the

MACINTOSH

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BOOK

Typographic Tips,
Techniques and Resources

PEACHPIT PRESS

ERFERT FENTON

THE
MACINTOSH
FONT BOOK

ERFERT FENTON

THE MACINTOSH FONT BOOK
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Erfert Fenton

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HOW THIS BOOK
WAS MADE

This is a book about Macintosh fonts. It was produced entirely on an IBM PC. Just kidding. Of *course* it was produced on a Macintosh. To be more precise, the manuscript was typed in Claris's *MacWrite* on a Macintosh Plus. The figures were created in *Adobe Illustrator 88, Aldus FreeHand*, and Silicon Beach's *SuperPaint*. Screen dumps for many of the figures were made with Keith Esau's *Camera* utility and Mainstay's *Capture*. Clip art for several of the figures came from T/Maker's *ClickArt EPS Illustrations*.

The text and artwork were laid out in *Quark XPress*, and page proofs were printed on Apple's LaserWriter IINT. Finally, the completed pages were printed at a resolution of 1270 dots per inch on a PostScript-compatible Linotronic L300 laser imagesetter. Almost all of the pages were printed in their entirety from *Quark XPress*, although we had to employ manual pasteup on a few pages that contained dozens of typeface samples.

The book's text is set in Adobe's Janson. The chapter titles, headings, and figure captions are set in Adobe's Helvetica Light, compressed with *Quark XPress*.

INTRODUCTION

Many books have been written about desktop publishing, the process of laying out and printing documents with a personal computer. These books offer advice on almost every aspect of publishing: word processing, page layout, graphics, typesetting, and printing. But desktop publishing is a complex subject. Because of the scope of these books, few are able to devote more than a chapter to the fundamental building-blocks of any publication: typefaces. In addition, in their attempts to cover both Macintosh- and IBM PC-based publishing, many desktop publishing texts resort to generalities rather than computer-specific tips.

Macintosh-based typography is a rich enough subject to warrant an entire book. After all, it was the Macintosh-LaserWriter combination that gave rise to desktop publishing. Ever since the LaserWriter's introduction in 1985, developers have been turning out a steady stream of Mac typefaces and type-related programs. If you're a Mac-based publisher, you need to know not only what typefaces are available, but how to use them effectively. You can no longer expect to impress people by cranking out a word-processor document on your LaserWriter; these days, you have to know the ins and outs of type in order to make your creations look professionally published, not just "desktop published."

This book provides a centralized source of information on Macintosh typefaces, covering everything from the mechanics of installing and managing a font collection to tips on choosing faces that work well together in a design. In addition to discussing the typefaces themselves, the book describes numerous utilities that enable you to organize, edit, and even create Macintosh typefaces.

A Brief History of Macintosh Typefaces

By now many people take the Mac for granted, little realizing that several innovative Mac features — which have since been copied by other computer and software manufacturers — put professional publishing capabilities into the hands of personal computer owners. The Mac's screen-as-page metaphor is one such innovation. Instead of the eerie glow of green or amber characters on a black monitor, the Mac displays black text on a white background, emulating the look of a printed page. In addition, the characters aren't displayed in a generic computer font, but rather in letterforms that approximate the look of actual typefaces. Not only are the letters' shapes and sizes displayed on the Mac's screen, but so are stylistic variations such as boldface and italics.

Another great leap forward was the Mac's ability to lay out an entire page of text and graphics on the screen. Publishers no longer have to print galleys of text and manually paste in graphic elements such as rules, boxes, and illustrations. Aldus Corporation's pioneering *PageMaker* and the similar programs that followed it have made digital page layout a reality for personal computer owners.

But it was Apple's LaserWriter that provided the key to professional publishing. The LaserWriter includes a set of built-in fonts that, when printed at the relatively high resolution of 300 dots per inch, look almost as good as typeset text. The fonts were developed with PostScript, a programming language developed by Adobe Systems and built into the LaserWriter. PostScript isn't confined to the LaserWriter, however. Several high-resolution typesetters use PostScript as well, allowing you to create a document on a Mac and print typeset-quality pages.

About This Book

This book discusses PostScript fonts. Although there are hundreds of excellent bit-mapped fonts (the kind you see on the Mac's screen), they aren't covered here, since this book focuses on typeset-quality publications. Much of the material presented here is aimed at newcomers to publishing, but even experienced Mac publishers should be able to learn a new trick or two.

Chapter 1 introduces basic typographical terms, in order to give beginning publishers some background. Chapter 2 defines some of the major type categories and gives tips on selecting appropriate typefaces for your collection. Chapter 3 explains how to install screen and printer fonts, while Chapter 4 offers advice on managing a large font collection. Chapter 5 is a

potpourri of tips to help you get the most out of Mac typefaces, covering everything from typing special characters to creating readable screen fonts of virtually any size. Chapter 6 presents several methods for creating fonts and altering existing ones, allowing you to add personal touches to Mac typefaces. Chapter 7 outlines your printing options, including sending documents to a service bureau for high-resolution output. The appendices include a list of addresses and phone numbers for vendors of typefaces, font-related products, and typesetting service bureaus; lists of specialty and foreign-language fonts; a list of traditional and Mac typeface names; and a list of PostScript typefaces.

Apple and a host of other companies have put the tools of professional publishing in your hands. It's up to you to learn how to use them to their fullest. And there's no better place to start than with the very essence of publishing: type.

ONE
TYPOGRAPHIC
TERMINOLOGY

Y ou should learn the language of typography if you're going to work with type. Granted, some Mac-based publishers will get along just fine without knowing the difference between italic and oblique, whether a typeface has a large x-height, or what an em-dash is. The Mac/LaserWriter combination has given rise to a class of instant publishers, many of whom don't know an em-dash from a hole in the ground. But if you want your publication to look professional, you'll have to learn some of the fundamental concepts of typography. If you're collaborating with a graphic designer, trying to sell someone on your publishing services, or dealing with a client who knows something about typesetting, you'll have to know what you're talking about. This chapter presents a basic vocabulary; later chapters will show you how to apply some of the concepts you learn here.

Fonts and Faces

In the early days of type, a *font* was the set of cast metal characters from which text was printed. (The word *font* is derived from the same root as *found*, as in

foundry.) Back then, a separate font had to be carved and cast for each size of type. The letters, numbers, and other characters printed from the font made up a *typeface* — a set of characters that share a common design. In computer-based typesetting, in which a digitally-encoded master character set can be scaled to any point size, the original concept of a font has become obsolete; nowadays, the terms font and typeface (or face) are often used interchangeably. In this book we'll follow the convention of calling the "source" of a typeface a font; in other words, the characters you see on the screen or the master set you load into a printer will be called fonts. The printed characters generated by these fonts belong to a particular face, such as Times or Palatino. We'll look at screen fonts and printer fonts in Chapter 3.

The Origins of Type

Clues to typography's origins can be found in many of today's typefaces. Whether the originals were chiseled on stone or penned on parchment, traces of the letterforms that inspired early typographers can still be glimpsed in many contemporary faces.

Serif Faces

Pick up any book, magazine, or newspaper and look at the typeface used. Chances are you'll be looking at a *serif* face, one with small counterstrokes capping the ends of each character's main strokes. The type you are reading now is a serif face. Serifs stem from type's predecessor — calligraphy; the word *serif* probably comes from the Dutch word *schreef*, line or stroke. Figure 1.1 shows a variety of serif faces.

Until the fifteenth century, scribes copied books by hand. Then, around 1440, the printing industry was born. Although there is some debate among historians, a German goldsmith named Johann Gutenberg is generally credited with the invention of *movable type*. Gutenberg carved each letter in relief onto the face of a steel punch, then drove the steel into a softer metal to make a matrix. He constructed an adjustable mold to accommodate letters of different widths, arranged the matrices, and cast the letters in a molten alloy consisting mainly of lead. The lines of cast letters, which again appeared in relief, were inked and impressed onto paper with a device adapted from the wine or paper presses of the time. Gutenberg is also credited with inventing an oil-based ink that didn't bleed or smear like earlier inks. Hot-lead typesetting was

Bodoni
ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz

Trump Mediaeval
ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz

Nashville
ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz

Garth Graphic
ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz

Prospera
ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz

Galileo
ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz

FIGURE 1.1. Typefaces aren't simply collections of characters; a well-crafted face has character, be it formal, modern, lighthearted, or elegant. This serif sampler only begins to show the variety that exists among PostScript faces for the Mac. Shown here are Adobe's Bodoni and Trump Mediaeval, Compugraphic's Nashville and Garth Graphic, Prospera from Alphabets Inc., and Galileo from Casady & Greene.

employed until the middle of this century (a few printers still use it); in fact, phototypesetting wasn't widely used until the 1960s, and microcomputer-based typesetting is just now coming into its own.

The early typefaces of Gutenberg and his associates mimicked handwritten letters. Many of the characteristics of letters drawn with a wide-nib pen — wide variations in stroke weight, an angular quality, and various calligraphic flourishes — were transferred to the metal letterforms. Like hot-metal typesetting itself, the tradition of serif typefaces has endured for centuries.

Sans Serif Faces

Fortunately, type design hasn't evolved as sluggishly as typesetting technology. In the 1920s a new typestyle began to gain popularity. Although *sans serif* (without serif) faces had occasionally cropped up in the early 1800s, they weren't widely used until they were championed by the Bauhaus, a design school founded in Germany in 1919 by the architect Walter Gropius. The Bauhaus artists and designers applied new aesthetic ideals — simplicity and functionality — to painting, sculpture, architecture, furniture design, and typography. The Bauhaus type designers stripped letters of calligraphic embellishments like serifs and wide variations in line width. The result was a clean, modern style made up of simple shapes and lines.

Unfortunately, the modern movement's attempts to reduce objects to their fundamental elements sometimes resulted in designs of aesthetic merit but limited functionality. Just as a chair made of steel tubing might be more beautiful but less comfortable than its overstuffed counterpart, many of the sans serif faces are a pleasure to look at but difficult to read.

Some time ago, sans serif faces were also called *grotesque* or *gothic* faces, neither exactly a flattering appellation. Although these terms have fallen out of favor, the term "gothic" can still be found in some sans serif typeface names — News Gothic and Franklin Gothic, for example.

Sans serif is rarely used in long passages of text because its uniform line weight and the similarity of many letter shapes makes it less legible than serif type; although they reflect the archaic technique of hand-lettering, serifs do provide anchor points for the eye and help lead it from one letter to the next. In addition, many designers prefer the appearance of a passage of visually rich serif text to the sparse, uniform appearance of a page of sans serif text. For these reasons, sans serif faces are generally used for relatively short blocks of

text such as headlines, chapter headings, captions, or advertisements. The crisp, simple lines of sans serif type provide a contrast to serif type, making sans serif type ideal for accenting portions of a document such as headings.

Some sans serif faces offer the best of both worlds, acknowledging the existence of serifs by means of subtle variations in line weight and slight flaring of stroke ends. Optima, one of the most popular and legible sans serif faces, is an excellent example of such a design.

Figure 1.2 shows a selection of sans serif faces.

Helvetica
ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz

Futura
ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz

Avant Garde
ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz

Micro Extended
ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz

Briar Book
ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz

FIGURE 1.2. As you can see from these sans serif samples, eliminating elements such as serifs and variations in stroke width doesn't result in a homogenous collection of faces. Each face has a unique style. Shown here are Adobe's Helvetica, Futura, and Avant Garde; Casady & Greene's Micro Extended; and EmDash's Briar Book.

Roman

As mentioned earlier, the typefaces of Gutenberg and his associates imitated the letterforms of hand-lettered manuscripts. The angular, calligraphic style of the early faces is called *black-letter* type; offshoots of this style remained in vogue in Germany until the early twentieth century (see Figure 1.3). Black-letter faces are still used today in newspaper banners, announcements, certificates, and the like, but are so difficult for the modern eye to read that they are generally considered novelty faces.

In the mid-1400s a new type style was evolving — one based on a style of hand lettering which was itself inspired by the capital letters carved into the monuments of ancient Rome. Like the pen, the medium of chisel-on-stone affected the shapes of letters; capping a stroke with a chiseled serif was the logical way to cleanly finish a letter. The new style was called *roman*, probably after a type created around 1460 by Schweynheym and Pannartz, two Germans working near Rome. The Germans' face was roman in form but still exhibited the heavy, dark weight of the black-letter style. In 1470, Nicolas Jenson, a Frenchman who was working in Venice, created a typeface that is considered the first true roman face. The roman style was adopted and refined by printers throughout Europe, gradually gaining popularity over black-letter type and evolving into the smooth, rounded letters of today's roman type (the text you are reading is roman). Now the term roman is used to indicate "plain" text — that is, text without stylistic variations such as italic or bold.

Many of the basic letterforms used in today's roman typefaces have changed remarkably little since the original fonts were struck centuries ago. This book is set in Adobe's version of Janson, a face designed in the seventeenth century by Nicholas Kis. So why is it called Janson? I knew you'd

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$$\mathfrak{The\ Daily\ Planet}$$

FIGURE 1.3. Black-letter type does little to hide its calligraphic roots. These letters from Casady & Greene's Gregorian face look like they're hot off a mediaeval monk's pen.

ask. The face was mistakenly attributed to the Dutch printer Anton Janson, and the name stuck even after Kis was found to be its true designer.

Italic

In addition to roman type, another style based on handwriting has endured. Today's *italic* faces have their origins in a script that was popular in Italy in the late fifteenth and early sixteenth century. Aldus Manutius (known to many contemporary scholars as "the guy on the *PageMaker* logo") is credited with creating one of the first italic faces in Venice in the late fifteenth century. While the first italic faces were used to set entire books, italic type gradually assumed its current role, to create a contrast to roman text. Today, an italic font is often created to stylistically complement a roman font.

Italic text has many functions: it can be used to emphasize a word or phrase ("He did *what*?") to introduce a new term, to indicate a foreign word or phrase, or to refer to an individual letter (many people spell "accommodate" with one *m*). Relatively short passages — chapter or article introductions, interview questions, captions, and so on — can be set in italics to distinguish

Roman

Italic

Oblique

FIGURE 1.4. Many roman faces have a corresponding italic face specially designed to match stroke weight, letter height, and character proportions so the faces will work harmoniously together. This example shows Adobe's Times roman, the complementary Times italic face, and an oblique version derived by slanting the roman characters in a PostScript graphics program. Note that the true italic face is not simply a skewed version of the roman face.

them from the main text. In addition, references to titles of books, newspapers, magazines, movies, plays, musical compositions, and works of art are italicized.

Some typefaces have no italic complement. With the aid of special programming commands, an *oblique* typeface can be created. In this case, oblique characters are simply roman characters slanted to the right. To see an example of oblique type, turn on your Mac and start up your word processor. Type a selection in a roman ("Plain" in Mac terminology) font such as New York or Geneva, select a word, and choose Italic from the appropriate menu or dialog box. The word is now inclined to the right, or obliqued. Some Mac graphics programs, such as *Adobe Illustrator 88* or *Aldus FreeHand*, let you select a block of text and incline it to the right, creating a homemade oblique face.

Some typefaces offer oblique, rather than italic, family members. These oblique faces are not simply slanted rightward by a computer command, but specially created by a type designer to ensure proper spacing. Adobe's Helvetica, for example, includes an oblique style. The terms *oblique* and *italic* are sometimes used interchangeably.

Figure 1.4 shows examples of italic and oblique text.

Typeface Families

We've established that a typeface is a complete set of stylistically related characters. And you've seen that a single face can have both a roman and an italic (or oblique) style. A typeface *family* has additional style variations.

Weight

Yet another stylistic element can be applied to a typeface — it can come in any of several *weights*. Typeface weights range from light to bold in a series of gradations, including extra light, light, book, regular or medium, demibold or semibold, bold, heavy, and extra bold or black. The terms are not standardized; the medium weight of one face may have characters as thick as the heavy weight of another face. You should look at all the members of a typeface family to see the variations in weight for that particular family. Adobe's Futura, for example, is available in light, book, medium, heavy, bold, and extra bold. And each weight is available in oblique as well as roman, increasing the number of family members.

Condensed and Expanded Type

A typeface family can be extended even further if character width is varied. Characters that are narrower than those of the basic roman face are called *condensed* or *compressed*. Characters that are stretched horizontally are called *extended* or *expanded*. Many typeface families have condensed or extended members; these styles in turn can be combined with different weights and italic or oblique styles to enlarge the family even more (e.g., condensed bold oblique).

Combinations of roman and italic or oblique, various weights, and extended or condensed styles can swell the ranks of a typeface family. Adobe's Futura family, for example, includes 20 style and weight variations (see Figure 1.5).

Futura Light
Futura Light Oblique
Futura Book
Futura Book Oblique
Futura
Futura Oblique
Futura Heavy
Futura Heavy Oblique
Futura Bold
Futura Bold Oblique
Futura Extra Bold
Futura Extra Bold Oblique
Futura Condensed Light
Futura Condensed Light Oblique
Futura Condensed
Futura Condensed Oblique
Futura Condensed Bold
Futura Condensed Bold Oblique
Futura Condensed Extra Bold
Futura Condensed Extra Bold Oblique

FIGURE 1.5. Adobe's Futura family boasts 20 members, thanks to variations in style (roman and oblique), weight, and character width.

The Components of a Character

Like typefaces, individual characters have their own terminology. Figure 1.6 shows some of the major elements of a character.

Characters sit on an imaginary line called the *baseline*. The height of an uppercase letter is called the *cap height*; the height of a lowercase letter is the *x-height*. Since the height of lowercase letters may vary within a face, the x-height — as you may have guessed — is the height of a face's lowercase *x*, which sits squarely on the baseline (rounded letters such as *o* and *e* dip slightly below the baseline in many faces).

Parts of some characters extend below the baseline (the tail of a *g* or *y*, for example); they are known as *descenders*. The vertical strokes of letters such as *d* and *l*, which are usually the same height as uppercase letters but which are slightly taller than the cap height in some faces, are called *ascenders*.

Enclosed spaces such as those found in the letters *e* or *g* are called *counterforms*, or *counters*. Counterforms help the eye recognize characters and provide an even texture in a block of text.

Type Size

The standard measuring unit for characters is the *point*. For larger measurements, such as column width, a larger unit is used — 12 points make up a *pica*. There are approximately 72 points, or 6 picas, to an inch, but the correspondence between points and inches is not exact (6 picas actually equals

FIGURE 1.6. Some of the major character components are shown here. In many typefaces, ascenders such as *d, l,* and *h* extend higher than the face's capital letters. To give a face visually pleasing proportions, characters with rounded bottoms may dip slightly below the baseline, while characters with rounded tops may rise slightly above the face's x-height.

Appearances can be deceiving

Appearances can be deceiving

FIGURE 1.7. These samples of Adobe's Bodoni and Park Avenue appear to be different sizes, but they're both set at 18 points. Factors such as x-height and stroke weight can affect a face's perceived size. Measure the distance from the top of the *d* to the bottom of the *g* in "deceiving," and you'll see that both faces are approximately the same size.

.996264 inches). Therefore, you should train yourself to measure in points and picas when you're working with type, especially if you'll be working with a designer who is already accustomed to working with points and picas.

A typeface's point size is measured from the top of the highest ascender to the bottom of the lowest descender. Many people who are new to typography are mystified by the apparent differences in size among faces that are the same point size. Look at Figure 1.7, for example. The two faces are both set at 18 points. How can this be? Park Avenue is obviously much smaller than Bodoni. If you were to take a pica ruler and measure the two faces, however (from the top of an ascender to the bottom of a descender), you'd see that both are indeed 18-point faces. Appearances can be deceiving. Bodoni's thick vertical strokes help make it appear larger than the wispy Park Avenue. In addition, Bodoni has a relatively large x-height; its lowercase letters are much taller than those of Park Avenue, even though the ascender-to-descender measurement is the same for both faces.

Spacing

Typewriter text is *monospaced*; each character occupies an invisible box that is the same width as the boxes for all the other characters in the face; the typewriter carriage moves a fixed amount of space after each character is typed. Although several typewriter-like faces exist, monospaced text is rarely appropriate for typeset material. In monospaced type, a thin letter such as an *i* occupies the same space as a wide letter such as a *W*, creating an uneven rhythm of

white spaces between characters. To compensate for the fixed amount of space allotted for each character, thin letters such as *i* and *l* are widened with huge serifs, and wide letters such as *M* and *W* are squeezed into the space assigned them. All of this makes for awkward-looking faces, which should be used only when you want to emulate a typewriter (I find Adobe's Courier handy for writing to my elected officials, for example).

Proportional Spacing

Most typefaces employ *proportional spacing*, in which letters occupy differing amounts of horizontal space, depending on their shapes. Since laser printers and typesetters aren't hampered by the mechanical nature of a typewriter carriage, letters needn't occupy fixed-width spaces. In a proportional face, an *i* occupies a much narrower space than an *M*. Proportional faces provide a light-dark rhythm that makes them more readable and more pleasing to the eye than monospaced faces. (You'll find that almost all proportional faces have monospaced numbers. This apparent anomaly is easily explained: if columns of numbers are to line up, all the numerals must be of equal width.)

The Em-space

Since a typeface can be set in a variety of sizes, certain spacing measurements must be stated as relative rather than absolute values. For example, you could specify 2 points of space between each word in a passage of 12-point text, but that measurement would be inappropriate if you changed the passage to 10-point or 14-point type. To avoid using absolute measurements for each size of type, a relative unit called the *em* is used. The width of an em is equal to the size of type being used; in 10-point type, an em is 10 points wide. The unit is called an em because it is generally the same width as the letter *M*, the widest letter in most typefaces. Typesetters refer to *em-dashes* — the punctuation marks used to set apart an explanatory phrase — rather than just plain "dashes." They use the term *em-space* to indicate horizontal spacing in a line of text (a paragraph might be indented two em-spaces, for example).

Another relative spacing unit is the *en-space*, which is half as wide as an em-space. An *en-dash* is a punctuation mark that is shorter than an em-dash but longer than a hyphen. These punctuation marks are discussed further in Chapter 5.

Word Spacing

Another type of spacing is *word spacing*. When you press the space bar while typing at the Mac's keyboard, a fixed amount of space is placed between one word and the next. Word spacing can be adjusted, however. For example, if you select *justified* text (text that lines up at both the left and right margins), some lines will have more space between words than others as the lines are stretched or compressed to fit within the fixed margins. Mac word processors, page layout programs, and graphics programs offer several choices for aligning text, but for most publications the choice boils down to justified or ragged right (also called flush left). Figure 1.8 shows some alignment options.

Justified

In justified copy, each line is filled with as many syllables as possible. The remaining space is divided by the number of word spaces in the line and placed evenly in each word space. The amount of space between words thus varies from line to line in justified text, as word spaces are expanded or contracted to make each line the same width. In ragged copy, on the other hand, word spaces are the same width from line to line.

Ragged Left

In justified copy, each line is filled with as many syllables as possible. The remaining space is divided by the number of word spaces in the line and placed evenly in each word space. The amount of space between words thus varies from line to line in justified text, as word spaces are expanded or contracted to make each line the same width. In ragged copy, on the other hand, word spaces are the same width from line to line.

Ragged Right

In justified copy, each line is filled with as many syllables as possible. The remaining space is divided by the number of word spaces in the line and placed evenly in each word space. The amount of space between words thus varies from line to line in justified text, as word spaces are expanded or contracted to make each line the same width. In ragged copy, on the other hand, word spaces are the same width from line to line.

Ragged Center

In justified copy, each line is filled with as many syllables as possible. The remaining space is divided by the number of word spaces in the line and placed evenly in each word space. The amount of space between words thus varies from line to line in justified text, as word spaces are expanded or contracted to make each line the same width. In ragged copy, on the other hand, word spaces are the same width from line to line.

FIGURE 1.8. Mac word processors and page layout programs can adjust the spacing between words to set justified text. Some programs can adjust the space between individual letters as well. If you want to set justified text, make sure your software includes a hyphenation dictionary.

Whether to set a document justified or ragged right is a design decision that's up to you. Ragged right is more informal than justified type, is often easier to read because of its even word and letter spacing, and requires less work on your part. Many people think justified type looks more professional than ragged right type, but with justified type you must pay careful attention to hyphenation, word spacing, and letter spacing.

You should scrutinize justified text before sending it to the printer; too much space between words makes a line difficult to read, preventing the eye from taking in several words at a time. Wide spaces between words can form unsightly "rivers" of white space down a page. Cramped spacing can make a line of text difficult to read as well. You may have to manually hyphenate a word here and there to fix spacing problems. (Note that more than three hyphens in a row is a typographic sin.) It's not as bad as it sounds. Most page layout programs and word processors do a fine job of justifying text; just remember that you'll have to proof your layout carefully.

Letter Spacing

Some Mac programs allow you to adjust the amount of space between all the letters in a word or a line of text. Adding or subtracting an equal amount of space between all letters in a line of text is known as *tracking*. Figure 1.9 shows some examples of tracking.

Some programs adjust tracking

Some programs adjust tracking

Some programs adjust tracking

Some programs adjust tracking

FIGURE 1.9. Tracking uniformly adjusts the amount of space between each letter in a line of text. You may need to tighten letter spacing to squeeze a line of type into a narrow column, or to expand a word to fill a given space in a design. You can also tighten tracking to give more substance to a light and airy face such as Adobe's New Baskerville.

Wow! as typed

Wow! with manual kerning
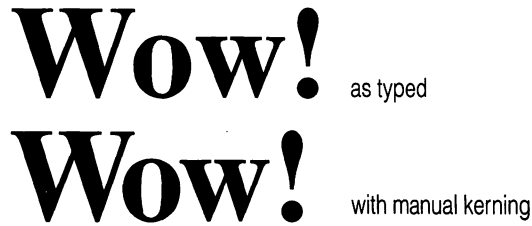
FIGURE 1.10. Note how tighter kerning makes the bottom word more pleasing to the eye than the loosely-spaced top word. Many Mac programs allow you to manually adjust the space between pairs of letters.

Many programs allow you to adjust the spaces between individual letters, a procedure known as *kerning*. Most Mac typefaces include built-in kerning pairs, letter combinations with space between the letters removed. Consider the letter combination *Ty*, for example. The horizontal bar of the *T* extends some distance from the vertical stroke, and the tail of the *y* extends to the left of the letter's body. If these letters were simply placed in their own "bounding boxes," there would be quite a gap between them. But good type designers foresee such spacing problems and build kerning pairs into their typefaces. While Mac word processors don't recognize built-in kerning pairs, many let you manually adjust the space between letter pairs. Mac page layout and type-setting programs do support built-in kerning pairs, giving them an aesthetic edge over word processors. Figure 1.10 shows an example of manual kerning.

Finally, not just the spacing between words or letters, but the characters themselves can be stretched or compressed to alter the appearance of a line of text. As mentioned in the "Typeface Families" section above, faces can come in extended or compressed styles. If a family doesn't have a condensed or extended face, some programs let you widen or condense a word or phrase. Programs that let you alter text in this way will be discussed in Chapter 5.

Leading

The vertical spacing between one line of text and the next is as important a design element as the horizontal spacing between letters or words. The term *leading* (rhymes with *heading*) is a holdover from the days of hot-metal

typesetting. When letters were cast in hot lead, individual letters and spaces were placed in a mold for each line of type. The lines were then placed one after the other to form a page. If no space was inserted between lines, the type was said to be *set solid*. But lines set this way are usually difficult to read; in addition, descenders from one line may appear too close to ascenders from the line below. Therefore, in most cases typesetters inserted one or more thin strips of lead, each one point wide, between lines to make the page more readable.

Although interline spacing is now set by computer commands, the term *leading* has endured. Most Mac typefaces have a little space built in above each character so ascenders and descenders won't touch when text is typed at a program's default leading (in a word processor, for example).

Leading is measured from the baseline of one line to the baseline of the next. To indicate the amount of leading for a block of text, you write the type's point size, a slash, then the baseline-to-baseline measurement in points. For example, 12-point text set solid (with no leading) would be 12/12 (pronounced "twelve on twelve"). 12-point text with 2 points of leading would be expressed as 12/14, and so on. (This book is set at 11/14.) There is no set formula for the amount of leading to use, since typefaces vary widely in stroke weight, x-height, and so on; the amount of leading you use will depend on the typeface you use and the appearance you wish to convey. Some leading guidelines are presented in Chapter 5.

Now that you're familiar with some basic terms, you're ready to move on to selecting typefaces for your collection. The next chapter discusses factors to consider when building a typeface library.

TWO

BUILDING A
TYPEFACE LIBRARY

At last count, there were more than 400 typeface families available for the Mac. And more are appearing every month. Macintosh typefaces cost anywhere from $10 for a shareware offering to $370 for some of the larger Adobe families. Most Adobe families fall in the $145 to $185 range, however, while families from other manufacturers typically sell for around $35 to $145. Unless you're an independently wealthy typeface collector (a Donald Trump Mediaeval, as it were), you'll probably have to be content with less than a dozen families. With so many faces available, how do you make informed choices about which ones to buy? How can you be sure a purchase will be a mainstay of your collection, rather than just another face in the crowd?

Types of Type

For starters, consider the types of publications you'll be producing. Typefaces are generally grouped into four categories: text, display, decorative, and specialty. Each kind of type is appropriate for a different job. The categories are

not hard and fast, but understanding their basic functions will help you select a well-rounded collection. Depending on the kind of work you do, you may want selections from each category. Most likely, you'll want to start with a basic set of versatile text faces to complement the overburdened set of faces in your laser printer. Let's take a look at a few of the many Mac faces that are available.

Text Faces

Text faces are the foundation of most type libraries. Whether you're printing a book, a newsletter, or a business report, you'll need a face that's legible in long passages of text, or *body copy*. To the uninitiated, many text faces look the same. While closer scrutiny reveals many differences in letterforms from face to face, text faces share similar designs for a reason — they're meant to be readable. An ornate or offbeat face might make a publication more visually exciting, but if the eye has to slow down periodically to decipher a letter, the reader's concentration is disrupted and the type becomes an obstacle to understanding the material. Don't get the idea that text faces have to be boring; if you take the time to study a variety of text faces, you'll find that each has a distinct character, and that even subtle variations in letterforms can make a great difference in a typeface's personality.

By convention, text faces are usually serif, although many readable sans serif faces exist. Sans serif conveys a modern, even avant-garde look, while serif faces are generally regarded as the comfortable, if somewhat mundane, norm. When in doubt, it's better to err on the conservative side; if you use a sans serif face for long passages of text (in a book or magazine, for instance), you run the risk of taxing the reader's eyes. On the other hand, if you're striving for a clean, modern look, sans serif might be appropriate (*Omni* magazine, for example, is set in a sans serif face).

Before you dash out and buy hundreds of dollars worth of typefaces, take a good look at the ones in your own back yard. Several perfectly good text faces are built into the LaserWriter's read-only memory (there's no place like ROM). If you don't count special-purpose faces such as Courier (typewriter meets laser), Zapf Chancery (an elegant script face), and Helvetica Narrow, you're left with the six selections shown below. These faces were carefully chosen to provide a balanced selection of readable serif and sans serif faces. Let's take a look at each one.

Times. It's not a glamorous face, but Times is highly readable, making it one of the most popular typefaces around. Times Roman was created for the London *Times* in 1931 by Stanley Morrison, and has been cropping up in newspapers, books, ads, and almost every type of publication imaginable ever since. Times is somewhat condensed, making it a good choice for fitting a lot of copy into a small space. Its large x-height and bold strokes allow it to hold up even under poor printing conditions. If you want a good, solid, workaday face, you can't go wrong with Times. Don't use this ubiquitous face if you want your publication to stand out from the crowd, however.

Bookman. ITC Bookman (ITC stands for International Typeface Corporation) is more casual than Times. Although it can be used as a text face, Bookman is less readable than Times in long passages. Bookman is strong, straightforward, and friendly, and would be a good choice for an ad, brochure, or similar publication consisting of short blocks of text. Bookman is also ideal for headlines and other display applications (display type is discussed in the following section).

New Century Schoolbook. Like Times, this sturdy, legible face stands up under poor printing conditions. As you've probably guessed, New Century Schoolbook is appropriate for lengthy text applications such as books. It's a little stodgy for my taste, but New Century Schoolbook was designed to be as legible as possible and is a strong, no-nonsense face that works well in most applications.

Palatino. Dignified, elegant, classical, formal...Palatino's lineage includes the chiseled letters of ancient Roman monuments and the calligraphy of sixteenth-century scribes. Designed by Hermann Zapf, Palatino combines the best traits of Renaissance and twentieth-century type design. This face is

suitable for books, magazines, ads, brochures, and the like. Or use it to add a touch of class to a report or prospectus. Poor Palatino is becoming overworked now that it's built into the LaserWriter, however. Although it's a beautiful face, Palatino is used so often that it's beginning to lose its impact. In addition, Palatino is sometimes miscast in documents that might be better served by a face with a different character (like when Meryl Streep played the Jewish housewife in *Heartburn* — it just didn't work).

Helvetica. Helvetica was designed in Switzerland in 1957 by Max Meidinger. It's probably the most widely read typeface in the world. Helvetica's letters and numbers are simple, compact, and readable, making this face a good choice for text, headlines, ads, signs, reports — almost any application. Like Times, Helvetica is short on personality but long on versatility. Its neutrality makes it a popular choice for headings that accompany a serif text face (the headings and captions in this book are set in a condensed Helvetica).

Avant Garde. ITC Avant Garde was created in 1970 by Herb Lubalin and Tom Carnase. This sans serif face shows the influence of the Bauhaus school of design: letterforms consist of simple elements such as circles and straight lines. Although not avant-garde by today's standards, ITC Avant Garde still conveys a modern look. This face works well in both text and headlines, although its minimalist, geometric letterforms make it the least readable of the LaserWriter lot for long passages of text.

So far, Adobe Systems rules the text typeface world, while most other companies have chosen to concentrate on decorative or novelty faces. Adobe faces are built into Apple's LaserWriter series and printers from several other manufacturers, making them a familiar sight to Mac publishers. In addition,

Adobe has the advantage of having developed PostScript, the language that enables the LaserWriters and other printers to print high-quality fonts (PostScript will be discussed in the next chapter). Adobe's faces incorporate scaling algorithms known as "hints" that optimize the appearance of printed characters at 300 dots per inch (dpi), especially at small sizes. Other font manufacturers aren't privy to these programming secrets, so Adobe's faces generally look better than the competition's at the relatively low resolution of laser printers. Adobe's hints will be discussed further in Chapter 7.

Despite these advantages, Adobe doesn't have a monopoly on text faces. Some fine text faces are available from companies such as Casady & Greene and NeoScribe International. In addition, established typeface companies like Bitstream, Compugraphic, Varityper, and Monotype have recently entered the market, and The Font Company just announced plans to convert the entire URW library to PostScript format. Figure 2.1 shows a selection of text faces.

Display Faces

Display faces feature bold, eye-catching letters designed to capture the reader's attention or set an element off from surrounding text. Display faces are used for headlines, chapter titles, posters, advertisements, and other applications where an attention grabber is needed.

Display type is often sans serif. Since display type is used for short passages, readability isn't as important a concern as it is for body copy. Not all display faces are sans serif faces, however — some employ stylistic extremes that would make a long passage of text virtually unreadable. Because they tend to be set at larger sizes than text faces, many display faces exhibit wide variations in stroke weight: heavy for extra impact, ultrathin (since thin strokes won't be hard to see at large sizes), or a combination of thick and thin strokes (Adobe's Bodoni Poster, for example, combines razor-thin strokes with grotesquely wide ones). Many display faces feature exaggerated serifs, rounded or elongated characters, or calligraphic flourishes. Even if the face itself has no stylistic extremes, an otherwise unassuming text face might be set in an ultrabold weight or a condensed or expanded style to make it an eye-arresting display face. (Look at the modified Helvetica headings in this book, for example.)

The distinction between text and display faces is somewhat murky. A single typeface can overlap both categories (Souvenir, for example, is popular

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Goudy Old Style
ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz

Garamond
ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz

Melior
ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz

Bodoni
ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz

Cheltenham
ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz

FIGURE 2.1. A small sample of text faces is shown here: Adobe's Goudy Old Style, Bitstream's ITC Garamond, Linotype's Melior, Casady & Greene's Bodoni, and Varityper's ITC Cheltenham.

as both a text face and a display face). But whereas many text faces can double as display faces, the reverse is rarely true; a typeface specifically designed for display purposes can't do double duty as a text face. If you're on a budget, your best bet is to concentrate on text faces first, and transform these faces into display type by adding size and weight in a word processor or condensing or expanding them in a page layout or PostScript graphics program.

Ideally, a display face should be neutral and flexible enough to work well with a number of text faces. Helvetica and Avant Garde, for example, are good, general-purpose display faces, with the bonus that they're built into most laser printers. Bookman, another laser printer face, is strong enough to do double duty as both a text and a display face. Figure 2.2 shows some typical display faces.

Decorative Faces

Ah, decorative typefaces — the curse of the impulse buyer. But go ahead, have some fun; buy an Art Deco face, a rubber stamp face, or some glowing neon letters. Just be advised that like that swell pair of saddle shoes you bought a couple of years ago — you know, the ones at the back of the closet — a decorative face might lose some of its charm after you've shown it off a few times.

Decorative faces can add pizzazz to a letter, an invitation, or an ad. Just be careful that you don't overuse decorative faces or, worse yet, use them in inappropriate places. Although some designers use decorative faces as display type, these faces are generally so distinctive that they monopolize the page design and distract the reader's attention from the message the text is trying to convey. A decorative or novelty face in a business letter or serious presentation will stick out like spats at an Iowa picnic, as Raymond Chandler would say.

Decorative faces do have their own brand of utility, however. Not only are they eye-catching, but they can convey a mood or message where words alone might fail to do so. Would you go to a party if the invitation were set in Times Roman?

Decorative faces for the Mac abound. Image Club and Casady & Greene offer large, diverse selections of decorative and novelty faces. The Electric Typographer offers a number of beautiful script faces, some of which include ornamental initial capitals. Figure 2.3 shows a smattering of fun faces from several companies.

ITC Korinna
ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz

News Gothic Bold
ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz

Alexandria Bold
ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz

Italian
ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz

Antique Olive
ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz

Caspian
ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz

FIGURE 2.2. Display faces exhibit distinctive stylistic touches. While some display faces can be used for text as well, many are too flamboyant to be readable in long passages. Shown here are Adobe's ITC Korinna, Bitstream's News Gothic, Casady & Greene's Alexandria, Image Club's Italian, Compugraphic's Antique Olive, and EmDash's Caspian.

Murchison
ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz

Chescheir
ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz

Abelard
ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz

Flourish
ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz

ArchiText
ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz

UpStart
ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz

FIGURE 2.3. Decorative faces run the gamut from Art Deco styles to script. These faces are designed to be eye-catching, often at the expense of legibility. Shown here are MacTography's Murchison and Chescheir, The Electric Typographer's Abelard and Flourish, and EmDash's ArchiText and UpStart.

Comic Book
ABCDEFGHIJKLMNOPQRSTUVWXYZ
ABCDEFGHIJKLMNOPQRSTUVWXYZ

RockABilly
ABCDEFG HIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz

Seville
ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz

Acropolis
ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz

Calligraphy
ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz

Dorovar
ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz

FIGURE 2.3 (continued).   Shown here are Image Club's Comic Book and RockABilly, T/Maker's Seville, Invincible Software's Acropolis, and Casady & Greene's Calligraphy and Dorovar.

Nouveau

ABCDEFGHIJKLMNOPQRSTUVWXYZ

abcdefghijklmnopqrstuvwxyz

Calculus

ABCDEFGHIJKLMNOPQRSTUVWXYZ

abcdefghijklmnopqrstuvwxyz

Venezia

ABCDEFGHIJKLMNOPQRSTUVWXYZ

abcdefghijklmnopqrstuvwxyz

Old German

ABCDEFGHIJKLMNOPQRSTUVWXYZ

abcdefghijklmnopqrstuvwxyz

FIGURE 2.3 (continued). Shown here are Dubl-Click Software's Nouveau and Calculus, Altsys's Venezia, and Springboard Software's Old German.

Specialty Faces

The specialty category encompasses an amazing variety of faces. Perhaps the most common specialty offerings are *pi fonts*, sets of nontext characters used for specific disciplines or professions. A mathematical pi font, for example, might contain mathematical operators (addition, subtraction, division, and multiplication signs), Greek characters, large brackets, and other special characters used in mathematical expressions. A special type of pi font called *dingbats* contains characters such as arrows, checkmarks, check boxes, pointing hands, and decorative elements.

Other specialty fonts include small caps, fractions, phonetic symbols, cartographic symbols, musical notation, decorative borders, chemical structures, Macintosh icons, bullets and boxes, keyboard layouts, and countless doodads and thingamajigs, from dinosaurs to hot-air balloons.

Figure 2.4 shows just a few of the specialty faces available for the Mac. More are listed in Appendix B. If you can't find what you need, *KeyMaster*, a new program from Altsys, lets you convert graphics to PostScript fonts. *KeyMaster* captures illustrations created in *Illustrator*, *FreeHand*, *SuperPaint*, *MacDraw*, and most other Mac drawing programs and automatically creates screen and printer fonts. You then assign keyboard locations to as many as 16 graphic characters per font. Press a key and your graphic appears; change the font size to enlarge or reduce the picture. If you're not an artist, you can still use this utility to convert commercially-available Mac clip art into dingbats.

Foreign Language Faces

A number of companies offer PostScript foreign language faces. These character sets include Hebrew, Arabic, Cyrillic, Greek, Vietnamese, and Hindi/Sanskrit. Appendix C lists companies that offer foreign language typefaces.

Starting Your Collection

If you print a lot of Mac publications, one day you may find you've outgrown your laser printer's built-in fonts. You paste the text for a newsletter into a page layout program and find yourself staring blankly at the font menu: Times is too mundane; Palatino's too formal; Bookman's too informal; and New Century Schoolbook is too, well, schoolbookish. It's time to expand your Mac typeface collection. If you're new to Mac publishing, you may be

!∀#∃%&϶()∗+,./0123456789:;<=>?≅
ΑΒΧΔΕΦΓΗΙϑΚΛΜΝΟΠΘΡΣΤςΩΞΨΖ
[∴]⊥_ ‾αβχδεφγηιφκλμνοπθρστϖωξψζ
{|}~ϒ′≤⁄∞ƒ♣♦♥♠↔←↑→↓°±″≥×∝∂•÷≠
≡≈…│—⏐ℵℑℜ℘⊗⊕∅∩∪⊃ ⊄⊂⊆∈∉
∠∇ ⎛⎜⎡⎢⎣⎨⎜⎜ ⎞⎡⎢⎜⎟ ⎟⎜⎤⎥⎦ ⎬⎭ ®©™
∏√·¬∧∨⇔⇐⇑⇒⇓◊〈®©™∑

FIGURE 2.4. Specialty faces for the Mac abound. Adobe's Symbol and Zapf Dingbats are built into Apple's LaserWriter printers.

