — there were line editors
  - 1. Character was predefined at the monitor
    - a. Always the same font and same size
    - b. Color was not even a thought
    - c. Fonts were **monospaced**, — every character took up the same width
  - 2. Printer would have a few different font choices which could be selected when a document was printed, so you had no idea where word-wrapping would occur in a paragraph of text
  - 3. Choosing different font sizes was not an option
  - 4. Font styles like bold and italics were programmed into line editor text with special characters  
Windsor <i>really likes fonts </i> Windsor *really likes fonts*

## II. Evolution of digital fonts

- A. First: Bitmapped fonts (Apple)
  - Second: PostScript fonts (Adobe)
  - Third: TrueType fonts (Apple and Microsoft)
  - Fourth: OpenType fonts (Adobe and Microsoft)
- B. PostScript, TrueType and OpenType fonts are the most popular



## Three companies and a Font War

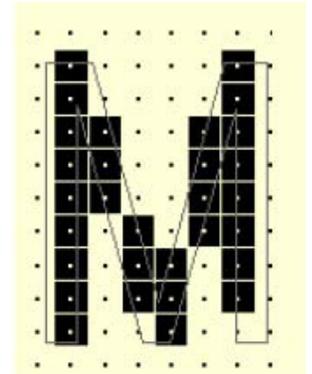
1984 Apple released the first Macintosh computer. It revolutionized life with **bitmapped** fonts that were **proportional** — each character took up a different amount of space (will becomes will). First computer with WYSIWYG (what you see is what you get).

## III. Bitmapped fonts, also called screen fonts

- A. A map of pixels defining a glyph (individual symbol)
- B. On the first Macintosh, bitmapped fonts were designed for the resolution of the screen (72 pixels per inch) and the Apple Imagewriter dot-matrix printer mapped to the same resolution at 72 dots per inch
- C. Screen fonts were installed in specific popular sizes
  - 1. The font defined both the screen and printer pixels
  - 2. These specific sizes were always listed in a font size pulldown menu
  - 3. If you used a non-standard size, the font got the “jaggies” on the screen and the printout was just as bad — attempting to resize maps of pixels doesn’t look good
  - 4. The **font suitcase** was the set of specific sizes of a screen font

The Microsoft logo, the word 'Microsoft' in white on a blue rectangular background.

D. Most Macintosh fonts were the names of cities — notice the specific reference to type size



Changing text to 13 pt was not an option in early days

“When we all saw that first sheet of paper come out of the LaserWriter, we knew we were going to hit it out of the park.”— Steve Jobs, Apple Computer(formatted in Warnock)

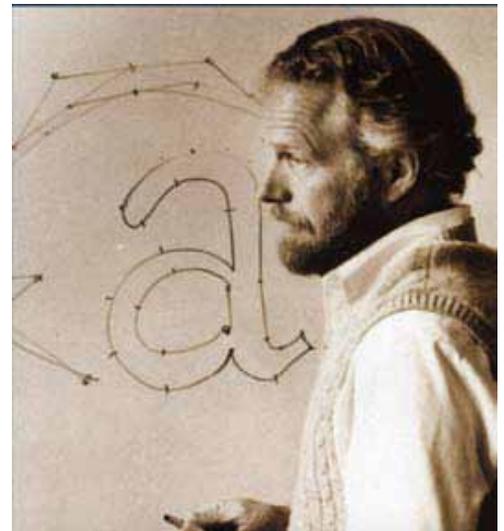
1985 Adobe introduces and copyrights PostScript

Apple Computer released the first LaserWriter printer (\$7000) based on the Adobe PostScript interpreter (Adobe got \$350 for each printer sold)

The basic four fonts included with PostScript (resident fonts in the printer) were Helvetica, **Times**, **Courier** and Symbol (Σψμβολ)

#### IV. What is Postscript?

- A. Mathematical programming language that describes shapes.  
Called a **page description language**
- B. PostScript code (math) could be sent to a PostScript printer which then **rasterized** the code (applied dots to the formula to create the shape), whether a 300 dpi laserprinter or a 1200 dpi typesetter
- C. John Warnock and Chuck Geschke founded Adobe Systems (named after a creek behind Warnock's home in Los Altos)
- D. Adobe's fist OEM contract was with Apple computer for a PostScript printer driver and fonts to LaserWriter printers
- E. PostScript fonts generated fonts of any size and shape at the printer
  1. This eliminated the need for each point size (10, 12, 14) of a bitmapped font for output (which was costly)
  2. Screen fonts were still needed for the monitor To utilize PostScript technology, a font is installed in two pieces that act as a team
  3. To utilize PostScript technology, a font is installed in two pieces (bitmapped and PostScript) that act as a team



F. PostScript fonts launched with two different types: PostScript Type 1 and PostScript Type 3

1. PostScript Type 1 fonts supported hinting which improved output quality

- a. Adobe did not share the specs for Type 1 fonts and built/sold a library of Type 1 fonts
- b. Type 1 fonts became the standard for professional publishing