FIGURE 2.4 (continued). Pictorial fonts can be borders, dingbats, or special symbols. Shown here are selections from Altsys's Borders 3, Page Studio Graphics' PIXymbols/US, and Image Club's Mini-Pics. More specialty faces are listed in Appendix B.

overwhelmed by the choices that confront you — nearly 20 companies sell PostScript typefaces. How do you begin to select a collection of faces that will complement the ones your printer offers?

For starters, you can listen to the pros. I asked a number of type experts — graphic designers, typesetters, publishers, and type designers — which ten faces they'd choose to complement the LaserWriter's built-in faces.

The Experts Speak

The experts I quizzed included type designer Sumner Stone, *Publish!* magazine managing editor Jim Felici, designer Kathy Forsythe (a consultant for Bitstream), and Harry Marks, president of Marks Communications in LA. Their choices were remarkably consistent, although of course not everyone chose the same ten faces. The faces named most often are shown in Figures 2.5 through 2.14.

The runners-up include Adobe's Stone family, ITC Cheltenham, Franklin Gothic, Gill Sans, the rest of the Helvetica family (condensed, light, black, and so on), and Caslon (an old typographer's saw goes "When in doubt, use Caslon.").

Of course, just because a face is popular doesn't mean it's right for your publishing project. The "top ten" list is intended to give newcomers a taste of versatile, time-honored faces. Ultimately, you have to decide what you need from a typeface. Should it convey a mood or message to the reader (formal, casual, lighthearted, modern, powerful, businesslike)? Should it grab the reader's eye (in an ad headline, logo, or announcement, for example), or should it be a neutral face that doesn't call attention to itself as a design element (in a textbook or catalog)? Should it be readable in long passages (in a book, magazine, or newsletter, for example), or would a less legible but more striking face be more appropriate (in an ad, invitation, or book jacket)?

I also asked the experts what advice they'd give beginners on mixing typefaces in a document — using one face for headings and another for body copy, for example. You've probably heard this advice a hundred times, but I'll repeat it here just to be on the safe side: Don't use too many faces in a document. Of course, how many faces you use depends on the type of publication and the message you're trying to convey, but in general if you use more than two or three faces on a page you'll create a hodgepodge that will peg you as an amateur designer.

Bodoni

Although Italian printer Giambattista Bodoni designed this typeface in 1788, it's classified as a Modern face. The Modern category includes roman faces with a vertical stroke emphasis, square serifs, and a strong contrast between thick and thin strokes.

When to use: Bodoni can be used as text or display type, but should be used with care because of the immense variation in stroke weight; hairlines might fade out under poor printing conditions. Bodoni is a beautiful face, but it's not as readable as faces with less extreme variations in stroke weight. Bodoni's vertical letter-forms bring to mind words such as "rigid" and "formal."

Daedalus and Icarus
"I warn you, Icarus, fly a middle course:
Don't go too low, or water will weigh the wings down;
Don't go too high, or the sun's fire will burn them.
Keep to the middle way. And one more thing,
No fancy steering by sun or constellation,
Follow my lead!" That was the flying lesson,
And now to fit the wings to the boy's shoulders.
Between the work and warning the father found
His cheeks were wet with tears, and his hands trembled.
He kissed his son (*Good-bye*, if he had known it),
Rose on his wings, flew on ahead, as fearful
As any bird launching the little nestlings
Out of the high nest into thin air.
   – *Ovid*

FIGURE 2.5. Adobe's Bodoni.

Futura

Designed by Paul Renner in 1927, Futura is one of the most popular sans serif faces. Letters are reduced to simple forms, unadorned by serifs or variations in line weight. Adobe's Futura family boasts 20 members, allowing you to tie together elements of a design.

When to use: *Futura is suitable for headlines, ads, or almost any publication that demands a modern look. Although it's a very readable face, you probably wouldn't want to use Futura in lengthy publications such as books or magazines. Futura is undeniably modern, but some consider it a cold and impersonal face.*

Note: *Futura's ascenders are extremely tall in relation to the other letters in the face; you'll probably need to add a little extra leading to insure that ascenders don't crowd the letters above them.*

Daedalus and Icarus

"I warn you, Icarus, fly a middle course:
Don't go too low, or water will weigh the wings down;
Don't go too high, or the sun's fire will burn them.
Keep to the middle way. And one more thing,
No fancy steering by sun or constellation,
Follow my lead!" That was the flying lesson,
And now to fit the wings to the boy's shoulders.
Between the work and warning the father found
His cheeks were wet with tears, and his hands trembled.
He kissed his son (*Good-bye*, if he had known it),
Rose on his wings, flew on ahead, as fearful
As any bird launching the little nestlings
Out of the high nest into thin air.
  — Ovid

FIGURE 2.6. Adobe's Futura.

Galliard

Designed by Matthew Carter, Galliard is a contemporary adaptation of Robert Granjon's Sixteenth century typeface. Galliard's calligraphic flavor makes it without a doubt one of the most elegant faces around.

***When to use:** This readable, versatile face can be called on for anything from a business document to a book to a party invitation.*

Daedalus and Icarus

"I warn you, Icarus, fly a middle course:
Don't go too low, or water will weigh the wings down;
Don't go too high, or the sun's fire will burn them.
Keep to the middle way. And one more thing,
No fancy steering by sun or constellation,
Follow my lead!" That was the flying lesson,
And now to fit the wings to the boy's shoulders.
Between the work and warning the father found
His cheeks were wet with tears, and his hands trembled.
He kissed his son (*Good-bye,* if he had known it),
Rose on his wings, flew on ahead, as fearful
As any bird launching the little nestlings
Out of the high nest into thin air.
    — *Ovid*

FIGURE 2.7. Adobe's Galliard.

Garamond

Garamond is an Old Style face, one that shows little variation in stroke width, a diagonal emphasis influenced by calligraphy, ascenders that are taller than the capitals, and small serifs. This face is based on one created by Claude Garamond in the sixteenth century. The x-height of the original face has been increased to suit contemporary tastes.

When to use: *It's hard to go wrong with Garamond. This warm, friendly face is suitable for books, magazines, and other publications with lengthy passages of text.*

Note: *Adobe offers Garamond Light, while Bitstream offers a book weight.*

Daedalus and Icarus

"I warn you, Icarus, fly a middle course:
Don't go too low, or water will weigh the wings down;
Don't go too high, or the sun's fire will burn them.
Keep to the middle way. And one more thing,
No fancy steering by sun or constellation,
Follow my lead!" That was the flying lesson,
And now to fit the wings to the boy's shoulders.
Between the work and warning the father found
His cheeks were wet with tears, and his hands trembled.
He kissed his son (*Good-bye,* if he had known it),
Rose on his wings, flew on ahead, as fearful
As any bird launching the little nestlings
Out of the high nest into thin air.
    — *Ovid*

FIGURE 2.8. Adobe's Garamond Light.

Goudy Old Style

Designed in 1915 by Frederic Goudy, Goudy Old Style is a favorite of designers and typographers. Typical of the Old Style faces, Goudy is reminiscent of pen-drawn letters, with subtle variations in line weight, ascenders higher than capitals, and delicate serifs.

When to use: *This versatile face is is equally suited to text and display applications. Goudy is an excellent face for a book: it's readable, graceful, and unassuming.*

Note: *Goudy Old Style is offered by Adobe (shown here), Altsys, The Electric Typographer, and Varityper.*

Daedalus and Icarus

"I warn you, Icarus, fly a middle course:
Don't go too low, or water will weigh the wings down;
Don't go too high, or the sun's fire will burn them.
Keep to the middle way. And one more thing,
No fancy steering by sun or constellation,
Follow my lead!" That was the flying lesson,
And now to fit the wings to the boy's shoulders.
Between the work and warning the father found
His cheeks were wet with tears, and his hands trembled.
He kissed his son (*Good-bye,* if he had known it),
Rose on his wings, flew on ahead, as fearful
As any bird launching the little nestlings
Out of the high nest into thin air.
   — *Ovid*

FIGURE 2.9. Adobe's Goudy Old Style.

Janson

Janson was designed in the Seventeenth century by Nicholas Kis. In the 1930s, Janson rivaled Caslon as the typeface of choice for books. The strong contrast between thick and thin strokes makes Janson a strong, readable face, even at small sizes.

__When to use:__ I'd be remiss if I didn't recommend Janson as a superb face for books. This book is set in Janson. (This figure is included so you can get a look at different sizes, weights, and styles.) Some people might find Janson a bit conservative, but it's a good choice if you want a classic face that doesn't call attention to itself.

Daedalus and Icarus

"I warn you, Icarus, fly a middle course:
Don't go too low, or water will weigh the wings down;
Don't go too high, or the sun's fire will burn them.
Keep to the middle way. And one more thing,
No fancy steering by sun or constellation,
Follow my lead!" That was the flying lesson,
And now to fit the wings to the boy's shoulders.
Between the work and warning the father found
His cheeks were wet with tears, and his hands trembled.
He kissed his son (*Good-bye*, if he had known it),
Rose on his wings, flew on ahead, as fearful
As any bird launching the little nestlings
Out of the high nest into thin air.
   — *Ovid*

FIGURE 2.10. Adobe's Janson.

New Baskerville

Baskerville was designed by the English writing master John Baskerville in 1757. Baskerville is a Transitional face, a style that falls between Old Style and Modern. Transitional faces show greater contrast between thick and thin strokes than Old Style faces, and have a vertical, rather than diagonal, stress. ITC's New Baskerville is a contemporary version of the time-honored Baskerville.

When to use: *New Baskerville can enhance books, newsletters, reports, magazines (Publish!* magazine is currently set in New Baskerville), or almost any publication that calls for a pleasant, readable text face. And New Baskerville comes with one of the most beautiful italic faces around*

Note: *New Baskerville is graceful, delicate, elegant...but a little wimpy. You might want to tighten up the tracking to make this face less airy.*

Daedalus and Icarus

"I warn you, Icarus, fly a middle course:
Don't go too low, or water will weigh the wings down;
Don't go too high, or the sun's fire will burn them.
Keep to the middle way. And one more thing,
No fancy steering by sun or constellation,
Follow my lead!" That was the flying lesson,
And now to fit the wings to the boy's shoulders.
Between the work and warning the father found
His cheeks were wet with tears, and his hands trembled.
He kissed his son (*Good-bye,* if he had known it),
Rose on his wings, flew on ahead, as fearful
As any bird launching the little nestlings
Out of the high nest into thin air.
    — *Ovid*

FIGURE 2.11. Adobe's New Baskerville.

Optima

Optima, designed by Hermann Zapf, is one of the most versatile—and popular—faces around. The characters are based on classic proportions (width to height relationship) set by Greco-Roman and Renaissance cultures. A sans serif face with just a hint of serifs in its subtly-flared stroke endings, Optima mixes well with many serif and sans serif faces. This elegant, readable face is a must for any well-rounded type collection.

When to use: *A good all-around corporate font. Suitable for a wide variety of text applications. Use in combination with other serif and sans serif faces.*

Note: *Because of its subtly-flared strokes, Optima is less than optimum at low resolution (300 dpi). If you're using a laser printer for your final output, think twice about adding Optima to your typeface library.*

Daedalus and Icarus

"I warn you, Icarus, fly a middle course:
Don't go too low, or water will weigh the wings down;
Don't go too high, or the sun's fire will burn them.
Keep to the middle way. And one more thing,
No fancy steering by sun or constellation,
Follow my lead!" That was the flying lesson,
And now to fit the wings to the boy's shoulders.
Between the work and warning the father found
His cheeks were wet with tears, and his hands trembled.
He kissed his son (*Good-bye,* if he had known it),
Rose on his wings, flew on ahead, as fearful
As any bird launching the little nestlings
Out of the high nest into thin air.
    — Ovid

FIGURE 2.12. Adobe's Optima.

Trump Mediaeval

Trump Mediaeval, with its wedge-shaped serifs, looks like it's carved in stone. Its wide capitals and angular strokes make Trump Mediaeval a distinctive, even imposing face.

When to use: *Trump Mediaeval has a little too much personality for some applications; it might call too much attention to itself in a book, for example. But it's suitable for newsletters, reports, magazines, and other publications that could benefit from a distinctive look. (I find Trump's italics unattractive, but you should look at this sample and judge for yourself.)*

Daedalus and Icarus

"I warn you, Icarus, fly a middle course:
Don't go too low, or water will weigh the wings down;
Don't go too high, or the sun's fire will burn them.
Keep to the middle way. And one more thing,
No fancy steering by sun or constellation,
Follow my lead!" That was the flying lesson,
And now to fit the wings to the boy's shoulders.
Between the work and warning the father found
His cheeks were wet with tears, and his hands trembled.
He kissed his son (*Good-bye,* if he had known it),
Rose on his wings, flew on ahead, as fearful
As any bird launching the little nestlings
Out of the high nest into thin air.
   — *Ovid*

FIGURE 2.13. Adobe's Trump Mediaeval.

Univers

Univers is a good example of the virtues of family planning. Designed in 1956 by the Swiss designer Adrian Frutiger, Univers was one of the first typeface families to be planned in its entirety before production began. The original Univers family has 21 style and weight variations; Adobe offers 14 variants. Although it's sometimes confused with Helvetica, Univers offers more variation in stroke width, making it more lively and interesting than Helvetica.

When to use: If a project has numerous design elements or heading levels, the Univers family can tie the design together. It's an excellent display face, and readable in lengthy body copy as well. I'd suggest Univers as an alternative to Helvetica.

Daedalus and Icarus
"I warn you, Icarus, fly a middle course:
Don't go too low, or water will weigh the wings down;
Don't go too high, or the sun's fire will burn them.
Keep to the middle way. And one more thing,
No fancy steering by sun or constellation,
Follow my lead!" That was the flying lesson,
And now to fit the wings to the boy's shoulders.
Between the work and warning the father found
His cheeks were wet with tears, and his hands trembled.
He kissed his son (Good-bye, if he had known it),
Rose on his wings, flew on ahead, as fearful
As any bird launching the little nestlings
Out of the high nest into thin air.
   — Ovid

FIGURE 2.14. Adobe's Univers.

Harry Marks points out that there are no hard and fast rules for using one face with another. "You can't really list faces that go with other faces. You can always use Times for text and Helvetica for headlines, but it's nice to be innovative." Marks suggests that Mac publishing neophytes read some basic books on typography to learn some design fundamentals (see this book's Bibliography for suggestions). He also recommends some Mac-specific resources, *The Aldus Guide to Basic Design* (a booklet available to registered *PageMaker* owners) and Brøderbund Software's *DTP Advisor,* a *HyperCard* application that presents, among other publishing information, the basics of typography.

"Breaking the rules is fine," says Marks, "but you have to know what rules you're breaking. If you start with the basics, by following companies like Aldus, you get the groundwork that will then allow you to stretch out a bit." Marks also suggests that beginners look at good designs and emulate them. Thumb through magazines, books, or other publications to see how professional designers use type.

Publish! magazine's Jim Felici advocates a conservative approach for beginners. He points out that typeface families exist to provide complementary design elements. It's hard to go wrong when you set headings in a larger, bold version of a publication's text face. Notes Felici, "A beginner's design shouldn't be memorable. If it's memorable, it's probably memorable for the wrong reasons." He suggests investing in a family with lots of style and weight variations, such as Univers. He also notes that Optima mixes well with many serif faces.

Felici also suggests Adobe's Stone family as a sure bet for novice designers. The Stone family, a contemporary group of faces designed by Sumner Stone, is actually three families that are similar in design and spirit (Stone refers to it as a "type clan"). Stone's extended family includes a serif face, a sans serif face, and a charming "informal" face designed for personal communications where a traditional face might appear too stark and businesslike. Because the Stone family was created by a single designer and with compatibility in mind, it's hard to go wrong mixing different members of the family in a document. Each Stone face has the same cap height, x-height, and stem weight, and the faces are similar enough in form to work well with the other Stone family members. Stone Serif has become one of my favorite typefaces. Figure 2.15 shows several Stone faces combined.

Designer Kathy Forsythe agrees that there are no set rules for using type. "But there are basic guidelines that one can follow for using type effectively.

Ed:

I enjoyed having lunch with you last week. I was fascinated by your theory of the three major food groups: warm, salty grease; cold, sweet grease; and beer. I think you may have something there. Attached you'll find a mock-up for your ad. I did it on my Mac, so it will be easy enough to make changes if necessary. Hope to hear from you soon.

—Louise

Ed's Editorial Services

"Prose Dull and Dry? Ed-ify!"

Editing

Our trained staff of 12 editors has a combined total of more than 68 years of editorial experience. Of course, most of the aforementioned experience can be chalked up to Miss Lithgow, who has been an editor for 54 years—but let's not get too picky.

Proofreading

Each one of our staff members has passed Ed's rigerous spelling test. Points are deducted for even miniscule errors, ensuring that only top-knotch proofers will make the grade.

Rewrite

Our skilled editors have enough metaphors up their sleeves to keep your readers' attention riveted until the cows come home. Our motto: "Service with a Simile."

Indexing

Each Ed's employee knows the entire alphabet by heart.
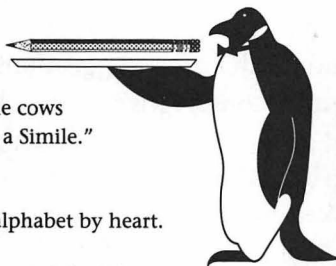
Call 555-EDIT • Day or Nite • Ask for Ed

FIGURE 2.15. Adobe's Stone family is actually a set of three families designed to work harmoniously with one another, making Stone an ideal choice for novice designers. The top sample is Stone Informal, a casual face designed for personal correspondence. The ad combines Stone Sans and Stone Serif.

Judgment, taste, and appropriateness are acquired through the experience of using type regularly and through awareness of basic guidelines that can assist in the most effective use of type." When asked about combining different faces, Forsythe replied, "When using two or more typefaces together, contrast is the objective. You want to create different textures with type. This can be achieved in several ways: serif versus sans serif (contrast of structure), roman versus italic (contrast of form), contrast of size and weight, and caps versus lowercase. Contrast creates typographic interest and at the same time enhances and strengthens the message."

In general, you're asking for trouble if you team up two faces with strong personalities. You're also living dangerously if you combine two serif faces in a document. (You wouldn't want to team up Galliard and Garamond, for example, or Bodoni and Palatino — at least *I* wouldn't.) However, all of the experts I talked with noted that they'd seen seemingly bizarre typeface combinations that worked well together. By all means, don't be afraid to experiment! But if you're new to design, keep in mind that your innovative design might be the typographic equivalent of wearing stripes and plaid.

If you still have qualms about your design abilities, even after all this advice, you can always use the canned-design approach. Adobe's Publishing Packs offer three preselected typeface combinations — one set for newsletters, one for forms and schedules, and a third for presentations. Each package contains three faces designed to work well together and includes a hint booklet written by an expert in typography and design.

To sum up the pros' suggestions, you can read more about typography; start out with a conservative approach, mixing family members or combining fairly bland serif and sans serif faces; and/or copy designs done by professionals. But perhaps the best piece of advice was given by Kathy Forsythe, when she was asked how beginners can become more knowledgeable about type. Her reply: "By using it, primarily."

A Crash Course In Type Identification

If you follow the hallowed tradition of copying the experts, you may at first find yourself hard pressed to identify a typeface you come across. Let's say you're thumbing through a magazine and see a face you like. If you're new to typography, you probably won't snap your fingers and say, "Aha! That looks like Chelmsford Demi-Bold Condensed Italic." More likely, you'll mutter an expletive or two and set your document in Palatino again.

But don't despair. With some practice (and a type specimen book), you can learn to identify typefaces by first narrowing down the category they fall into and then identifying key differences between similar faces. Two reference books can help you in your quest. *A Manual of Comparative Typography*, by Benjamin Bauermeister, uses a numerical system to classify 240 typefaces and help you locate faces that share design characteristics. Another good source-book is *Rookledge's International Typefinder*, by Christopher Perfect and Gordon Rookledge. This book places 700 faces into 16 major design categories and numerous subcategories.

You already know how to identify serif and sans serif faces, but that skill is right up there with the ability to distinguish among animals, vegetables, and minerals. Numerous subcategories of type styles exist. Figure 2.16 shows some common design categories. If you can determine that the face you ran across is a slab serif, for example, you'll be able to focus your search on that category and — with the help of a guide like the two just mentioned — find the face itself or at least one that resembles it.

After you've identified the mystery face's general design category, you can speed up your search by comparing specific letters of the unknown face with those of faces in a type specimen book. Certain letters tend to be more distinctive than others, differing more than other letters from one face to another. Among these are the uppercase *A*, *E*, *M*, and *T*, and the lowercase *a*, *e*, *g*, *r*, and *t* (these letters spell out "great TEAM," in case you're partial to memory aids). Start your comparison with one or more of these letters. *Rookledge's International Typefinder* offers tables of individual letters from different faces, further speeding your search.

Try it yourself. Each of the *g*'s below belongs to one of the ten faces illustrated in Figures 2.5 through 2.14. Look at the figures and figure out which face each *g* hails from.

<div align="center">

g g g g

</div>

Identifying the face is only half the battle. You then have to determine whether it's available for the Mac. Fortunately, you can buy an excellent Mac-specific type guide called the *PostScript Type Sampler*.

Type

Old Style. Characterized by
little contrast in stroke width,
heavily bracketed serifs, and
a diagonal stroke emphasis
reminiscent of calligraphy.

Type

Transitional. A bridge between
Old Style and Modern, these faces
show some contrast in stroke weight,
and a vertical rather than a diagonal
stroke emphasis.

Type

Modern. Characterized by
extreme contrast between
thick and thin strokes,
square serifs, and a strong
vertical emphasis.

Type

Slab Serif or Egyptian. This style
originated in France after Napoleon's
return from Egypt. Characterized by
strong, monotone stroke weight and
thick, square serifs.

Type

Script. Typefaces that imitate
handwritten letters. In many
script faces, the letters are
connected. (Note: Never set
script in all caps.)

type

Uncial. From the Latin *uncus,*
for crooked. Uncials are a product
of the transition from handwritten
capitals to lowercase letters. Use
when you're in a mediaeval mood.

FIGURE 2.16. This figure shows some of the major subcategories of type designs. If you learn to identify the characteristics of each category, you'll have an easier time tracking down typefaces you come across in books, magazines, or ads.

PostScript Type Sampler

If you want a look at the big picture before choosing some typefaces, I'd recommend investing in MacTography's *PostScript Type Sampler,* a looseleaf catalog that shows type samples of some 800 faces (bold, italic, and so on are counted as separate faces) from, at this point, 17 companies. The looseleaf format leaves room for new faces from the existing manufacturers as well as any new companies that enter the Mac typeface market; two catalog updates are provided each year. For an additional fee, you receive a newsletter that shows recently released faces and type utilities. The type samples are printed on coated paper at 1270 dpi, which should give you a good idea of what a particular face will look like if you choose to set it on a Linotronic or a comparable imagesetter. Figure 2.17 shows a sample page from the *PostScript Type Sampler.*

The *PostScript Type Sampler* shows not only uppercase and lowercase alphabets for each face, but also a sample passage consisting of several lines of text. It's always a good idea to look at a sample paragraph, rather than just the individual letters of a face. Viewing a lengthy passage will help you judge a face's *color,* the overall tone or perceived shade of gray of a block of text. Viewing an entire paragraph will also enable you to spot unsightly character combinations or poor kerning. Since faces are usually sold as a family, you should look at a paragraph set in the italic or oblique version as well; some italic faces are more attractive and/or readable than others.

Lookalikes

If you don't want to purchase MacTography's catalog, write to Mac font distributors for their catalogs (Figure 2.18 provides an overview of Mac font vendors; addresses are provided in Appendix A). And whatever you do, don't count on a Mac version of a traditional typeface to look like the version you see in a book, magazine, or typesetter's catalog — many Mac faces are modeled after classic faces from established type houses like Mergenthaler or ITC, but they may be altered in the translation to PostScript format. Changes can occur by accident during the transition from one medium to another, or on purpose as a type designer adds a personal touch to the Mac version.

In some cases, two or more Mac type vendors will offer a classic face under the same name (Casady & Greene and Adobe both offer Bodoni, for example); these faces often differ widely in interpretation and execution, so be

Helvetica Light	POSTSCRIPT™ Type Sampler
Helvetica Light	!"#$%&'()*+,-./0123456789:;<=>?@ ABCDEFGHIJKLMNOPQRSTUVWX YZ[\]^_`abcdefghijklmnopqrstuvwx yz{l}~ÄÅÇÉÑÖÜáàâäãåçéèêëíìîïñó òôöõúùûü†°¢£§•¶ß®©™´¨≠ÆØ∞±≤ ≥¥µ∂∑∏∫ªºΩæø¿¡¬√ƒ≈∆«»…ÀÃÕŒ œ——""''÷◊ÿŸ⁄¤‹›fifl‡·‚„‰ÂÊÁËÈÍÎÏ ÓÔ ÒÚÛÙı^~¯˘˙˚
Adobe Package #13 Includes Oblique /Black /Black Oblique	
10/12 Justified	My time is unfortunately too short to stay and give to this truth the development it deserves; but I will assume that you grant it without further parley, and pass to the next step in my argument. And here, too, I shall have to bespeak your close attention for a moment, while I pass over the subject far more rapidly than it deserves.
Point Sizes	6Pt 9Pt 10Pt 12Pt 14Pt 18Pt 24Pt 36Pt
Helvetica Light Oblique	!"#$%&'()*+,-./0123456789:;<=>?@ ABCDEFGHIJKLMNOPQRSTUVW XYZ[\]^_`abcdefghijklmnopqrstuvw xyz{l}~ÄÅÇÉÑÖÜáàâäãåçéèêëíìîïñ óòôöõúùûü†°¢£§•¶ß®©™´¨≠ÆØ∞ ±≤≥¥µ∂∑∏∫ªºΩæø¿¡¬√ƒ≈∆«»…ÀÃ ÕŒœ——""''÷◊ÿŸ⁄¤‹›fifl‡·‚„‰ÂÊÁË ÈÍÎÏÓÔ ÒÚÛÙı^~¯˘˙˚
Adobe Package #13 Includes Light /Black /Black Oblique	
10/12 Justified	*My time is unfortunately too short to stay and give to this truth the development it deserves; but I will assume that you grant it without further parley, and pass to the next step in my argument. And here, too, I shall have to bespeak your close attention for a moment, while I pass over the subject far more rapidly than it deserves.*
Point Sizes	*6Pt 9Pt 10Pt 12Pt 14Pt 18Pt 24Pt 36Pt*

Adobe System Inc.-50

FIGURE 2.17. MacTography's *PostScript Type Sampler* is an excellent sourcebook for Mac publishers. The catalog is updated periodically to show the latest entries into the rapidly-growing library of PostScript typefaces.

Adobe Systems

Futura

ITC Garamond

Stone Serif

Alphabets Inc.

Prospera

Altsys Corporation

Goudy Old Style

PenStroke

Venezia

Bitstream Inc.

ITC Garamond Book

News Gothic

Casady & Greene

Regency Script

MONTEREY

Ritz

Compugraphic Corporation

Garth Graphic

ITC Novarese Book

Symphony

Dubl-Click Software

CutOuts

Hobnob

Rouveau

Electric Typographer

eLectric uncial

Flourish

roubador

EmDash

ArchiText

Briar Book

Caspian Book

FIGURE 2.18. To give you a taste of the PostScript typefaces available, text, display, and decorative faces from numerous companies are shown here (see Appendix A for company addresses and pricing information. Specialty faces are listed in Appendices B and C.

49

Image Club

NEON

Surf Style

THEATER

Springboard Software

Circus

Modern

Old German

Linotype

Glypha

Melior

Trump Mediaeval

Studio 231

S Abbott Oldstyle

S Albertus

S Broadway

MacTography

Albany

Dickens

Murchison

T/Maker

Bombay

Plymouth

Seville

Olduvai Corporation

GROVE

LARGO

Varityper

Gill Bold

Souvenir

Schoolbook

FIGURE 2.18 (continued).   Mac typeface sampler.

sure to look at samples from each company before making a buying decision. Figure 2.19 shows several faces that are offered by more than one company.

To further complicate matters, some companies give their own names to versions of established faces (MacTography's Option is based on Optima, for example). The new names sometimes resemble those of the original face (Italian for Italia, for example, or Missive for Mistral), but not always. Because of a quirk in U.S. copyright law, a typeface's name (Garamond, for example) can be protected, but not the design of the face itself. Therefore, anyone can duplicate the letterforms of an existing typeface, give it another name, and legally sell their version of the face. Adobe licenses many of its faces from established type houses such as ITC, and is therefore allowed to use the faces' original names. Many individuals and smaller type companies have copied classic faces but renamed them to avoid trademark infringements. Appendix D provides a cross-referenced list of duplicate Mac typefaces.

"Imitation is the sincerest form of flattery."   Adobe's Goudy Old Style

"Imitation is the sincerest form of flattery."   Altsys's Goudy Old Style

"Imitation is the sincerest form of flattery."   Adobe's Bodoni

"Imitation is the sincerest form of flattery."   Casady & Greene's Bodoni

"Imitation is the sincerest form of flattery."   Adobe's Helvetica

"Imitation is the sincerest form of flattery."   Compugraphic's Triumvirate

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FIGURE 2.19. As you can see, different manufacturers offer varying interpretations of classic faces. You might want to shop around to find a face that meets your taste and your budget.

Resolution

One final factor is important when choosing typefaces for your collection. Before purchasing a typeface, you should take into account the resolution of your final printed output. As mentioned earlier in this chapter, Adobe's faces are generally your best bet for low-resolution printing, since they include Adobe's scaling algorithms. But some Adobe faces look better than others at low resolutions; many people consider Adobe's Galliard and Optima to be poor choices for laser-printed output, for example, while the Lucida and Stone families — which were designed as digital typefaces rather than converted from existing ones — print clearly at low resolutions. In addition, many faces from other manufacturers look perfectly respectable at 300 dpi.

The size of printed type affects its appearance at low resolution; very large (48 points and larger) or very small (7 points and smaller) sizes tend to exhibit more jaggies than medium sizes. If you're using your laser printer as a proofing device and sending documents to a service bureau to be printed, resolution shouldn't be a factor in your buying decision. But if your publications will be set at 300 dpi, try to get a look at a printed sample of the face you want to buy in the sizes, styles, and resolution you intend to print.

THREE

FONT INSTALLATION

Macintosh typography involves two components, the characters that appear on the screen and those produced by an output device. The characters displayed on the Mac's monitor are called *screen fonts*. They're designed to approximate on the screen the appearance of the final, printed page. *Printer fonts* contain the information necessary for a laser printer or typesetter to draw higher resolution versions of the characters represented on the screen. Screen fonts and printer fonts are interrelated; on-screen formatting such as size and style is translated into instructions used by the output device for scaling, character positioning, and so on. In this chapter you'll learn how to install both types of fonts.

This chapter will cover PostScript fonts, since PostScript is the most common format for high-resolution printing on the Mac. See Chapter 7 for information on output alternatives, including QuickDraw printers and the so-called PostScript clones.

Screen Fonts

Screen fonts are also called *bit-mapped fonts*, since displayed characters are made up of a map of square dots, or pixels; see Figure 3.1. The word *bit* stands for binary digit, the ones and zeros that make up computer instructions. Each *pixel* — short for picture element — on the screen holds one bit of information; on the Mac's screen, if a bit is 1, or "on," a pixel is black; if a bit is 0, or "off," the pixel is white. (The Mac II can display multi-bit pixels in colors or shades of gray, but for this discussion we'll stick to plain old black-and-white displays.) The Mac displays fonts — and everything else on the screen — at a resolution of 72 pixels per inch, more commonly called dots per inch (dpi). When a document is printed on a dot-matrix printer such as Apple's ImageWriter, text is printed at 72 dots per inch; the printed characters are made up of dots that correspond to those on the screen. The ImageWriter offers some improvement in resolution if you print at Best quality. In Best printing mode, the printer must have access to a font not only in the size to be printed, but one twice that size as well. The ImageWriter doubles the font size, then scales it down, printing twice as many dots per inch as in Standard mode. Characters printed in Best mode appear darker and denser that those printed as straight 72-dpi bit maps.
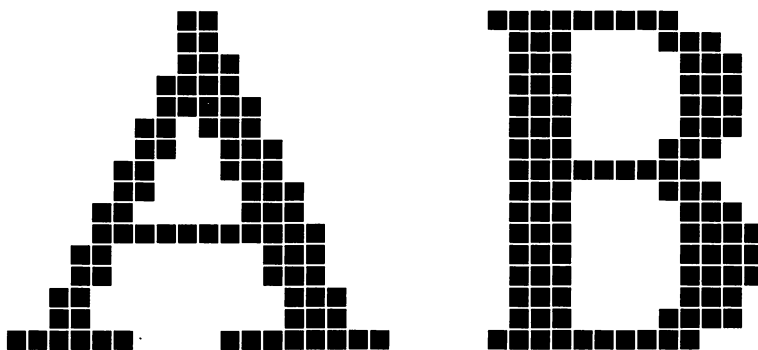
FIGURE 3.1. Macintosh screen fonts are made up of square dots, which are displayed at a resolution of 72 dots per inch.

A resolution of 72 dpi, or even 144 dpi, is unsuitable for high-quality printing, however. The notorious *jaggies* — the stair-step effect evident in diagonal lines or curves — make bit-mapped characters appear coarse, and the subtle line-weight variations of typeset characters are impossible to achieve with such large dots. In addition, a dot-matrix printer's ribbon can fade or slip out of alignment and smear characters. To produce professional-looking publications, you'll need the higher resolution of a laser printer or a typesetter. Many laser printers print at a resolution of 300 dpi (this is charitably known as "near-typeset quality"). Laser typesetters offer a higher resolution still; Linotype's Linotronic 300 prints at up to 2540 dpi.

Although screen fonts can be printed on a laser printer, the printer merely duplicates the bit-mapped characters as they appear on the screen, treating them as graphic images. The appearance of printed bit-mapped text can be improved by employing a smoothing algorithm that softens the jaggies in LaserWriter output; many Mac applications offer a Smoothing option in a Page Setup or Print dialog box. But even with smoothing, printed screen fonts look passable at best. To achieve near-typeset or typeset quality, you must team screen fonts with printer fonts, which are discussed later in this chapter. First, we'll discuss the basics of installing screen fonts.

The System File

Screen fonts are installed in the Mac's System file. The System file holds *resources*, chunks of information shared by all Mac programs. In addition to fonts, the System contains various icons, error messages, cursor shapes, and other generic program components. The System also houses desk accessories, or DAs, mini-programs that can be called up from the Apple menu while another program is running.

All fonts and desk accessories installed in a particular System file are available in any program that uses that System. When you boot up your Mac with a floppy disk that contains a System file, that System will be in control as long as the Mac is turned on (unless you switch control to another floppy disk that contains a System). Likewise, if you turn on a hard disk before inserting any floppies, its System file takes control of the Mac. The contents of the System on the *startup disk*, whether it's a hard disk or a floppy disk, are available to any programs subsequently run under that System.

Chicago	**The Mac comes with seven basic screen fonts.**
Courier	The Mac comes with seven basic screen fonts.
Geneva	The Mac comes with seven basic screen fonts.
Helvetica	The Mac comes with seven basic screen fonts.
Monaco	The Mac comes with seven basic screen fonts.
New York	The Mac comes with seven basic screen fonts.
Times	The Mac comes with seven basic screen fonts.

FIGURE 3.2. Of the seven text fonts that come with the Mac's System software, only three —Times, Helvetica, and Courier — have corresponding LaserWriter fonts.

The System file that comes with the Mac (version 6.0.2 at this writing) includes seven screen fonts — Chicago, Courier, Geneva, Helvetica, Monaco, New York, and Times — in a number of point sizes (see Figure 3.2). Three of these fonts — Courier, Helvetica, and Times — have corresponding printer fonts built into Apple's LaserWriter series and many other Mac-compatible printers. This bare-bones setup provides a trio of serif, sans serif, and monospaced (typewriter-like) fonts that may be sufficient for Mac owners who write letters, memos, and the like. But many people will want to extend the capabilities of their Macs and add a custom set of fonts for various publishing tasks. A Utilities disk, also included with the off-the-shelf Mac, contains eight additional screen fonts (see Figure 3.3), but only one of these, Symbol, has a corresponding laser printer font. The remaining fonts are intended primarily for dot-matrix printers. If you wish, you can place any of these screen fonts in your System file.

Additional screen fonts are included when you buy a laser printer. These screen fonts, which match the printer's built-in fonts, and are installed in the System file as well. Screen fonts are also included on disks of downloadable fonts, which will be discussed later in this chapter.

The Font/DA Mover

The beauty of the Mac's System is that it can be customized by the computer-illiterate. Screen fonts can be added to or deleted from a System file with Apple's *Font/DA Mover*, a utility included with the Macintosh. In keeping with the Mac tradition of icons, the *Font/DA Mover* application is represented by a moving van. Screen fonts are packed into a suitcase icon (see Figure 3.4).

When you purchase a PostScript font disk, it contains both screen and printer fonts. You may also notice files labeled "Metrics" or "AFM" (for Adobe Font Metrics); you don't need to install AFM files unless the manual for the program you're using tells you to do so. Your first task is to install screen fonts in the System you'll be using with a word processor, page layout program, or any application you'll be printing from. Although Apple's documentation and the instructions that accompany font disks cover the basics of screen font installation, this section adds some tips that will help you streamline your System file and set up your font collection efficiently.

Athens	**Additional screen fonts are available.**
Cairo	🐚🖊️🐚📱📷🕹️♠️✈️🖊️✴️⚓➡️🏺〰️💡
London	𝕬𝖉𝖉𝖎𝖙𝖎𝖔𝖓𝖆𝖑 𝖘𝖈𝖗𝖊𝖊𝖓 𝖋𝖔𝖓𝖙𝖘 𝖆𝖗𝖊 𝖆𝖛𝖆𝖎𝖑𝖆𝖇𝖑𝖊.
Los Angeles	*Additional screen fonts are available.*
Mobile	🍎💾🖥️🐟🎵⊕🚶➯🛑➤🌲⬆️✓
San Francisco	Additional Screen fonts...
Symbol	θωερτψυιοπασδφγηφκλζξχϖβνμ
Venice	*Additional screen fonts are available.*

FIGURE 3.3. A Utilities disk that accompanies the Mac contains eight screen fonts. The Symbol font is built into Apple's LaserWriter printers.

To install or remove screen fonts, open the *Font/DA Mover* by double-clicking its icon. The dialog box shown in Figure 3.5 will appear, with the fonts in the startup disk's System displayed in the lefthand column. The number following the font name indicates the font's point size.

Before installing a collection of screen fonts in your System file, you might want to prune unnecessary ones to reclaim disk space. You can use the *Font/DA Mover* to remove unneeded desk accessories while you're at it; simply click the Desk Accessory button to display a list of the DAs installed in the System, select the ones you want to delete, and click the Remove button. Be careful when removing fonts or desk accessories! Once a font or DA is removed, it can't be recovered. (At least the latest version of the *Font/DA Mover* — version 3.8 at the time this was written — has the courtesy to ask you whether you *really* want to remove a font; earlier versions quickly dispatched fonts as soon as you clicked Remove.) To avoid catastrophic mistakes, you should work from backup disks when installing or removing fonts or DAs. Of the fonts that reside in the off-the-shelf System file, a few — Chicago 12, Geneva 9 and 12, and Monaco 9 — are required for System operation and can't be removed. If you try to delete one of these fonts, a dialog box informs you that you can't.

Once you've deleted unnecessary fonts and DAs, insert the disk that contains the fonts you want to install, click the Open button on the right, and open the appropriate font file; a list of fonts will appear in the righthand column. When you click on a font name, information about that font is displayed: the size in bytes appears in the center of the dialog box, and a sample of the font appears at the bottom. You can select more than one font at a

Font/DA Mover   *Collection of fonts*

FIGURE 3.4. Apple's *Font/DA Mover* transfers screen fonts into the System file. Up to 500 fonts can be crammed into a font suitcase.

time by sweeping the cursor down the list or holding down the Shift key and clicking on several non-adjacent fonts. If you select more than one item in the list, the total number of bytes selected is displayed, but no sample text is shown.

To transfer fonts from a disk to the System file, first click on the fonts you want in the sizes you're likely to use. Once you've selected a font or group of fonts to transfer with the *Font/DA Mover*, click the Copy button. Note that this button has arrows pointing in the direction of the fonts' destination. The Mac whirs and grinds, and the names of the newly-installed fonts appear in the lefthand column. (If you prefer, you can open a collection of fonts first, and then select the System file in which to install them. Double-click on a suitcase icon to activate the *Font/DA Mover* and display the fonts the suitcase contains. The procedure for installing the fonts is the same as the one just described, except the fonts are listed in the lefthand column and the contents of the System in the righthand one.)

The *Font/DA Mover* can install up to 500 screen fonts. To the *Font/DA Mover*, a "font" is a particular typeface in a certain size; 10-point Helvetica and 12-point Helvetica are treated by the *Font/DA Mover* as two separate fonts.
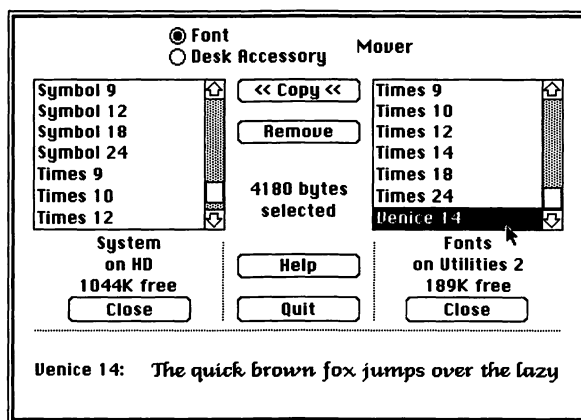
FIGURE 3.5. To install a font with the *Font/DA Mover*, simply click on the font's name to select it, and click the Copy button to transfer it to the System file.

Deciding which fonts to install is fairly straightforward; long before you opened the *Font/DA Mover* you should have decided which fonts were appropriate for the job at hand. Deciding which sizes to install can be a little harder. PostScript printer fonts can be scaled to virtually any size, regardless of the screen font sizes installed, so technically you can get away with installing a screen font in just one size — say, 12-point. This Spartan approach may be appropriate if you need to keep your System file small and plan to install numerous fonts and/or desk accessories. If you don't have a hard disk, keeping your System file under 800K is essential, since Mac floppy disks are currently limited to 800K of storage (unless you're fortunate enough to own a Mac IIx, which uses 1.4 MB floppies). If you start up from a floppy disk, you'll have to keep the System file well under 800K to leave room for the Finder and other System software. Even if you own a hard disk, it's advisable to keep your System smaller than 800K, especially if you intend to back it up on a floppy disk. And if you spend a good deal of time customizing a System file, it's *very* important to make periodic backups; reconstructing a complex System file after a disk crash entails digging up copies of all your fonts and DAs and reinstalling them. Despite your efforts to keep your System file down to size, you may eventually install so many fonts that the System won't fit on a single floppy disk (click on the System file icon and press ⌘-I to display an Info dialog box that lists the file's size). If this happens to you, you can use a hard disk backup program to copy the System file to two floppies. Alternatively, you can use a file-compression utility like *StuffIt* or *PackIt* (both available on CompuServe or from user groups) to compress the System file and store it on a single floppy.

Times 18 point is designed to be legible on screen.

Times 16 point has no corresponding screen font.

FIGURE 3.6.   If a screen font isn't available in a particular size, the Mac's internal graphics software will do its best to create that size. As you can see, computed screen fonts are harder to read than installed sizes.

The one-size-prints-all school of font installation has its drawbacks, however. In order to save space, you sacrifice on-screen legibility. When you select an uninstalled size, the Mac will compute that size from an installed one, but the resulting screen fonts are often barely legible (see Figure 3.6). One solution to the legibility problem is to type text in a size that's installed, then switch to the size you wish to print when it's time to lay out your document. Unfortunately, this scheme isn't foolproof; computed screen fonts may not produce on-screen lines of the same width as installed sizes, creating a less accurate correspondence between the displayed and printed page than if the proper size were used. If you decide on a minimalist approach to screen font installation, you might want to experiment with several applications to see if the on-screen layout corresponds closely to the printed one. (Keep in mind that because of the screen's relatively low resolution, on-screen spacing will never exactly match printed output; lines on the screen are often wider than their printed counterparts.)

You may notice that some screen fonts, even when the proper size is installed, are less legible than old standbys like New York and Geneva (12-point Times is a notorious example). If you're composing on screen, you can type in a readable screen font such as New York or Geneva to avoid typing mistakes. (A spelling checker will help, of course, but even the best spelling checker misses grammatical errors or correctly spelled words in the wrong context.) When you've finished typing, change the document to the font you want to print.

How many screen font sizes are installed will vary from person to person. A writer might need only a 12-point font for text and a larger one for titles or headings. A graphic artist working on brochures or ad layouts might have dozens of fonts and sizes in a System file. As a basic rule of thumb, it's a good idea to install all the sizes you expect to use frequently — unless you're really strapped for space in the System file. Screen fonts generally take up from 3K to around 15K per size, so you can probably afford to err on the side of installing a few extraneous sizes. Keep in mind that larger point sizes occupy more disk space than small ones; don't install an 18- or 24-point version of a font you'll probably use only for body copy. In many applications, you can tell which sizes of a screen font are installed by looking at the style menu or the type specs dialog box — font sizes that are installed are displayed as outlined, rather than solid text (see Figure 3.7).

| 9 Point |
| 10 Point |
| ✓12 Point |
| 14 Point |
| 18 Point |
| 24 Point |
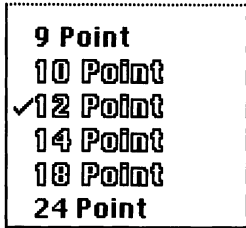
FIGURE 3.7. Many applications indicate which font sizes you've installed by displaying the available sizes in outlined text.

The *Font/DA Mover* offers a few more options for keeping your System file slim. For example, you can install fonts in an application — or even a single document — rather than in the System. To do so, double-click on the suitcase that contains the font or fonts you wish to install; the *Font/DA Mover* dialog box will appear. Then hold down the Option key, click the Open button beneath the empty column, and select the appropriate disk or folder. Applications and documents will be listed, in addition to folders and the System file. Follow the standard *Font/DA Mover* routine to install fonts in an application or document. This technique not only keeps the System file down to size, but allows you to reduce clutter in font menus as well. For example, if you use a special architect's font in a graphics program, you can install the font just in that program, rather than having it intrude on the font menus of every program opened with your System file.

The *Font/DA Mover* also lets you pack suitcases with a customized collection of fonts. Let's say you use a particular set of fonts for everyday work, but occasionally need a specialized set for another publishing task. If you can't comfortably fit both sets into your System file, you can place each set into its own suitcase icon, keeping the collections in a neat package rather than rummaging through your collection of floppy disks when you need to change font collections. You might want to consolidate the fonts you use in a monthly newsletter, for example, or put your collection of shareware fonts in a single location. To create a custom suitcase, open the *Font/DA Mover* and list the first font you want to place in the suitcase — the font can be in a suitcase or a System file. Click the Open button beneath the empty column, and the dialog box shown in Figure 3.8 will appear. Instead of clicking Open as described earlier, click the New button. A dialog box appears, asking you to name your suitcase. Give it a descriptive name and click the Create button. You can now transfer fonts to the new suitcase, just as you would to a System

file or application. Swap disks if necessary to load fonts from different sources. The next time you need a set of fonts for a particular job, you can delete unnecessary fonts from the System and install a set from your suitcase. Note that you shouldn't use custom suitcases to remove and reinstall fonts on a frequent basis; constantly swapping fonts in and out with the *Font/DA Mover* can eventually degrade a System file.

In many cases, you'll find it more efficient to simply set up several System files, each with its own set of screen fonts. When you need a particular set of fonts, start up your Mac with the System that contains them. You should use this technique only when booting from floppy disks, however; you should never put more than one System file on your hard disk. Extra System files not only eat up precious room on a hard disk, but might commandeer control of your Mac when you least expect it.

A more elegant way to avoid an overstuffed System and shuttle fonts around does exist. Two marvelous utilities, *Suitcase II* and *Font/DA Juggler Plus*, let you access screen fonts without installing them in the System file. You can make your own suitcases full of fonts with the *Font/DA Mover*, as described earlier, and quickly move them in and out of circulation. These utilities are described in detail in the next chapter.
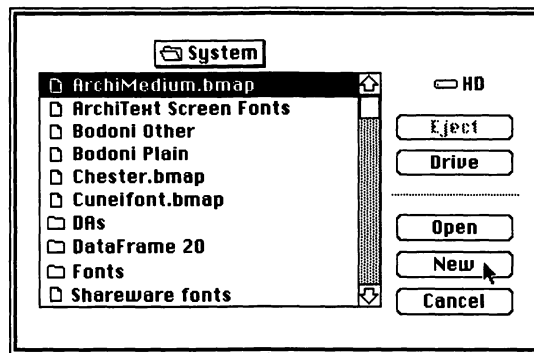
FIGURE 3.8. You can pack your own font suitcases with the *Font/DA Mover*'s New button. Use this feature to consolidate fonts you use for specific jobs.

Finally, the *Font/DA Mover* offers one more way to save space. Once you've finished adding and removing fonts, you can remove the *Font/DA Mover* from your disk if you've placed it there, saving 39K of disk space. Just make sure you remember where your backup copy is stored.

Font Styles

Apple provides only one style for its screen fonts — plain (roman in typographic terms). Styles such as bold or italic are invoked by a program's font menu or dialog box, or by a keystroke combination such as ⌘-B for Bold. Fonts are drawn on the screen by QuickDraw, the Mac's built-in graphics package. When you highlight some text and select Bold, a QuickDraw routine adds pixels to the screen font, making the characters thicker. If you choose Italic, QuickDraw slants characters to the right (these slanted characters are actually oblique, not true italic). When you choose a style, the style information is passed to the printer and the corresponding bold or italic font is printed. Times Bold and Times Italic, for example, are built into the LaserWriter and other printers.

If you purchase a disk of fonts, however, you'll notice that the manufacturer generally offers a number of style options. In addition to roman, most screen fonts come in italic or oblique, bold, and in many cases bold italic or bold oblique. (Keep in mind that not all fonts offer the same style options. A script font, for example, is not likely to offer an italic version, while other families might offer more than four style or weight options, including variations such as light, heavy, or extra bold.) Why clutter your System file with these extra screen fonts if your word processor or page layout program will automatically create them from a style menu or keystroke?

There are several reasons for installing these "extra" screen fonts. One reason is WYSIWYG — "what you see is what you get." Much of the appeal of Macintosh-based publishing lies in the fact that the screen display approximates the appearance of the final output, including type size and style. When you're laying out a page, you want to see how the various type elements interact, the approximate line width (as noted earlier, screen spacing never exactly matches printed output), position of line breaks, and so on. Using bold and italic screen fonts provides a closer correspondence between the look of the displayed and printed page than simply adding pixels or slanting characters.

You should note that some fonts — notably those created with Altsys's *Fontographer* — require the installation of styled screen fonts in order to access the correct style when printing. An Altsys utility called *Family Builder* should alleviate this problem, but with public-domain and shareware fonts you have no guarantee that the developer has used the utility. If you're not sure whether a font requires various screen font styles in order to print correctly, try a few printing experiments and see.

Another reason for installing screen fonts in various styles is legibility. Especially in the case of italics, many fonts are easier to read when the correct font style is installed, rather than computed by QuickDraw (see Figure 3.9).

A final reason for installing screen font styles is character spacing. Certain applications, such as *MacDraw*, associate on-screen spacing with printed spacing. Therefore, if you type a line of text and make it bold or italic via a computed style, the printed text will contain too much space between words and letters. Likewise, if you use a computed style and forget to check the "Fractional Widths" box when printing from *Microsoft Word*, the printed text will contain extra space. Most applications print fine from computed styles, however. If you're not sure whether you should install bold and italic screen fonts, print a sample page without them, then install the styled screen fonts, print the same document using the newly-installed font styles, and compare the results. If you're short on space in the System file, you might want to do without the luxury of true bold and italic screen fonts.

But what about Apple's fonts? Fortunately, bold, italic, and bold italic styles for the LaserWriter's fonts are available from Adobe Systems for a small fee. These screen fonts can also be downloaded from the Adobe Forum on CompuServe, a popular on-line information service; type "Go Adobe" after you log on. (See Appendix A for address and phone number information.)

Computed italic font: **Beginners must beware of losing a pawn *en passant*.**

True italic font: **Beginners must beware of losing a pawn *en passant*.**

FIGURE 3.9. Fonts that are drawn by humans are easier to read than those computed by QuickDraw, as shown in this sample of Times. The italic words in the top line are actually an obliqued version of the roman font, while the second line shows a true italic screen font.

Bold and italic screen fonts are installed with the *Font/DA Mover*, just like other screen fonts. To enable font names to fit in the limited width of font dialog boxes, manufacturers abbreviate the names of styles other than plain. Since the name "Palatino Bold Italic" won't fit in a dialog box's list of fonts, Adobe abbreviates the screen font name as "BI Palatino," allowing the weight and style and at least the first several letters of the name to appear. In general, font-style naming conventions are as follows:

- B for bold
- BI for bold italic (or bold oblique)
- I for italic or oblique
- a font name with no preceding initials indicates plain, or roman

Since many applications automatically alphabetize their font menus, these abbreviations can disperse font family members. You needn't worry, however; you don't have to hunt through the font menu to select font styles. When you highlight some text and select Bold, Italic, or both from a style menu or use the appropriate keyboard shortcut, in most applications the proper style — if installed — will appear on the screen. Therefore, selecting a block of plain Goudy text and then choosing Italic from a style menu gives the same result as selecting the text and choosing "I Goudy Italic" from the font menu or type specs dialog box.

In fact, choosing font styles via a style menu or keyboard shortcut, rather than from the font menu, is the preferred method. Why? Let's say you've typed a book chapter in the Galliard font, and the chapter contains dozens of bold headings and italicized special terms. At the last minute you decide to make a design change and print the chapter in New Baskerville. Ideally, you'd select the entire chapter and change the font to New Baskerville. If you selected "B Galliard Bold" and "I Galliard Italic" from the font menu when typing the original chapter, however, the entire chapter would reappear in New Baskerville roman. If, on the other hand, you made the bold and italic style selections from the style menu or keyboard commands, the style formatting would remain intact when you made the global font change.

There is yet another reason for setting font styles with the style menu. If you select, for example, "I Goudy Italic" from the font menu, the italic Goudy font appears on the screen. While working on your document, you might

accidentally select the italic font and use the style menu to italicize a section that's already in italics. Doing so obliques the italic screen font, which could potentially cause spacing problems in printed output or confuse a printing device, which would have to decipher italic-italic (or bold-bold).

Many font developers now group their fonts into families, which allows them to display only the plain version in a font menu, even though other styles and weights are available via menu or keystroke commands. In case your fonts aren't set up this way, in Chapter 4 you'll learn how to make font styles in a font menu invisible, alleviating the problem of style overkill and making your font menu less cluttered and easier to read.

Of course, many font families include extended or condensed fonts or alternate weights such as light, semibold, or extra bold. You'll have to install screen fonts for these family members, since style menus only accommodate the basic four: plain, bold, italic, and bold italic.

So much for the basics of installing screen fonts. Depending on the amount of disk space you have available, the number of fonts you use on a daily basis, which software you use, and your personal working style, you may wish to try one of several variations on the font installation techniques just described. The *Font/DA Mover* gives you the flexibility to experiment until you find the setup that best suits the way you work.

Printer Fonts

Screen fonts are only half of the Mac printing equation. To make full use of the Mac's publishing capabilities, you'll need printer fonts as well. Here we'll introduce the basic concepts of PostScript printing.

Let's begin with a brief note on terminology. As mentioned in Chapter 1, this book uses the term *font* to refer to the "source" of the characters that make up a *typeface* — a set of characters that share a common design. Screen fonts and printer fonts are the building blocks that enable you to print their related typefaces, much as an early cast-metal font enabled printers to set type in a particular face. As mentioned earlier, the original definition of a font was a complete set of characters of a given typeface in a particular size and style. In the old days, therefore, 10-point Galliard italic would constitute a font.

In laser printer terminology, the word *font* takes on a slightly different meaning. Since PostScript fonts can be scaled to any size from a single master outline, the idea of referring to a "font" of a particular size is obsolete. Type

style is still a factor, however. In Mac terms, a font is a particular typeface in a particular style or weight; for example, Palatino, Palatino Bold, Palatino Italic, and Palatino Bold Italic are four separate fonts. In traditional terms, these four styles make up the Palatino typeface *family*, a group of stylistically-related character sets. But in Macintosh typography terms, each one of these character sets is called a font; each possesses its own icon for installation and is issued its own font ID number (font ID numbers will be discussed further in Chapter 4). Therefore, although advertisements and documentation for the LaserWriter IINT states that the printer offers 35 fonts, it actually contains 11 *families*, each of which offers a few stylistic variations on the basic typeface.

PostScript printers, including Apple's LaserWriter series, the QMS PS-810, and others, include a set of *built-in fonts* (see Appendix A for a list of Macintosh-compatible printers). These fonts are permanently installed in the printer's ROM (read-only memory). PostScript fonts are also known as *out-line fonts*, because each character of a font is stored as an outline made up of spline curves (see Figure 3.10). These outlines are *scalable* — a single outline can generate printed characters from 1 point in size to more than 1000 points.

PostScript, developed by the founders of Adobe Systems, provides the
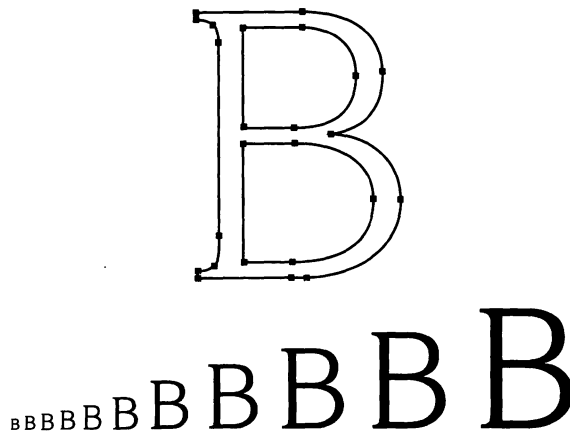
FIGURE 3.10. PostScript fonts are made up of Bézier curves. Unlike bit-mapped fonts, a single PostScript outline can be scaled to generate characters of any size.

descriptions of Macintosh characters. PostScript, which resides in the printer, is known as a *page description language*; when you send a document to the printer, an entire page of text and graphics is drawn by the printer's PostScript routines and then transferred to paper. PostScript's ability to handle both text and graphics allows you to lay out an entire document in a page layout program, rather than treating type and illustrations as separate elements. Mapping out a whole page at a time is a memory-intensive task, but the printer itself is a powerful computer that contains a microprocessor and at least 1 megabyte of RAM (random-access memory) in which to store the image before printing it.

PostScript is a *device-independent* language, which means that text and graphics can be printed at the resolution of any output device that supports PostScript. Most laser printers print at a resolution of 300 dots per inch, although some can print at 400 or 600 dpi. PostScript-compatible typesetters (often called *imagesetters* because of their ability to set text and graphics) print at even higher resolutions; Linotype's Linotronic 100 prints at up to 1270 dpi, while the Linotronic 300 prints at up to 2540 dpi.

Like the Mac's screen display, PostScript printing devices create printed characters out of a matrix of dots, essentially filling in the characters' outlines. But the resolution of the printed characters is much higher than that of the displayed characters, making possible subtle curves and variations in stroke width impossible at the crude resolution of 72 dpi. Figure 3.11 shows the same sample printed at various resolutions.

Downloading Fonts

If you print more than the occasional memo or letter, you'll quickly outgrow your printer's set of built-in fonts. Fortunately, a wide selection of downloadable fonts is available from companies such as Adobe, Casady & Greene, Linotype, Bitstream, and Compugraphic. Unlike a printer's built-in fonts, *downloadable* fonts are sent to the printer only temporarily, then flushed from its memory when the printing job is finished or the printer is turned off.

You've already seen how to install the screen fonts associated with a downloadable font. The next order of business is to install the printer fonts. Like screen fonts, printer fonts are represented by icons on the disk of fonts you buy. Printer font icons are generally in the shape of a laser printer. Figure 3.12 shows some sample printer font icons.

Printer fonts are much easier to install than their screen font counter-

SALE

300 dpi

This Saturday Only!!

60% off on all ersatz Southwest furniture

SALE

1270 dpi

This Saturday Only!!

60% off on all ersatz Southwest furniture

SALE

2540 dpi

This Saturday Only!!

60% off on all ersatz Southwest furniture

FIGURE 3.11.   PostScript is a device-independent language; the same document can be printed at different resolutions, depending on the capabilities of the PostScript printer used. Note that "mini-jaggies" are visible in the topmost sample; irregularities show up in some characters even at 300 dpi. The difference between 1270 and 2540 dpi is hard to detect.

parts. In most cases, you simply drag the printer font icons you need into your Mac's System folder. The fonts are then automatically downloaded to the printer when invoked by their associated screen fonts. When an application needs a font that's not already in the printer's memory, it searches the System folder (and other locations if necessary) and downloads the font when it's located. Fonts downloaded in this manner are flushed from memory after a document is printed, making room for other fonts. (*PageMaker*'s automatic downloading technique differs somewhat from that of other applications; it downloads fonts while printing a text block (usually a full column of text), rather than downloading all the fonts for an entire document. Fonts are then flushed from memory and loaded for the next block of text.) The number of fonts you can download at once varies, depending on the amount of room the fonts take up and the printer's available memory, but you can generally download between four and seven fonts per page. If you have a document that contains dozens of fonts, you may have to break it into several chunks to print it.

Fonts can be downloaded manually as well; some font manufacturers include a manual-downloading utility with the fonts they sell. Like automatically downloaded fonts, manually loaded fonts are sent to the printer's RAM before printing a document. Unlike automatically downloaded fonts, manually downloaded fonts remain in the printer's memory until the printer is turned off. Since they remain in memory, manually loaded fonts print faster than automatically downloaded ones; an application doesn't have to search for and download a font each time it's needed for printing. But because manually downloaded fonts aren't cleared from memory after a document is printed,

Typical printer font   Adobe printer font   Bitstream printer font

FIGURE 3.12. While icons vary from one manufacturer to another, PostScript printer fonts are installed in the same way. Simply drag the icon into your Mac's System folder, and you're ready to print.

this technique limits the number of fonts that can be used at once.

Apple's new LaserWriter IINT and LaserWriter IINTX include an application called the *LaserWriter Font Utility*. This utility lets you download fonts to the printer's RAM or, in the case of the NTX, to a hard disk attached to the printer. With the *LaserWriter Font Utility* you can add or delete fonts, see a list of installed fonts, or print out a catalog of the installed fonts. The LaserWriter IINTX also contains an expansion slot for font cards (no cards were available at the time this was written, however).

It's up to you to decide which downloading method is the most practical for your printing needs. If you use a single downloadable font throughout the day, you may find it more efficient to manually download the font, keeping it available in memory at all times. You should manually download fonts if you're using a print spooler; otherwise, fonts may be flushed from memory before they're printed. On the other hand, you shouldn't manually download fonts if you're sharing a printer over a network; if several people manually download fonts, rather than allowing applications to automatically shuffle them in and out of memory, the printer's RAM will become overloaded, causing the printer to hang up or reset itself.

A few tips on installing printer fonts are in order. First, you should generally keep printer font icons in plain view in your System folder. Don't put them in a separate folder within the System folder; if you do, the Mac won't be able to locate them at printing time. You can place printer fonts in other locations, such as a hard disk's root directory (the window that appears when you double-click a hard disk's icon) or a folder containing the application you're printing from, but to be safe you should place them in the System folder. (Utilities that let you place printer fonts elsewhere are discussed in Chapter 7.)

Placing dozens of printer font icons in the System folder might dismay those who are inclined to be neat and tidy. You might sidestep the problem of a messy System folder by viewing its contents by name rather than icon, but many people prefer to work with icons. If you don't like printer fonts cluttering up your System folder, you can stack them in a neat pile, one on top of the other. Even though you can't see the ones on the bottom, the Mac will be able to find them.

A final tip: Don't succumb to the temptation to rename printer font icons. If you do, the Mac won't be able to locate the fonts and send them to the printer.

Now you know the basics of installing screen and printer fonts. Techniques will vary somewhat depending on the hardware and software you're using, but the fundamental concepts discussed in this chapter apply to a broad range of fonts, applications, and printers. For details, you can always employ the radical approach of reading the documentation that comes with your printer or software. Chapter 4 contains further tips for using fonts efficiently, including descriptions of several handy utilities.

FOUR

FONT MANAGEMENT

So you've bought a dozen Macintosh typefaces, installed the screen and printer fonts, created an attractive layout, and printed proofs on your laser printer. All you need to do now is send the disk to your client for approval and possible last-minute changes. Then it's off to the typesetting service bureau to have a copy printed on a Linotronic at 1270 dots per inch. You're home free, right? Maybe. You're home free if you don't encounter a phenomenon that strikes terror (or at least extreme annoyance) into the hearts of Mac publishers: *font ID number conflicts.*

Font ID number conflicts can manifest themselves in a number of ways. For example, your document might print out just fine on your home or office laser printer, but come out in the wrong typeface when you take it to a service bureau to be printed. Or you might install a font in a suitcase file, open an

application, and find that the installed font doesn't show up in the font menu, or that it's listed in the font menu but another screen font appears when you type. What's going on? If you're a veteran Mac publisher, you're probably familiar with ID number conflicts. If not, this chapter presents some background information.

Even if you're not interested in the technicalities of font numbering, you're probably interested in managing your font collection as efficiently as possible. If so, you can skip to the section on font/DA extenders. These indispensable utilities let you access fonts from a number of suitcase files, greatly expanding the number of fonts you can use at once.

Identity Crises

The following discussion may be too technical for some readers, but it's included in case you want to know what's going on behind the scenes when what you see on the screen is not always what you get from the printer.

Once upon a time, in 1984 or so, the designers of the Macintosh decided to include a variety of fonts with the machine. In the early days, bit-mapped fonts were the only kind available, since the LaserWriter was not yet out and "desktop publishing" was still a gleam in some marketing manager's eye. The original Mac had only 64K of ROM and 128K of RAM, so Apple had to think small in terms of the number of fonts the machine could support. They decided to support a maximum of 512 fonts, which at that time sounded like a lofty number indeed. However, it turned out that, because of the way ID numbers were assigned, the early Mac ROMs could support only 256 font ID numbers.

According to Apple's scheme, each individual font was identified by a number from 0 to 255. The plot thickens. Apple reserved the first 127 numbers in the series for their own use, for System fonts and those included with Apple's printers (if you use a utility like *FontDisplay* to poke around and look at font ID numbers, you'll notice that most developers have obeyed this Apple edict and used numbers above 127). This left a paltry 128 font ID numbers for the ever-growing number of typeface manufacturers. In this case the word "font" refers to a particular style or weight; a family with plain, bold, italic, and bold-italic members would require four distinct ID numbers. Consider the fact that Adobe alone offers more than 300 fonts, and you'll see that things just don't add up. Some ID numbers had to be repeated, even within the same company's font collection if dozens of families were offered.

If you install a large number of fonts, sooner or later you're bound to run into duplicate ID numbers.

When Fonts Collide

In many cases ID number conflicts pose no problem, since Apple's *Font/DA Mover* is designed to nip such conflicts in the bud. When you install screen fonts in the System file or a suitcase file, the *Font/DA Mover* checks for duplicate ID numbers. Let's say you install Adobe's Glypha Bold — ID number 161 — for your publication's headlines. So far, so good. A few weeks later, you buy Adobe's Hobo — which also happens to have the ID number 161 — and install it in your System file as well. The *Font/DA Mover* notices that a font with ID number 161 has already been installed, so it assigns Hobo a new ID number, chosen at random from the available unassigned numbers. All of this goes on behind the scenes, of course. You don't have to worry about how the Mac identifies the fonts in your documents.

If you simply install fonts in your System file and print your documents from that System, everything should be fine. The *Font/DA Mover* will dutifully take care of duplicate ID numbers. But when you print your documents at another location, or install them in more than one suitcase file, you might be in for some trouble (programs that let you access fonts from several suitcases at once are discussed later in this chapter). Continuing with our example, let's say you've laid out your newsletter in *Microsoft Word*, using Times for the text and Glypha Bold for the headlines. You print out a proof on your LaserWriter at home. The page looks fine, so you copy the *Word* document to a floppy disk so you can take it to a typesetting service bureau to have a high-resolution printout made. You call the service bureau to make sure they have Glypha Bold, and they do. You drop off your document disk and come back for it in a few days. Surprise! The headlines are printed in Hobo — not exactly the look you had in mind.

What happened? A simple case of mistaken identity. Well, not so simple, actually. What happened in this hypothetical case was as follows. The document you gave to the service bureau contained a font identified with the number 161. If the manager of the service bureau, while installing a number of Adobe fonts in the bureau's System file, happened to install Hobo first, it would retain its original ID number — 161. When the manager later

installed Glypha Bold, the *Font/DA Mover* changed Glypha Bold's ID number to avoid a conflict with Hobo. Therefore, according to the service bureau's System file, font ID number 161 denotes Hobo. Accordingly, when your document was printed from a Mac running under the service bureau's System file, the number 161 caused Hobo to print.

Let's look at the same scenario, with a slight twist. You get the document back from the service bureau and see to your dismay that the headlines are in Adobe's Goudy Italic (ID number 188). How did *that* face get into your document? This is getting almost as convoluted as a Perry Mason trial scene, where you have at least five prime suspects (and then find out that the maid's sister committed the murder for obscure reasons of her own), but bear with me. In this case, let's say the service bureau manager was creating a screen font file from scratch, starting with the ever-popular Univers family. Univers Bold Oblique happens to have ID number 188. If the manager installed the Goudy family next, the *Font/DA Mover* would look at Goudy Italic's original ID number (188), see that it's already taken, and assign it a new number. Let's say, just to keep things rolling, that the *Font/DA Mover* randomly assigned Goudy Italic number 161. Later, when Glypha Bold (née ID number 161) was installed, that number was already taken, so the *Font/DA Mover* assigned Glypha Bold yet another number. As you can see, the potential for rampant renumbering is fairly high. (And keep in mind that this example uses only Adobe fonts; the potential for conflicts increases as fonts from other manufacturers are added to the brew.) In this case, the number 161 in your document was interpreted by the service bureau's setup as Goudy Italic.

Solutions

So what can you do? Fortunately, you can avoid the nightmare of ID number conflicts in a number of ways. When you're printing a document on a printer other than your own — from a LaserWriter to a Linotronic — the simplest solution is to bring a copy of your System file with you to ensure that the proper fonts are printed. Although this solution is straightforward, it's not always convenient, especially if you have a large System file or want to send your document by modem to another location for printing. I've heard of people lugging a hard disk to a service bureau — screen fonts, printer fonts, System, and all — but there are easier ways to make sure your files print correctly.

One solution to the large System file dilemma is to make a custom System file for a document you'll be sending to a typesetting service. Make a copy of the original System that came with your Mac, use the *Font/DA Mover* to strip it of all unneccessary fonts and desk accessories, and save the pared-down System to use as your master typesetting System file. When you're working on a document you can use your everyday System, which, if you're like most Mac publishers, is on your hard disk. Before you send the document out to be printed, insert a disk containing a copy of your stripped-down System and use the *Font/DA Mover* to place all the fonts you'll be using into that System file. Drag a copy of the Finder onto the disk, copy the document you wish to print onto it, and shut down your Mac. Finally, start up from the new floppy disk, open the document, and choose the Save As command. Save the document under a new name, which will cause the Mac to number the fonts in it to match the ID numbers on the new System disk. Send the renamed document to the service bureau along with the System disk you've created.

Despite your efforts to keep your System file down to size, you may at some point have so many fonts that the System won't fit on a single floppy disk (click on the System icon and press ⌘-I to display a dialog box listing the file's size). If this is the case, you can use a hard disk backup program to copy the System to two or more floppies. Alternatively, you can use a file-compression utility like *StuffIt* or *PackIt* (both available on CompuServe or from user groups) to compress your System file for storage on a single floppy.

Before you send a document to a service bureau to be printed, check with the bureau to see how they would like you to store your documents and fonts. Some bureaus prefer a copy of your System file with the fonts you'll be using installed. Other service bureaus may use a font/DA extender like *Suitcase* or *Font/DA Juggler* (these utilities are described in the following section), and ask you to pack your fonts into a suitcase file. Still others might want you to save your document as a PostScript file, allowing them to send the file directly to their imagesetter (see "Saving As PostScript").

The techniques just described will help you do your bit to avoid font ID number conflicts. Fortunately, Apple and the Mac font developers are doing their part as well. A new font-numbering scheme should help alleviate font ID number conflicts by greatly increasing the pool of available ID numbers. Read on.

FONTs, NFNTs, and FONDs

Although this discussion of font resource types strays into quasi-technical lingo at times, it will help you understand how the Mac handles fonts and show you how recent innovations will simplify your font-management chores.

A font's ID number is stored as a resource and handled by System software components called the Font Manager and the Resource Manager (a resource, as you may recall from the last chapter, is a chunk of data that is shared by all programs). FONT resources contain the information necessary to draw a bit-mapped image of every character in a font. The earlier, 64K ROM Macs use the resource type "FONT," which is limited to ID numbers no higher than 255. A FONT resource generally includes only the plain (roman) version of a font; stylistic variations such as bold and italic are obtained by altering the screen versions, adding pixels to create bold and slanting characters to represent italic.

A new font resource type, NFNT (for "New Font"), came into being with the new crop of 128K ROM Macs, starting with the Mac 512KE and the Mac Plus. An NFNT contains the same information as a FONT resource, but unlike the limited FONT resource, an NFNT ID number can go as high as 32,767. Version 3.8 of Apple's *Font/DA Mover* recognizes NFNTs, while earlier versions do not; for optimal font handling, make sure you have the latest version of the *Font/DA Mover.* (If you're not sure whether you have the latest versions of Apple's System software, ask your Apple dealer

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———— SAVING AS POSTSCRIPT ————

If your document doesn't print correctly on a Linotronic imagesetter, consider saving it as a PostScript file. To create a PostScript file from most applications, choose the Print command, press OK in the resulting dialog box, and then immediately press ⌘-F (see your application's manual for specific instructions). Look in your System folder for a file named "PostScript 0." Because the

PostScript file records information about your System and screen fonts, the document should print correctly on the service bureau's Linotronic. For best results, temporarily remove from your System folder any printer fonts that the service bureau already has in its System folder. (Check with your service bureau to make sure they'll print documents submitted in PostScript format.)

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or someone in your local Mac user group, or consult *MacUser* magazine's list of software version numbers, which is updated monthly.)

Information about an entire font family (all the sizes and styles of a particular font) is stored in a resource called a FOND ("Font Family Descriptor"). A FOND ties all sizes and styles of a font family together. For example, the FOND for Garamond might contain 10, 12, 14, 18, and 24-point Garamond plain; 10, 12, 14, 18, and 24-point Garamond bold; 10, 12, 14, 18, and 24-point Garamond italic; and 10, 12, 14, 18, and 24-point Garamond bold italic. Each size/style combination has a resource ID that corresponds to a FONT or NFNT resource, which contains the information necessary to draw that font on the screen. The FOND also contains character-width and kerning information. When the Mac needs to draw a particular size and style, it first looks at the FOND, then finds the appropriate FONT or NFNT.

NFNTs offer two benefits over the earlier FONTs. First, NFNTs have at their disposal 32,767 possible ID numbers, as opposed to the 256 available to FONTs. Needless to say, the chances of two identical numbers showing up in the same file are lessened with a larger pool of available numbers (sort of like Lotto, to put it in layman's terms). In addition, the way NFNT ID numbers are structured makes it possible for a single FOND resource to refer to all four styles in a family, rather than having a separate ID number for each style variation, which is the case with FONTs. Therefore, if NFNTs are used, font menus need only list one font name, such as "Garamond" — style and weight variations can be chosen with a style menu or keystroke command, rather than being listed in a font menu as "I Garamond Italic," "B Garamond Bold," and so on.

Unfortunately, even with the new NFNT scheme, a FOND can list only four stylistic variations. This system is fine for a typical nuclear font family consisting of plain, bold, italic, and bold-italic, but is foiled by large families such as Futura, Univers, Helvetica, or the Waltons. Such families must still be split into several subfamilies.

Although NFNTs are a step in the right direction, font ID number conflicts can still occur. For one thing, the earlier, 64K ROM Macs won't recognize NFNTs, so owners of those machines are stuck with the limitations of the FONT numbering scheme. In addition, at the time this was written not all of the Mac font manufacturers had converted their collections to NFNT format, and not all applications supported NFNTs. And even with

NFNTs, a font could be renumbered by the *Font/DA Mover* if another font with its ID number were already installed.

But there is some good news: Apple recently took on the task of assigning a specific range of NFNT numbers to each Mac font manufacturer, which will help alleviate numbering conflicts. In addition, Apple is now encouraging program developers to make their programs identify fonts by name, rather than ID number, when a document is created. Under this scheme, fonts would still have ID numbers, but the Font Manager would map a font's name to its ID number and vice versa, allowing the name to be stored with a document and turned back into a number when the document was ready to be printed.

If you're like most Mac publishers, you probably don't care about the internal workings of Mac font numbering. You just want your documents to print without a hitch. But if you're running into ID number conflicts, switching to NFNTs may help. Some Mac font companies already support NFNTs; others soon will. Check with the company you bought your fonts from and see if an upgrade to NFNTs is possible. In the meantime, you might prefer to take matters into your own hands and consolidate the members of your font families to unclutter your font menus. The solutions described in the next section vary from utilities that require some tinkering on your part to those that unite font families at the click of a button. Several methods are described in order to accommodate a wide range of budgets.

Consolidating Font Families

If you're not afraid to get your hands dirty (data generally comes off with plain soap and water), you can use *ResEdit*, Apple's resource editor, to make non-plain fonts disappear from your font menus. *ResEdit* has been floating around in the public domain for some time; you can get a copy from your local user group or from an on-line service such as CompuServe.

ResEdit is not for everybody. It's not an officially released program, but rather a utility for those who are interested in tinkering with Mac resource files. Be forewarned that altering resource files could damage your System or application files. If you use *ResEdit*, use it *only* on files you have backed up. If you want to dive in and rearrange your font menu with *ResEdit*, carefully follow the instructions in "Pruning Your Font Menu."

The *ResEdit* technique does shorten your font menus, but you're

PRUNING YOUR FONT MENU

To make non-roman screen fonts invisible, follow the steps below. Remember to back up your System and font files before working on them with *ResEdit*.

1. Copy all sizes of your non-roman screen fonts into a *Font/DA Mover* (suitcase) file and name the file "InvisiFonts" (or any name you wish).
2. Place the InvisiFonts file and *ResEdit* on a floppy disk.
3. Open *ResEdit*. In *ResEdit*'s main screen, you'll see a window listing the files and folders for each currently active disk. Find the InvisiFonts file and double-click it to open it. You should now see a window labeled "InvisiFonts" with two resource types, FONT and FOND.
4. Double-click on the FOND resource to open a window entitled "FONDS from InvisiFonts," which lists all the fonts in the file (for example, "B Garamond Bold," "I Garamond Italic," and so on).
5. Click on the first font name in the list and select Get Info from the File menu (or press ⌘-I as a shortcut). In the Info window that appears, type a period in front of the font name in the Name box. Close the Info window by clicking its close box. Repeat this procedure for all the font names in the list.
6. Close the FOND window and double-click on the FONT resource while holding down the Option key to open a window called "FONTS from InvisiFonts." The window will display font names on some lines and font ID numbers on others.
7. On the lines containing font names, insert a period before the name in each font's Info window, as you did in step 5. Ignore the lines that list only font ID numbers.
8. Carefully review both the FONT and FOND lists to make sure all font names prefixed with a period in one window are prefixed with a period in the other.
9. Close the InvisiFonts file window, clicking the Yes button when *ResEdit* asks if you want to save the file.
10. Use the *Font/DA Mover* to remove any bold, italic, and bold-italic styles that were previously installed, and install the fonts you just altered.

When you open an application and pull down its font menu, the bold, italic, and other styles you prefixed with a period in *ResEdit* will be invisible. But when you select a style with a menu or keystroke command, the true screen font for that style will appear. Note that only documents created after the change will recognize the new font names and use them correctly.

You can also use this technique to group fonts in the menu. For example, suppose you have half a dozen decorative fonts that you rarely use. Rather than clutter up your applications' font menus with them, you can use *ResEdit* to place these seldom-used fonts at the bottom of the menu by prefixing them with various characters. Punctuation marks and symbols are "alphabetized" in the following order (this is a partial list, but should serve for purposes of arranging your font menu):

- ! : # $ % ^ ' ( ) * + , - . /
- 0 1 2 3 4 5 6 7 8 9
- Uppercase letters
- Lowercase letters

essentially sweeping the extra font styles under the carpet. If you're in the market for a more elegant approach, you might want to change your fonts from FONTs to NFNTs, which also lets you list only the plain style of a font family in the font menu. *N-Font*, a free font-conversion utility from Olduvai Corporation, can be found in the Fonts data library of CompuServe's Mac Users forum. You simply place the fonts you want to convert into a suitcase file, put the suitcase in a folder along with *N-Font*, and run the utility. Then, you click a Convert Folder button and *N-Font* converts the fonts to NFNT format. Install the new fonts with the *Font/DA Mover* and you're all set.

Finally, both of the font/DA extenders described in the following section include utilities that combine font family members, allowing you to place a single style in the font menu.

Font/DA Extenders

The new *Font/DA Mover* (version 3.8) can deal with a maximum of 500 fonts at once. More precisely, it can deal with 500 font *sizes* at a time. Therefore, if you installed as many fonts as possible in the System file, you could theoretically have access to almost 500 individual PostScript fonts (remember, certain fonts are permanently installed for System use) if you installed only one size for each font and used computed sizes on screen. But such a solution isn't practical in terms of readability. If you need to expand your font menu while still keeping your System file small, you should look into a *font/DA extender*, a utility that lets you use more fonts and desk accessories than can be installed in the System file. I would strongly recommend buying one of these utilities if you work with a large number of fonts. Two font/DA extenders are currently available: *Suitcase II* from Fifth Generation Systems, and *Font/DA Juggler Plus* from ALSoft. These utilities operate in a similar manner, but differ enough to warrant separate discussions.

Suitcase II

Suitcase II is installed as an INIT — an application that automatically starts up when you turn on your Mac. Simply drag the *Suitcase* icon into the System folder, restart your Mac, and the utility is installed. A "Suitcase II" option appears at the top of the list of DAs in the Apple menu. (If you don't want to run *Suitcase* later on, you can disable it by holding down the Shift key as you start up the Mac.)

To make fonts accessible to *Suitcase*, you first install the screen fonts you need in one or more suitcase files with the *Font/DA Mover*. You can then select the *Suitcase* DA from the Apple menu and open as many as 12 of your custom font suitcases at once (see Figure 4.1). The fonts in each suitcase are available from your application's font menu or dialog box, just as if they had been installed in the System with the *Font/DA Mover*. With a ceiling of 12 suitcases of 500 fonts each, you'll probably run out of disk space long before you reach the maximum number of fonts. (If even this number isn't enough for you, a special "power user" option lets you open up to 99 suitcase files at once.)

Even *Suitcase* users will have to contend with occasional font ID number conflicts, since the *Font/DA Mover* renumbers fonts only within each individual suitcase (two suitcases could each contain a different font numbered 189, for example). But such conflicts can be minimized with a little planning. First, you should know about the Mac's scheme for recognizing fonts. The Resource Manager has a set of priorities for recognizing resources (in this
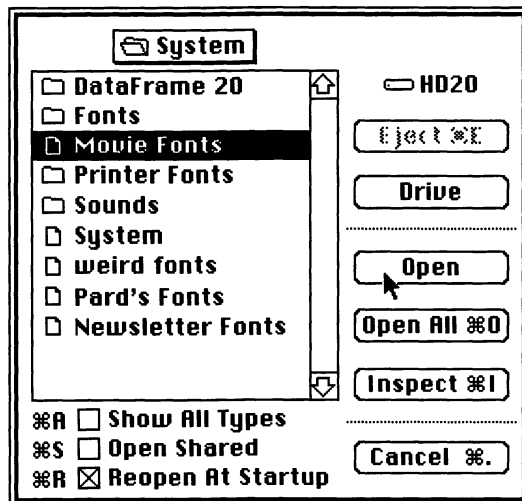
FIGURE 4.1. *Suitcase II* lets you open as many as 12 font-packed suitcases at once. The fonts they contain appear in a program's font menu, just as though they'd been installed in the System file.

case, fonts); in case of a conflict, fonts installed in the current application are given top priority, followed by those in the System file, followed by suitcase files, starting with the one opened most recently. Therefore, if two fonts with the same ID number are installed in two different suitcases, the suitcase file opened most recently by *Suitcase* wins out. Similarly, if a font in the System file and one in a suitcase file share an ID number, the one installed in the System file wins out, even though the name of the font accessed by *Suitcase* appears in the font menu. (If you're having trouble getting a certain font to display or print, you can usually get it to appear by installing it in the System file, where it will be given a high priority.)