2. PostScript Type 3 font technology (not as good) was shared with font foundries



G. Mac vs Windows PostScript fonts

1. Macintosh

- a. Screen font suitcase that contains bitmapped screen fonts in specific point sizes
- b. Font metric information and printer font (also called an outline)
- c. May also come with an auxiliary Adobe Font Metrics (.AFM) — Some experts recommend discarding this font file



Font suitcase



Printer (or outline) font

2. Windows:

- a. Screen font suitcase (.PFM) with metric information
- b. Printer outline (.PFB)
- c. Two additional files that you don't want to delete: .INF (additional info) and .AFM (Adobe Font Metrics)

3. PostScript fonts cannot be installed cross-platform — you have to be a special version for 3.



Mac and a special version for PC

1986 Adobe partners with ITC foundry to create versions of fonts including Bookman and Zapf Chancery — by 1986 the Adobe Type Library included 100 fonts, and existing typefaces were converted to PostScript, such as Garamond, Minion, Caslon, TRAJAN, LITHOS, Chapparral, and Myriad (Adobe's corporate typeface)

Adobe makes a lot of money and is the de-facto printing standard

1989 Apple and Microsoft (tired of paying licensing fees) announce that they will develop a competing font standard (TrueType)

*The desktop publishing revolution started with PostScript Type 1 fonts, the Laser-Writer printer and Aldus PageMaker*

# THE FONT WAR BEGIN

*“That’s the biggest bunch of garbage and mumbo jumbo I’ve ever heard.”*

*—John Warnock to Bill Gates, onstage at Seybold 1989 [in reference to Bill’s claim that TrueType is superior to PostScript]*



## V. TrueType fonts

- A. All font information is rolled into one font — the bitmap and outline is in one font suitcase, including the font metrics (sizing information)
- B. TrueType fonts are easy to install and make home users happy
- C. Downside: the font metrics were limited, and considered by some not suitable for professional printing (although these days the Adobe PostScript driver supports TrueType fonts)
- D. Macintosh TrueType font is only for the Macintosh (not cross-platform)
- E. Windows TrueType is actually cross-platform and can be installed on both Mac and PC

1989 Adobe announces and ships ATM (Adobe Type Manager) as retaliation before TrueType fonts ship (and publishes the secrets of Type 1 fonts)

## VI. Adobe Type Manager

- A. Inexpensive utility program that rasterizes PostScript fonts on the screen and on the printer — no more font jaggies!
- B. Until then, you had to spend a lot of \$\$\$ to work with PostScript fonts (buy PostScript printer)
- C. This opened up PostScript fonts to the general public, and allowed any home/office printer to output PostScript fonts
- D. ATM has since been rolled into the Windows and Mac operating systems

1991 Apple released TrueType font format in System 7

1992 Microsoft introduced TrueType fonts into Windows operating system which today is still considered the de facto font standard for Windows

1992 Adobe develops Multiple Master Fonts Type 1 PostScript font on steroids Let’s the user define a huge amount of font variations (weight, bold, obliqueness), but the interface is scary — Multiple Master fonts are abandoned by Adobe

mid 90s Digital typesetting was commonplace. American Type Founders went bankrupt. Major digital type foundries became the norm.

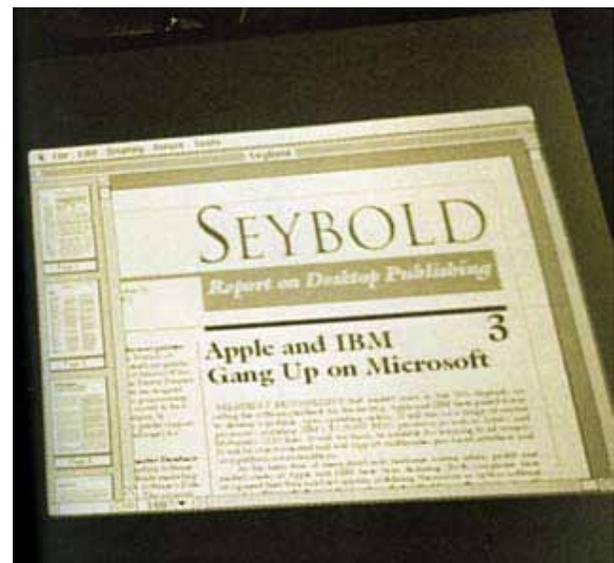
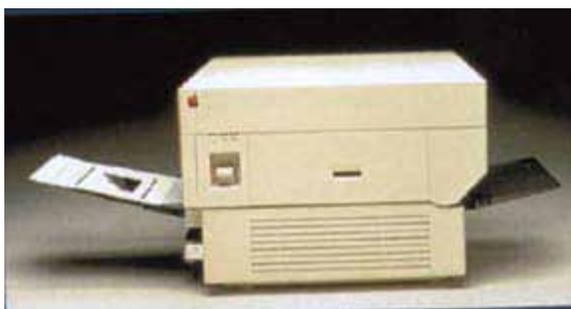
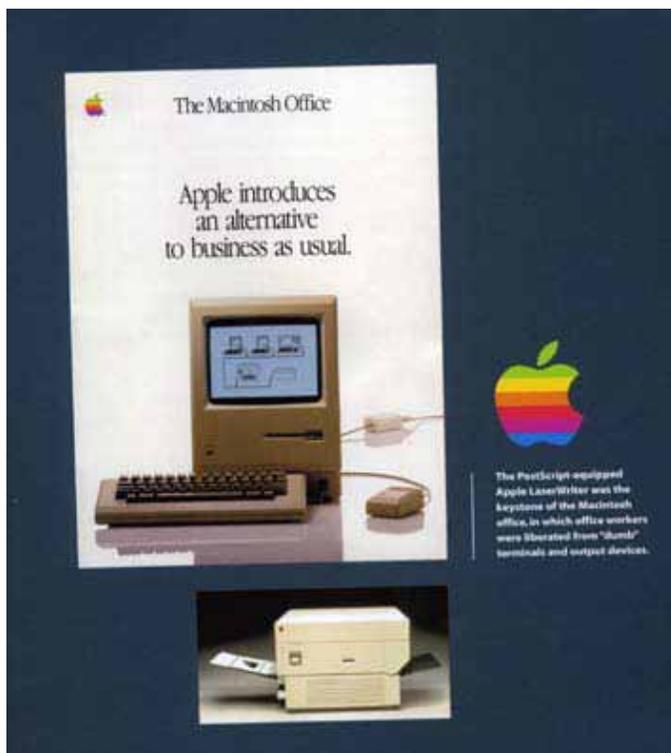
late 90s PostScript dominant as a page description language, in professional desktop publishing, and Postscript Type 1 fonts used by most printers. Multiple Master fonts were used occasionally, Truetype fonts were regarded as inferior for reliable printing.