So what can you do to avoid such conflicts? One solution is to use the *Font/DA Mover* to place all your fonts — including those originally installed in the System file — into the same suitcase; fonts with duplicate numbers will then be renumbered by the *Font/DA Mover*, eliminating conflicts. If you can't fit all your fonts in one suitcase, you can call on *Font Harmony*, a utility included with *Suitcase II*. This handy utility resolves font ID number conflicts among any number of suitcases, renumbering any fonts that conflict with those in other suitcases or even with those in the System file.

Font Harmony also merges style variations such as bold and italic into a single family, eliminating the font menu clutter caused by the likes of "B Garamond Bold" and "I Garamond Italic." Both of these functions make *Font Harmony* a valuable addition to your font-organization arsenal. *Font Harmony* requires a little work on your part — font family members must be placed into the same suitcase in order to be treated as a unit. But this minor amount of preparation is well worth the rewards to come: fewer font conflicts and shorter font menus.

Suitcase II offers several other benefits as well. A utility called *Font & Sound Valet* compresses a suitcase full of fonts so they take up less space on disk. And a special menu lets you view fonts not in the usual Chicago font used by the Mac's System, but displayed in the letters of the fonts themselves (see Figure 4.2); this option is very handy if you've forgotten what some of your myriad fonts look like.

Font/DA Juggler Plus and MasterJuggler

Like *Suitcase II*, *Font/DA Juggler Plus* is an INIT; drag it into your System folder, restart your Mac, and it's installed. As with *Suitcase*, you can disable

Font/DA Juggler Plus by holding down the Shift key when you turn on the Mac. When the utility is installed, *Font/DA Juggler Plus* appears at the top of the Apple menu's list of desk accessories. Select the DA and the dialog box shown in Figure 4.3 appears. From this dialog box, you can open up to 12 font suitcases at once.

    Font/DA Juggler Plus includes a special utility called *Resource Resolver*, which automatically renumbers conflicting fonts even if they're in different files. When you open *Resource Resolver*, a column of blank boxes appears. Click each box and open the font files you wish to renumber. Then click the Resolve button and ID number conflicts are eliminated.

Font

Alexandria
AntiqueOlive
ArchiText
Chicago
Futura Book
✓Geneva
Goudy
Helvetica
Monaco
MONTEREY
New York
O Futura BookOblique
Orbita
Times
UpStart
Venezia
Venice
Zapf Chancery

FIGURE 4.2. A *Suitcase II* option lets you view fonts in the faces that appear when you type them. *Font/DA Juggler Plus* offers a similar display option.

Font/DA Juggler Plus also includes a program called *Font/DA Utility*, which allows you to rename and renumber fonts manually. *Font/DA Utility* presents a scrolling list of font names and numbers. Select a font, click Rename or Renumber, and assign it a new name or number. I found this utility a great help in consolidating the many members of the Futura family, which were scattered throughout my font menu under obscure monikers such as "CXB Futura Co..." (alias Futura Condensed Extra Bold) and "OCXB Futura C..." (alias Futura Condensed Extra Bold Oblique). With *Font/DA Utility*, I renamed these "Futura CXB," "Futura OCXB," and so on, so the entire family appeared in alphabetical order under "Futura" in my applications' font menus.

Font/DA Juggler Plus, like *Suitcase II*, offers a number of bonuses. You can use the program's *FontShow* FKey to see a list of fonts displayed not only
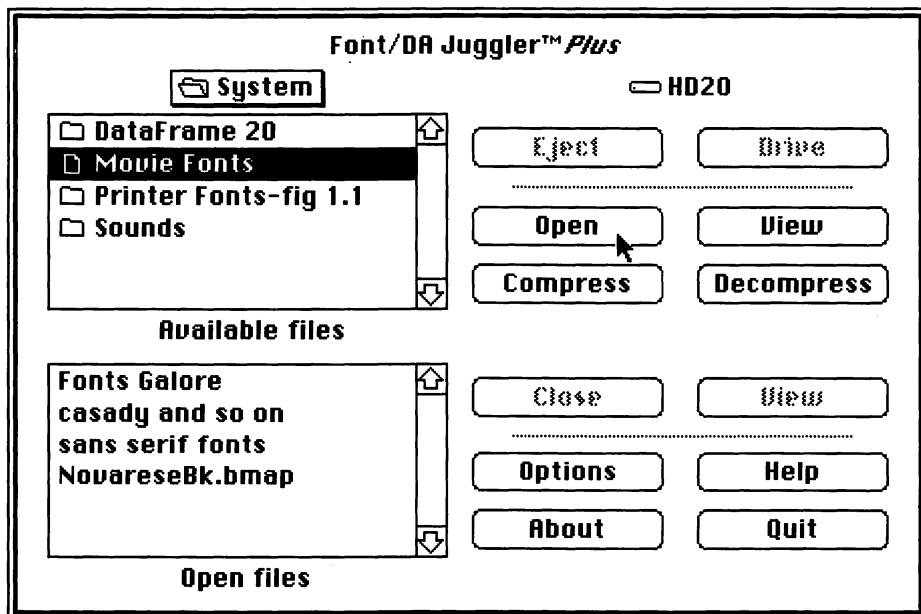
FIGURE 4.3. *Font/DA Juggler Plus* lets you open as many as 12 font suitcases at a time. Both *Font/DA Juggler Plus* and *Suitcase II* can compress font files to save you disk space.

in their own typefaces, but in a variety of styles and sizes as well (see Figure 4.4). Another option displays a font list and highlights PostScript or Quick-Draw (bit-mapped) fonts at the click of a button, showing you which fonts are suitable for laser printing. Fonts can be compressed to save disk space, and are automatically decompressed as they are used.

ALSoft's *MasterJuggler* performs all the functions of *Font/DA Juggler Plus*, and then some. *MasterJuggler* not only manages fonts, desk accessories, FKeys, and sounds, but lets you switch between applications and windows as you work. A *MasterJuggler* utility called *ResConflicts* checks a group of files for name or ID number conflicts. If you wish, you can print the list of conflicts and resolve them later.

Font Info At Your Fingertips

Since the *Font/DA Mover* and the *Resource Resolver* and *Font Harmony* utilities automatically take care of renumbering fonts in case of an ID number conflict,
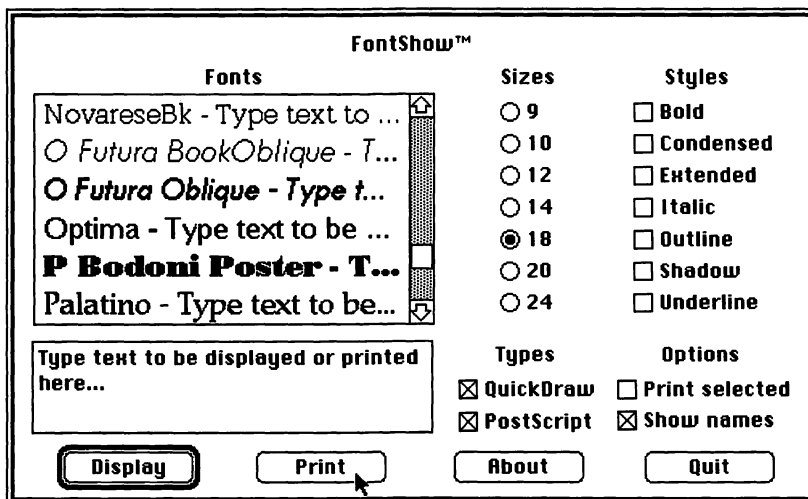
FIGURE 4.4. *Font/DA Juggler Plus's* FontShow option displays or prints installed fonts in the size and style you choose.

many Mac users will never want or need to know a font's ID number. If you don't have *MasterJuggler*'s *ResConflict* utility, which lists ID numbers, you can unearth the numbers with *ResEdit*, but there's an easier way — *FontDisplay*.

FontDisplay

If you're having trouble printing a particular font and suspect an ID number conflict, you can use Jeffrey Schulman's versatile *FontDisplay* to list the ID numbers of your currently installed fonts. You can open *FontDisplay* and from there open one font file after another, jotting down ID numbers and font names as you go.

But *FontDisplay* does more than list ID numbers; it gives a complete report on all your fonts. If you want information about a font, chances are this utility can provide it. *FontDisplay* can print keyboard layouts for plain, Shift, Option, and Shift-Option keystrokes (more on this in the following chapter). In addition, this handy utility can print a table that lists a font's name, ID number, installed sizes, and location on disk, as well as a provide a printout of the font's entire character set (see Figure 4.5). If you want a chart of all the characters in a given typeface, *FontDisplay* can print one at any available size. Note that *FontDisplay* prints the actual PostScript typeface, not just a bit-mapped representation à la Key Caps.

A WORD OF CAUTION

If you use any of the schemes described in this chapter to change FONT resources to NFNTs, be forewarned: documents created before you changed the resource type have stored their font information in the older, FONT format. Therefore, if you open a document that was created before you switched to NFNTs, the document may appear in a different font than the one it was created in. Likewise, if you switch to NFNTs and place an earlier document into a page layout program, the old font number will be transferred along with the text, possibly causing the wrong font to appear in the page layout program. Such font changes shouldn't pose a major problem, since you can select a block of text and assign it the correct font. Just be sure to check your older documents for font discrepancies if you convert to NFNTs.

Printing a Character Set with Word

If you don't have *FontDisplay* but do own *Microsoft Word,* you can access and print an entire character set with *Word*'s Code command. The following trick

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Font name: `Bodoni`
Font size: `10` Others available: `12, 14, 18, 24`
Font number: `254`
Location: `HD:System:Bodoni Plain`

	0	10	20	30	40	50	60	70	80	90	A0	B0	C0	D0	E0	F0
0				0	@	P	`	p	Ä	ê	†	∞	¿	–	‡	
1			!	1	A	Q	a	q	Å	ë	°	±	¡	—	·	Ò
2			"	2	B	R	b	r	Ç	í	¢	≤	¬	"	‚	Ú
3			#	3	C	S	c	s	É	ì	£	≥	√	"	„	Û
4			$	4	D	T	d	t	Ñ	î	§	¥	ƒ	'	‰	Ù
5			%	5	E	U	e	u	Ö	ï	•	µ	≈	'	Â	ı
6			&	6	F	V	f	v	Ü	ñ	¶	∂	Δ	÷	Ê	ˆ
7			'	7	G	W	g	w	á	ó	ß	Σ	«	◊	Á	˜
8			(	8	H	X	h	x	à	ò	®	Π	»	ÿ	Ë	¯
9			)	9	I	Y	i	y	â	ô	©	π	…	Ÿ	È	˘
A			*	:	J	Z	j	z	ä	ö	™	∫		/	Í	˙
B			+	;	K	[	k	{	ã	õ	´	ª	À	¤	Î	˚
C			,	<	L	\	l	|	å	ú	¨	º	Ã	‹	Ï	¸
D			-	=	M	]	m	}	ç	ù	≠	Ω	Õ	›	Ì	˝
E			.	>	N	^	n	~	é	û	Æ	æ	Œ	fi	Ó	˛
F			/	?	O	_	o		è	ü	Ø	ø	œ	fl	Ô	ˇ

The quick brown fox jumps over the lazy dog.

FIGURE 4.5. *FontDisplay* offers a convenient way to list a font's ID number — as well as a wealth of additional information. If you want a printout of all the characters in a font, *FontDisplay*'s Font Table option will provide one.

requires some work to set up, but once you've done the initial work, you can print the entire ASCII character set for any font. (*ASCII* — pronounced "Ass-key" — stands for "American Standard Code for Information Interchange;" impress your friends with that one next time there's a lull in the conversation.) The Mac, like any computer, stores information as numbers. The ASCII standard code assigns the numbers 0 through 255 to characters and a few nonprinting commands such as carriage return and backspace. When you type *A*, the Mac doesn't store the letter, but rather its ASCII code number, in this case 65.

To print an entire character set, you must first perform the following drudgery:

1. Open a new document in *Microsoft Word.*
2. Choose a typeface and type ⌘-Option-q. In the lower left corner of the window, the word "Code" will appear.
3. Type *33* and press Return. (Printing characters actually start with ASCII 32, the space character, but it doesn't look like much, so you may as well start with 33.) When you press Return, the ASCII character that corresponds to the number you just typed (in this case, ASCII 33, the exclamation point) appears in the document.
4. To display the font's entire character set, repeat this procedure — including typing ⌘-Option-q before each number — for all the numbers up to 255 (this is almost as much fun as sorting socks, I guarantee you).

The good news is that you only have to perform this procedure once. You can save the document and use it as a template to print the entire character set for any font.

The Acid Test

If you want to learn about font management, try writing a book about PostScript fonts and printing it on a service bureau's Linotronic. Although most people won't have to deal with dozens of fonts from multiple manufacturers, I'll summarize the (almost) foolproof method I employed while creating this book. The font-management techniques I learned while setting this book can also be applied to less font-intensive projects.

First, I checked with my local service bureau to see how they wanted me to arrange my font files. This particular service bureau used *Font/DA Juggler Plus*, so I put all the fonts for the book in a single suitcase file to avoid font-numbering conflicts. The same method could be applied with *Suitcase II*. You should check with your service bureau to see what font-management technique they prefer.

To save disk space, I placed only the smallest size of each screen font — usually 9 or 10 points — in the suitcase file. (We found that if multiple members of a font family were installed, they wouldn't print correctly unless each family member was installed in the same size — 10-point Futura Oblique, 10-point Futura Condensed, and so on). Since I didn't care how the fonts looked on the screen, in most cases I installed only the roman version of each font, even if other styles were to be printed. (This technique worked only with families comprised of plain, bold, italic, and bold italic styles; screen fonts for additional styles and weights must be installed.)

When I was ready to print the book, the service bureau used *Font/DA Juggler Plus* to open only the suitcase that contained my fonts. A similar technique could be applied with *Suitcase II*. If you use a font/DA extender, be sure to remove all extraneous fonts from your System file to prevent a font in the System from usurping one in the suitcase file (fonts in the System file are read first, remember).

In most cases, the service bureau's Linotronic imagesetter could handle as many as eight fonts on a page. If a page had more than seven or eight fonts on it, it was broken into sections, which were then printed separately. Check with your service bureau to see how many fonts their setup can handle; with enough memory, a service bureau's imagesetter may be able to print 40 or more fonts per page. Remember, each member of a typeface family — bold, italic, condensed, and so on — requires a separate printer font, so the printer's memory might be taxed sooner than you'd expect.

All in all, the put-'em-in-one-suitcase scheme worked very well. You may have to concoct your own font-management scheme to suit your work habits or a service bureau's requirements, but you should encounter few problems if you plan ahead and use as few suitcase files as possible. Chapter 7 offers additional tips on printing your documents at a service bureau.

There! If you're intrepid enough to have made it through this chapter, you probably have what it takes to tangle with font ID number conflicts. The

good news is that font management can only get easier. No doubt Apple and other developers will address the deficiencies of NFNTs, especially their inability to consolidate more than four font family members. But until a better system comes along, at least we have excellent utilities like *Suitcase II* and *Font/DA Juggler Plus* to see us through.

FIVE

TYPE TIPS

Many people who are new to publishing, desktop or otherwise, make mistakes that cause their documents to look less than professional. Some typographic *faux pas* are the result of habits carried over from working at a typewriter. Others occur because the publisher is unfamiliar with the capabilities of a page layout program or the subtleties of computer typefaces. This chapter describes some common mistakes and explains how to correct them, shows you how to make the most of the special characters hidden away in Mac typefaces, and presents guidelines for making your publications readable and aesthetically pleasing.

Old Habits Die Hard

Unless you're a young whippersnapper, you probably started your publishing career on a typewriter. Many people unwittingly retain some outmoded typing techniques when they graduate to word processors. Some of the most widespread mistakes are discussed here.

Extra Spaces

The most common vestigial typing habit is leaving two spaces after a period before beginning a new sentence. This action makes sense for typewritten text; since typewritten characters are monospaced, the extra space helps the eye distinguish sentences in an otherwise homogenous blanket of characters. But Macintosh typefaces are proportionally spaced (except those that emulate typewriter fonts), so a single space between sentences will suffice. In a typeset document the extra space is not only unnecessary but leaves unattractive gaps, especially if a program adds space to justify a line of text. If you find the extra-space habit hard to break, use your word processor's change function to search for double spaces and change them to single ones once you've finished typing a document. (Letraset's *ReadySetGo* page layout program saves you the trouble by automatically converting double spaces to single ones when you import a document.)

Dashes

Another unsightly holdover from the Age of Typewriters is the use of two hyphens to indicate a dash (an *em-dash* in typesetters' terms). Few things make a Mac-produced publication look worse than a smattering of double hyphens. Typing a dash on the Mac's keyboard requires a few acrobatics, but you'll soon get used to simultaneously pressing the Shift, Option, and hyphen keys to produce an em-dash. (Incidentally, it's up to you whether to add some space around dashes. Many typesetters add space on either side of an em-dash, since in some faces the dash nearly touches the adjoining letters; in this book, dashes have a space on either side.) Again, if you're accustomed to typewriter conventions you might want to use your word processor's search-and-replace function to hunt for renegade double hyphens once you've finished typing a document. If you're placing text into a page layout program, check to see if it converts double hyphens to dashes.

Also residing in the hyphen key is the *en-dash*, a punctuation mark about half the width of an em-dash but wider than a hyphen. To type an en-dash, simultaneously press the Option and hyphen keys. The en-dash is used less often than the em-dash and the hyphen, but when used correctly makes a document look more professional. An en-dash should be used in continuing or inclusive sets of numbers, such as page numbers, time, or dates (pp. 35–43; 9:00 A.M.–5:30 P.M.; April–May 1990). The en-dash is also used in compound

adjectives that contain two-word or hyphenated portions (post–Industrial Revolution art; East Coast–West Coast travelers; mother-in-law–husband rivalry).

A hyphen, en-dash, and em-dash (in that order) are shown here: -, –, —. The length of each and their proportions in relation to one another will vary from face to face. You may find these punctuation marks hard to distinguish from one another on the screen; in some screen fonts (notably New York and Geneva), the hyphen is the same size as — or larger than — the en-dash. Don't worry; the three punctuation marks will print properly despite their inaccurate screen representations. Type a sample, print it, and see for yourself. (As you'll see later in this chapter, you shouldn't be printing from New York or Geneva anyway, so the dash-size discrepancy problem shouldn't bother you.)

Overused Underlining

Another typewriter throwback is underlining a word or phrase for emphasis. Most Mac typefaces include italics; with *very* few exceptions, italics, not underlining, should be used for emphasis. Exceptions might include a typewriter-like face, a table or form, or a special case in which you want to use underlining as a design element.

Style Mania

Many new Mac owners are so thrilled when they switch from the monotony of typewritten text to the wealth of Mac type styles that they go hog-wild with style options. They make a heading bold, then underline it for emphasis. That's not enough. They choose the Outline style option. Then, just in case the heading doesn't stand out enough, they add the *coup de grace:* the Shadow option. You may think I'm exaggerating, but I've actually seen bold-underlined-shadowed text. It was not a pretty sight.

Figure 5.1 shows the style options found in many Mac word processors and page layout programs. Most of the options are tailored for a specific task: strikethrough for editing manuscripts, legal documents, and the like; small caps for abbreviations such as A.M., P.M., A.D., and B.C.; and condensed and expanded for fitting text into an allotted space or achieving a particular graphic effect (Apple's promotional material, for example, is set in a condensed Garamond). The outline and shadow options can also be used to add

a graphics touch to a typeface, but I wouldn't recommend it. Do yourself a favor: Just say no to outlined and shadowed text. If you must use these style variations, use them in headlines, ads, signs, and so on — not in body copy. If you place an outlined or shadowed word within a block of text, extra leading will be added above and below the line containing the word in order to accommodate the style change. Using these styles in text — or even in headings — is a sure way to make a document look amateurish.

Punctuation

Although you may use exotic styles like shadow and outline only rarely, you'll probably find yourself using more mundane styles like bold and italic on a regular basis. Again, publishers who make the leap from typewriter to Mac are sometimes unaware of typesetting conventions. According to *The Chicago*

Plain Text

Outline

Shadow

SMALL CAPS

Strikethrough

Condensed

Expanded

FIGURE 5.1. Many Mac programs offer style options such as the ones shown here. Each option is appropriate for certain tasks. You should resist the temptation to overindulge in the shadow and outline styles.

Manual of Style, the copy editor's Bible, punctuation should be set in the same style — italic, bold, and so on — as the character immediately preceding the punctuation. If an italic word is followed by a semicolon, for example, the semicolon should be in italics as well. As with most rules, there's an exception: parentheses and brackets are generally not set in italics or boldface, even if they contain an italic or bold word or phrase.

Picking Up the Tab

Ironically, the one typewriter habit that *should* be carried over to Mac publishing is often abandoned by novice Mac publishers. For reasons that escape me, some Mac users attempt to line up items on a page by repeatedly pressing the space bar, in the vain hope that what they see will be what they get. If you need to line up text elements, use tabs, not spaces. Likewise, when you need to line up columns of numbers, employ your word processor's decimal-tab option.

The Key Caps DA

Now for a quick quiz. Without referring to the preceding paragraphs, how do you type an en-dash? An em-dash? If you're new to Macintosh typefaces, you may have already forgotten one or both of these keystroke combinations. And the dashes are only two out of dozens of keystroke codes that produce special characters. Fortunately, Apple foresaw this problem and developed a handy desk accessory called *Key Caps*, which is included with the Mac's basic System software.

Select *Key Caps* from an application's Apple menu and a map of your keyboard appears on the screen. In addition to the keyboard display, a *Key Caps* menu, which lists all currently installed fonts, appears in the menu bar at the top of the screen. When you open the *Key Caps* DA and select a font from the *Key Caps* menu, the letters on the on-screen keys appear in the chosen font. Type a few keys on the Mac's keyboard or click some keys on the displayed keyboard, and the selected letters appear in the sample text box at the top of the *Key Caps* display. If you press Shift, Option, or both, the resulting characters appear on the displayed keyboard's keys (see Figure 5.2), and in the sample text box when you type. Once you've summoned the special character you're looking for, you can select it in the sample text box, copy it to the Clipboard, and paste it into your document (this handy feature saves you the trouble of remembering a convoluted keystroke combination).
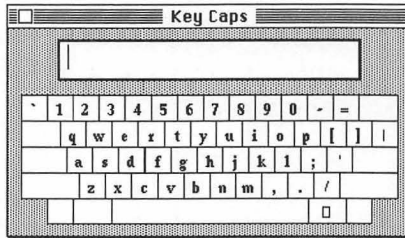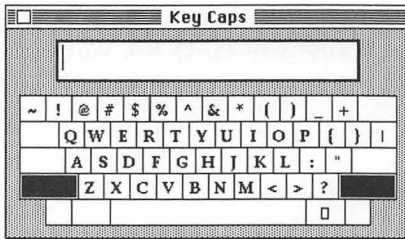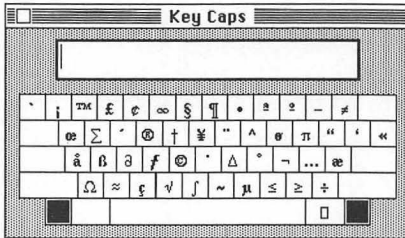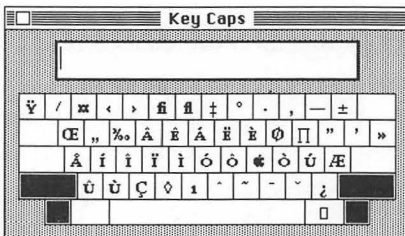
FIGURE 5.2. Apple's *Key Caps* desk accessory is a great help when you've forgotten how to type an obscure character. Simply select the DA from the Apple menu and press Shift, Option, or both to see the resulting keyboard layout.

Key Caps allows you to find keystroke combinations for special characters without leaving your current application or digging out a manual, but you might prefer to consult a reference card rather than call up on-screen help while you're learning to type special characters. If you're familiar with the Mac, your first inclination might be to make your own *Key Caps* reference cards by simultaneously pressing the Command (⌘), Shift, and 3 keys to make a *screen dump*, a "snapshot" of the screen contents (a ⌘-Shift-number combination is called an *FKEY*, for function key, in Mac parlance). Unfortunately, this feature won't work with *Key Caps;* pressing Shift and ⌘ while taking the screen snapshot alters the *Key Caps* display. But don't despair: there is a way to take a snapshot of all the *Key Caps* keyboard layouts; see "Capturing Key Caps."

CAPTURING KEY CAPS

To take a snapshot of the *Key Caps* keyboard, follow these steps:

1. Open a new document in a word processor, page-layout, or graphics program. Select *Key Caps* from the Apple menu. When the *Key Caps* keyboard layout appears, position it on the white background of the empty page. (Placing the keyboard on a white background will save you the trouble of cleaning up on-screen garbage when the keyboard is saved as a *MacPaint* document.)

2. Select the font you wish to display from the *Key Caps* menu.

3. While pressing the Shift key, place the arrow pointer over the title bar (the striped bar at the top) of the *Key Caps* window and hold down the mouse button.

4. Release the Shift key, but keep holding down the mouse button. Simultaneously press the Shift,

⌘, and 3 keys — the "snapshot" combination — then release these keys (keep the mouse button held down).

5. Press the keystroke combination you want to display (none, Shift, Option, or Shift and Option), let up on the mouse button, and whisk the pointer out of the title bar so it won't appear, like a wayward thumb, in the snapshot.

6. That's all there is to it. To make a complete set, you should perform the procedure for the lowercase, Shift, Option, and Shift/Option keyboards. Return to the desktop and you'll find four *MacPaint* documents labeled Screen 0 through Screen 3 (or another set of consecutive numbers if these were not the first screen shots taken). Copy all four keyboards to a single document in *MacPaint* or another graphics program, and print out the resulting reference sheet.

BigCaps

Dubl-Click Software has improved on the *Key Caps* concept with *BigCaps*, a desk accessory included with Dubl-Click's fonts (see Figure 5.3). Like *Key Caps*, *BigCaps* displays a keyboard layout for plain, Shift, Option, and Shift-Option keystrokes. But unlike *Key Caps*, *BigCaps* can display fonts in any installed size and style (bold, italic, and so on). In addition, *BigCaps* can display the fonts contained not only in the System file or an open suitcase file, but those contained in any suitcase file, on any disk. A font that comes from a file other than the System file is underlined in *BigCaps*' Font menu.

FontDisplay

Yet another way to print a font's keyboard layout is with Jeff Schulman's *FontDisplay*. This program prints the keyboard layout for plain, Shift, Option, and Shift-Option characters for a selected font (see Figure 5.4). The printout also lists the font's ID number, disk location, and which sizes of screen fonts are installed.
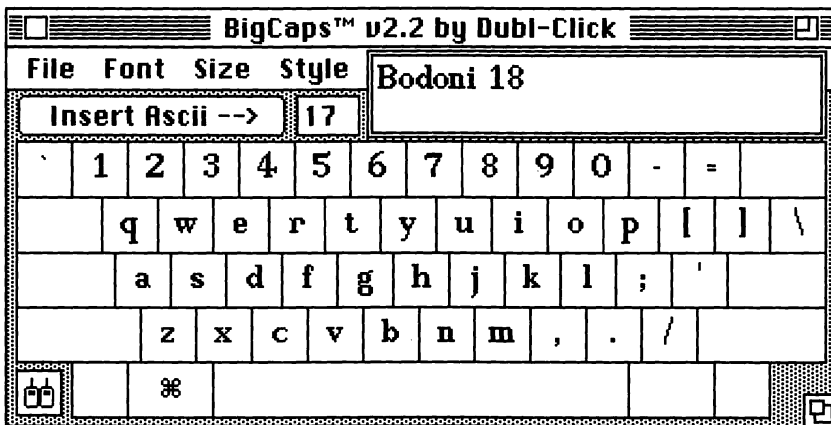
FIGURE 5.3. Dubl-Click's *BigCaps* desk accessory improves on Apple's *Key Caps* by displaying fonts from any suitcase file in a variety of styles and sizes.

Font name: Bodoni
Font size: 10 Others available: 12, 14, 18, 24
Font number: 254
Location: HD:System:Bodoni Plain

Normal

Shifted

Option

Option Shifted

The quick brown fox jumps over the lazy dog.

FIGURE 5.4. *FontDisplay* prints keyboard layouts for plain, Shift, Option, and Shift-Option characters.

Accents

Let's say you're using your Mac to set that most common of documents, a résumé. Do you know how to place the accents over the *e*'s? Although your word processor's manual no doubt tells you how to type various accents, most Mac owners are loath to refer to manuals. To type the acute accent over each *e* in résumé, hold down the Option key and press the *e* key, then let up on the

---

Quick Reference Chart for Special Characters

Diacritics

Option-e, *letter*	ó, é, etc.	
Option-i, *letter*	ê, î, etc.	
Option-`, *letter*	à, è, etc.	
Option-n, *letter*	ñ, ã, etc.	
Option-u, *letter*	ï, ü, etc.	
Option-c	ç	
Option-a	å	
Option-o	ø	
Shift-Option-r	Â	
Shift-Option-t	Ê	
Shift-Option-u	Ë	
Shift-Option-i	È	
Shift-Option-d	Î	
Shift-Option-f	Ï	
Shift-Option-g	Ì	
Shift-Option-s	Í	
Shift-Option-h	Ó	
Shift-Option-j	Ô	
Shift-Option-l	Ò	
Shift-Option-;	Ú	
Shift-Option-z	Û	
Shift-Option-x	Ù	

Quotes

Option-[	"
Shift-Option-[	"
Option-]	'
Shift-Option-]	'

Punctuation

Option-;	...
Option- -	–
Shift-Option- -	—

Ligatures

Option-'	æ
Option-q	œ
Shift-Option-5	fi
Shift-Option-6	fl

FIGURE 5.5. This quick-reference table shows the keystroke combinations required to type common accents, punctuation, and ligatures.

Option key and press *e* again. *Voilà!* An accent appears. Similarly, to place the same accent over an *a*, hold down Option and press *e*, then let up on Option and type *a*. To place a grave accent (`) over a letter, hold down Option and press the upper lefthand key on the Mac's keyboard, release both keys, and type the letter to be accented.

Mac typefaces contain numerous accents, also called *diacritics*, which can be accessed by pressing the Shift key, the Option key, or a combination of these keys. Figure 5.5 lists the keystroke combinations necessary to type accents as well as other special characters discussed below.

Ligatures

Ligatures, combined letter pairs such as the *æ* in *mediæval* or the *œ* in *œuvre*, can add a touch of refinement to a publication. In Gutenberg's day, type designers had to cast each ligature as a separate unit, since the mechanics of movable type prevented typesetters from fusing existing letters. Fortunately, Mac publishers can produce ligatures simply by pressing the Option key along with another key (Option-apostrophe for *æ* and Option-q for *œ*).

Another pair of ligatures, although invisible to the untrained eye, can make a document more attractive. Although you may never have noticed it, typesetters commonly join the letter pairs *fi* and *fl* into the more aesthetically pleasing *fi* and *fl*; see Figure 5.6. (Keep in mind that not all Mac faces include fi and fl ligatures; many sans serif and display faces don't include them.) To produce the *fi* ligature, select the letter pair and press Shift-Option-5 (or simply press Shift-Option-5 as you type — if you can

fi → fi

FIGURE 5.6. To give your publications a touch of refinement, convert the letter pairs *fi* and *fl* to their corresponding ligatures.

fl → fl

remember the combination). You might be able to remember that Shift-Option-5 produces the *fi* ligature because "five" starts with the letters *f-i;* how you remember the "Shift-Option" part is your business. For *fl,* press Shift-Option-6.

You'll undoubtedly find it easier to add the *fi* and *fl* ligatures with a global search-and-replace rather than trying to convert the pairs as you type. Two shareware utilities, *Smart Quotes* and *Macify,* automatically convert *fi* and *fl* to ligatures. These utilities are discussed in the following section.

Curly Quotes

One of the most annoying aspects of the Mac's keyboard layout is the gymnastics you have to perform to type "curly" quotes, or open and close quotes. The Mac's default straight quotes (") aren't suitable for typeset text, especially with serif faces. You must press Option and the Left Bracket ([ ) key for open quotes (") and Shift-Option-Left Bracket for close quotes ("). Similarly, you must press Option-Right Bracket and Shift-Option-Right Bracket for single quotes (' '). With this setup, writing a story that contains a lot of dialog is not a pleasant proposition.

Depending on the type of writing you do, you may need quotation marks only once or twice in a document, or you may use them on every page. Either way, you should learn how to invoke curly quotes when you need them. Double quotation marks are used to indicate dialog; material quoted from another source; and titles of articles, short stories, essays, book chapters, and songs. Double quotes are also used to indicate slang or specialized terms (the "preemies" were kept in incubators) or irony (they broke two chairs and six plates during their last "discussion"). Single quotes are used for quoted material within quotations ("If you play 'Stairway to Heaven' once more, I'll break you and your stereo into little tiny pieces," said Bert's new roommate) or to indicate philosophical or linguistic terms (In Chinese, *ma* 'the horse' sounds similar to *ma!* 'to scold').

The Hard Way

Some word processors and page layout programs convert straight quotes to curly ones, but if the program you're using doesn't offer quote conversion, you have several options. You can, of course, employ your word processor's search-and-replace function to replace straight quotes with curly ones, but

this is a somewhat tedious process. First, you'll have to search for a space followed by straight quotes (chances are good that quotes preceded by a space will be at the beginning of a word) and replace all occurrences with open quotes. Then, you must search for the remaining straight quotes and replace them with close quotes. Follow the same procedure for single quotes and apostrophes. While this approach is fairly straightforward and requires no additional software, it isn't flawless; for example, with this scheme quotes at the beginning of a parenthetical remark would be converted to close quotes, since the word wasn't preceded by a space. Likewise, a quote at the beginning of a paragraph would be preceded by a tab rather than a space, and would therefore be converted to a close quote. If you use this technique, you'll have to proofread your documents carefully.

Curlers

Fortunately, several better approaches exist. The simplest way to painlessly type curly quotes is to install an INIT called *Curlers*. (An INIT is a program that, when placed in the System folder, automatically runs when you start up the Mac.) *Curlers*, a 1K public-domain program by Tom Phoenix, automatically converts straight quotes to curly quotes as you type. When you type a space before a quote, *Curlers* assumes you need an open quote (unfortunately, *Curlers* doesn't interpret a tab or a return as a space, and inserts a close quote after these). If *Curlers* inserts the wrong kind of quotes, simply backspace over the quote and type it again; the utility cycles through open, close, and straight quotes, allowing you to quickly change the type of quote without remembering keystroke combinations. In case you want to type straight quotes, *Curlers* can be deactivated when you start up your Mac.

Laser Quotes

Another public-domain INIT, Deneba Systems' *Laser Quotes*, also automatically converts straight quotes to curly quotes as you type. Unlike *Curlers*, *Laser Quotes* types open quotes after a return or a tab; if the wrong kind of quote appears, backspace and retype the quote. *Laser Quotes* can be turned on and off from within an application.

Smart Quotes

Yet another curly-quotes utility is *Smart Quotes*, a $10 shareware DA by Philip Borenstein. When you begin typing a document, select *Smart Quotes*

from the Apple menu. If you type a space, a tab, or a return just before a quote, *Smart Quotes* types an open quote; otherwise it types a close quote. *Smart Quotes* is indeed the smartest of these utilities. In addition to converting straight quotes to curly quotes, *Smart Quotes* can add *fi* and *fl* ligatures on the fly, instantly convert double hyphens to em-dashes, and even correct a common typing mistake — two capital letters at the beginning of a word — by changing the second letter to lowercase (and yes, it's smart enough to leave acronyms like "USA" alone).

Macify

Another shareware utility, Eric Celeste's *Macify*, converts straight quotes to curly ones, *fi* and *fl* to ligatures, double hyphens to dashes, and double spaces to single ones, but you must first save your document as a text-only file in order to run the utility.

Unfortunately, all of these utilities place close quotes after a dash, a left parenthesis, ellipses, or other punctuation. You'll have to proofread your documents carefully for backward quotes. Nonetheless, using any of these utilities is greatly preferable to pressing obscure key combinations as you type or subjecting your documents to time-consuming search-and-replace sessions.

Customizing Your Keyboard

Rather than employing one of the utilities just discussed, you might want to assign special characters to keys of your choice. Several utilities allow you to customize the Mac's keyboard.

MacKeymeleon

This utility from Avenue Software lets you reassign characters to any key on a standard, SE, or Extended keyboard. Once you've rearranged your keyboard, you can have the new arrangement automatically take over when you turn on the Mac, or access any of several customized keyboard layouts by selecting the *MacKeymeleon* desk accessory from a program's Apple menu. Here's how it works.

Let's say you rarely use the less-than (<) and greater-than (>) characters (also called *angle brackets*) in your writing. You could use *MacKeymeleon* to transform these keys into open and close double quotes. That way, you could

type quotes by pressing < and > (shifted comma and shifted period, respectively), rather than trying to remember the ever-unpopular Shift-Option-[and Option-[keystroke combinations. (You could assign the quotes to any keys; these are used here simply as an example.)

To rearrange your keyboard, you open *MacKeymeleon*'s keyboard editor, which displays a character set arranged on a grid. On the character grid, click on the new key you wish to install — in this case, open quotes. Then, on your keyboard, type the key or key combination that will designate open quotes — in our example, Shift-comma, or <. Thereafter, when you activate that particular keyboard layout, open quotes will be typed when you press Shift-comma. If you outsmart yourself and forget your custom keys, don't worry — *Key Caps* will reflect your altered keyboard.

If you followed the steps just described, you've consigned your angle brackets to oblivion. You never know when you might need an angle bracket, and *MacKeymeleon* has taken this contingency into account. You could use the keyboard editor to assign the angle brackets to other keystrokes, or alternatively use the *MacKeymeleon* desk accessory to return to your original, unsullied keyboard.

MacKeymeleon has an added bonus: you can use it to reassign a character to another location if a key on your keyboard suddenly dies. I was feverishly typing along the other night, trying to meet a deadline, when my keyboard's *q* key suddenly ceased to work. No Mac repair shops were open at 3 A.M., and you'd be surprised how often the letter *q* is used. As a stopgap measure, I reassigned *q* to another key with *MacKeymeleon* and was able to finish my project on time.

MacQWERTY

MacQWERTY's main claim to fame is reconfiguring your keyboard to the Dvorak layout, a keyboard layout that many fast typists prefer to the standard "QWERTY" arrangement. As a sideline, however, this utility from Paragon Concepts lets you reassign any keys on the keyboard. *MacQWERTY* is not for the fainthearted; you have to deal with a pre-Mac user interface that asks you to install a file called >Custom (good thing I saved my angle bracket in the last exercise!) and create a text-only file called "reconfig.file" with a word processor.

In the word processor, you type the character you want to replace, press Return twice, and type the new keystroke. For example, if you wanted to type open quotes with the < key, as in the previous example, you'd type the quote character, press Return twice, then type Shift-comma (<). You then save the file, run the >Custom utility, and choose Set Startup from the Finder's Special menu to put the new layout in control when you start up the Mac. If you want to return to your original keyboard layout, you run a utility called >QWERTY.

QuicKeys

QuicKeys is a multitalented cdev (Control Panel Device) from CE Software. When the utility is installed, a *QuicKeys* icon appears in the Control Panel desk accessory, along with the icons already installed for the mouse, keyboard, monitor, and so on. *QuicKeys'* functions are many, but in general it allows you to create macros — series of keystrokes, mouse movements, menu choices, and so on — and evoke them with the keystroke of your choice.

You can use *QuicKeys* to manually assign open and close quotes (or other special characters) to the keystrokes of your choice, or you can simply activate the utility's automatic quote-insertion feature, which works much like the quote-insertion utilities described earlier.

To activate the auto-quotes feature, click the *QuicKeys* icon in the Control Panel dialog box. A *QuicKeys* dialog box appears, complete with a menu full of options (see Figure 5.7). In a submenu under the Define menu are two options, QuickQuotes and Double QuickQuotes. To install either shortcut, choose it from the menu and assign it a keystroke; I chose Option-z for double quotes and Option-x for single quotes. Press the appropriate key combination while you're typing, and *QuicKeys* inserts open quotes after you type a space, left parenthesis or bracket, return, or tab. It then inserts close quotes after you type any other characters and press the keystroke combo.

Fractions

Even the lowly typewriter has a few built-in fractions, but this feature is sadly lacking in Macintosh typefaces. Fortunately, a number of workarounds exist.

The Do-It-Yourself Method

If you don't mind a little work, you can create passable fractions in just about any typeface. Let's say you want to type "1 $^2/_3$ cups" in 12-point Times. First, type "12/3" with no spaces between the characters. Then select the "2" and change it to a 9-point superscript. Finally, select the "3" and change it to 9-point type. You now have a 12-point numeral followed by a fraction. Although this method is a bit cumbersome, it requires no additional software or memorization of keystroke combinations.

Bullets & Boxes

A specialty font called *Bullets & Boxes* from Caseys' Page Mill improves on the method just described. *Bullets & Boxes* provides four slashes to use in typing fractions. You still type a superscript numerator, a slash, and a denominator, but each slash is surrounded by a different amount of space, allowing you to vary the kerning between the numbers in a fraction and the slash that separates them.
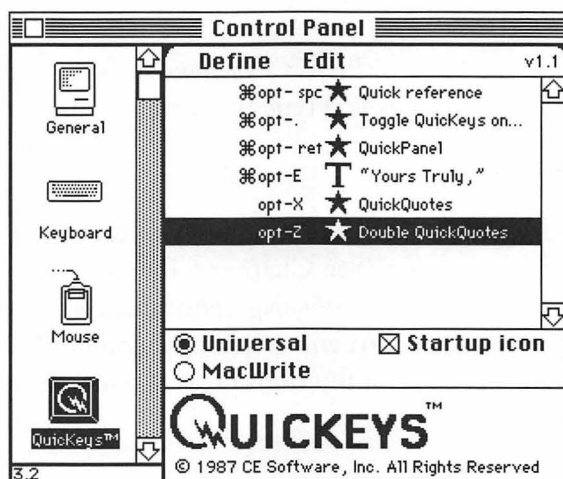
FIGURE 5.7. CE Software's *QuicKeys* lets you assign a keystroke combo of your choice to hard-to-find characters such as curly quotes.

Helvetica Fractions

A shareware face called *Helvetica Fractions* provides a more automated approach if you're typing in Helvetica or a similar sans serif face. You install the screen and printer fonts for *Helvetica Fractions* and then type fractions using the number keys in conjunction with Shift and Option. *Helvetica Fractions* is a step in the right direction, but it produces only single-digit numerators and denominators, and the sans serif numbers aren't appropriate with serif faces. *Helvetica Fractions*, like other shareware, can be downloaded from an online service or obtained from a Mac user group.

Caps & Fractions

A more flexible alternative is MacTography's *Caps & Fractions*, which provides one set of fractions for Times and another for Helvetica (or similar serif and sans serif faces). *Caps & Fractions* defines the top row of letter keys as numerators and the second row as denominators, allowing you to type custom fractions such as "15/256." This package is not a typeface per se, but rather a utility that modifies the Times and Helvetica faces, reducing the size and changing the position of the numbers in the fraction.

LaserPerfect Fractions

NeoScribe International's *LaserPerfect Fractions* includes a serif and a sans serif fraction face. Each face lets you type fractions in a plain or bold style.

Make Your Own Fractions

If none of the solutions listed above suits you, you can build your own fractions with Altsys's *Fontographer*. (See Chapter 6 for more information on this font-creation program.) If you own *Fontographer* and are interested in adding fractions to a face, read the tip box entitled "Fontographer Fractions."

Figure 5.8 shows samples of fractions created with some of the methods just discussed.

Other Special Characters

Looking at a font with *Key Caps* will reveal dozens of special characters: mathematical operators, ellipses (...), bullets (•), checkmarks, and so on. The special characters included in a typeface vary from manufacturer to manu-

FONTOGRAPHER FRACTIONS

Instead of drawingfractions from scratch, you can edit an existing font with *Fontographer.* The basic steps are outlined below. (You should be familiar with creating a composite font, as described in *Fontographer*'s manual.)

1. Start up *Fontographer* and select Open Template from the File menu.
2. In the resulting file selection box, select an existing font to use as a template and click Composite. Select Save As and give your new font-to-be a name.
3. Pick a keyboard location for your fraction. If you add a group of fractions, it's a good idea to place them near each other, arranged in an order that seems logical to you. Make your fraction an Option-Shift-character keystroke combination so you don't displace a frequently-used character (most people have little need for Å, Ø, and so on). Click the Key button at the top of the Font window and type the keystroke combination you've chosen for the fraction; the corresponding character box will appear.
4. Double-click the box to activate the character-editing window. Select the character in the box and delete it.
5. Click on the Font window to activate it and click on a number for the numerator. If you were creating the fraction "$1/2$," you'd choose "1." Copy the number and paste it into the character-editing window that you just emptied.
6. Since you want the numbers in the fraction to be smaller than the rest of the typeface, reduce the "1" with the Scale command.
7. Move the number to the upper left corner of the dashed bounding box in the character-editing window. Then repeat the above steps with the denominator, pasting in and reducing the number "2."
8. Finally, paste in a slash, scale it, and position it between the two numbers. Adjust the position of the three components until they seem properly placed, and reduce the width of the character's bounding box if necessary (otherwise, the fraction will have too much space on one or both sides).
9. Print a sample of the fraction with some accompanying text, examine it, and go back and make adjustments if necessary.
10. When you're satisfied with the fraction (or fractions), follow *Fontographer*'s standard procedures for creating a downloadable PostScript font and a bit-mapped screen font. Generate screen fonts of the same sizes found in the original, pre-fractions font.

It's taken some work, but you now have a typeface that contains the fractions you need, in keyboard positions you specified. If you frequently type certain fractions, creating a custom face might just be worth the trouble. To save disk space, replace the original version of the face with your customized version.

facturer; if a character you need isn't included in the face you're using to set a document, you can always add a character from another face. Most Adobe faces, for example, don't include a checkmark, while many faces from companies such as Casady & Greene, MacTography, and Image Club do offer it. Be careful when mixing faces, however — you must be sure the printer font for the special character is installed or the character will print as a bit map. Also, make sure you don't accidentally obliterate or change a special character by making a global font change in your document.

Ellipses...

Those of us who grew up pounding out prose on typewriters grew accustomed to typing three periods in a row to indicate missing text. Typing them was bad enough, but then you had to remember whether or not you were

---

From word processor

1½ cups

Caps & Fractions

1½ cups

Bullets & Boxes

1½ (½, ½, ½) cups

Helvetica Fractions

1½ cups

Fontographer fraction

1½ cups

FIGURE 5.8. You don't have to live without fractions. Shown here are five alternatives for typing fractions in a variety of Mac fonts

supposed to add spaces between the dots. Fortunately, Mac typefaces let you type three dots in one fell swoop by pressing Option-semicolon. These built-in *ellipsis points*, or *ellipses*, have just the right amount of spacing between them (…), alleviating the cramped look of periods with no spaces (...) or the airy look of three periods separated by spaces (. . .).

Bullets

Bulleted lists help draw the reader's attention to a series of items that might get lost in a block of body copy. Although style conventions for bulleted items vary, the following guidelines should help:

- If a bulleted item runs over one line, many designers like to have the runover line align with the first character that follows the bullet.
- You should place a space between a bullet and the character that follows it.
- You needn't use punctuation after the items in a list unless one or more of the items are complete sentences.

Typing the ⌘ Key Symbol

The Chicago font, which is always present since it's one of the Mac's built-in System fonts, includes the "⌘" Command key character, which is useful if you're writing Mac-related material. If your keyboard has a Control key (the ADB keyboard that comes with the Mac SE and Mac II includes this key), simply choose the Chicago font and press Control-q. If you have the original Mac keyboard, which lacks a Control key, you can access the ⌘ character in the Chicago font if you've installed Deneba's *Laser Quotes* utility; if *Laser Quotes* is installed, select the Chicago font, limber up your fingers, and press Shift-Option-⌘-z to type the ⌘ symbol. (Unfortunately, this utility doesn't work with all programs.)

If Chicago isn't classy enough for you (it is a bit-mapped font, after all), several non-Adobe PostScript faces also include the ⌘ character. Most faces from Casady & Greene include the ⌘ character, for example. If you're feeling ambitious, you can create your own ⌘ symbol key in *Fontographer* and install it in several of your fonts, or install the ⌘ key symbol included in *Fontographer*'s Demo Font into an existing font with the technique described earlier for adding fractions to a font.

Spacing Tips

Spacing can be divided into two basic categories: letterspacing (the amount of space between individual letters in a word) and word spacing (the amount of space between each word in a line of text).

Although word processors and page layout programs offer some control over letterspacing and word spacing, it's possible to commit a few errors that will produce poor spacing in a printed document. Some common errors are discussed in the following paragraphs.

New York and Geneva Spacing Problems

Probably the most common spacing error is printing from the wrong screen font. Most Mac owners know that if an application's Font Substitution printing option is selected, the New York screen font is converted to Times when printed on a PostScript printer; likewise, Geneva prints as Helvetica. What some people don't realize is that the New York and Geneva screen fonts don't produce exactly the same printed results as the Times and Helvetica screen fonts. Characters printed from New York or Geneva are larger than those printed from Times or Helvetica; word spaces and leading differ as well. As a result, a document printed from New York or Geneva will look airy compared to the same document printed with Times or Helvetica on the screen. Figure 5.9 compares a block of text printed from 12-point New York to one printed from 12-point Times. The solution is simple: either type in Times or Helvetica, or convert your document to one of those fonts before you print it.

(Incidentally, if you're tired of switching from Geneva to your favorite font when you open a document, you might be interested in a utility that lets you change the default font to any font you choose. *DefaultFont*, a desk accessory from Dubl-Click Software, does just that. Two shareware utilities, *ApFont* and *Change Appl Font*, accomplish the same thing. Note that these utilities won't work with every application — only those that automatically start up in Geneva.)

Fractional Widths

The problem of excessive word spacing can be compounded in some programs. For example, if you print New York or Geneva text from *Microsoft*

Word without checking the Fractional Widths printing option, the printed text will contain much too much space between words. The same problem occurs in *MacDraw*. This happens because some Mac applications don't use the fractional character widths found in a font's FOND resource (see Chapter 4 for details). Instead, they use the characters' screen position, calculated in increments of $1/72$ of an inch, to place printed characters on the page.

New York

For several days after leaving Nantucket, nothing
above hatches was seen of Captain Ahab. The mates
regularly relieved each other at the watches, and
for aught that could be seen to the contrary, they
seemed to be the only commanders of the ship; only
they sometimes issued from the cabin with orders
so sudden and peremptory, that after all it was
plain they but commanded vicariously. Yes, their
supreme lord and dictator was there, though
hitherto unseen by any eyes not permitted to
penetrate into the now sacred retreat of the cabin.

Times

For several days after leaving Nantucket, nothing above hatches was
seen of Captain Ahab. The mates regularly relieved each other at the
watches, and for aught that could be seen to the contrary, they
seemed to be the only commanders of the ship; only they sometimes
issued from the cabin with orders so sudden and peremptory, that
after all it was plain they but commanded vicariously. Yes, their
supreme lord and dictator was there, though hitherto unseen by any
eyes not permitted to penetrate into the now sacred retreat of the
cabin.

FIGURE 5.9. Note the difference — and a big difference it is — between a paragraph printed from the New York screen font and the same paragraph printed from the Times screen font. You should print documents from Times or Helvetica, not New York or Geneva.

If fractional widths are used — as when the option is checked in *Word* — much finer spacing increments are used, depending on the resolution of the printer: 300 increments on the LaserWriter; up to 2540 on a Linotronic 300 imagesetter. (Note that the older Macs — those with the original 64K ROMs — can't take advantage of fractional spacing.) Page layout programs, which are designed to position text as precisely as possible, implement fractional spacing. Again, the easiest solution is to avoid printing from New York or Geneva.

Word Spacing

If you set a page of center-justified text, your word processor or page layout program automatically adjusts the amount of space between each word to create lines of equal length. You should always proof justified text carefully to check for the following problems:

- "Rivers" of white space running down a block of text
- Lines spaced so tightly that they're hard to read
- Lines spaced so loosely that they're hard to read

In general, you should avoid justifying narrow columns. What constitutes a narrow column? There's no simple answer. The optimum column width for justified text depends on factors such as the typeface itself, type size, and even average word length. The best advice I can give you is to use common sense: a justified column wide enough to hold an average of only three or four words will no doubt give you spacing problems (see Figure 5.10).

The following rules of thumb will also help you determine how to adjust word spacing:

- Use less word spacing for condensed type; more for expanded type
- Use more word spacing for small or large type
- Add extra word spacing to make reversed type easier to read

If your word processor doesn't let you adjust word spacing, you can still have some control over it with the following simple technique. (A trick like this one is known in computer parlace as a *kludge;* if you find yourself resorting to many such tricks, you should probably save up for a better word processor.) Say you've typed a 24-point newsletter headline and printed a proof

on your LaserWriter. You feel the words are spaced a little too far apart. Open the document and select the space between two of the words. Then use the word processor's type size command to convert the space to a smaller point size, say 18 point. Do the same to the remaining interword spaces; when you print the document again, the word spacing will be reduced. Keep in mind that this tip works best for subtracting space; if you convert a space to a larger point size, extra leading will automatically be added above the line of text.

Tracking

Many Mac word processors and page layout programs offer *tracking*, the ability to add or subtract a specified amount of space between all the characters in a selected block of text. Tracking can be used to help squeeze a line of text into a small area or expand it to fill a space. Be aware, however, that extremes

Narrow columns not only disrupt the eye's normal tendency to scan four or five words at once, but can result in frequent gaps if set justified. In some cases you may need to squeeze a column into a page layout, but try to avoid narrow columns if you possibly can.

Narrow columns not only disrupt the eye's normal tendency to scan four or five words at once, but can result in frequent gaps if set justified. In some cases you may need to squeeze a column into a page layout, but try to avoid narrow columns if you possibly can. As you can see, the wider column is not only easier to read, but looks better than the narrow column.

FIGURE 5.10. Note the unsightly gaps in the narrow column on the left. Don't use narrow columns unless a page layout absolutely demands them (you may need to run text alongside an illustration, for example).

in tracking can make text hard to read. Tracking is most useful for tightening up letterspacing in headlines, giving them a more solid, substantial look.

In general, you should adjust word spacing rather than tracking to make a line of text fit into a specified area. Uneven letterspacing not only makes text hard to read, but disrupts the even color of a block of text.

Kerning

Professionally-crafted Mac typefaces have built-in kerning pairs, so glaring gaps between letters usually aren't a problem — if your publishing software supports kerning. While many Mac word processors allow you to manually kern letter pairs, at this writing none that I know of recognizes built-in kerning pairs; for the best-looking letterspacing, you should import text into one of the Mac page layout programs, which do recognize built-in kerning pairs.

Kerning is most useful in large type such as titles or headlines, where an imperfectly kerned pair is more noticeable than in body copy. Many programs offer precise control over kerning, in increments as small as .01 em (an em, remember, is a relative unit of measurement equal to a face's point size). Figure 5.11 provides examples of kerning, as well as a list of the most common kerned pairs.

Although most Mac typefaces include from 200 to 500 kerned pairs, you might come across letter pairs that aren't kerned to your liking. Maybe you've come across poorly executed (or nonexistent) kerning, or maybe you simply disagree with the type designer's opinion of correct character spacing. Even in a well-crafted typeface, a kerned pair that looks fine at 12 points might need to be tightened up when text is set at a large size, such as in a headline. When it comes to setting headlines, typographers strive for "TNT" (tight, but not touching) letterspacing.

Whatever your reason for wanting to change kerning, it's tedious to manually adjust a poorly kerned letter pair every time it appears. Two kerning utilities, ICOM Simulations' *MacKern* and EDCO's *LetrTuck*, let you adjust kerning in any Mac font and store the new kerning pairs. If you're tired of manually kerning certain letter pairs, you might want to invest in one of these utilities. Both *MacKern* and *LetrTuck* let you alter the kerning information stored in a font's FOND resource (FONDs were described in the preceding chapter). Therefore, the new kerning information you add to a font is attached to that font, no matter which program you're typing in — as

long as the program recognizes built-in kerning pairs. (In other words, the kerning information will be applied in page layout programs and graphics programs such as *FreeHand* that support automatic kerning.) I was unable to get either kerning utility to work with a word processor, but you should check with the manufacturers; by the time you read this, either the kerning programs themselves or a Mac word processor may have been enhanced.

You don't have to be a programmer to use these kerning utilities. You merely choose the font you want to edit, select a kerning pair, and adjust the amount of kerning in a dialog box (see Figure 5.12). Repeat this procedure for as many letter pairs as necessary and save the file. If you print a sample and don't like the results, you can reenter the file and fine-tune the kerning.

Common kerning pairs

To	We
Tr	Wo
Ta	Wa
Tu	TA
Tw	PA
Te	WA
Ty	P.
Ya	T.
Yo	Y.

Needs kerning

Typist Wanted

Default kerning

Typist Wanted

Tight kerning

Typist Wanted

FIGURE 5.11. In the top example, the first two letters of each word are in their own "bounding boxes," and obviously in need of kerning. The second example shows the face's built-in kerning, while in the third sample the kerning has been tightened cnsiderably.

Readability

You might want to use an avant-garde, attention-grabbing typeface for an ad, invitation, or sign, but for long passages of text, readability is what counts. That doesn't mean your publication has to be boring — you have hundreds of Mac typefaces to choose from, and more are being released each month. It simply means that for body copy you have to use a face that, although it may be aesthetically pleasing and have character, doesn't distract the reader from the material being read. Chapter 2 discussed some of the factors to consider when building your typeface library. Here I'll discuss some general guidelines for ensuring that your publications are readable. The tips presented here are only guidelines: you may wish to break the rules to suit your particular design goals.

Serif or Sans Serif?

Readability is the result of a number of factors, only one of which is the typeface itself. When choosing a face for your publication, a few general rules apply. As mentioned in Chapters 1 and 2, serif faces are usually easier to read than sans serif faces. Although there is some debate in typographic circles as to just how much serifs contribute to ease of reading, the bottom line is that most people are accustomed to reading serif faces (sans serif is somewhat more popular in Europe than in the United States, however). If you set a

FINE-TUNING KERNING

Since the resolution of the Mac's screen is so much coarser than that of PostScript output devices, it's impossible to see the results of kerning adjustments until you print a page. You can save yourself a good deal of time — and printer toner — by trying out several kerning amounts on the same page, then printing out the results and picking the best one.

Make several copies of the word or words to be adjusted, then adjust the kerning for each one, writing down the amount of each adjustment either on paper or on screen next to each experiment. After you've printed the sample page, choose the word that looks best and apply that amount of kerning in your document.

book in a sans serif face, you run the risk of alienating potential readers. Look at the typeface samples in Chapter 2 and see if you find the serif faces more readable than the sans serif ones. You might disagree with this conservative approach; if you don't want to be a slave to tradition, you can choose among many attractive sans serif faces.

Weight

A face's weight has an impact on legibility. For example, a light face may be too weak to use in long passages, while a bold face could obscure the letters' *counterforms*, the negative spaces that help the eye distinguish letterforms. In most cases, you'll want to use a medium or book weight for body copy.

If you choose a serif face for your publication, keep in mind that faces with a large variation in stroke widths are less legible than those with a more even stroke weight. A face that combines very thick and very thin strokes makes the eye work to decipher the letters.
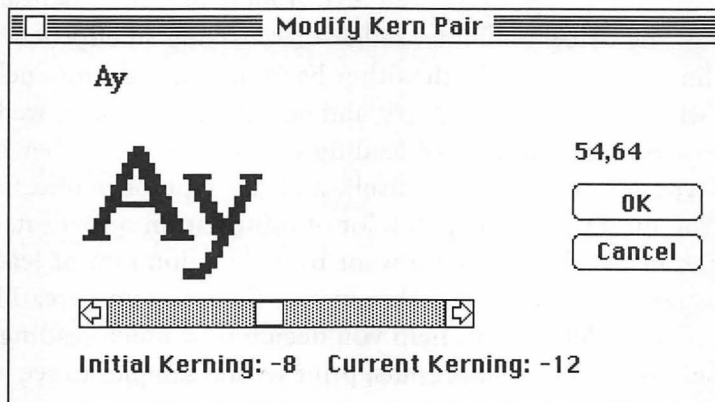
FIGURE 5.12. EDCO's *LetrTuck* lets you permanently alter a face's kerning pairs. The new kerning information is stored as part of the font, and is accessed by any application that supports built-in kerning.

Size

Type size affects readability as well. As a general rule, body copy is easiest to read if it's set at 9, 10, 11, or 12 points. It's difficult for most people to read long passages of 7- or 8-point type even if it's set at a crisp 2540 dots per inch; the difficulty is of course compounded if you set text at 300 dpi. Some Macintosh faces look better than others at small sizes — if you need to set a passage in a small size, print a sample to make sure the face you want to use is readable at that size. As mentioned earlier, Adobe's faces are designed to look good when printed at low resolution.

A face's x-height should be considered when you're deciding what size to use; a face with a large x-height can usually be set at a smaller size than a face with a small x-height with no loss of legibility.

Leading

Probably the most common mistake made by Mac publishers is not using enough leading. Many word processors offer a default leading that's the same as the selected point size: 10/10, 12/12, and so on. If you dash off a document on a word processor and print it without adding any leading, the printed result will be much too dark and dense. Insufficient leading not only gives a page a black, unappealing color, but makes reading more difficult as well. If a page has long lines of tightly-packed text, readers may find themselves reading the same line twice (doubling) rather than making an effortless transition from one line to the next. On the other hand, if you add too much leading, your copy will look too light and airy, and be difficult to read as well.

The appropriate amount of leading depends on a number of factors, including type size, the typeface itself, and the type of publication you're printing. You might need to cram a lot of information into a catalog or ad, for example, in which case you'd want to use a minimum of leading. In a book or magazine, however, you should give the text some breathing room. The following guidelines will help you decide how much leading to apply, but to be sure of the optimum results, print several samples to see what looks best for your publication.

- As a basic rule of thumb, leading should be at least 20% of the face's point size. More precisely, 9-, 10- and 11-point type should generally have from 1 to 3 points of leading; 12-point type should have from 2

to 4 points of leading; 14-point type should have from 3 to 6 points of leading; 16-point type needs from 4 to 6 points; and 18-point type usually needs from 5 to 6 points of leading. Remember, these are only guidelines. Appropriate leading will vary from one layout to another.
- In general, faces with large x-heights, bold faces, faces with a strong vertical emphasis, and sans serif faces require a bit of extra leading.
- The greater the line length, the more leading you should use. A page of long lines will look less dense and more inviting if a little leading is added.

Figure 5.13 shows several examples of leading.

Line Length

Since the eye scans groups of words when reading, the length of a line of text affects readablity. Most readers scan groups of three or four words at a time. Therefore, an extremely narrow column of text is difficult to read, since the eye's habitual reading pattern is disrupted. Likewise, the eye can become tired while scanning a long line of text. Optimal line length varies, but the following rules should help you pick the appropriate line length for your publication.

- In general, lines should be between one-and-a-half and two times the length of a face's lowercase alphabet.
- Another formula says that line length (in picas) should be about two times the face's point size (a line of 12-point type should be 24 picas long, for example).
- Lines of about 40 to 60 characters, or nine or ten words, are generally easy to read.

So why don't I practice what I preach? If you're the finicky type, you may have noticed that the lines in this book average about 70 characters, or 14 words. Don't worry. It's perfectly acceptable for books to exceed the line-length limits just suggested, as long as enough leading is used.

Copyfitting

If you need to calculate how many characters of a given face, at a given point size, will fit on a line, use the following formula:

It was a dark and stormy night. A wave of melancholia
engulfed me as I gazed with clouded eyes upon the pages
that spewed forth from the bowels of my laser printer.
Page after page of dark, dense, type confronted me,
the lines stacked one on top of another like cordwood.
As my weary eyes traversed the dense blanket of prose,
 a revelation came to me: I could make the book much
more inviting — not to mention readable — simply by
increasing the amount of leading!

11/11 (set solid)

It was a dark and stormy night. A wave of melancholia
engulfed me as I gazed with clouded eyes upon the pages
that spewed forth from the bowels of my laser printer.
Page after page of dark, dense, type confronted me,
the lines stacked one on top of another like cordwood.
As my weary eyes traversed the dense blanket of prose,
 a revelation came to me: I could make the book much
more inviting — not to mention readable — simply by
increasing the amount of leading!

11/13

It was a dark and stormy night. A wave of melancholia
engulfed me as I gazed with clouded eyes upon the pages
that spewed forth from the bowels of my laser printer.
Page after page of dark, dense, type confronted me,
the lines stacked one on top of another like cordwood.
As my weary eyes traversed the dense blanket of prose,
 a revelation came to me: I could make the book much
more inviting — not to mention readable — simply by
increasing the amount of leading!

11/15

FIGURE 5.13. Three leading alternatives for 12-point Times are shown here. The top sample not only looks unappealingly dark, but is hard to read as well.

• Measure the width of the face's lowercase alphabet, in points. Divide this number into 342 to get the number of characters per pica, or *character count.*

Let's say you need to know how many characters will fit on a line 20 picas wide. We'll use 12-point Helvetica to illustrate the formula. The face's lowercase alphabet, when set at 12 points, measures 155 points across. Divide 342 by 155 and you'll see that 12-point Helvetica has a character count of 2.2. Therefore, you can fit about 44 characters of 12-point Helvetica on a 20-pica line (20 x 2.2 = 44).

If you need to know how many words will fit on the 20-pica line, use the following formula:

• One word averages five characters, plus one character for the space that follows it, for an average of six characters per word.

Continuing with the 12-point Helvetica example, you'll find that you can fit about 7.3 words on a 20-pica line (44 characters per line ÷ 6 characters per word = 7.3 words).

FontDisplay automatically calculates the number of characters per pica and displays the character count if requested. If you don't have FontDisplay, you can figure out a face's character count with the Calculator desk accessory that came with your Mac.

Lowercase vs. Caps

AMATEUR PUBLISHERS WILL OFTEN SET A LINE OF TYPE IN CAPITAL LETTERS TO EMPHASIZE A POINT. THIS PASSAGE SHOULD EMPHASIZE THE FACT THAT ALL-CAPS TEXT IS HARD TO READ. AS ALWAYS, THERE ARE EXCEPTIONS; FOR EXAMPLE, YOU MIGHT WANT TO SET AN IMPORTANT WARNING IN ALL CAPS TO MAKE SURE THE READER SEES IT. BUT ON THE WHOLE, YOU SHOULD AVOID SETTING BODY COPY IN UPPERCASE LETTERS.

'Nuff said. Italics, rather than capital letters, can be used for emphasis. If you want to make sure the reader sees an important warning, you could set it in a box, or perhaps in boldface or large type.

Here's a bit of typographic trivia for you. The terms *uppercase* and *lowercase* hail from the days of hot-metal type. In those days, printers

arranged the letters of each typeface in wooden cases, capital letters in one case and small letters in another. To make the characters easy to reach, the cases were placed one on top of the other, with the capitals in the upper case. Like *leading*, the terms *uppercase* and *lowercase* have endured even though the technology has changed.

Reverse Type

If you want maximum impact, you can print white text on a black background. If you're striving for maximum readability, stick to black-on-white. If you do print white text on a black, gray, or colored background, make sure you use a large point size, preferably in a simple, legible face such as a sans serif. Don't reverse a face with wide variations in stroke width. Figure 5.14 illustrates the right and wrong ways to set reverse type.

The same caveat applies to printing black text on a gray or colored background. If you must do so, make sure the type can hold its own against the background. Add a little word spacing and leading to improve readability.

ELVIS IS ALIVE!

Residents of Kalamazoo, Michigan, reacted with a mixture of joy and disbelief when it was revealed this week that Elvis Aron Presley had been secretly living among them for nearly 7 years. (Story on p. 3)

FIGURE 5.14. Reverse type can make a headline jump out at you, as shown in the top sample. The bottom sample shows the wrong way to set reverse type: the type's relatively small size and variation in stroke weight make it very difficult to read.

Visual Placement

Computers are wonderful devices. With the right software, you can precisely align elements to within a fraction of a point. Select a command and two lines of type are impeccably centered in the blink of an eye. Great. Computers have us beat in the speed and precision departments, but humans still have an edge when it comes to aesthetics. That same eye that was blinking while the computer centered two text elements can tell that although the elements are aligned with mathematical precision, they still don't *look* centered. Figure 5.15 illustrates that lines of text may have to be optically aligned, rather than simply mechanically aligned, to achieve the effect you want. As shown in the figure, the eye doesn't necessarily perceive quotes as part of a word; a good designer will move type elements to compensate for such optical quirks.

Now that you've learned more about using existing characters correctly, perhaps you're ready to add some flair to your documents by modifying off-the-shelf typefaces, or even creating your own. The next chapter presents dozens of tips on customizing your current type library.

"Beauty is only
skin deep."

Centered by software

"Beauty is only
skin deep."

Optically centered

FIGURE 5.15. Although the top sample is precisely centered, the second line appears to be too far to the left. You may have to optically align type to make it appear to be positioned correctly.

SIX

CREATING AND
ENHANCING TYPEFACES

E ven if you have a large collection of PostScript typefaces, you might not find exactly the face you need for a certain job. In pre-Mac times, you would have had to hire a designer or typesetter to add special effects to type. But with a Mac and the right software, you have dozens of options for modifying type yourself. You can do anything from condense or expand a face in a page layout program to create your own typeface from scratch. If you don't have the time and energy to create your own typeface, you might want to spice up some of the faces in your collection with a graphics program or a special effects application.

In this chapter you'll learn how to customize PostScript fonts, starting with techniques that take advantage of programs you may already have, and moving on to specialized font-editing programs. But before you start modifying PostScript typefaces, you might be interested in improving the appearance of your screen fonts.

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FontSizer

Mac screen fonts generally come in five sizes: 10, 12, 14, 18, and 24 points. This selection provide a minimal set of text and display sizes, but if you type, say, a 48-point heading, you're stuck with a jagged screen font that the Mac computes from an installed size. If you want the letters on your screen to more closely match their printed counterparts, you might be a candidate for *FontSizer.*

FontSizer, a utility from U.S. MicroLabs, creates readable screen fonts of virtually any size, from 12 to 127 points. The program reads information from a font's printer file and constructs a bit-mapped screen font that's smoother and more readable than one that's simply computed by QuickDraw.

To create screen fonts with *FontSizer,* you start the program and choose a font name from a list of installed fonts. Type the new size or sizes you wish to construct, click the program's Add button, then click the Build button to build a collection of screen fonts. *FontSizer* can build screen fonts for bold, italic, and bold-italic styles as well as plain, or roman. A *FontSizer* option removes names such as "B Goudy Bold" from your font menu, letting you access styled family members from a single font name, as described in Chapter 4.

Figure 6.1 shows an example of a screen font computed by QuickDraw and one created by *FontSizer.*

**Time flies like an arrow;
Fruit flies like a banana.**

Time flies like an arrow;
Fruit flies like a banana.

FIGURE 6.1. The top screen font was created by the Mac in response to a request for 30-point Times. The bottom font was created by *FontSizer.*

Low-Budget Font Effects

If you're like many Mac publishers, you've already shot a good portion of your budget on a basic set of typefaces and a word processor. You may not have much left over for fancy special-effects programs. But you can create a number of type effects with just a drawing program and a word processor.

If you have a drawing program like *MacDraw* or *SuperPaint*, for example, you can add condensed or expanded headlines to a word processor document. Type a line in the drawing program and copy it to the Scrapbook. (Make sure you type the text in a drawing program that supports PostScript type, not in a bit-mapped graphics program like *MacPaint*.) Then, open your word processor document and paste in the line of text. The word processor will treat the text as a graphic element, surrounding it with "handles" that you can drag with the mouse. Grab a handle and pull horizontally to create extended text or vertically to create condensed text.

Another way to add condensed or extended text to a word processor document is with MacTography's *MicroFonts+*, a series of PostScript routines that condense or expand the LaserWriter's built-in fonts.

You can also employ the low-budget approach to create a *drop cap* — a large capital letter that extends into the text of an opening paragraph — in *Microsoft Word*. To place a drop cap into a *Word* document, first type a paragraph. Then, select the first letter in the paragraph and select Character from the Format menu. Choose a large point size and the bold style option, and make the character a subscript. Finally, return to the main document window and place a tab stop in the document's ruler; tab the text next to the drop cap and print a test page. You may have to adjust the amount of subscripting to raise or lower the cap to the proper height, but all in all this is a fairly painless way to create a drop cap.

Graphics Programs

If the aforementioned tips are too low-budget for your tastes, you should consider spicing up your fonts with a PostScript graphics program. After all, PostScript graphics applications and PostScript fonts speak the same language; you can use these programs to add striking special effects to text. Two of the most popular PostScript graphics applications, *Adobe Illustrator 88* and *Aldus FreeHand*, let you you create and edit shapes made up of Bezier curves — curves that are defined by four movable control points. In addition,

these programs let you skew, rotate, shrink, or expand text, as well as apply more sophisticated graphics effects like the ones described in the following sections.

Illustrator 88

You can type a line with *Illustrator 88*'s text tool, then treat the text as a graphic object, applying PostScript effects such as skew, rotate, and scale. *Illustrator 88* even lets you alter a text selection's stroke (outline) and fill (interior shade). For example, you can type a letter, select it, and assign it a white fill and a 2-point-wide black outline, or a black fill and a 3.5-point outline in a 65% gray shade, and so on. You can then paste the modified type into a word processor or page layout document.

But *Illustrator 88*'s text enhancement capabilities go far beyond simple stroke and fill assignments. For example, you can call on the program's Paste In Front menu option in conjunction with fill and stroke variations to create an inline effect like the one shown in Figure 6.2. You can also add scanned textures or patterns to text with *Illustrator 88*'s masking function. Figure 6.2 also shows an example of textured text created with *Illustrator 88*.

As you become more and more proficient with *Illustrator 88*, you'll discover you can combine text and graphics to create some spectacular effects. The decorative initial caps in Figures 6.3 through 6.5 were created by San Diego artist Jack Davis. You can apply some of the techniques shown in these examples to your own display type or initial caps.

FreeHand

While *Illustrator 88* lets you apply some sophisticated graphics effects to text, *FreeHand*'s forte is precise text positioning. Unlike *Illustrator 88*, which supplies only a tracking option, *FreeHand* offers not only tracking, but kerning in increments of either $1/10$ or $1/100$ em. In addition, *FreeHand* lets you mix fonts, sizes, and styles in a single block of text, allowing you to, for example, place an italicized word in a block of copy; *Illustrator 88* restricts you to one font, size, and style per text block. Finally, *FreeHand* lets you attach a line of text to a path of any shape, a handy feature for logos, maps, signs, and so on (see Figure 6.6).

FreeHand's snap-to grid and cursor position readout help you align text with graphic elements in a design. While *FreeHand* is a graphics program,

not a page layout program, the ability to precisely position text in relation to graphics can save you time and trouble when creating logos, letterheads, and other text-and-graphics designs.

Like *Illustrator 88*, *FreeHand* lets you transform a line of text into condensed or expanded type by selecting the text and stretching the handles of its selection boundary. Keep in mind that text altered in this way is treated as a graphic when you paste it into a page layout program — you can't use the layout program's text-editing features on a block of type condensed or expanded in this manner.

FreeHand can open *Illustrator* graphics, but not vice versa. Therefore, if you've drawn an illustration with *Illustrator* or purchased a collection of clip art in *Illustrator* format, you might want to open it with *FreeHand* and take advantage of that program's more sophisticated text handling. (Note: *FreeHand* opens only files from the original release of *Illustrator*; *Illustrator 88* allows you to save documents in the original *Illustrator* format, however.)

PASTING ILLUSTRATOR ART INTO A WORD PROCESSOR

Most Mac publishers know that you can save an *Illustrator 88* image in Encapsulated PostScript (EPS) format and paste it into a page layout program. But what if your publication is created with a word processor? Word processors such as *MacWrite* and *Microsoft Word* normally accept images stored in the Mac's native graphics language, PICT (images sent to the Clipboard are converted to PICT). Word processor owners take heart: *Illustrator 88* documents can be inserted into your documents if you follow the simple procedure below.

1. Open a drawing in *Illustrator.*
2. Choose Select All from the Edit menu to choose the entire image, or use the arrow pointer to draw a box around the portion you need.
3. Hold down the Option key while you select Copy from the Edit menu. This technique transfers PostScript as well as PICT information to the Clipboard.
4. You can now open your word processor document and choose Paste from the Edit menu to add the illustration to the document.

To create an inline effect with *Illustrator 88*, perform the following steps:

1. Open a new *Illustrator 88* document and type some text.
2. Select the text and choose Paint from the Style menu. Set the text's fill and stroke to black, and enter a line weight (in this example the initial line weight is 8 points). Close the paint attributes dialog box.
3. Copy the text and then choose Paste In Front from the Edit menu. Again choose the Paint command. This time, set the fill and stroke to white and enter a smaller line weight (6 points in this case). Close the paint attributes dialog box.
4. Copy the text once more, choose Paste In Front, and select Paint. Set the fill and stroke color to black and enter a smaller line weight (4 points here). The result will be perfectly-aligned inline text.

Use *Illustrator 88*'s masking function to add a pattern or texture to text.

1. Open a new *Illustrator 88* document and type some text.
2. Place a pattern or texture into the document; this example uses a scanned marble texture that was saved as an EPS file in *ImageStudio,* an image-processing program from Letraset.
3. Position the texture over the text, then select Send To Front from the Edit menu to place the graphic in front of the text.
4. Select the text and choose Paint from the Style menu. Click the Mask button in the paint attributes dialog box. Close the dialog box.
5. Group the text and the pattern and print the results. (You can't preview text used as a mask, so you'll have to print the document to make sure the effect is successful.)

FIGURE 6.2. *Illustrator 88* special effects.
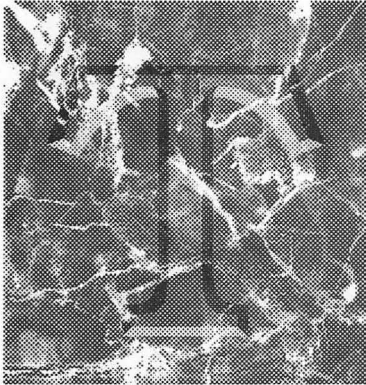
This initial cap combines a marble texture saved in *ImageStudio* and a letter outline from Adobe's *Collector's Edition* serif font.

1. In *ImageStudio*, use the brightness control to save three versions of a texture: light, medium, and dark.
2. Place the medium marble texture into an *Illustrator 88* document. Center the *T* on the marble square and create a mask using the technique described in Figure 6.2.
3. Repeat the procedure with another *T* and the light marble texture. Place the light *T* behind the medium one, offset slightly to create a 3-D effect.
4. Repeat the previous step, this time with the dark marble. Adjust the edges of the three *T*'s so they meet.
5. Place the combination *T* on a square of medium marble and print the result.

FIGURE 6.3. *Illustrator 88* initial cap.

This decorative letter combines a *MacPaint* pattern and a letter from Casady & Greene's Gregorian font.

1. Draw a pattern in *MacPaint* or another bit-mapped graphics program, or select a pattern from a clip art collection.
2. In *Illustrator 88,* type a letter in a large point size.
3. Use the technique described in Figure 6.2 for creating an inline letter. This example combines a gray letter with no stroke, a black letter with no stroke, and a white letter with a line weight of 2 points, stacked on each other with the Paste In Front Command.
4. Use the arrow keys to nudge the black letter down to offset it slightly.
5. Paste the pattern into a page layout program, place the letter over the pattern, and print the result.

FIGURE 6.4. *Illustrator 88* initial cap.
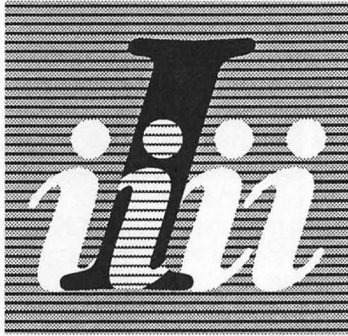
This initial cap employs *Illustrator 88*'s masking function. The Garamond italic *I*'s are stacked in several layers to produce the effect shown here.

1. Draw a background square filled with 30% gray.
2. Draw a pattern of horizontal black lines. Make a copy of the lines and set the fill to 30% gray.
3. Type a lowercase *i* and mask the gray lines with it.
4. Type the uppercase *I*, place it behind the lowercase *i*, and create a mask.
5. Type the other lowercase *i*'s, set their fill to white.
6. Position all the elements on the background square and print the document. You'll probably have to experiment a bit to get all the elements in the right layers.

FIGURE 6.5. *Illustrator 88* initial cap.

FIGURE 6.6. *FreeHand* lets you attach a line of text to a path, be it an arc as shown here or an irregular path like a street or river on a map.

Outlined Text

Let's say you want to alter the shape of an existing character to use in a logo you're designing. Although you can distort the shape of a letter in special effects programs like *LetraStudio* and *TypeStyler* (described later in this chapter) or graphics programs like *Illustrator 88* and *FreeHand*, you're dragging points on a box that surrounds the character, rather than the control points that make up the PostScript path of the character itself. Wouldn't it be nice if you could place a character's outline into a graphics program? It would, and you can. You have three options for placing character outlines into *FreeHand* or *Illustrator 88* and editing the individual characters.

Collector's Edition Fonts

Adobe's *Collector's Edition I* is a series of decorative images created with *Illustrator*. The collection includes stars, arrows, borders, and various printer's ornaments to add graphic touches to publications. *Collector's Edition I* also includes two character sets — a serif and a sans serif font — in outline format. The fonts are *Illustrator* outlines that can be edited like any other PostScript graphic; you can paste the letters into a PostScript graphics program and reshape, resize, and otherwise alter them.

Design Letters

If you're a fan of Image Club's decorative and display faces, you'll be pleased to know that Image Club's collection is available in outline format (Figure 6.7 shows several samples of Image Club's *Design Letters*). Image Club's outlines can be pasted into *FreeHand* or *Illustrator 88* and edited; you can drag anchor points to reshape a letter, add or delete anchor points, and generally treat the letters as if they'd been drawn with *FreeHand* or *Illustrator 88*.

FontLiner

But you're not limited to Image Club's fonts. *FontLiner*, a unique program from Taylored Graphics, creates outlines of any *Fontographer*-generated fonts. (This group includes fonts from many developers, with notable exceptions such as Adobe, Linotype, Bitstream, Monotype, and Varityper; if you're not sure whether a font was created with *Fontographer*, check with the font's manufacturer, or see if the printer font icon matches the leftmost icon in

Figure 3.12 of this book.) You simply start the program and feed it a font, and *FontLiner* churns out an *Illustrator 88* file that contains outlines of all the characters in the font. (Remember, *Illustrator* files can be opened with *FreeHand* as well; an *Illustrator 88* option lets you save documents in the original *Illustrator* format, which allows them to be opened with *FreeHand*.) If you don't need to outline the entire character set, an option allows you to outline only the 94 characters that make up a basic font: letters, numbers, and punctuation marks, but no symbols or accented characters. Figure 6.8 shows some *FontLiner* outlines as they appear on the screen when opened in *Illustrator*.

You can open a set of *FontLiner* outlines in *Illustrator* or *FreeHand*, select Ungroup, and edit the characters like you would any PostScript drawing: move, add, or delete anchor points to change a character's shape; scale or distort the character; or change the fill or stroke. To help you arrange characters into words, *FontLiner*'s outlines include the characters' center points and kerning points; use *Illustrator*'s snap-to-point feature to precisely align adjoining characters. The points are positioning aids only — they won't show up in a printed document.

You may be dismayed when you choose a fill for your characters and see that *Illustrator* fills in not only the strokes but the counterforms as well (counterforms, you'll recall, are the hollow portions of letters such as *a* or *d*. Don't worry; this problem is fairly easy to solve (alas, no solution is mentioned in *FontLiner*'s manual). Before filling a letter, first make sure you've applied the ungroup command to separate the letter's outline into its component parts. With the arrow cursor, select the part of the outline that surrounds the counterform — the innermost circle in the letter *o*, for example. Then enter *Illustrator*'s Paint dialog box and set the counterform's fill shade to white (or whatever background shade your text will rest on). View the document in Preview mode and you'll see that the letter now displays correctly.