1996 Adobe and Microsoft join to create the next generation font, OpenType

## VII. OpenType

- A. Combines PostScript and TrueType into one font definition
- B. Ease of use, plus reliability in the world of print
- C. OpenType fonts are truly cross-platform
- D. Can include extended character sets of up to 65,000 glyphs  
(Adobe OpenType fonts with the word Pro in the font name have Cyrillic support)
- E. Based on Unicode, a universal font code that standardizes languages between platforms, applications, and servers
- F. Adobe no longer produces new PostScript fonts and has committed to all OpenType fonts
- G. Adobe Creative Suite programs have special menu commands for OpenType fonts so that extra glyphs can be included in the document

Problem: There are True-Type flavored OpenType fonts produced by Microsoft and PostScript flavored OpenType fonts produced by Adobe



*From a long time ago*

I. [www.linotype.com](http://www.linotype.com) — *Adobe Type Manager (ATM) Light™*

ATM Light is a system software component that automatically generates high-quality screen font bitmaps from the PostScript® outlines in Type 1 or OpenType® format. With ATM, you can scale your fonts without the characters appearing jagged, and you can also enable “font smoothing,” which further improves the appearance of your fonts on screen by using your computer monitor’s color palette to intelligently improve the rendering of characters. ATM Light also allows you to print PostScript fonts on non PostScript printers, and can be used to create custom instances of multiple master fonts.

**Macintosh**

PostScript font support is built directly into Mac OS X; however, ATM Light is required for all other versions of Mac OS, including Mac OS X Classic.

**Windows**

Windows hasn’t needed ATM since Win 2000. Ever since then it supports PostScript fonts natively, which is all ATM was required for. ATM Light is required for previous versions of Windows, including Windows 95, 98, and NT 4.0.



II. **OpenType “Flavors” (PostScript® and TrueType)**

[www.adobe.com/type/browser/OTReadMe.html](http://www.adobe.com/type/browser/OTReadMe.html)

A. OpenType fonts may have either PostScript style outlines or TrueType outlines. OpenType font files with PostScript outlines always have a “.otf” file name extension. OpenType fonts with TrueType outlines commonly use the “.ttf” extension, but may use the “.otf” extension instead. In Windows 2000 and XP, one can double-click on an OpenType font to get a sample sheet that indicates what kind of outlines the font file has. In general, both “flavors” of OpenType are equally supported in Adobe applications and in the PostScript language. Because both flavors share the same structures for multi-lingual support and advanced OpenType layout features, it is usually easy for applications and operating systems to support both flavors equally well.

III. **OpenType Optical Font Familie**

[www.adobe.com/type/opentype/index.html](http://www.adobe.com/type/opentype/index.html)

Historically, some of the highest quality typefaces have included different designs for different print sizes. Several of Adobe’s OpenType fonts include four optical size variations: caption, regular, sub-head and display. Called “Opticals,” these variations have been optimized for use at specific point sizes. Although the exact intended sizes vary by family, the general size ranges include: caption (6-8 point), regular (9-13 point), subhead (14-24 point) and display (25-72 point)

Cronos Pro Caption

8 pt

Cronos Pro Regular

12 pt

Cronos Pro Subhead

18 pt

**Cronos Pro Display**

**36 pt**

*On a Mac,  
I use In-  
Design’s  
Type>Find.  
Font menu  
with the  
More Info  
option to see  
the OpenType  
font “flavor”*