In one sense, *FontLiner* is a poor man's *Fontographer*, since it allows you to manipulate the lines, points, and curves that make up a character's outline. But keep in mind that the outlines *FontLiner* produces are graphics, not text. You can't assign your edited letters to keystrokes, as you can when creating a font in *Fontographer*. Oh yes you can! Remember Altsys's *KeyMaster*, the mini-font generator mentioned in Chapter 2? Since *FontLiner* makes a character into a PostScript graphic, and *KeyMaster* converts graphics to fonts that can be typed from the keyboard, it stands to reason that you can turn an
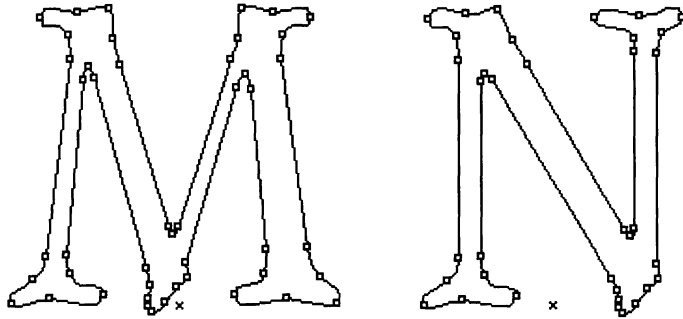
FIGURE 6.7. Image Club's entire font collection is available in outline form. You can place the outlines into a PostScript graphics program and alter the letters' shapes.
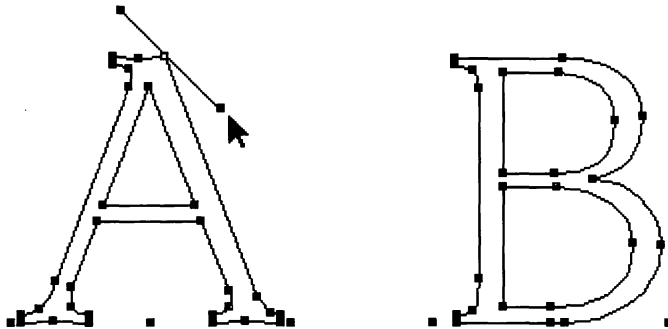
FIGURE 6.8. *FontLiner* converts any PostScript font created with *Fontographer* into an editable outline. Shown here is a sample from Compugraphic's Novarese font.

edited *FontLiner* character back into a font. (I haven't been able to try this scheme, since the final version of *KeyMaster* wasn't available at the time this was written, but it should work.)

Special Effects

If you prefer the automated approach to special effects, you'll be happy to know that Mac text-effects programs abound.

LetraStudio

Letraset's *LetraStudio* lets you reshape text to create dozens of novel effects, from rippled letters to curves, arches, perspective views — you name it. *LetraStudio* doesn't work with just any font; you must modify the fonts that come with the program.

To enter text, you simply select a font from the accompanying Letra-Fonts collection and start typing. You can then select one or more of the program's effects to reposition or reshape a word's baseline, skew or distort a word, create a drop shadow, overlap letters, scale or rotate a selection, change letters' stroke weight or fill color, and more.

You can adjust attributes such as kerning, tracking, and font size as you work, viewing the effects on screen and periodically printing proofs to see how your effect is coming along. You can even select a single letter in a word and apply an effect, as shown in Figure 6.9.

You select *LetraStudio*'s effects from submenus of the Effects menu. The Text submenu lets you skew, rotate, condense, or expand a text selection. The Line submenu allows you to reshape a word's baseline into an arch or freeform curve. And the program's Envelope menu lets you surround text with one of 18 basic shapes, which have movable "handles" attached. Drag one or more envelope handles to bend, stretch, shrink, curve, or slant the enclosed text.

LetraStudio also includes some basic drawing tools — line, circle/oval, square/rectangle, and arc — which can be used in conjunction with the program's text effects. Don't mistake *LetraStudio* for a drawing program, however; the drawing tools merely augment the program's many special-effects options. If you wish, you can save a LetraStudio effect in PICT or EPS format and paste it into a graphics program or page layout program for printing.

Although *LetraStudio* includes a fine collection of display faces, you might want to apply special effects to faces you already own. If so, take a look

at Broderbund's *TypeStyler*. (*TypeStyler* was under development at the time this was written, but I looked at a prerelease version.)

TypeStyler

Like *LetraStudio*, *TypeStyler* includes a collection of display faces you can modify. Unlike *LetraStudio*'s special effects, however, *TypeStyler*'s effects can be applied to any font created with *Fontographer* (as mentioned earlier, this group includes fonts from many companies). *TypeStyler* offers more than 30 predefined effects; you type in the text you wish to modify; select a font, size, and style; and choose the effect you want from a scrolling list. Although the effects themselves are canned, you can alter aspects of each one, adding your own artistic signature to letters or words.

With *TypeStyler*, you can resize, reshape, mirror, distort, skew, and rotate text selections. You can do anything from make a word look like it's seen through a fish-eye lens to stretch it like a piece of taffy. You can also alter a selection's stroke weight and fill color, adding grays, colors, patterns, or
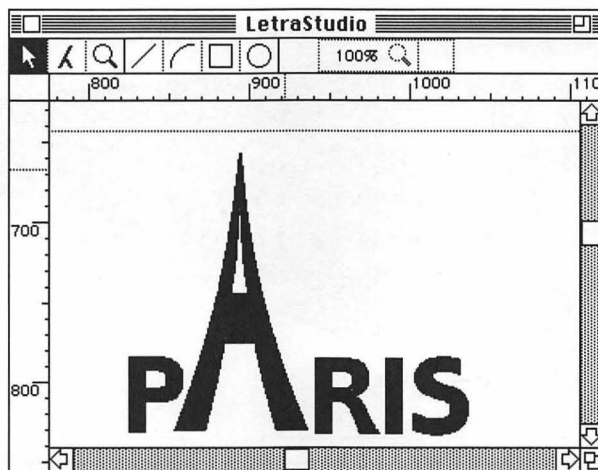
FIGURE 6.9. *LetraStudio* lets you alter an entire line of text or just a single letter, as shown here.

gradient fills to letters (see Figure 6.10). Like *LetraStudio*, the program lets you adjust kerning, letter spacing, and word spacing. *TypeStyler* also offers a number of shadow options, allowing you to adjust a shadow's color, angle, and position.

TypeStyler documents can be printed directly from the program or saved in one of several standard graphics formats and incorporated into other documents. You can also import graphics images into *TypeStyler* and superimpose text on a picture.

While *LetraStudio* and *TypeStyler* offer dozens of spectacular effects, you can't use them to alter Adobe's fonts. If you want to soup up your Adobe collection, you'll have to turn to other special effects programs. While the programs described in the following paragraphs don't offer the "envelope" approach, allowing you to grab handles and alter the shape of an individual letter or word, each offers an array of special effects that can be applied to Adobe's fonts as well as those from other manufacturers.
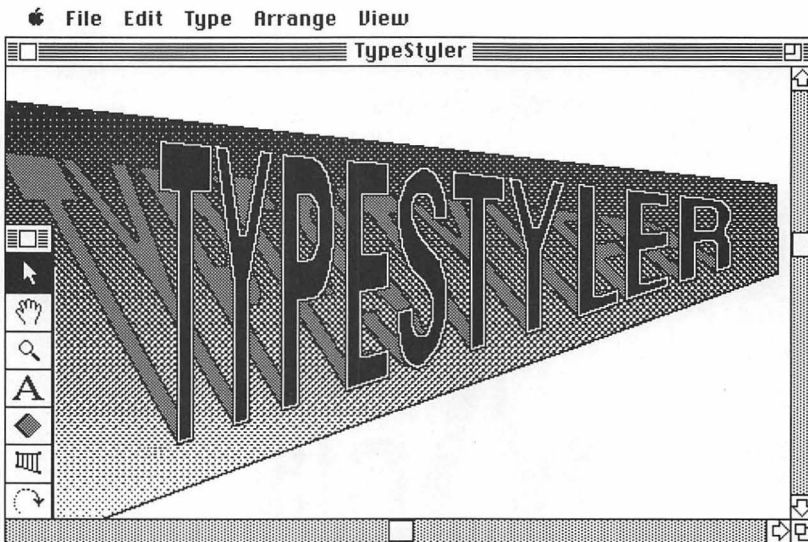
FIGURE 6.10. *TypeStyler* lets you distort a text selection to create effects such as perspective and shadows.

LaserOPTICS

Nikrom's *LaserOPTICS* offers a set of PostScript special effects that you can apply to a laser printer's built-in fonts or to downloadable PostScript fonts. *LaserOPTICS* lets you stretch, squeeze, skew, or curve a line of text. Taper a word to create a perspective view, set it on an arc, or even wrap it into a cylindrical shape. Text can be set with a solid fill or in outline or inline style. Figure 6.11 shows *LaserOPTICS'* basic effects.

    LaserOPTICS' interface is set up in *HyperCard*, providing easy access to the program's PostScript routines. You select a font, choose an effect, and fill in the blanks to tailor the effect to your needs. *LaserOPTICS* files can be saved as a *HyperCard* stack or in PostScript or EPS (encapsulated PostScript) format.
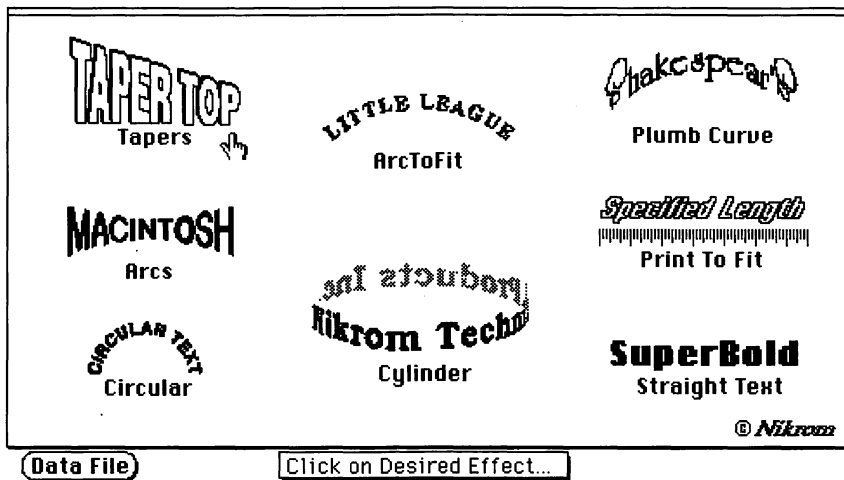
FIGURE 6.11. *LaserOPTICS'* effects are accessed from *HyperCard*. You can click on one of the basic effects shown here and fine-tune it to your liking.

Laser FX

Laser FX, from PostCraft International, offers 30 basic special effects. The program's repertoire includes patterns, outlines, a neon glow, line screens, gradient fills (fountains), and a variety of shadows. Although the effects themselves are "canned," you can modify aspects of each effect — change the angle or offset of a shadow, alter a fill pattern, or change the direction of a fountain. The program also lets you perform those ever-popular PostScript operations: skewing and rotating text.

Laser FX operates on a laser printer's built-in fonts and on downloadable PostScript fonts as well. Text can be printed directly from *Laser FX* or saved as PostScript, EPS, or *Microsoft Word 3.0* format and pasted into other programs. You could add an effect to a headline, for example, and paste the headline into a *PageMaker* layout.

The *Laser FX* screen employs the icon-based Mac interface we've come to know and love. You select the effect you want from a scrolling list and type the text to which you'll apply the effect. Then select the appropriate font, style, and size and adjust the effect's attributes — outline width, shadow offset, and so on. An Info bar displays the chosen effect, font, style, and the line of text you typed. The effect itself isn't visible on the screen; you'll have to print a copy to see how it looks (a Help window displays the general appearance of the effect, however).

Figure 6.12 shows a few examples of the many effects available from *Laser FX*.

LP Text

London Pride's *LP Text* takes a different approach to adding special effects to text. While the *Laser FX* screen is icon-intensive, *LP Text* presents a database-like form to fill out. The *LP Text* screen is, in fact, a database file created with Blyth Software's *Omnis 3* database; a custom version of *Omnis 3* comes with *LP Text*. You fill in the blanks in a number of fields to specify font, font size, shadow offset and angle, and other attributes.

LP Text offers only two basic effects: shadows and text set on concave or convex arcs. But the program provides a good deal of flexibility within these effects, allowing you to set both the vertical and horizontal point size of letters (in effect producing condensed or extended text), adjust kerning, and

Good Luck!

Office Supplies:

The Memo

FIGURE 6.12. *Laser FX* lets you add effects like these to any printer-resident or downloadable PostScript font.

fine-tune attributes such as a shadow's angle or length. Like *Laser FX*, *LP Text* operates on printer-resident fonts or downloaded ones.

LP Text files can be saved in PostScript format and pasted into a page layout program for printing. Figure 6.13 shows some sample *LP Text* effects.

Shadow Effects

You've got grab-handles-and-drag special effects. You've got select-canned-options-and-modify special effects. What other kind could there be? Yet another species of text effects exists in the form of MacTography's *Shadow Effects* and *Shadow Effects 2*. The two *Shadow Effects* disks contain collections of PostScript routines that add graphic effects to your existing Times and Helvetica fonts.

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FIGURE 6.13. *LP Text* adds variations on two effects — circular text and shadows — to printer-resident or downloadable PostScript fonts.

The *Shadow Effects* collections feature not just shadows, but gradient fills, letters filled with a variety of patterns, outline and inline letters, and gray text. The effects are installed with *Font/DA Mover*, just as if they were regular fonts. You can install only the effects you'll be using; if you want to conserve disk space you needn't install the whole kaboodle. The effects' names then appear in an application's font menu, and are selected and typed like normal fonts. (Note that these effects, even though they're treated as fonts, don't work with font/DA extenders like *Suitcase II*.)

The *Shadow Effects* disk contains six effects, and the *Shadow Effects 2* disk offers a dozen. Figure 6.14 displays some of these effects.

Font Creation Programs

If you can't achieve the look you want with one of the many PostScript special effects programs, you might want to try your hand at font design. So far, one digital type foundry is available for the Mac and another is in the works. Still others are rumored to be in development.

Fontographer, a $395 program from Altsys Corporation, puts the tools of font design into the hands of the masses. But before you rush out and buy a copy, be forewarned that type design is an art — some people devote their entire lives to it. Don't expect to produce professional-quality typefaces your first time around. But *Fontographer* is affordable and relatively easy to learn, so why not give it a try? You don't have to create an entire font; you might want to use *Fontographer* to create a logo or some decorative initial caps, for example. If you need examples of what *Fontographer* can produce, just take a look at the faces sold by Casady & Greene, The Electric Typographer, Neo-Scribe International, MacTography, Dubl-Click Software, Studio 231, and Image Club Graphics, to name a few.

If you don't have the time to create your own face, you might consider the automated approach of *KeyMaster,* also from Altsys. *KeyMaster,* which automatically converts Macintosh graphics into characters you can type from the keyboard, is described in Chapter 2.

FIGURE 6.14. MacTography's *Shadow Effects* add textures, patterns, outlines, and shadows to Times and Helvetica.

Another font-creation program, *Ikarus M*, from The Company, a U.S. affiliate of URW (the German type foundry Unternehmensberatung Karow Rubow Weber), has targeted the high end of the Mac type design market. Based on the Ikarus system, a type design application used by many established type houses, the $2100 program takes a different approach than *Fontographer*. Let's look at both programs.

Fontographer

Fontographer was the first outline font editor ever released for a personal computer; it runs on a Mac 512K and up. With *Fontographer*, you construct character outlines made up of Bezier curves. Like commercially available PostScript fonts, the outlines you create in *Fontographer* can be scaled to any size and printed by a PostScript output device. The program generates bit-mapped screen fonts to accompany the outline fonts; the screen fonts can be fine-tuned with a companion bit-map font editor, *FONTastic Plus*.

A character's outline is made up of three types of control points: corner points, which join line segments at an angle; curve points; and tangent points, which form a smooth transition between straight and curved segments (see Figure 6.16). Points are entered and dragged into position with a pointer
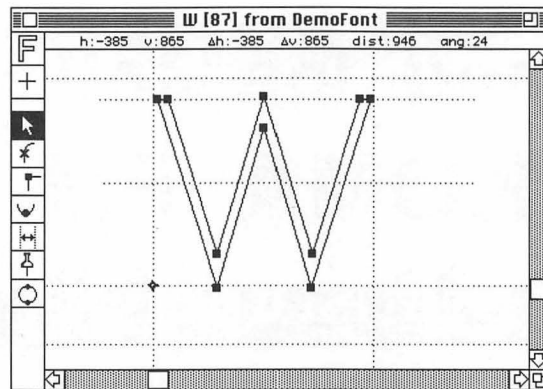
FIGURE 6.16. *Fontographer* lets you design a PostScript font from scratch, trace an existing typeface to convert it to PostScript format, or alter an existing PostScript font.

tool; the cursor's position is displayed at the top of the character-creation window to help you accurately position control points. A character is constructed in a box called an em-square, which defines the character's boundaries: ascent, x-height, baseline, and descent. The left side of the em-square marks the character's origin, while the right side indicates the character's width. Parts of a letter can extend out of the em-square, projecting into an adjoining character's em-square to produce kerned pairs.

Fontographer lets you cut, paste, rotate, mirror, and slant characters or parts of characters. These capabilities save you hours of effort, since you can modify characters you've already drawn to create additional ones. You can, for example, lengthen the lefthand stem of a lowercase *n* to create an *h*, or flip a *p* to make a *q*.

Fontographer employs three drawing planes. Character outlines are drawn in the foreground plane. Guidelines showing a character's x-height, baseline, and so on exist in a second plane. Finally, a background plane allows you to paste in artwork created in other programs to use as a template; artwork in the background plane appears in gray, so as not to obscure the character outlines in the foreground plane. If you have access to a scanner, you can digitize an existing typeface or letter and convert it into a Mac font with *Fontographer.*

Fontographer lets you create composite fonts made up of elements of an existing PostScript font. You could, for example, add special characters to an existing Mac font, or even use *Fontographer*'s tools to alter the characters of an existing font to create a condensed or extended face. Adding *Fontographer*-produced fractions to an existing font is discussed in the "Fractions" section of Chapter 5.

Ikarus M

For years, professional type designers have been using the Ikarus type production system to create digital typefaces. A Macintosh version that offers much of the functionality of the original system will soon be available to Mac type designers. Like *Fontographer, Ikarus M* creates character outlines that are sent to a PostScript output device. Unlike *Fontographer, Ikarus M* makes use of a digitizing tablet and four-button mouse to enter characters.

With *Ikarus M,* you place a copy of the characters to be digitized on the drawing tablet, then mark control points — corners, tangents, and curves —

on the characters. You then trace each character with the mouse, which has a crosshair sight for precise positioning, pressing the appropriate button for each type of control point. The outline of the traced character appears in an em-square on the screen.

Once the character is entered, you can zoom in on it and move the control points on screen until the character looks correct (see Figure 6.17). Numerical information describing curves, distances, and cursor position is displayed on the screen; you can read the values as you move the mouse, or type in values to position a control point.

Ikarus M lets you copy character outlines or parts of outlines and combine them into new characters. You can, for example, copy a serif from a letter and apply it to related letters. The program also allows you to rotate, scale, and skew character outlines. Unlike *Fontographer, Ikarus M* can interpolate between one weight and another, automatically creating an intermediate weight. For example, if you've created light and bold font family members, the program can automatically generate a medium weight.

Ikarus M, like *Fontographer,* generates bit-mapped screen fonts. And *Ikarus M* lets you use Altsys's *FONTastic Plus* to edit screen fonts if necessary.
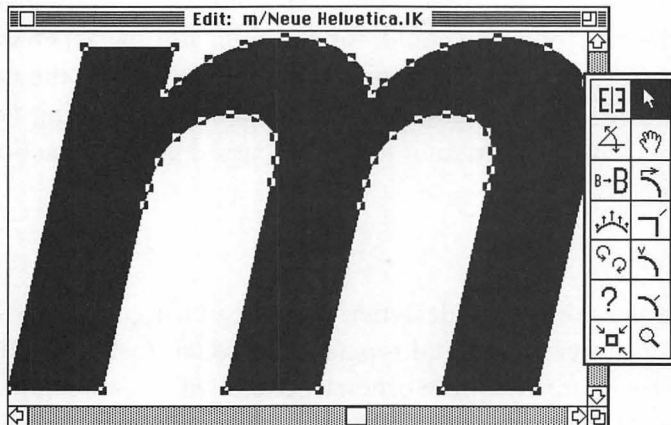
FIGURE 6.17. With *Ikarus M,* you use a four-button mouse and a graphics tablet to enter the control points that make up a letter's outline

Ikarus M requires a Mac II to run. Because of its relatively high price ($2100 plus the price of a digitizing tablet), the program is more likely to be adopted by professional type designers, rather than casual users. If you're new to type design, *Fontographer* is probably the appropriate program for you.

With the programs described in this chapter, you should be able to create the exact effect you need. The Mac has put the art of type design — once the exclusive domain of professionals — within everyone's reach. Thanks to the Mac, typography is now accessible to creative individuals who have the talent, but never before had the tools to put their ideas on paper.

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PRINTING OPTIONS

B y now you've mastered the fundamentals of typography, amassed a mammoth font collection, and learned how to manage it. You've laid out a document with the right amount of leading, compatible text and headings, and fancy touches like drop caps and ligatures. But you're not done yet. You still have to print the thing.

For Mac publishers, printing options are fairly straightforward. In general, you'll either print your publication on a PostScript laser printer or take it to a typesetting service bureau and have it set on a Linotronic or another high-resolution imagesetter. But printing alternatives do exist, and you should be aware of them.

A Printer Primer

Chances are you'll print most of your documents on a laser printer, whether you're printing final output or running out page proofs before setting the document at a higher resolution. Laser printers differ in many respects — price, size, resolution, amount of memory, built-in font selection, and even

the language they use to create text and graphics. But most laser printers share common printing components: laser beams, a rotating drum, and a fine black powder called toner. In many laser printers, a printing mechanism shoots a series of needle-thin pulses of laser light — 300 per inch in the LaserWriter and many other Mac-compatible laser printers — through a series of lenses and mirrors onto the surface of the rotating drum (reminds me of a Grateful Dead concert I saw back in '77…but I digress). Wherever a beam hits the drum, it creates an electric charge that attracts the fine toner powder to the drum as it rolls by. As the drum continues to rotate, it encounters a sheet of paper. When the paper contacts the drum, the toner is fused to the paper by a combination of heat and pressure. (The method just described is known as *write-black* printing; an alternate method called *write-white* shoots laser light at areas of the image that will be white when printed, and the toner adheres to the remaining areas of the drum.)

While the mechanics of applying toner to paper are similar from one laser printer to another, Mac-compatible laser printers deal with fonts in vastly different ways.

QuickDraw Laser Printers

If you're working with PostScript typefaces, you'll probably want to print your documents on a PostScript output device. You can print screen fonts on non-PostScript printers, but why buy pâté de foie gras and then make meatloaf out of it? Nevertheless, QuickDraw printers provide a low-cost alternative to PostScript and produce respectable results. QuickDraw, as you may recall, is the set of built-in graphics routines that draws the 72-dpi images you see on the Mac's screen. Printers such as Apple's LaserWriter IISC and GCC's Personal Laser Printer use QuickDraw to print text and graphics.

Unlike PostScript laser printers, which have Adobe's page description language built into them, QuickDraw printers let the Mac run the show; QuickDraw commands are sent from the Mac to the printer, with no need for conversion to PostScript. For many printing jobs, QuickDraw printers are faster than PostScript printers; for example, a QuickDraw printer can process a page of complex graphics more quickly than its PostScript counterpart. But the main advantage of QuickDraw printers is that they're cheaper than PostScript printers — thousands of dollars cheaper. Let's look at two QuickDraw laser printers.

LaserWriter IISC

Apple's bottom-of-the line LaserWriter is the IISC. (*SC* refers to the fact that the printer is connected to the Mac's SCSI port; while I'm defining abbreviations, SCSI — pronounced *scuzzy* — stands for Small Computer System Interface, which is a fast method of transferring data between devices.) Since the IISC doesn't use AppleTalk, you can't network several Macs to one printer.

At $2799, the IISC is the cheapest of the LaserWriter family. Its PostScript cousins the LaserWriter IINT and IINTX cost $4599 and $6599, respectively. Since you can upgrade the IISC to one of the PostScript models, you might want to buy the cheaper model first and save up for an upgrade.

The LaserWriter IISC prints bit-mapped fonts at a resolution of 300 dpi. The printer doesn't simply print the crude, 72-dpi letters you see on the screen, however. It prints respectable-looking text by reducing a bit-mapped font that is four times the size of the one displayed on the screen. For example, if you print a document in 12-point type, the IISC scales down a 48-point bit-mapped font. The IISC can scale a font if the correct point size is unavailable, but for best results you must install pairs of fonts for each size you intend to print: one for the screen display and one four times as large.

The LaserWriter IISC comes with four typeface families: Times, Helvetica, Courier, and Symbol. You can print other bit-mapped fonts, but remember that you need to install a font four times the size of the displayed font for good-looking results.

The IISC is relatively inexpensive, but it lacks much of the font-printing flexibility offered by PostScript printers. For example, the IISC only scales fonts in increments of 25 percent; you must choose 25, 50, 75, or 100 percent if you scale a document. In addition, QuickDraw doesn't offer PostScript refinements such as fractional point sizes, adjustable fill patterns and stroke widths, or condensed, expanded, skewed, or rotated text.

Personal Laser Printer

GCC Technologies' $1999 Personal Laser Printer (known to its friends as the GCC PLP) is also a QuickDraw laser printer, but deals with fonts differently than the LaserWriter IISC. Like the IISC, the PLP prints text and graphics at a resolution of 300 dots per inch. But rather than scaling down bit-mapped fonts, the PLP uses outline fonts licensed from Bitstream. The

printer comes with Bitstream's equivalents of Times, Helvetica, Helvetica Narrow, Symbol, and Palatino. With a $299 package called *Fonts Plus*, you can add Avant Garde, Bookman, Century Schoolbook, Zapf Dingbats, Zapf Chancery, Cooper Black, and Futura Extra Black. Because the PLP's fonts are stored as outlines, rather than bit maps, you can scale them to virtually any size or rotate them to any angle with no distortion.

Like the LaserWriter IISC, the PLP is attached to the Mac's SCSI port. However, a networking adapter called PLP Share lets you share the printer with other Macs over AppleTalk. Like the IISC, the PLP can be upgraded to a PostScript printer, in this case GCC's Business LaserPrinter.

Other Printers

A number of companies, including Cricket Software, SoftStyle, Phoenix Technologies, and Orange Micro, sell drivers that let you connect the Mac to almost any printer — from laser printers to dot-matrix, daisywheel, and ink-jet printers. If you have access to a non-PostScript printer, you might want to print your documents on it. But to make the most of PostScript fonts, you should use a PostScript printer.

PostScript Printers

PostScript printers use Adobe's PostScript page description language to image and print an entire page of text and graphics. The Mac sends a PostScript text file to the printer, which executes the PostScript instructions to create an image. Unfortunately, PostScript is built for comfort, not for speed; a page with several fonts and complex graphics can take from several minutes to several hours to print. Usually the results are worth the wait, however; PostScript is a powerful language that gives you precise control over text scaling, positioning, and special effects.

PostScript is built into Apple's top-of-the-line laser printers, the LaserWriter IINT and the LaserWriter IINTX.

LaserWriter IINT and IINTX

Apple's PostScript laser printers both provide 300-dpi printing, eleven built-in typeface families, two megabytes of RAM, and one megabyte of ROM. Both printers can be shared over an AppleTalk network. The LaserWriter

IINT (for *new technology*) uses a Motorola 68000 microprocessor, while the IINTX (the *X* is for *expandable*) uses the faster 68020 chip. The IINTX lets you expand its ROM to up to 12 megabytes, greatly increasing its printing speed and the number of downloaded fonts it can handle. The IINTX also features a SCSI port that lets you connect up to seven hard disks to store additional fonts. In addition, it provides a slot for font-expansion cards (no such cards were available at the time this was written).

If you can't afford a PostScript laser printer, you might want to rent time on one at your local copy shop. Many photocopy centers charge by the hour for time on a Mac connected to a LaserWriter. If you go the rental route, make sure you bring a disk with not only your document, but the application it was produced in and all of the fonts used in it. The screen fonts should be installed in a System file or packed into a suitcase file for use with a font/DA extender. Get your document ready for printing while you're still at home, rather than while you're paying an hourly fee at the copy shop. Select the appropriate PostScript fonts and check margins and other document formatting. If you have an ImageWriter or other dot-matrix printer at home, print the document and proof it for typos; they're always easier to spot on a printed page than on the screen.

The LaserWriters aren't the only PostScript printers around. More than a dozen companies offer PostScript printers, which vary in price and resolution. Appendix A includes a list of PostScript printer manufacturers.

SAVE A TREE

Are you tired of that pesky test page your LaserWriter spews out every time you turn it on? If you want to save paper and toner, you can easily suppress the test page. Before you turn on your LaserWriter, pull the paper tray out about an inch. Turn the printer on and wait about a minute while it completes its initialization procedure. Then, simply slide the tray back in and print your documents as usual.

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PostScript Clones

You may have heard about *PostScript-compatible printers*, or PostScript *clones*, printers that can print PostScript text and graphics without Adobe's proprietary page description language. Until recently, printer manufacturers have had to license Adobe's PostScript *interpreter*, software that translates PostScript files into bit maps that can be printed. But several printer manufacturers have decided to write PostScript interpreters of their own, avoiding Adobe's licensing and royalty fees and hence theoretically offering their printers at a lower price than those equipped with Adobe's PostScript. In addition, many clone manufacturers claim that their printers will process PostScript instructions faster than printers using Adobe's PostScript.

All this remains to be seen. At the time this was written, no Mac-compatible PostScript clone printers were on the market. Writing and testing a PostScript interpreter has turned out to be a formidable task. Clone interpreters must be tested with a variety of printers, printer drivers, fonts, and software applications. Fonts printed by the clone must match Adobe fonts' character widths to ensure that spacing on a clone-generated proof

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THE TWO FACES OF HELVETICA

Will the real Helvetica Condensed please stand up? The Helvetica Narrow font built into the LaserWriter was not lovingly crafted by a type designer, but is rather a mathematically scaled version of the printer's regular Helvetica font. The true Helvetica Condensed must be purchased separately from Adobe and downloaded to the printer. While the printer-resident Helvetica Narrow will prove sufficient for many designers, discerning Mac publishers will notice that the mathematically derived font is aesthetically inferior to the true Helvetica Condensed; Helvetica Narrow's characters exhibit slight variations in stem width, and are narrower overall than those of Helvetica Condensed:

Here's a line set in 9-point Helvetica (Narrow)
Here's a line set in 9-point Helvetica (Condensed)

will match that of a high-resolution PostScript output device such as a Linotronic.

Clone manufacturers will also have to contend with Adobe's "hints" if they want to compete in the 300-dpi printer market. Adobe's fonts include proprietary scaling algorithms called hints, which optimize the appearance of printed characters at the relatively low resolution of 300 dots per inch. Imagine a printed character — say, a lowercase *m* — sitting on a grid made up of 300 squares. In most typefaces, the strokes that make up the *m*'s three legs should all be the same width. But at a resolution of 300 dpi, the edge of one of the stems might fall between two dots at certain sizes. Since a laser printer can't print a portion of a dot, the edge of the stem will be placed on the nearest whole dot, sometimes resulting in a character with uneven stroke widths. The problem is especially noticeable when fonts are scaled to 9 points or smaller. Adobe's hints make minute adjustments to even out stroke widths and solve other scaling problems, making their faces look crisp and clean even at small sizes at a resolution of 300 dpi. The companies that supply fonts for PostScript clone printers will most likely include hints of their own, so don't shy away from clones until you've had a chance to look at some output.

On the other hand, you shouldn't rush home with the first good-looking clone that comes along. If you're thinking of buying a PostScript clone printer, find out from a reliable source — a trade magazine, Mac user group, or a colleague who has used that particular brand — whether the printer works well with the publishing software you use.

MacFontware

Whatever type of printer you own, you may find yourself wishing you could print a document that would match the output from another type of printer. For example, you might have an ImageWriter II, ImageWriter LQ, or Laser-Writer IISC at home, but use a LaserWriter IINT at the office. If you're working on a proposal at home, it would be handy to lay out the document and print out proofs on your ImageWriter that would match the spacing and line breaks of the office LaserWriter's printout. But the two printers employ vastly different means of placing characters on paper. The LaserWriter IINT uses scalable PostScript outline fonts, while the ImageWriter is a *dot-matrix printer* that simply duplicates the bit maps of the letters displayed on the screen.

But now there is a way to share a font collection among many printers, printing proofs on a low-resolution device such as a dot-matrix printer, and final output on a high-resolution imagesetter. Bitstream's unique *MacFontware* packages include screen fonts at 9, 10, 12, 14, 18, 24, 40, 48, 54, 72, and 96 points, and corresponding bit-mapped printer fonts at 18, 24, 25, 27, 30, 35, 36, 40, 42, 45, 48, 54, 56, 60, 72, and 96 points to produce crisp output on a variety of printers. *MacFontware* also includes printer fonts in PostScript outline format, which can be scaled to any size and printed on PostScript printers or imagesetters.

Why all the bit-mapped sizes? Remember the discussion of the Laser-Writer IISC earlier in this chapter. The IISC prints high-quality bit-mapped fonts by scaling down a font that's four times larger than the size that's printed; to print 12-point type, the LaserWriter IISC scales down a 48-point font. If you look at the list of printer font sizes in the preceding paragraph, you'll see that MacFontware includes a 48-point printer font. Other printers also reduce large bit-mapped fonts to create crisp output, but the amount by which a font is reduced varies from printer to printer. The ImageWriter I and ImageWriter II, for example, require double-sized fonts to produce high-quality output. To print 12-point type, you need a 24-point printer font. The ImageWriter LQ scales down fonts three times the size of the desired size; as you can see, the required 36-point printer font is included in *MacFontware*'s list of sizes.

The *MacFontware* system isn't perfect, of course, since printer fonts are supplied for only a limited number of sizes (albeit common ones). If you need to print 11-point type on a non-PostScript printer, for example, you're out of luck. However, you can't beat *MacFontware* for transferring documents from one printer to another without reformatting them. And because Bitstream supplies fonts for applications that run on the IBM PC and compatibles, you can retain consistent formatting across computer boundaries as well as from printer to printer; a document created on an IBM PC or PC compatible will look the same as a document created with *MacFontware* on the Mac.

Sharing Fonts Over a Network

While we're on the subject of sharing fonts, you have several options for sharing downloadable PostScript fonts over an AppleTalk network. Since screen and printer fonts can eat up a lot of space on your hard disk, it makes

sense to place them in a central location if your Mac is connected to a network. The easiest method is to use *Suitcase II*, *Font/DA Juggler*, or *Master-Juggler* to share fonts that reside on a network's file server. Simply place a printer font in the same folder as its corresponding screen font, and all users on the network will be able to share both the screen and printer fonts.

An alternative is *FontShare*, an INIT from Olduvai Corporation. Rather than requiring you to place all your printer fonts in the System folder, *FontShare* lets you set up search paths to font locations other than the System folder — including a path to a folder on a file server. If the printer font you need isn't in the System folder, *FontShare* asks you where it is, and remembers the location you give it, automatically finding and downloading the font from then on. *FontShare* works with MultiFinder's background and print spooling capabilities.

For those on a budget, a $20 shareware utility called *SetPaths* lets you set up a search path to find printer fonts or other files, allowing users to share screen and printer fonts over a network (although *SetPaths* lets you define up to five search paths on a hard disk, it's limited to one path when used over a network). Like other shareware, *SetPaths* is available on online services or from user groups.

At Your Service Bureau

At 300 dots per inch, Apple's LaserWriters are fairly low on the resolutionary scale. If you want to make the leap from near-typeset quality to typeset quality and don't have $30,000 or so to invest in a PostScript imagesetter, you'll need to take your document to a typesetting service bureau. The difference between 300 and 1270 dots per inch may not sound that great to you, but look at the formula in terms of dots per square inch. At 300 dpi, the LaserWriter prints 90,000 dots per square inch. But an imagesetter's 1270 dpi comes out to 1.6 million dots per square inch — about 18 times the resolution of the LaserWriter. And 2540-dpi output produces 6.45 million dots per square inch — more than 70 times the resolution of the LaserWriter!

Typesetting service bureaus range from do-it-yourself outfits to full-service operations that offer everything from design consulting to desktop publishing classes. Appendix E provides a list of PostScript service bureaus, but it may not list all the service bureaus in your area. If there are several service

bureaus near you, it might pay to shop around until you find one that suits your needs; in fact, the service bureau doesn't have to be in your immediate area — many bureaus accept files by modem. Look in your phone book under "Typesetting" or "Printers," or — better yet — ask your local Mac user group to recommend a good service bureau. If you end up going to a full-service bureau, ask the following questions before you bring your document in:

- Does the service bureau charge by the hour or by the page? Most bureaus charge somewhere in the range of $6 to $12 per 8 1/2-by-11-inch page, printed at 1270 dpi. The cost for printing at 2540 dpi generally adds an extra $2 to $4 per page; but you probably won't need to print at the higher resolution. Unless your document contains halftones, you won't be able to see the difference between 1270- and 2540-dpi output.

- Most text pages take less than five minutes to print. If a page takes longer than an amount of time specified by the service bureau (10 minutes in many cases), some bureaus add a per-minute charge to the per-page fee. Keep in mind that overtime charges can add up if your document includes numerous graphics, fonts, or PostScript effects.

- Does the bureau provide rush service? If so, what are the rates?

- Does the bureau offer volume rates (for orders of 50 pages or more, for example)?

RAISING RESOLUTION

If you can't afford to have a large job printed at high resolution on an imagesetter, you can squeeze a little extra resolution out of your 300 dpi laser printer simply by having your print shop photographically reduce the laser-printed output. For example, if a printer shoots your pages at 78 percent instead of 100 percent, the reduction raises the apparent resolution of the page from 300 dpi to 400 dpi. Fellow Peachpit Press author Daniel Will-Harris used this technique to set a 475-page book, which looks pretty good.

- If you're working with a full-service bureau, are the employees familiar with the software you're using. If they say "Quark what?" when you tell them your document is laid out in *Quark XPress*, you'd better look for another service bureau. Sooner or later you'll run into printing problems and need a troubleshooter who is familiar with your program. Most full-service bureaus have employees who are familiar with popular programs such as *PageMaker* and *XPress*.

- How should you set up your screen fonts? If you read Chapter 4, you're aware of the perils of font ID number conflicts. The service bureaus I've worked with use *Suitcase II* or *Font/DA Juggler Plus*, and requested that I put all the screen fonts for my printing job in a single suitcase file to avoid conflicts. Others may want you to bring in your System file, or even save your document as a PostScript file for printing.

- Does the service bureau accept files via modem? Sending files by modem can save you time, but keep in mind that phone charges can add up. Also, you may end up spending money for express-mail charges if you need to send the service bureau laser-printed page proofs.

- If the service bureau has a Linotronic, does it have the new RIP (raster image processor)? The new RIP causes the Linotronic to print much faster than one equipped with the original RIP.

The following tips can save you time and money and spare you a lot of aggravation when you're working with a service bureau for the first time.

- The single most important thing to remember about imagesetters is this: Just because your document prints out fine on a laser printer doesn't mean it's going to print successfully on an imagesetter. In theory, a document should print equally well on various PostScript devices. But laser printers and imagesetters are different machines, and any number of printing glitches can occur. For example, many of the pages of this book printed without a hitch on my LaserWriter at home, but had to be broken into chunks to print on a Linotronic 300. (Of course, a book with numerous font samples is bound to tax even the current technology.)
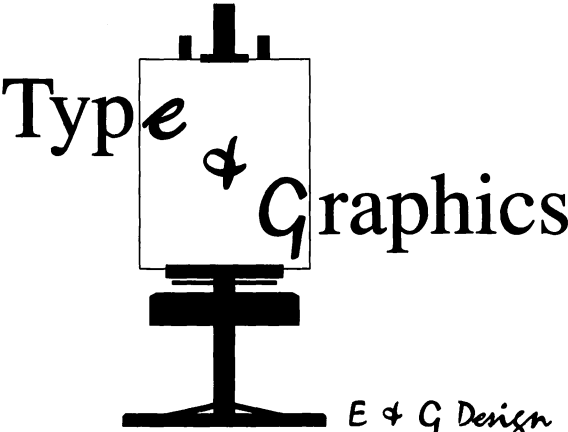
- Always allow extra time to get rid of bugs in the printing process. Don't sashay into a service bureau at three o'clock and expect to walk out with a flawlessly printed 10-page document by five. This warning is especially pertinent if it's your first visit to a particular service bureau.

- If the leading in your Lino output is different from the leading on your LaserWriter proof, you may have encountered a problem caused by mismatched screen fonts. Mac screen fonts usually have a row of blank pixels above them to denote the font's default leading. The screen font's leading affects that of printed output. Unfortunately, a screen font issued by Apple may have a different amount of built-in leading than the same screen font issued by Adobe. For example, Apple's Palatino screen font that comes with the LaserWriter has two points of built-in leading, while Adobe's screen font for its down-loadable Palatino font has only one point of built-in leading. Therefore, if you type a document with an Apple screen font and then print it with a service bureau's Adobe screen font, spacing problems might occur. To be safe, either run a test page on the Lino and check the document's spacing, or bring in the screen fonts you used for your document.

- The Linotronic doesn't always behave like a LaserWriter. For example, it won't substitute Helvetica for Geneva, Times for New York, or Courier for Monaco. Make sure you've selected the appropriate PostScript fonts before printing your document at a service bureau.

- A Linotronic imagesetter can print all the way to the edge of a sheet of paper (either 8 inches or 11 inches), while the LaserWriter's print area is restricted to 8 inches across.

- Unlike the LaserWriter series, the Linotronic doesn't offer a smoothing option for bit-mapped graphics. If you want to smooth the jaggies, you might be better off printing your graphics on a LaserWriter and manually pasting them into your publication.

- Unlike the LaserWriter series, the Linotronic doesn't have Helvetica Narrow built into its ROM. You should either use the Helvetica

Condensed font or ask your service bureau representative if the bureau can send Helvetica Narrow scaling information to the imagesetter.

- You'll save yourself and your service bureau some trouble if you specify your printing needs in writing. Make yourself a form like the one shown in Figure 7.1 and fill in the blanks for each job: program used, fonts used, resolution required, and so on. Be sure to include the version numbers of any programs you use.

- If your document includes graphics in TIFF or EPS format, you may have to include the original TIFF or EPS file when you print the document. Some programs require this information, while others don't. For example, the EPS files for the marble textures in Figures 6.3 and 6.4 of this book had to be included along with the *Quark XPress* document. To be on the safe side, bring the TIFF or EPS file with you to the service bureau.

- You should bring a printout from your laser printer to ensure that the service bureau's output matches yours. Proof the high-resolution output carefully against your laser-printer output to check for incorrect fonts or fonts printed in Courier or as bit maps.

- If you add special effects such as fill patterns or gray scales to a font, keep in mind that the grays you see on your LaserWriter printout won't necessarily match the grays on your lino output. With a resolution of only 300 dpi, the LaserWriter can only approximate the subtle gradations achieved by a high-resolution imagesetter; in many cases, a given shade of gray will look lighter on an imagesetter printout than on a laser printer proof.

- If you're having trouble printing Adobe's Garamond at a service bureau, you may have run into an obscure glitch: Adobe released two (incompatible) versions of Garamond. If a document typed in Garamond absolutely won't print at a service bureau, ask a service bureau employee to convert a copy of the document to the bureau's Garamond screen font, and see if that will print.

Type & Graphics

E & G Design • 415-555-8432

Date In: _____

Date Needed: _____

Filename: _____

Number of pages: _____

Program: _____

Fonts: _____

Resolution: _____

Notes: _____

_____

_____

Mac II
LaserWriter IINT
Laser Prep and Writer 6.0.2
System 6.0.2
Finder 6.1

FIGURE 7.1. If you need to print a complex document, prepare a form like the one shown here, fill in the relevant information, and bring it to the service bureau along with your file.

- A final — but important — tip may save you a lot of time and money. If you have a complex page of text and graphics, you may be better off dusting off your trusty knife and pasting in some elements by hand. In some cases you'll spend hours trying to get all the elements on a page to line up just right, when it might take only minutes to manually paste up the printed elements. Almost every page in this book was electronically pasted up, but a few had to be printed in sections and pasted up by hand.

APPENDIX

A

VENDOR INFORMATION

PostScript Typefaces

Adobe Systems, Inc.
1585 Charleston Rd.
P.O. Box 7900
Mountain View, CA 94039-7900
(415) 961-4400
800-344-8335 (US, CA)
$95-$370/per package (Publishing
Packs $395-$475 for 3 families)

Allotype Typographics
1600 Packard Rd. Suite #5
Ann Arbor, MI 48104
313/663-1989
$40-$160 per package

Alphabets, Inc.
P.O. Box 5448
Evanston, IL 60204-5448
312/328-2733
Text fonts: $74.95-$139.95;
specialty fonts: $39.95-$59.95

Altsys Corporation
720 Avenue F, Suite #109
Plano, TX 75074
214/424-4888
$59.95-$79.95 per family

Bitstream Inc.
215 First St.
Cambridge, MA 02142
617/497-6222; 800/522-3668
Mac Fontware: $195 per package

Casady & Greene, Inc.
26080 Carmel Rancho Blvd. #202
Carmel, CA 93923
800/331-4321, 800/851-1986 in CA
$89.95 per volume (1-3 families per vol.)

Caseys' Page Mill
6528 S. Oneida Court
Englewood, CO 80111
303/220-1463
$89 plus $3 shipping

Coda Music Software
1401 E. 79th St.
Minneapolis, MN 55425-1126
612/854-1288, 800/843-1337
$69-149 per font

Compugraphic Corporation
Type Division
90 Industrial Way
Wilmington, MA 01887
800/622-8973 (US)
800/533-9795 in Canada
$149 per family

Dubl-Click Software, Inc.
9316 Deering Ave.
Chatsworth, CA 91311
(818) 700-9525
$79.95 per package

Devonian International Software Co.
P.O. Box 2351
Montclair, CA 91763
714/621-0973
$39.50 per package

Eastern Language Systems, Inc.
39 W. 300 North
Provo, UT 84601
801/377-4558
$199 per package

Ecological Linguistics
P.O. Box 15156
Washington, DC 20003
$45-$80 per family
(Send 9- by 12-inch SASE
with 85¢ postage for catalog)

The Electric Typographer
2216 Cliff Dr.
Santa Barbara, CA 93109
805/966-7563
$45-$79.95 per disk
(Custom fonts available)

EmDash
P.O. Box 8256
Northfield, IL 60093
312/441-6699
$43 per family; 5 families $63

The Font Company
4101 E. Larkspur Dr.
Phoenix, AZ 85032
602/996-6606
$100-$250 per package

Font World
2021 Scottsville Rd.
Rochester, NY 14623-2021
716/235-6861
$129.95 per package

ICOM Simulations, Inc.
648 S. Wheeling Rd.
Wheeling, IL 60090
312/520-4440, 800-877-4266

Image Club Graphics, Inc.
1902 11th Street SE, #5
Calgary, Alberta
T2G 3G2 Canada
800/661-9410 (US)
403-262-8008 (Canada)
$149 per set

Kingsley/ATF Type Corp.
200 Elmora Ave.
Elizabeth, NJ 07202
201/353-1000

Linguists' Software
P.O. Box 580
Edmonds, WA 98020-0580
206-775-1130
$49.95-$149.95 per package

Linotype Company
425 Oser Ave.
Hauppauge, NY 11788
800/645-5764 (US); 800/832-5288
in NY; 800/387-9553 in Canada
$95-$370/per family
(Codeveloper of Adobe fonts)

MacTography
326-D North Stonestreet Ave.
Rockville, MD 20850
301/424-3942
$50-$100 per package (Other
manufacturers' fonts also available)

Monotype Typography - USA
600 W. Cummings Park #1800
Woburn, MA 01801
617/933-2570
$150 per family

NeoScribe International
P.O. Box 633
East Haven, CT 06512
203/467-9880
$79-149 per package

Olduvai Corporation
7520 Red Road, Suite A
South Miami, FL 33143
305/665-4665; 800/822-0772 in FL
$99 per package (6 fonts)

Page Studio Graphics
3175 N. Price Rd. #1050
Chandler, AZ 85224
602/839-2763
$70-$125 retail ($45-$79
direct from Page Studio Graphics)

Springboard Software, Inc.
7808 Creekridge Circle
Minneapolis, MN 55435
612/944-3915,
800/445-4780 (US, Canada)
$99.95 per package (5 fonts)

Studio 231, Inc.
231 Bedford Ave.
Bellmore, NY 11710
516/785-4422
$99 per package (6 fonts)

T/Maker Company
1390 Villa St.
Mountain View, CA 94041
415/962-0195
$79.95

Varityper, Inc.
11 Mt. Pleasant Ave.
East Hanover, NJ 07936
800/631-8134 (US, except NJ)
201-887-8000 ext. 999 (NJ)
$195-$395 per family

Font Creation/Editing Programs

Fontographer
Altsys Corporation
720 Avenue F, Suite 109
Plano, TX 75074
214/424-4888
$395

Ikarus M
The Company
400 World Trade Blvd.
Boston, MA 02210
617/439-5348

Font Special Effects Programs

Laser FX
Postcraft International Inc.
27811 Avenue Hopkins, Suite 6
Valencia, CA 91355
805/257-1797
$195 (LaserFX-Packs
1-8 add-on effects $49 ea.)

LaserOPTICS
Linographics, Inc.
770 N. Main St.
Orange, CA 92668
714/639-0511, 800/854-0273
$1595

LetraStudio
Letraset USA
40 Eisenhower Dr.
Paramus, NJ 07653
201/845-6100, 800/634-3463
$495 (Additional LetraFonts
$75 per package)

LP Text
London Pride, Inc.
1 Birch St.
Norwalk, CT 06851
203/866-4806
$99

TypeStyler
Broderbund Software, Inc.
17 Paul Dr.
San Rafael, CA 94903-2101
415/492-3500, 800/527-6263
$149.95

Imagesetters

Autokon 1000
ECRM
554 Clark Rd.
Tewksbury, MA 01876
508/851-0207
$95,000

CG 9400-PS
Compugraphic Corp.
200 Ballardvale St.
Wilmington, MA 01887
617/658-5600
$39,995

IGX 7000PS
Itek Graphix
34 Cellu Dr.
Nashua, NH 03063
603/889-1400
$40,000

Linotronic 200P
Linotype Co.
425 Oser Ave.
Hauppage, NY 11788
516/434-2000, 800/645-5278
$28,950-$34,950

Linotronic 300P
Linotype Co.
425 Oser Ave.
Hauppage, NY 11788
516/434-2000, 800/645-5278
$66,950 with RIP

Linotronic 500P
Linotype Co.
425 Oser Ave.
Hauppage, NY 11788
516/434-2000, 800/645-5278
$97,950

Prism PS
Monotype, Inc.
2500 Brickvale Dr.
Elk Grove Village, IL 60007
312/350-5600
$49,000

Varityper 4200P
Varityper Corp.
11 Mt. Pleasant Ave.
East Hanover, NJ 94545
201/887-8000
$36,995

Varityper 4300P
Varityper Corp.
11 Mt. Pleasant Ave.
East Hanover, NJ 94545
201/887-8000
$49,995

Online Services

CompuServe
P.O. Box 20212
Columbus, OH 43220
614/457-8600, 800/848-8199
Subscription: $39.95;
Access time: 300 baud $6/hr.;
1200/2400 baud $12.50/hr.

GEnie
401 N. Washington St.
Rockville, MD 20850
301/340-4494
800/638-9636
Subscription: $29.95;
Access time: 300/1200 baud $5/hr.;
2400 baud $12.50/hr.

MacNet
Connect, Inc.
10101 Bubb Rd.
Cupertino, CA 95014
800/262-2638
Subscription: $49.95;
Access time: $4-$8/hr.

The Source
Source Telecomputing
P.O. Box 1305
McLean, VA 22102
703/821-6666, 800/336-3366
Subscription: $29.95;
Access time: 18¢-43¢/min.

Page Layout Programs
See also Typesetting Programs

Interleaf Publisher
Interleaf
Suite 10 Canal Park
Cambridge, MA 02141
617/577-9800
$2495

MacPublisher III
Boston Publishing Systems, Inc.
115 Porter St. E.
Boston, MA 02128-2118
617/267-4747
$295

PageMaker 3.0
Aldus Corporation
411 First Ave. South, Suite 200
Seattle, WA 98104
206/628-2320
$595

Quark XPress
Quark, Inc.
300 S. Jackson, Suite 100
Denver, Co 80209
303/934-2211, 800/543-7711
$795

ReadySetGo!
Letraset USA
40 Eisenhower Dr.
Paramus, NJ 07653
201/845-6100, 800/634-3463
$495

PostScript Graphics Programs

Adobe Illustrator 88
Adobe Systems, Inc.
1585 Charleston Rd., P.O. Box 7900
Mountain View, CA 94039-7900
(415) 961-4400
800/344-8335 (US, CA)
$495

Aldus FreeHand
Aldus Corporation
411 First Ave. South, Suite 200
Seattle, WA 98104
206/628-2320
$495

Cricket Draw
Cricket Software
Great Valley Corporate Center
40 Valley Stream Pkwy.
Malvern, PA 19355
215/251-9890
$295

Printers (Non-PostScript)

ImageWriter II
Apple Computer, Inc.
20525 Mariani Ave.
Cupertino, CA 95014
408/252-2775
$595

ImageWriter LQ
Apple Computer, Inc.
20525 Mariani Ave.
Cupertino, CA 95014
408/252-2775
$1399

LaserWriter IISC
Apple Computer, Inc.
20525 Mariani Ave.
Cupertino, CA 95014
408/252-2775
$2799

Personal LaserPrinter
GCC Technologies
580 Winter St.
Waltham, MA 02154
617/890-0880
$1999

Personal LaserPrinter Plus
GCC Technologies
580 Winter St.
Waltham, MA 02154
617/890-0880
$2199

Printers (PostScript)
See also Imagesetters

Business LaserPrinter
GCC Technologies
580 Winter St.
Waltham, MA 02154
617/890-0880
$4199

CG 400-PS
Compugraphic Corp.
200 Ballardvale St.
Wilmington, MA 01887
508/658-5600
$29,995

LaserWriter IINT
Apple Computer, Inc.
20525 Mariani Ave.
Cupertino, CA 95014
408/252-2775
$4999

LaserWriter IINTX
Apple Computer, Inc.
20525 Mariani Ave.
Cupertino, CA 95014
408/252-2775
$6999

LZR-1260
Dataproducts Corp.
6200 Canoga Ave.
Woodland Hills, CA 91365-0476
818/887-8000
$7995

LZR-2665
Dataproducts Corp.
6200 Canoga Ave.
Woodland Hills, CA 91365-0476
818/887-8000
$18,700

OmniLaser 2106
Texas Instruments, Inc.
P.O. Box 181153
Austin, TX 78718
1-800-527-3500 (US, TX)
List price: $4595

OmniLaser 2108
Texas Instruments, Inc.
P.O. Box 181153
Austin, TX 78718
1-800-527-3500 (US, TX)
$5995

OmniLaser 2115
Texas Instruments, Inc.
P.O. Box 181153
Austin, TX 78718
800/527-3500
$7995

PS810
Laser Connection, Inc.
7852 Schillinger Park West
Mobile, AL 36608
205/633-7223
800/523-2696 (US except AL)
$5495

PSJet+
Laser Connection, Inc.
7852 Schillinger Park West
Mobile, AL 36608
205/633-7223
800/523-2696 (US except AL)
$5495

QMS-PS 800 II
QMS, Inc.
One Magnum Pass
Mobile, AL 36618
800/367-7561
$6495

QMS-PS 810
QMS, Inc.
One Magnum Pass
Mobile, AL 36618
800/367-7561
$5495

QMS-PS 2400
QMS, Inc.
One Magnum Pass
Mobile, AL 36618
800/367-7561
$24,995

ScripTEN
QUME Corp.
500 Yosemite Dr.
Milpitas, CA 95035
408/942-4000
List price: $4595

SilentWriter LC890
NEC Information Systems
1414 Massachusetts Ave.
Boxborough, MA 01719-2298
800/632-4636 (US except MA)
800/343-4418 (MA)
$4795

TurboLaser/PS
AST Research, Inc.
Camintonn Digital Division
2121 Alton Ave.
Irvine, CA 92714-4992
714/863-1833
800/843-8336 (US, CA)
$4795

VT-600
Varityper, Inc.
11 Mt. Pleasant Ave.
East Hanover, NJ 07936
800/631-8134 (except NJ)
201/887-8000 ext. 999 (NJ)
$13,500

Publications

DTP Advisor (HyperCard tutorial)
Broderbund Software, Inc.
17 Paul Dr.
San Rafael, CA 94903-2101
415/492-3500, 800/527-6263
$79.95

MacGuide Magazine
550 S. Wadsworth Blvd., Suite 500
Denver, CO 80226
303/935-8100
$14.85 for 4 issues

MacUser magazine
P.O. Box 56986
Boulder, CO 80321-6986
303/447-9330
$27 for 12 issues

Macworld magazine
Subscriber Services
P.O. Box 54529
Boulder, CO 80322-4529
303/447-9330, 800/525-0643
$30 for 12 issues

Personal Publishing magazine
Hitchcock Publishing Co.
25W550 Geneva Rd.
Wheaton, IL 60188-2292
312/462-2225
$24 for 12 issues

PostScript Type Sampler catalog
MacTography
326-D North Stonestreet Ave.
Rockville, MD 20850
301/424-3942
$75

Publish! magazine
Subscriber Services
P.O. Box 55400
Boulder, CO 80322
303/447-9330, 800/222-2990
$39.90 for 12 issues

Typesetting Programs

Command Typographer
Regional Typographers/
The Software Shop
229 Bedford Ave.
Bellmore, NY 11710
516/785-4422
$495

JustText
Knowledge Engineering
115 Mason St.
Greenwich, CT 06830
203/622-8770
$195

Page One
McCutcheon Graphics, Inc.
500 Cochrane Dr., Unit A
Markham, Ontario
L3R 8E2 Canada
416/479-9292
$2000

PageSet
EDCO Services, Inc.
12410 N. Dale Mabry Hwy.
Tampa, FL 33618
813/962-7800, 800/523-8973
$3000

PS Compose
PS Publishing Inc.
290 Green St., Suite 1
San Francisco, CA 94133
415/433-4698
$800

SoftQuad Publishing Software
SoftQuad
720 Spandia Ave.
Toronto, Ontario
M5S 2T9 Canada
416/963-8337
$995-$7500

TeXtures
Addison-Wesley Publishing Co., Inc.
Route 128
Reading, MA 01867
617/944-3700
$495

User Groups

Rather than list all the Mac user groups here, I'll stick to two nationally-active groups and a PostScript-specific user group. For a complete listing of Mac user groups, refer to the September 1988 issue of *Macworld* or the Fall/Winter 1988 issue of *MacGuide Magazine*. (For information on the two magazines, see the "Publications" section

of this appendix.) You can also call Apple at 800/538-9696, ext. 500 for information on groups in your area.

BMUG
1442A Walnut St., #62
Berkeley, CA 94709
415/849-9114
Membership: $40 per year

Boston Computer Society
Mac User Group
48 Grove St.
Somerville, MA 02144
617/625-7080
Membership: $35 per year
($28 outside of New England)

NYPPUG
(New York Professional PostScript Users Group)
3058 Ann St.
Baldwin, NY 11510
212/777-7878

Utilities

BigCaps
Dubl-Click Software, Inc.
18201 Gresham St.
Northridge, CA 91325
818/349-2758

Capture
Mainstay
5311-B Derry Ave.
Agoura Hills, CA 91301
818/991-6540
$59.95

Font/DA Juggler Plus
ALSoft, Inc.
P.O. Box 927
Spring, TX 77383-0927
713/353-4090
$59.95

FontDisplay
Jeffrey Schulman
P.O. Box 521
Ridgefield, CT 06877-0521
203/792-1521
$20

FontLiner
Taylored Graphics
P.O. Box 1900
Freedom, CA 95019-1900
408/761-2481
$129.95

FontShare
Olduvai Corporation
7520 Red Road, Suite A
South Miami, FL 33143
305/665-4665; 800/822-0772 in FL
$295

FontSizer
U.S. MicroLabs, Inc.
1611 Headway Circle, Building 3
Austin, TX 78754
512/339-0001, 800/552-7654
$99.95

KeyMaster
Altsys Corporation
720 Avenue F, Suite 109
Plano, TX 75074
214/424-4888
$99.95

Laser Quotes
Deneba Systems, Inc.
7855 NW 12th St., Suite 202
Miami, FL 33126
305/594-6965
(public domain)

LetrTuck
EDCO Services, Inc.
12410 N. Dale Mabry Highway
Tampa, FL 33618
813/962-7800, 800/523-8973
$99

MacKern
ICOM Simulations, Inc.
648 S. Wheeling Rd.
Wheeling, IL 60090
312/520-4440, 800-877-4266
$195

MacKeymeleon
Avenue Software
1173 W. CharestBlvd., Suite 390
Québec City, Qc
G1N 2C9 Canada
418/682-3088
$49.95

MacQWERTY
Paragon Concepts, Inc.
4954 Sun Valley Rd.
Del Mar, CA 92014-9923
619/481-1477, 800/922-2993
$45

Master Juggler
ALSoft, Inc.
P.O. Box 927
Spring, TX 77383-0927
713/353-4090
$79.95

MathType
Design Science, Inc.
6475-B East Pacific Coast Hwy., #392
Long Beach, CA 90803
213/433-0685
$149

MenuFonts 2
Beyond, Inc.
3865 N. Oracle
Tucson, AZ 85705
602/888-8667
$49.95

N-Font
Olduvai Corporation
7520 Red Road, Suite A
South Miami, FL 33143
305/665-4665; 800/822-0772 in FL
(public domain)

QuicKeys
CE Software
P.O. Box 65580
West Des Moines, IA 50265
515/224-1995
$99.95

Smart Quotes
Philip Borenstein
Oak Square Publications
P.O. Box 1238
Allston, MA 01234
$10

Suitcase II
Fifth Generation Systems, Inc.
11200 Industiplax Blvd.
Baton Rouge, LA 70809
504/291-7221, 800/873-4384
$79

Word Processors

FullWrite Professional
Ashton-Tate, Mac Division
2393 Teller Rd., Suite 106
Newbury Park, CA 91320
805/375-1467
$395

MacWrite 5.0
Claris Corporation
400 Clyde Ave.
Mountain View, CA 94043
415/962-8946
$125

Microsoft Word
Microsoft Corporation
16011 NE 36th Way
P.O. Box 97017
Redmond, WA 98073-9717
206/882-8088
$395

Microsoft Write
Microsoft Corporation
16011 NE 36th Way
P.O. Box 97017
Redmond, WA 98073-9717
206/882-8088
$175

MindWrite
Access Technology, Inc.
200-G Heritage Harbor
Monterey, CA 93940
408/648-4000, 408/375-1531
$195

WordPerfect for the Mac
WordPerfect Corporation
1555 N. Technology Way
Orem, UT 84057
801/225-5000
$395

WriteNow for Macintosh
T/Maker
1390 Villa St.
Mountain View, CA 94041
415/962-0195
$195

APPENDIX

B

SPECIALTY FONTS

Arrows: EmDash

Bar Code: NeoScribe International

Borders: Altsys, Dubl-Click Software

Bullets/Boxes:
Caseys' Page Mill, EmDash

Chemical Structures:
Allotype Typographics

Chess Diagrams:
Ecological Linguistics

Dingbats/Pictorial:
Adobe, Image Club, Linotype,
MacTography, Page Studio Graphics,
Studio 231

Fractions: MacTography,
NeoScribe International, shareware

Initial Caps: Electric Typographer,
Image Club, NeoScribe International

Keyboard Layout:
Page Studio Graphics

Map Symbols:
Adobe, Linotype,
Page Studio Graphics

Math/Science:
Adobe, Design Science,
Linguists' Software, Linotype

Musical Notation:
Adobe, Coda, Linotype

OCR: Adobe, NeoScribe International

Small Caps:
Allotype Typographics, MacTography

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APPENDIX

C

FOREIGN LANGUAGE FACES

Foreign-Language Character Sets

Arabic: Eastern Language Systems

Cyrillic: Casady & Greene, Devonian International Software, Ecological Linguistics, Font World, Linguists' Software

Greek: Allotype Typographics, Ecological Linguistics, Linguists' Software, NeoScribe International

Hebrew: Eastern Language Systems, Font World, Linguists' Software, NeoScribe International

Hindi/Sanskrit: NeoScribe International

Accented Alphabets for Transliteration

Arabic: Ecological Linguistics

Cyrillic: Ecological Linguistics

European Languages: Ecological Linguistics, Linguists' Software

Greek: Ecological Linguistics

Hebrew: Ecological Linguistics

Indian Languages: Ecological Linguistics

International Phonetic Association Alphabet: Ecological Linguistics, Linguists' Software, NeoScribe International

Polish: Allotype Typographics

Vietnamese: Ecological Linguistics

APPENDIX

D

ALTERNATE
TYPEFACE NAMES

While a typeface's name can be trademarked, the face itself isn't protected by U.S. copyright law. Therefore, many typeface vendors duplicate existing faces and give them new names. The following list presents established typeface names from type houses such as ITC, followed by the names given to those faces by Mac font vendors.

This listing is based on my observations; it is not meant to imply that any Mac font company claims to be selling the original faces listed. In addition, I've included several Mac faces that bear a strong resemblance to estabished faces but are not exact duplicates. This list is provided as a convenience to those readers who want to comparison-shop when looking for a particular typeface. Addresses and phone numbers for Mac font vendors are listed in Appendix A.

American Text:
Rhine (MacTography)

American Uncial:
Electric Uncial
(Electric Typographer)

Antique Olive:
Provence (Bitstream)

Bauhaus: Pipe (Image Club)

Bembo: Ambo (NeoScribe)

Bodoni Bold:
Columbia (MacTography)

Bodoni Condensed:
Galileo (Casady & Greene)

Broadway: Hudson (MacTography),
Ritz (Casady & Greene)

Broadway Engraved:
Right Bank (Casady & Greene)

Cable: Coble (Image Club)

Carolingian Upright:
Thames (MacTography)

Chelmsford: Option (MacTography)

Commercial Script:
Coventry Script (Casady & Greene)

Compacta: Compacto (Image Club)

Computer: MICR (Image Club)

Cooper Black: Plymouth (T/Maker)

Counterpoint: Styx (MacTography)

Dom Casual: UpStart (EmDash)

Eurostyle: Micro (Casady & Greene),
Micron (MacTography)

Futura: Gothica (MacTography),
Sans Serif (Casady & Greene)

Futura Black: Congo (MacTography)

Galliard Bold Italic:
Seville (T/Maker)

Gill Sans: Railway (NeoScribe)

Globe Gothic: Terra (MacTography)

Gothic Rotunda:
Paladin (Casady & Greene)

Granby: Briar (EmDash)

Helvetica: Swiss (Bitstream),
Triumvirate (Compugraphic)

Hobo: Hobnob (Dubl-Click)

Italia: Italian (Image Club)

Kabel: Coble (Image Club)

Microgramma:
Micro (Casady & Greene),
Micron (MacTography)

Mistral: Bombay (T/Maker),
Missive (MacTography),
Zephyr Script (Casady & Greene)

Nicholas Cochin:
Dickens (MacTography)

Olive: Provence (Bitstream)

Ondine: Mermaid (Bitstream)

Optima: Option (MacTography)

Oracle: Option (MacTography)

Palace Script:
Regency Script (Casady & Greene)

Palatino: Zapf Calligraphic (Bitstream)

Peignot:
Monterey (Casady & Greene),
Spokane (MacTography)

Raleigh Extra Bold:
Cumberland (MacTography)

Serifa: MacSlab (NeoScribe)

Stop: Styx (MacTography)

Times: Dutch (Bitstream)

Trump Mediaeval: Activa (Bitstream)

Univers: Zurich (Bitstream)

University Roman:
Seine (MacTography)

Zapf Book Bold:
Yukon (MacTography)

APPENDIX

E

POSTSCRIPT
SERVICE BUREAUS

The following list of typesetting service bureaus is a condensed version of the list placed on CompuServe by Adobe Systems. It is not an exhaustive list, but may help you locate a service bureau in your area. Adobe's full listing contains information on the type of equipment available, whether a bureau is full-service or self-service, and whether modem service is offered. To obtain a copy of the listing, log onto CompuServe and type "Go Adobe." Enter the Service Bureaus library and download the file called "SRVBUR.TXT." The online listing is updated periodically.

For further information on service bureaus in your area, look in the Yellow Pages under "Typesetting" or "Printers" or ask someone at your local computer store or Mac user group.

ALABAMA

Birmingham:

Computer Publisher, Inc.
400 River Hills Business Park, Ste. 405
Birmingham, AL 35242
(205) 991-0032

Huntsville:

Bransby Productions
2130 Metro Cir.,
Huntsville, AL 35801,
(205) 880-0452

ARIZONA

Alphagraphics
3760 N. Commerce Dr.
Tucson, AZ 85705
(602) 293-9200, (800) 528-4885
(Note: This is corporate headquarters.
Please call for location nearest you
or for further information.)

ARKANSAS

Royal Graphics
523 West 7th St.
Little Rock, AR 72201
(501) 375-8255

CALIFORNIA

Anaheim:

Desktop Printshop
1205 N. Tustin Ave.
Anaheim, CA 92807
(714) 632-7775

Aptos:

Aptos Post Typography
8058 Valencia St.
P.O. Box 910, Aptos, CA 95001
(408) 688-7474

Bakersfield:

Copy Network
4410 Easton Dr.
Bakersfield, CA 93309
(805) 322-3450

Berkeley:

Byting Your Time
2435 Durant Ave.
Berkeley, CA 94704
(415) 849-9993

Cooperative Type
2490 Channing Way, Ste. 401
Berkeley, CA 94704
(415) 843-8973

Krishna Copy Center
2111 University Ave.
Berkeley, CA 94704
(415) 540-5959

Benicia:

DSM Publishing, Inc.
940 Tyler St., Studio 17
Benicia, CA 94510-2916
(707) 745-6897

Canoga Park:

Graphica
7529 Remmet Ave.
Canoga Park, CA 91303
(818) 712-0071

Carlsbad:

Multimedia Technologies
2045 Corte de Nogal St.
Carlsbad, CA 92009
(619) 931-9035

Omni Print
5670 El Camino Real, Ste. J
Carlsbad, CA 92008
(619) 931-6664

Culver City:

Graphics Plus
3710 S. Robertson Blvd., Ste. 216
Culver City, CA 90232
(213) 559-3732

Foster City:

Graphic Marketing
1125 E. Hillsdale Blvd., Ste. 110
Foster City, CA 94404
(415) 574-2525

Glendale:

Computer Typesetting
407 West Chevy Chase Dr.
Glendale, CA 91024
(213) 245-9000

Huntington Beach:

Alphabetics
15881 Gothard St.
Huntington Beach, CA 92647
(714) 898-7188

Irvine:

Desktop Graphics & Design Inc.
17921 Sky Park Cir., Ste. H
Irvine, CA 92714,
(714) 261-1881

Phoenix Press
1622 Browning Ave.
Irvine, CA 92714
(714) 261-0333

Los Angeles:

Commtype
320 N. Genesee Ave., Ste. 2
Los Angeles, CA 90036
(213) 938-8973

Fingerprint
8467 Melrose Pl.
Los Angeles, CA 90069
(213) 653-2082

Graphic Typesetting Service, Inc.
3929 S. Broadway Pl.
Los Angeles, CA 90037
(213) 232-1185

Graphics Galore
6325 Wilshire Blvd.
Los Angeles, CA 90048
(213) 651-5521

Microprint
605 South Grand Ave.
Los Angeles, CA 90017
(213) 627-7800

Trunk Line
8800 Venice Blvd.
Los Angeles, CA 90034
(805) 963-8841

Los Gatos:

Techdoc
23990 Schulties Rd.
Los Gatos, CA 95030
(408) 354-4882

Mill Valley:

Graphic Support
147 Lomita, Ste. C-1
Mill Valley, CA 94941
(415) 381-9120

Milpitas:

Printex DTP Services
12 N. Abel St.
Milpitas, CA 95035
(408) 262-4669

Mountain View:

Adamson and Walton
229 Polaris Ave.
Mountain View, CA 94043
(415) 961-0777

Graphic Express
2265 Old Middlefield Way
Mountain View, CA 94043
(415) 962-9900

House of Graphics
2146 Leghorn St.
Mountain View, CA 94043
(415) 961-0332

Oakland:
Nova Graphic Services Bureau
505 17th St., Ste. 202
Oakland, CA 94612
(415) 834-4551

Orange:
Image Express
2101 W. Chapman Ave.
Orange, CA 92668
(714) 938-1070

Palo Alto:
Laserwrite
540 Bryant St.
Palo Alto, CA 94301
(415) 328-1988

Pasadena:
Di-No Computers
2091 E. Colorado Blvd.
Pasadena, CA 91101
(818) 795-6674

Typelink
155 S. El Molino Ave. Ste. 101
Pasadena, CA 91101
(818) 795-9445

Petaluma:
Desktop Composition Center
1160 Industrial Ave., Ste. J
Petaluma, CA 94952
(707) 763-3232

Rancho Cordova:
Infomania
2340 Sunrise Blvd., Ste. 25
Rancho Cordova, CA 95670
(916) 635-0201

Redding:
Computer Typesetting
2636 Churn Creek Rd.
Redding, CA 96002
(916) 223-3444

Sacramento:
The Electric Page
331 J. St., Ste. 160
Sacramento, CA 95814
(916) 448-4814

Lithographics
1616 J St.
Sacramento, CA 95814
(916) 447-3219

Office Wise Associates
2115 J St., Ste. 13
Sacramento, CA 95816
(916) 447-9212

Salinas:
Matrix Communications
229 Pajaro
Salinas, CA 93901
(408) 757-4164

San Diego:
Artifax
429 F St.
San Diego, CA 92101
(619) 236-8338

Central Graphics
725 13th St.
San Diego, CA 92101
(619) 234-6633

San Francisco:

Design & Type, Inc.
739 Bryant St.
San Francisco, CA 94107
(415) 495-6280

First Image
1044 Howard St.
San Francisco, CA 94103
(415) 864-7033

Imageset
555 19th St.
San Francisco, CA 94107
(415) 626-8366

Krishna Copy Center
66 Kearny St.
San Francisco, CA 94108
(415) 986-6161

543 Mission St.
San Francisco, CA 94105
(415) 543-3688

Pinnacle Type
30 Hotaling Pl., Ste. 204
San Francisco, CA 94111-2208
(415) 989-8973

Printz
443 Tehama Street
San Francisco, CA 94103
(415) 543-5673

Publishing On Demand
30 Hotaling Place, Ste. 204
San Francisco, CA 94111-2208
(415) 956-4900

Techart
3915 D 24th St.
San Francisco, CA 94114
(415) 550-1110

San Luis Obispo:

Tintype Graphic Arts
2226 Beebee St.
San Luis Obispo, CA 93401
(805) 544-9789

San Mateo:

Laser Touch
205 E. 3rd Ave., Ste. 301
San Mateo, CA 94401
(415) 348-7010

San Rafael:

Desktop Publishing, Inc
1525 East Francisco Blvd.
San Rafael, CA 94901
(415) 258-0767

Interface
1005 A St., Suite 212
San Rafael, CA 94901
(415) 459-6263

Santa Ana:

Personal Publishing Service Bureau
1317 E. Edinger
Santa Ana, CA 92705
(714) 558-0323, 558-0324

Santa Barbara:

Buhl Typographers
621 Chapala St., Ste. A & B
Santa Barbara, CA 93101
(805) 963-8841

Santa Clara:

Copy Network
5201 Great American Pkwy., Ste. 507
Santa Clara, CA 95054
(408) 562-5757

Santa Rosa:

E & J Advertising
1400 N. Dutton, Ste. 9
Santa Rosa, CA 95401
(707) 527-5195

Sherman Oaks:

Committee Communications
15468 Ventura Blvd.
Sherman Oaks, CA 91403
(818) 986-4420

Sunnyvale:

CBM Type
624 E. Evelyn, Ste. G
Sunnyvale, CA 94086
(408) 739-0460

Torrance:

Image Communications
3300 Sepulveda Blvd., Ste. B
Torrance, CA 90505
(213) 530-3490

Van Nuys:

Eureka!
16927 Sherman Way
Van Nuys, CA 91406
(818) 609-0702

COLORADO

Boulder:

Progressive Designs, Inc.
4860 Riverbend Rd.
Boulder, CO 80301
(303) 442-8555

Publishing Resources, Inc.
1795 Pearl St.
Boulder, CO 80302
(303) 442-1100

Colorado Springs:

Softronics
7800 Lexington Dr., Ste. 210
Colorado Springs, CO 80920
(303) 593-9540

Denver:

Laserwriting, Inc.
1485 S. Colorado Blvd.
Denver, CO 80222
(303) 758-8811

3801 E. Florida Ave., Ste. 504
Denver, CO 80210
(303) 758-8844

Mel's Typesetting
1519 S. Pearl St.
Denver, CO 80210
(303) 777-5571

National Teleprinting, Inc.
1420 Blake St.
Denver, CO 80202
(303) 623-2800

Quest
1432 South Broadway
Denver, CO 80209
(303) 722-5965

Englewood:

Laserwriting, Inc.
7335 E. Orchard Rd.
Englewood, CO 80111
(303) 741-4100

CONNECTICUT

Hartford:

Pre Press Computer Works
486 New Park Ave.
West Hartford, CT 06110
(203) 232-1595, 232-7185

Milford:

Graphic Hearts
61 Woodmont Rd.
Milford, CT 06460
(203) 874-1305

Newport:

Cobb Typesetting
901 Monmouth St.
Newport, CT 41071
(606) 291-1146

Stamford:

Atlantic Group
10 Fairfield Ave.
Stamford, CT 06902
(203) 359-4228

Graphic Designers/Allset
51 Bank St.
Stamford, CT 06901
(203) 357-7769

Wilton:

Renaissance Publishers, Inc.
14 Old Belden Hill Rd.
Wilton, CT 06897
(203) 761-9205

DISTRICT OF COLUMBIA

Artform Communications
1826 Jefferson Pl. NW, Ste. 301
Washington, DC 20036
(202) 331-7423

Electric Logic
2025 Eye St. NW
Washington, DC 20006
(202) 223-9115

Justin Associates
1215 Connecticut Ave. NW, 4th Fl.
Washington, DC 20036
(202) 466-4412, (800) 451-1887

Unicorn Graphics
1500 Eckington Pl. NE
Washington, DC 20002
(202) 529-5655

FLORIDA

St. Petersburg:

Laser Image
710 94th Ave. N., Ste. 308
St. Petersburg, FL 33702
(813) 578-2661

Tampa:

George Hall Typography, Inc.
3417 W. Lemon
Tampa, FL 33609
(813) 870-1862

Winter Park:

Studiotronics, Inc.
1031 S. Sermoran Blvd.
Winter Park, FL 32792
(305) 657-0677

GEORGIA

Atlanta:

Appletree Services
3020 Mercer University Dr.
Atlanta, GA 30341
(404) 457-2404

Comp-U-Type
6695 Peachtree Industrial Blvd.
Ste 110
Atlanta, GA 30360
(404) 263-7364

100 Allen Rd.
Atlanta, GA 30328
(404) 843-2050

Roswell:

Comp-U-Type
1182 Grimes Bridge Rd., Ste. 400
Roswell, GA 30075
(404) 587-3100

Smyrna:

Comp-U-Type
2250 Cobb Parkway, Ste. 42
Smyrna, GA 30080
(404) 952-6294

HAWAII

Creative Resources
839 Queen St.
Honolulu, HI 96813
(808) 533-1715

ILLINOIS

Aurora:

Dee-Signer Type and Graphics
981 A Aurora Ave.
Aurora, IL 60505
(312) 844-0030

Champagne:

Electronic Imaging Inc.
14 East Washington St.
Champagne, IL 61820
(217) 351-1550

Chicago:

Alternative Type & Graphics
9700 W. Foster Ave.
Chicago, IL 60656
(312) 992-2050

Anzographics
213 West Institute Pl., Ste. 209
Chicago, IL 60610
(312) 642-8973

Protypography, Inc.
350 West Erie St.
Chicago, IL 60610
(312) 266-8973

Effingham:

Kingery Printing
3012 South Banker St.
Effingham, IL 62401
(217) 347-5151

Glenview:

Lasercom, Inc.
1701 E. Lake Ave.
Glenview, IL 60025
(312) 724-2490

Holland:

Holland Printing
1007 E. 162nd. St.
South Holland, IL 60473
(312) 596-9000

Mt. Prospect:

Lighthouse Productions
2020 E. Camp McDonald Rd.
Mt. Prospect, IL 60056
(312) 823-8855

Top Drawer
2020 E. Camp McDonald
Mt. Prospect, IL 60056
(312) 699-8209

Oak Park:

Xpress Graphics
137 N. Oak Park Ave. Ste. 200
Oak Park, IL 60301
(312) 848-8651

INDIANA

David G. Dull & Associates
25762 Minor Rd.
Elkhart, IN 46514
(219) 262-8611

IOWA

Computer Graphic Center
605 12th St.
Des Moines, IA 50309
(515) 282-0000

Lessing-Flynn
3106 Ingersoll St.
Des Moines, IA 50312
(515) 274-9271

Printing Station
1023 Grand Ave.
Des Moines, IA 50309
(515) 243-8144

KANSAS

Commercial Art Service
9112 Constance St.
Lenexa, KS 66215
(913) 894-9391

KENTUCKY

Printers Type Service
225 Hurstbourne Lane, Ste. 203
Louisville, KY 40222
(502) 423-8401

LOUISIANA

Lunar Graphics
655 St. Ferdinand St.
Baton Rouge, LA 70802
(504) 383-7652

Professional Publications
11851 Wentling St., Ste. B
Baton Rouge, LA 70816
(504) 295-0707

MAINE

Portland:

G & G Laser Typesetting
1030 Congress St.
Portland, ME 04102
(207) 774-7338

Imageset Associates
2 Vannah Ave.
Portland, ME 04103
(207) 775-4738

Waterville:

Home Port Computers
153 Main St.
Waterville, ME 04901
(207) 873-2192

MARYLAND

Baltimore:

F.E.A. Laser Service
2404 Ravenview Rd.
Baltimore (Timonium), MD 21093
(301) 252-8910

Spectrum Arts Ltd.
1823 Eutaw Pl.
Baltimore, MD 21217
(301) 462-6900

Rockville:

MacTography
702 Twinbrook Pkwy.
Rockville, MD 20851
(301) 424-3942

MASSACHUSETTS

Attleboro:

Wordwrap
112 Adamsdale Rd.
North Attleboro, MA 02760
(508) 761-4909

Boston:

Advanced Computer Graphics
1260 Boylston St.
Boston, MA 02215
(617) 437-6470

Teletypesetting
474 Commonwealth Ave.
Boston, MA 02215
(617) 266-6637

Typographic House
63 Melcher St.
Boston, MA 02210
(617) 482-1719

Cambridge:

Pageworks, Inc.
36 John F. Kennedy St.
Cambridge, MA 02138
(617) 868-2943

Chelsea:

Cambridge Media
91 Bloomingdale St.
Chelsea, MA 02150-1901
(617) 884-2826

Needham:

Needham Graphics
14 Eaton Sq.
Needham, MA 02192
(617) 449-8404

Newton:

O'Reilly & Associates, Inc.
981 Chestnut St.
Newton, MA 02164
(617) 527-4210, (800) 338-6887

Quincy:

Murphy & Co.
634 Willard St.
Quincy, MA 02169
(617) 472-7707

Springfield:

Powervue Graphics
80 Windsor St.
West Springfield, MA 01089
(413) 781-5447

Swampscott:

The Imagesetter
440 Humphrey St.
Swampscott, MA 01907
(617) 592-1234

Waltham:

Microprint
214 Third Ave.
Waltham, MA 02154
(617) 890-7500

Woburn:

Boston Business Graphics
Inc., 300 Wildwood St., Ste. 21
Woburn, MA 01801
(617) 938-6525

MICHIGAN

East Lansing:

Laser Page
541 East Grand River
East Lansing, MI 48823
(517) 337-9484

Number One Graphics, Inc.
3407 Lake Lansing Rd.
East Lansing, MI 48823
(517) 332-6231

Farmington:

Mac Typenet
33708 Grand River
Farmington, MI 48024
(313) 477-2733

Grand Rapids:

Electronic Publishing Center
2055 28th St. S.E.
Grand Rapids, MI 49508
(616) 243-2200

Holland:

Holland Litho Service
101 West 17th St.
Holland, MI 49423
(616) 392-4644

Kalamazoo:

SSG Laserworks
6376 Quail Run
Kalamazoo, MI 49009
(616) 375-8996
(Elvis does all his printing here)

Southfield:

Laser Printing Services
26058 West 12 Mile Rd.
Southfield, MI 48034
(313) 356-1004

Troy:

Butler Graphics
316 Town Center Drive
Troy, MI 48084
(313) 528-2808

Laser Graphics Services
3150 Livernois Rd., Ste. 235
Troy, MI 48083
(313) 828-4057

MINNESOTA

Minneapolis:

Word Setters
12 W. 26th St.
Minneapolis, MN 55404
(612) 872-0815

Richfield:

Picas & Points, Inc.
77712 Morgan Ave. S.
Richfield, MN 55423
(612) 866-4711

St. Paul:

Creative Text and Page
16961/2 Grand Ave.
St. Paul, MN 55105
(612) 699-8897

New Printcrafters
287 E. Sixth St.
St. Paul, MN 55101
(612) 227-7721

NEBRASKA

Wakerobin Communications
611 North 26th St.
Lincoln, NE 68503-3030
(402) 435-0963

Wordworks
3445 O St., Ste. B
Lincoln, NE 68510
(402) 476-6665

NEVADA

Laser Graphix
3250 B Polluc
Las Vegas, NV 89102
(702) 871-5511

NEW HAMPSHIRE

Manchester:

Amanuensis
300E Bedford St.
Manchester, NH 03101
(603) 624-2704

Portsmouth:

Graphic-Aid
865 Islington St.
Portsmouth, NH 03801
(603) 436-2500

NEW JERSEY

Camden:

MICATS
1091 N. 8th St.
Camden, NJ 08102
(609) 964-8855

Cranbury:

Graphic Connexions, Inc.
10 Abeel Rd.
Cranbury, NJ 08512
(609) 655-8970

Pennsauken:

Waldman Graphics
9100 Pennsauken Highway
Pennsauken, NJ 08110
(609) 662-9111(NJ)
(215) 627-7200(PA)
(212) 925-2420 (NY)

Phillipsburg:

Harmony Press
R.R. 2, P. O. Box 123
Phillipsburg, NJ 08865
(201) 454-1544

Teaneck:

Typeline
668 Front St.
Teaneck, NJ 07666
(201) 836-2300

Warren:

Prism Printing
Mountain Crest Mall
10E Community Pl.
Warren, NJ 07060
(201) 755-1111

NEW YORK

Albany:

Associated Graphic Services, Ltd.
13 Northern Blvd.
Albany, NY 12210
(518) 465-1497

Babylon:

Graphique
306 Warren St.
North Babylon, NY 11703
(516) 321-4907

Hauppaug:

Coherent Graphics
1775 Express Dr. N.
Hauppaug, NY 11788
(516) 582-5793

Highland:

Image Business Form, Inc.
5560 Route 299
Highland, NY 12528
(914) 883-5400

Ithaca:

Baka Industries
200 Pleasant Grove Rd., Ste. 1-F
Ithaca, NY 14850
(607) 257-2070

Ithaca Publishing Services, Inc.
Cornell Industry Research Park
Ithaca, NY 14850
(607) 257-4688

Melville:

Darren Stevens Agency
691 Walt Whitman Rd., Ste. 201
Melville, NY 11747
(516) 423-8973

New York City:

Axiom Design Systems
6 West 18th St.
New York, NY 10011
(212) 989-1100

Electronic Directions
23 E. 4th St.
New York, NY 10003
(212) 533-9651

Electronic Publishing Center, Inc.
110 Mercer St.
New York, NY 10012
(212) 431-6605

Microcomputer Publishing Center
253 5th Ave.
New York, NY 10016
(212) 213-6606

Poughkeepsie:

AB Typesetting
806 Main St.
Poughkeepsie, NY 12603
(914) 473-4550

St. James:

Beukers Promotions Inc.
Flowerfield Bldg., Ste. 7
St. James, NY 11780
(516) 862-7500

Stewart Manor:

Laser Set
217 Dover Pkwy
Stewart Manor, NY 11530
(516) 354-2582, (800) 333-2581

Syracuse:

Graphic Partners/George Monagle
120 Walton St.
Syracuse, NY 13202
(315) 426-0513

OHIO

Cincinnati:

Jala Advertising Inc.
640 Northland Blvd.
Cincinnati, OH 45240
(513) 742-4102

Personal Publishing Centres
9402 Towne Square Ave.
Cincinnati, OH 45242
(513) 793-0404

Columbus:

Harlan Type
1107 Dublin Rd.
Columbus, OH 43215
(614) 486-9641

Dwight Yaeger Typographer
935 W. 3rd Ave.
Columbus, OH 43212
(614) 294-6326

Westlake:

Lazerset
26931 Detroit Road
Westlake, OH 44107
(216) 892-5575

OKLAHOMA

Hightec Tape
1601 S. Main St., Ste. 410
Tulsa, OK 74119
(918) 587-5023

OREGON

Portland:

Burian Leading & Kern Imagesetting
433 SE 13th St.
Portland, OR 97214
(503) 238-6712

Dynagraphics, Inc.
300 NW 14th St.
Portland, OR 97207
(503) 228-9453

L.graphix
108 N.W. 9th St., Ste. 207
Portland, OR 97209
(503) 248-9713

Wilsonville:

Printright/Lazerquic k Printing
27375 SW Parkway Ave., Ste. 200
Wilsonville, OR 97070
Info on 35 locations in Oregon, SW
Washington, Seattle: (503) 243-2679

PENNSYLVANIA

Bala Cynwyd:

Computer Ware
345 Montgomery Ave.
Bala Cynwyd, PA 19004
(215) 664-7400

Office Talk
349 Montgomery
Bala Cynwyd, PA 19004
(800) 345-0133

Jenkintown:

Kalnin Graphics
Benjamin Fox Pavillion, Ste. A8
Jenkintown, PA 19046
(215) 887-6970

Johnstown:

Allegheny Printing & Design
2447 Bedford Street
Johnstown, PA 15904
(814) 266-8627

Natrona Heights:

General Press Corporation
P.O. Box 316, Allegheny Dr.
Natrona Heights, PA 15065
(412) 224-3500

Philadelphia:

CR Express
841 Chestnut St.
Philadelphia, PA 19107
(215) 829-9611

The Winchell Company
1315 Cherry St.
Philadelphia, PA 19107
(215) 568-1770

Wayne:

Centre Grafik
950 West Valley Rd., Ste. 2903
Wayne, PA 19087
(215) 688-2949

RHODE ISLAND

Middletown:

*Aquidneck Graphics
& Publishing Services*
Aquidneck Industrial Park
Middletown, RI 02840
(401) 849-9930

Providence:

Sprintout
50 Clifford St.
Providence, RI 02903
(401) 421-2264

Warwick:

Copy-Print Co.
50 Route 5
Warwick, RI 02886
(401) 739-2300

SOUTH CAROLINA

Patrick Graphics
1500 Highway 501
Myrtle Beach, SC 29577
(803) 448-7777

TENNESSEE

Macfactory
120 20th Ave. S.
Nashville, TN 37203
(615) 327-3437, (615) 327-1758

TEXAS

Abilene:

Texas Photocomp
1482 N. First St.
Abilene, TX 79601
(915) 673-6725

Austin:

Microserve
4412 Spicewood Springs, Ste. F1000
Austin, TX 78759
(512) 343-0180

College Station:

Texas A & M Micro Computer Center
P.O. Drawer E-2
College Station, TX 77844
(409) 845-4081

Dallas: •

Alpha Graphics
4950 Beltline Rd., Ste. 100
Dallas, TX 75240
(214) 392-2679

Chris Can Do Graphics, Inc.
5220 Spring Valley, Ste. 10
Dallas, TX 75240
(214) 934-9385

Laserready Graphics
7502 Greenville St., Ste. 500
Dallas, TX 75231
(214) 373-1922

Pacesetters Graphic Typography
11807 Forestgate Dr.
Dallas, TX 75243
(214) 235-2222

Southwestern Typographics
2820 Taylor St.
Dallas, TX 74226
(214) 748-0661

Trinity Graphics Systems, Inc.
3458 Webb Chapel Ext., Ste.120
Dallas, TX 75220
(214) 351-0086

Words & Pictures
2811 McKinney
Dallas, TX 75204
(214) 871-0498

El Paso:

Inkspot Printing Media Service
1346 Lee Truvino
El Paso, TX 79936
(915) 598-1138

Fort Worth:

Lino Typographers
610 South Jennings Ave.
Fort Worth, TX 76104
(817) 332-4070

Type Case, Inc.
611 Allston Ave.
Fort Worth, TX 76104
(817) 332-7563

Houston:

Interfaces
4200 Montrose Blvd., Ste. 450
Houston, TX 77006
(713) 522-1557

Microtype, Inc.
3433 West Alabama St., Ste. C
Houston, TX 77027
(713) 963-8717

Typografiks, Inc.
4701 Nett
Houston, TX 77007
(713) 861-2290

Midland:

Starline
504 E. Nobles St.
Midland, TX 79701
(915) 682-3747, 563-2431

San Antonio:

Laser Expression! Inc.
P.O. Box 690632
San Antonio, TX 78269-0632
(512) 697-0106

The Lazer's Edge, Inc.
4001 Broadway
San Antonio, TX 78209
(512) 494-9586

Lisat Systems
7272 Wurzbach Rd. Ste. 702
San Antonio, TX 78240
(512) 696-4239

Pipe Creek Publications
7800 Interstate Highway 10 West
San Antonio, TX 78230
(512) 349-6061

PS Graphics
16414 San Pedro St., Ste. 625
San Antonio, TX 78232
(512) 494-9707

R & R Express
7300 Blanco Rd., Ste. 712
San Antonio, TX 78216
(512) 340-0976

VIRGINIA

Charlottesville:

Pixels
100 2nd St.NW
Charlottesville, VA 22901
(804) 971-4700

Fredericksburg:

Type & Design
220 Industrial Dr.
Fredericksburg, VA 22401
(703) 898-7600

Herndon:

Gestalt Systems
470 Spring Park Pl, Ste. 600
Herndon, VA 22070
(703) 471-6842

Norfolk:

Alphabetz
1216 Granby St.
Norfolk, VA 23510
(804) 623-5245

Richmond:

Riddick Advertising Art
401 E. Main St.
Richmond, VA 23219
(804) 780-0006

WASHINGTON

Federal Way:

PIP Printing
1500 South 336th St., Ste. 15
Federal Way, WA 98003
(206) 838-9150

Seattle:

*Lazerquick Printing
and Copying/Printright*
412 Olive Way
Seattle, WA 98101
(206) 447-2679 (Seattle),
(503) 243-2679 (Oregon)
(Note: This service bureau has
35 locations throughout Oregon,
southwestern Washington, and the
Seattle metropolitan area. Call the
main number for stores near you.)

Seattle Imagesetting, Inc.
1113 Boylston Ave.
Seattle, WA 98101
(206) 324-0838

Type Gallery
1121 Westlake Ave. N.
Seattle, WA 98109
(206) 285-6333

Western Type
2403 2nd Ave.
Seattle, WA 98121
(206) 728-6700

WIZYWIG
3151 Elliot Ave., Ste. 310
Seattle, WA 98121
(206) 283-3069
Spokane:

Laserdoc
South 104 Division
Spokane, WA 99202
(509) 455-4058

Spokane Imagesetting
North 2001 A Monroe St.
Spokane, WA 99205
(509) 328-8505

WISCONSIN

Butler:

Web Tech Inc.
4560 N. 127 St.
Butler, WI 53007
(414) 781-8805

Madison:

Imagesetter, Inc.
2423 American La.
Madison, WI 53704
(608) 244-6243

Notable Systems, Inc.
313 Price Pl., Ste.14
Madison, WI 53705-3262
(608) 238-6220

Port-to-Print
17 Applegate Ct., Ste. 10
Applegate Center
Madison, WI 53713
(608) 273-4887

Milwaukee:

Desktop Publishing Centers
6000 West Oklahoma Ave.
Milwaukee, WI 53219
(414) 321-6811

New Berlin:

Computer Service Consultants
2885 South Moorland Rd.
New Berlin, WI 53151
(414) 784-8105

National Colorite Corporation
16229 W. Ryerson Rd.
New Berlin, WI 53151
(414) 784-8980

Transgraphics
16229 W. Ryerson Rd.
New Berlin, WI 53151
(414) 784-8980

CANADA

Alberta

Calgary:

Laser Print Shop, Inc.
425 1207 11th Ave. S.W.
Calgary, Alberta, Canada T3C 0M5
(403) 245-4755

Edmonton:

Boldface Technologies, Inc.
6046 A 97th St.
Edmonton, Alberta, Canada T6E 3J4
(403) 437-0632

British Columbia

Surrey:

Karen's Typography Services, Ltd.
300 8356 120th St.
Surrey, BC, Canada V3W 3N4
(604) 594-6384

Vancouver:

Friendly Technology
1161 Melville St.
Vancouver, BC, Canada V6E 2X7
(604) 682-6488

Zenith Graphics
898 Richards St.
Vancouver, BC, Canada V6B 3B3NA
(604) 682-4521

Victoria:

Softa Code Works
2004 Fernwood Rd.
Victoria, BC, Canada V8T 2Y9
(604) 381-5667

Nova Scotia

Braemar Publishing Ltd.
5365 Inglis St.
Halifax, Nova Scotia
Canada B3H 1J4
(902) 421-1690

Ontario

Downsview:

Victor Beitner Systems Ltd.
1111 Finch Ave. West, Ste. 304
Downsview, Ontario
Canada M3J 2E5
(416) 661-9889

Management Graphics, Inc.
1450 Lodestar Rd., Unit 1
Downsview, Ontario
Canada M3J 3C1
(416) 631-9944

Toronto:

Ampersand Typographers
176 Wicksteed Ave.
Toronto, Ontario
Canada M4G 2B6
(416) 422-1444

Quebec

Compo Em, Inc.
2163 rue Parthenais
Montreal, Quebec,
Canada H2K 3T3
(514) 527-9631

APPENDIX

F

POSTSCRIPT TYPEFACES

The following list of PostScript typefaces for the Mac was provided by MacTography, publisher of *The PostScript Type Sampler.* The list was current as of October 1988; dozens of new faces have no doubt appeared since it was compiled. Although it's impossible for a book to stay up-to-date for long in the dynamic field of Mac typefaces, this appendix will give you a place to start your search if you're looking for a particular face. For the latest information on what's available, contact the font manufacturers listed in Appendix A.

A

American Typewriter Medium (ITC)..Varityper
Americana ....Adobe, Kingsley ATF Corp.
Americana Bold ....Adobe, Kingsley ATF Corp.
Americana Extra Bold.......................................Adobe, Kingsley ATF Corp.
Americana Italic..Adobe, Kingsley ATF Corp.
Andover II...Varityper
Andover Bold II..Varityper
Andover Bold Italic II ....Varityper
Andover Italic II ....Varityper
Antiqua 55 (ROTIS) (88)...Compugraphic
Antiqua 65 (ROTIS) (88)...Compugraphic
Antique Olive ....Compugraphic
Antique Olive Compact (88)..Compugraphic
Antique Olive Medium Italic...Compugraphic
Antique Olive Bold (88)...Compugraphic
Antique Olive Italic...Compugraphic
Antique Olive Medium ....Compugraphic
Antique Olive Nord (88)...Compugraphic
Antique Olive Nord Italic (88) ....Compugraphic
Antique Roman ....NeoScribe Int.
Anzelgen Grotesk Bold (S) ....Studio 231
Arabic..NeoScribe Int.
ArchiText Bold ....EmDash
ArchiText Condensed...EmDash
ArchiText Regular ....EmDash
Aria...Image Club Graphics
Aria Light ....Image Club Graphics
Aristocrat Black ....Varityper
Aristocrat Black Condensed..Varityper
Aristocrat Black Condensed Italic ....Varityper
Aristocrat Black Italic...Varityper
Aristocrat Bold Condensed ....Varityper
Aristocrat Bold Condensed ....Varityper
Aristocrat Condensed...Varityper
Aristocrat Condensed Italic ....Varityper
Arrow Dynamic..EmDash
Arrow Dynamic Bold ....EmDash
Arrow Dynamic Heavy ....EmDash
Aster...Varityper
Aster Bold ....Varityper
Aster Bold Italic..Varityper
Aster Italic ....Varityper
Athina ....NeoScribe Int.

Athletic ....NeoScribe Int.
Avant Garde (ITC) ....MacTography
Avant Garde Bold (ITC)..MacTography, Varityper
Avant Garde Bold Oblique (ITC)...Varityper
Avant Garde Book (ITC)...Adobe, Varityper
Avant Garde Book Oblique (ITC) ....Adobe, Varityper
Avant Garde Demi (ITC)...Adobe, Varityper
Avant Garde Demi Oblique (ITC)..................................Adobe, Varityper
Avant Garde Medium (ITC)..Varityper
Avant Garde Medium Oblique (ITC)..Varityper
Avant Garde Fat...MacTography
Avant Garde Bold Fat ....MacTography
Avant Garde Thin...MacTography
Avant Garde Bold Thin ....MacTography

B

Baker Argentina No 1 Italic (S)..Studio 231
Baker Argentina No 2 Italic (S)..Studio 231
Baker Argentina No 3 Italic (S)..Studio 231
Baker Argentina No 4 Italic (S)..Studio 231
Baker Argentina No 5 Italic (S)..Studio 231
Baker Argentina No 6 Italic (S)..Studio 231
Baker Argentina No. 1 (S) ....Studio 231
Baker Argentina No. 2 (S) ....Studio 231
Baker Argentina No. 3 (S) ....Studio 231
Baker Argentina No. 4 (S) ....Studio 231
Baker Argentina No. 5 (S) ....Studio 231
Baker Argentina No. 6 (S) ....Studio 231
Baker Danmark One (S) ....Studio 231
Baker Danmark Three (S) ....Studio 231
Baker Danmark Two (S) ....Studio 231
Balloon Extra Bold(S)..Studio 231
Banco (S) ....Studio 231
Bar Code..NeoScribe Int.
Barry Bold (S) ....Studio 231
Barry Medium (S) ....Studio 231
Basilea (S)...Studio 231
Baskerville (88)...Bitstream
Baskerville Bold (88) ....Bitstream
Baskerville Bold Italic (88)...Bitstream
Baskerville Italic (88) ....Bitstream

Baskerville II (88) ....Compugraphic
Baskerville Bold II (88) ....Compugraphic
Baskerville Bold Italic II (88) ....Compugraphic
Baskerville ItalicII (88)..Compugraphic
Bauhaus Bold (ITC) ....Varityper
Bauhaus Demi (ITC)...Varityper
Bauhaus Demi (ITC)...Varityper
Bauhaus Light (ITC)...Varityper
Bauhaus Medium (ITC)...Varityper
Beaton...NeoScribe Int.
BeeBop...Image Club Graphics
BeeBop Shadow...Image Club Graphics
Belwe Bold ....Adobe, Compugraphic (88)
Belwe Condensed...Adobe
Belwe Light...Adobe, Compugraphic (88)
Belwe Light Italic (88) ....Compugraphic
Belwe Medium ....Adobe, Compugraphic (88)
Bembo...Varityper
Bembo Bold ....Varityper
Bembo Bold Italic...Varityper
Bembo Italic ....Varityper
Benatar ....MacTography
Benatar Italic..MacTography
Benguiat Bold (ITC)...Adobe
Benguiat Book (ITC)...Adobe
Benguiat Gothic Bold (ITC)..Varityper
Benguiat Gothic Bold Italic (ITC) ....Varityper
Benguiat Gothic Medium (ITC) ....Varityper
Benguiat Gothic Medium Italic (ITC) ....Varityper
Benares ....NeoScribe Int.
Beograd (Serbo-Croatian)..NeoScribe Int.
Bizcayne ....Olduvai Corp.
Black (S) ....Studio 231
Blackjack ....MacTography
Blackjack Dark...MacTography
Blackjack Dark Italic...MacTography
Blackjack Italic...MacTography
Blackjack Open ....MacTography
Blackjack Open Italic...MacTography
Blippo Black...Bitstream
Block Black...Altsys Corp.
Block Gray..Altsys Corp.
Block Reverse ....Altsys Corp.

Block White...Altsys Corp.
Bodettes Frames Heavy ....Dubl-Click
Bodettes Frames Light...Dubl-Click
Bodettes Frames Medium..Dubl-Click
Bodettes Square ....Dubl-Click
Bodettes Square Gray ....Dubl-Click
Bodoni ....Adobe, Casady, Compugraphic(88), Kingsley, Varityper
Bodoni Bold..Adobe, Casady, Compugraphic (88), Varityper
Bodoni Bold Italic ....Adobe, Casady, Compugraphic (88), Varityper
Bodoni Italic..Varityper
Bodoni Italic..........................Adobe, Casady, Compugraphic (88), Kingsley, Varityper
Bodoni Poster...Adobe, Compugraphic (88)
Bodoni Poster Italic (88)...Compugraphic
Bodoni Ultra ....Casady & Greene, Kingsley ATF Corp.
Bodoni Ultra Condensed ....Casady & Greene
Bodoni Ultra Condensed Ital..Casady & Greene
Bodoni Ultra Italic...Casady & Greene, Kingsley ATF Corp.
Bolt Bold (S)...Studio 231
Bombay ....T/Maker
Bombay Gray..T/Maker
Bookman Bold (ITC) ....Varityper
Bookman Bold Italic (ITC)...Varityper
Bookman Demi (ITC)..Varityper
Bookman Demi Italic (ITC) ....Varityper
Bookman Light (ITC) ....Adobe, Varityper
Bookman Light Italic (ITC)...Adobe, Varityper
Bookman Medium Italic (ITC)...Varityper
Bookman Medium (ITC) ....Varityper
Borders 1 ....Altsys Corp.
Borders 2 ....Altsys Corp.
Borders 3 ....Altsys Corp.
Borders 4 ....Altsys Corp.
Borders 5 & 6 ....Altsys Corp.
Borders 7 & 8 ....Altsys Corp.
Bradley Outline (S) ....Studio 231
Bradley (S)...Studio 231
Bramley Bold (88) ....Compugraphic
Bramley Extra Bold (88) ....Compugraphic
Bramley Light (88)..Compugraphic
Bramley Medium (88)..Compugraphic
Branding Iron..Compugraphic
Brass Plate...Image Club Graphics
Briar Bold ....EmDash

Briar Book ....EmDash
Briar Heavy ....EmDash
Brighton Bold (88) ....Compugraphic
Brighton Light (88)...Compugraphic
Brighton Light Italic (88) ....Compugraphic
Brighton Medium (88)..Compugraphic
Britannic (S) ....Studio 231
Broadway ....Bitstream, Varityper
Broadway Bold ....Varityper
Broadway Engraved (S) ....Studio 231
Broadway (S)..Studio 231
Brody ....Varityper
Brody Display (S)...Studio 231
Bruce Mikita (S) ....Studio 231
Brush...Varityper
Brush Script...Adobe, Bitstream
Brush (or Tropez Bold) (88)...Compugraphic
Bullets & Boxes..Caseys' Page Mill
BulletsNstuff ....EmDash
Burgondy Right (S)...Studio 231
Burmese Black (S) ....Studio 231
Burst Helvetica/Times...MacTography
Business Signs One (S) ....Studio 231
Business Signs Two (S) ....Studio 231

C

Cairo ....MacTography
Calculus..Dubl-Click
Calgary..Image Club Graphics
Calgary Outline ....Image Club Graphics
Calligraphy ....Casady & Greene
Calumet..MacTography
Campanile..Casady & Greene
Caps&Fracs...MacTography
Carta ....Adobe
Cartoon Bold(S)...Studio 231
Casino ....Image Club Graphics
Casino Gray...Image Club Graphics
Caslon 3...Adobe, Compugraphic (88)
Caslon 3 Italic ....Adobe, Compugraphic (88)
Caslon 224 Bold (ITC) (88)...Compugraphic

Caslon 224 Bold Italic (ITC) (88) ....Compugraphic
Caslon 224 Book (ITC) (88)...Compugraphic
Caslon 224 Book Italic (ITC) (88) ....Compugraphic
Caslon 540...Adobe, Compugraphic (88)
Caslon 540 Italic ....Adobe, Compugraphic (88)
Caslon Antique ....Varityper
Caslon Bold Condensed...Kingsley ATF Corp.
Caslon Lightface ....Kingsley ATF Corp.
Caslon Lightface Condensed......................................Kingsley ATF Corp.
Caslon Lightface Italic...Kingsley ATF Corp.
Caspian ....EmDash
Caspian Bold ....EmDash
Caspian Bold Condensed..EmDash
Caspian Condensed...EmDash
Castle ....Image Club Graphics
Castle Gray...Image Club Graphics
Caxton Bold (88) ....Compugraphic
Caxton Book (88) ....Compugraphic
Caxton Light (88)...Compugraphic
Caxton Light Italic (88) ....Compugraphic
Century Bold...Kingsley ATF Corp.
Century Bold Italic..Kingsley ATF Corp.
Century Expanded...Varityper
Century Expanded Bold...Varityper
Century Expanded Bold Italic ....Varityper
Century Expanded Italic ....Varityper
Century Nova...Kingsley ATF Corp.
Century Nova Italic ....Kingsley ATF Corp.
Century Schoolbook ....Kingsley ATF Corp.
Century Schoolbook Bold ....Kingsley ATF Corp.
Century Schoolbook Bold Italic ....Kingsley ATF Corp.
Century Schoolbook Italic...Kingsley ATF Corp.
Century Old Style Bold ....Adobe
Century Old Style Italic...Adobe
Century Old Style Roman ....Adobe
Champagne...Image Club Graphics
Champagne Bold...Image Club Graphics
Charter (88) ....Bitstream
Charter Black (88)...Bitstream
Charter Black Italic (88) ....Bitstream
Charter Italic (88) ....Bitstream
Chelmsford II...Varityper
Chelmsford Bold II ....Varityper

Chelmsford Bold Italic II	Varityper
Chelmsford Italic II	Varityper
Cheltenham Bold	Kingsley ATF Corp.
Cheltenham Bold (ITC)	Adobe, Compugraphic (88), Varityper
Cheltenham Bold Condensed	Kingsley ATF Corp.
Cheltenham Bold Italic (ITC)	Adobe, Compugraphic (88), Varityper
Cheltenham Book (ITC)	Adobe, Compugraphic (88), Varityper
Cheltenham Book Italic (ITC)	Compugraphic (88), Varityper
Cheltenham Italic (ITC)	Adobe
Cheltenham Medium	Kingsley ATF Corp.
Cheltenham Oldstyle	Kingsley ATF Corp.
Chescheir	MacTography
Chescheir Fat	MacTography
Chescheir Thin	MacTography
Circle Helvetica/Times	MacTography
Clarendon	Adobe
Clarendon Bold	Adobe
Clarendon Light	Adobe
Clearface Black (ITC)	Adobe
Clearface Black Italic (ITC)	Adobe
Clearface Bold (ITC)	Adobe, Varityper
Clearface Bold Italic (ITC)	Adobe, Varityper
Clearface Gothic Bold (88)	Compugraphic
Clearface Gothic Light (88)	Compugraphic
Clearface Gothic Medium (88)	Compugraphic
Clearface Gothic Regular (88)	Compugraphic
Clearface Heavy (ITC)	Adobe
Clearface Heavy Italic (ITC)	Adobe
Clearface Regular (ITC)	Adobe, Varityper
Clearface Regular Italic (ITC)	Adobe, Varityper
Cloister Black	Bitstream
Coble	Image Club Graphics
Coble Bold	Image Club Graphics
Collage	Compugraphic
Collage Bold	Compugraphic
Collage Bold Italic	Compugraphic
Collage Italic	Compugraphic
Collegiate	Casady & Greene
Collegiate Black	Casady & Greene
Collegiate Outline	Casady & Greene
Colonial	Varityper
Colonial Bold	Varityper
Colonial Extra Bold	Varityper

D

E

Eurostile Bold ....Adobe, Varityper
Eurostile Bold Extended ....Varityper
Eurostile Bold Oblique...Adobe
Eurostile Demi...Adobe
Eurostile Demi Oblique ....Adobe
Eurostile Extended...Varityper
Eurostile Oblique..Adobe
EuroTimes..Ecological Linguistics
Excelsior ....Adobe
Excelsior Bold ....Adobe
Excelsior Italic...Adobe

F

FastLane ....Image Club Graphics
FastLane Bold...Image Club Graphics
Fatti Patti ....Dubl-Click
Fill Helvetica/Times...MacTography
Fina ....Image Club Graphics
Fina Heavy..Image Club Graphics
Flamingo ....Olduvai Corp.
Fletcher Gothic...Dubl-Click
Flourish...Electric Typographer
Folkwang (S) ....Studio 231
Fountain Helvetica/Times ....MacTography
FractionsSans ....MacTography
FractionsSerif..MacTography
Franklin Gothic..Kingsley ATF Corp.
Franklin Gothic Bold (ITC) (88)...Compugraphic
Franklin Gothic Bold Italic (ITC) (88) ....Compugraphic
Franklin Gothic Book (ITC) ....Adobe, Compugraphic (88)
Franklin Gothic Book Italic (ITC) (88) ....Compugraphic
Franklin Gothic Book Oblique (ITC)..Adobe
Franklin Gothic Condensed ....Kingsley ATF Corp.
Franklin Gothic Demi (ITC) ....Adobe
Franklin Gothic Demi Oblique (ITC) ....Adobe
Franklin Gothic Heavy (ITC) ....Adobe
Franklin Gothic Heavy Oblique (ITC)...Adobe
Franklin Gothic Italic ....Kingsley ATF Corp.
Franklin Gothic Wide...Kingsley ATF Corp.
Free Style Script...Adobe
Freehand...Kingsley ATF Corp.

Fritz Quadrata Bold (ITC) ....Adobe
Fritz Quadrata Regular (ITC) ....Adobe
Frontier ....MacTography
Frontier Italic..MacTography
Frontiera 55 (88) ....Compugraphic
Frontiera 56 (88) ....Compugraphic
Frontiera 65 (88) ....Compugraphic
Frontiera 66 (88) ....Compugraphic
Futura #1 Bold ....Adobe
Futura #1 Bold Oblique...Adobe
Futura #1 Book ....Adobe
Futura #1 Book Oblique...Adobe
Futura #1 Light..Adobe
Futura #1 Light Oblique ....Adobe
Futura #2 Extra Bold ....Adobe
Futura #2 Extra Bold Oblique ....Adobe
Futura #2 Heavy ....Adobe
Futura #2 Heavy Oblique ....Adobe
Futura #2 Medium ....Adobe
Futura #2 Medium Oblique...Adobe
Futura Black (S) ....Studio 231
Futura Bold (88)..Bitstream
Futura Bold Italic (88) ....Bitstream
Futura Medium (88) ....Bitstream
Futura Medium Italic (88) ....Bitstream
Futura Bold II (88)..Compugraphic
Futura Bold Italic II (88)..Compugraphic
Futura Medium II (88)..Compugraphic
Futura Medium Italic II (88) ....Compugraphic
Futura Condensed Bold...Adobe
Futura Condensed Bold Oblique ....Adobe
Futura Condensed Extra Bold ....Adobe
Futura Condensed Extra Bold Oblique...Adobe
Futura Condensed Light ....Adobe
Futura Condensed Light Oblique ....Adobe
Futura Condensed Medium...Adobe
Futura Condensed Medium Oblique ....Adobe

G

Gables...Olduvai Corp.
Galileo Bold...Casady & Greene

Galileo Bold Italic ....Casady & Greene
Galileo Italic ....Casady & Greene
Galileo Roman...Casady & Greene
Gallia (S) ....Studio 231
Galliard (ITC)..Adobe, Bitstream (88)
Galliard Bold (ITC)..Adobe, Bitstream (88)
Galliard Bold Italic (ITC)..Adobe, Bitstream (88)
Galliard Italic (ITC) ....Adobe, Bitstream (88)
Garajon Roman ....NeoScribe Int.
Garamond Antiqua (88)...Compugraphic
Garamond Antiqua Kursiv (88) ....Compugraphic
Garamond Bold (ITC)..Adobe, Bitstream (88)
Garamond Bold Italic (ITC) (88)..Bitstream
Garamond Book (ITC) ....Bitstream (88), Varityper
Garamond Book Italic (ITC)......................................Bitstream (88), Varityper
Garamond Demi (ITC)..Varityper
Garamond Demi Italic (ITC) ....Varityper
Garamond Halbfett (88) ....Compugraphic
Garamond Halbfett Kursiv (88) ....Compugraphic
Garamond Light (ITC) ....Adobe
Garamond Light Italic (ITC) ....Adobe
Garth Graphic..Compugraphic
Garth Graphic Bold ....Compugraphic
Garth Graphic Bold Italic...Compugraphic
Garth Graphic Italic ....Compugraphic
Gatsby Demibold ....Casady & Greene
Gatsby Demibold Italic ....Casady & Greene
Gatsby Light...Casady & Greene
Gatsby Light Italic ....Casady & Greene
Gazelle ....Casady & Greene
Gill Bold ....Varityper
Gill Bold Italic..Varityper
Gill Extra Bold ....Varityper
Gill Extra Bold Italic ....Varityper
Gill Sans Bold (88)..Compugraphic
Gill Sans Bold Condensed (88) ....Compugraphic
Gill Sans Bold Italic (88)..Compugraphic
Gill Sans Extrabold (88)..Compugraphic
Gill Sans Medium (88)..Compugraphic
Gill Sans Medium Condensed (88) ....Compugraphic
Gill Sans Medium Italic (88) ....Compugraphic
Gill Sans Ultrabold (88)..Compugraphic
Gill Sans (S) ....Studio 231

Grove..Olduvai Corp.

H

Haber ....Allotype Typographics
Hammond (88)..MacTography
Hammond Ultra ....MacTography
Hampshire Old Style (88)...Compugraphic
Hampshire Old Style Bold (88) ....Compugraphic
Hampshire Old Style Bold Italic (88)..Compugraphic
Hampshire Old Style Italic (88) ....Compugraphic
Hanover Bold II ....Varityper
Hanover Bold Italic II ....Varityper
Hanover II ....Varityper
Hanover Italic II...Varityper
Headliner...Image Club Graphics
Headliner Outline ....Image Club Graphics
Headliners ....Image Club Graphics
Hebrew...NeoScribe Int.
HelHeavy ....MacTography
HelHeavy Fat...MacTography
HelHeavy Thin..MacTography
Helios Rounded (88)..Compugraphic
Helios Rounded Bold (88) ....Compugraphic
Helios Rounded Bold Italic (88)..Compugraphic
Helios Rounded Italic (88)..Compugraphic
HelUltra...MacTography
HelUltra Fat ....MacTography
HelUltra Thin ....MacTography
Helvetica ....Adobe
Helvetica 25 Ultra Light ....Adobe
Helvetica 26 Ultra Light Italic ....Adobe
Helvetica 35 Thin ....Adobe
Helvetica 36 Thin Italic ....Adobe
Helvetica 45 Light ....Adobe
Helvetica 46 Light Italic ....Adobe
Helvetica 55 Roman ....Adobe
Helvetica 56 Italic ....Adobe
Helvetica 65 Medium ....Adobe
Helvetica 66 Medium ....Adobe
Helvetica 75 Bold ....Adobe
Helvetica 76 Bold Italic ....Adobe

|

IPATimesExt..Ecological Linguistics
Iron Works..MacTography
Isabella..Compugraphic
Italia...Adobe
Italia Bold ....Adobe
Italia Medium...Adobe
Italian ....Image Club Graphics
Italian Bold ....Image Club Graphics

J

Janson Text 55 ....Adobe
Janson Text 56 Italic...Adobe
Janson Text 75 Bold ....Adobe
Janson Text 76 Bold Italic ....Adobe
Jott ....Casady & Greene
Jott Bold..Casady & Greene
Jott Bold Italic ....Casady & Greene
Jott Italic..Casady & Greene

K

Kabel Book...MacTography
Kabel Book Fat ....MacTography
Kabel Book Thin ....MacTography
Kabel Demi..MacTography
Kabel Demi Fat..MacTography
Kabel Demi Thin..MacTography
Kabel Book (ITC) ....Adobe
Kabel Bold (ITC)...Adobe
Kabel Demi (ITC) ....Adobe
Kabel Medium (ITC)..Adobe
Kabel Ultra (ITC)...Adobe
Kadmos (Greek)..Allotype Typographics
Kangaroo ....NeoScribe Int.
Kasse...Dubl-Click
Kaufmann ....Adobe
Kaufmann Bold ....Adobe, Kingsley ATF Corp.
Kaufmann Script ....Kingsley ATF Corp.
Kells ....Casady & Greene
Kennerley ....Altsys Corp.

Kennerley Bold..Varityper
Kennerley Bold Italic ....Varityper
Kennerley Italic..Varityper
Kennerley Oldstyle ....Varityper
Keynote ....Kingsley ATF Corp.
Kimberly ....MacTography
Korinna Bold (ITC)..Adobe
Korinna Bold Kursiv (ITC) ....Adobe
Korinna Kursiv (ITC)..Adobe
Korinna Regular (ITC)..Adobe
Korinna Extra Bold (ITC) ....Varityper
Korinna Heavy (ITC) ....Varityper
Korinna Heavy Kursive Heavy (ITC) ....Varityper
Korinna Kursiv Extra Bold (ITC)..Varityper

L

Largo ....Olduvai Corp.
Latvian..NeoScribe Int.
LED 16 ....Studio 231
Letter Gothic Bold ....Adobe
Letter Gothic Bold Oblique ....Adobe
Letter Gothic Oblique..Adobe
Letter Gothic Regular ....Adobe
Letter Gothic (12 Pitch)..Bitstream
Letter Gothic Bold (12 Pitch) ....Bitstream
Letter Gothic Bold Italic (12 Pitch)..Bitstream
Letter Gothic Italic (12 Pitch)..Bitstream
Liberty ....Image Club Graphics
Liberty Outline..Image Club Graphics
Light Gray Helvetica/Times..MacTography
Line Helvetica/Times..MacTography
Los Angeles..MacTography
Los Angeles Fat ....MacTography
Los Angeles Thin ....MacTography
Los Angeles Bold ....MacTography
Los Angeles Bold Fat..MacTography
Los Angeles Bold Thin..MacTography
Lubalin Graph Book (ITC) ....Adobe
Lubalin Graph Book Oblique (ITC)..Adobe
Lubalin Graph Demi (ITC) ....Adobe
Lubalin Graph Demi Oblique (ITC) ....Adobe

Lucida Bold ....Adobe
Lucida Bold Italic...Adobe
Lucida Roman ....Adobe
Lucida Sans Bold..Adobe
Lucida Sans Bold Italic ....Adobe
Lucida Sans Italic ....Adobe
Lucida Sans Roman ....Adobe
Ludica Italic ....Adobe
Lunar ....Image Club Graphics
Lunar Extended...Image Club Graphics
Lutahline...Electric Typographer
Lydian...Kingsley ATF Corp.
Lydian Bold ....Kingsley ATF Corp.
Lydian Cursive ....Kingsley ATF Corp.
Lydian Italic ....Kingsley ATF Corp.
Lynz ....Image Club Graphics
Lynz Gray...Image Club Graphics

M

Macangelo ....NeoScribe Int.
Machine (ITC) ....Adobe, Varityper
Machine Bold (ITC) ....Varityper
Macntosh ....Image Club Graphics
Macntosh Condensed...................................Image Club Graphics
MacSlab ....NeoScribe Int.
MacSlab Bold ....NeoScribe Int.
MacSlab Bold Oblique ....NeoScribe Int.
MacSlab Oblique..NeoScribe Int.
Manistee Bold ....MacTography
Manistee Bold Fat...MacTography
Manistee Bold Thin...MacTography
·Manistee Light...MacTography
Manistee Light Fat ....MacTography
Manistee Light Thin ....MacTography
McCollough ....Compugraphic
Meath..Casady & Greene
Mechanical...Image Club Graphics
Mechanical Bold...............................Image Club Graphics
Mediaeval Bold...Varityper
Mediaeval Bold Italic..Varityper
Mediaeval Italic ....Varityper

Mediaeval Roman..Varityper
Melior Bold ....Adobe
Melior Bold Italic...Adobe
Melior Italic ....Adobe
Melior Roman ....Adobe
Memphis Bold..Adobe
Memphis Bold Italic...Adobe
Memphis Extra Bold ....Adobe
Memphis Light ....Adobe
Memphis Light Italic ....Adobe
Memphis Medium...Adobe
Memphis Medium Italic ....Adobe
Michelle...Dubl-Click
MICR ....Adobe, Image Club Graphics
MICR Extended ....Image Club Graphics
Micro ....Casady & Greene
Micro Bold...Casady & Greene
Micro Bold Italic ....Casady & Greene
Micro Extended...Casady & Greene
Micro Extended Bold ....Casady & Greene
Micro Extended Bold Italic..Casady & Greene
Micro Extended Italic...Casady & Greene
Micro Italic ....Casady & Greene
MicroFonts+ ....MacTography
Micron..MacTography
Micron Fat ....MacTography
Micron Thin ....MacTography
Micron Demi ....MacTography
Micron Demi Fat...MacTography
Micron Demi Thin ....MacTography
Milliways..MacTography
Milliways Italic..MacTography
MiniPics...Image Club Graphics
Missive ....MacTography
Missive Fat..MacTography
Missive Thin ....MacTography
Missive Demi ....MacTography
Missive Demi Fat...MacTography
Missive Demi Thin ....MacTography
Mistral...Varityper
Mobile ....MacTography
Monterey ....Casady & Greene
Monterey Bold ....Casady & Greene

Monterey Bold Italic ....Casady & Greene
Monterey Italic...Casady & Greene
Monterey Medium ....Casady & Greene
Moonlight ....MacTography
Moonlight Bold ....MacTography
Moonlight Demi Bold ....MacTography
Moonlight Extra Bold..MacTography
Moonlight Medium ....MacTography
Moore Computer(S) ....Studio 231
Murray Bold (88) ....Compugraphic
Murray Hill ....Kingsley ATF, Varityper
Murray Hill Bold ....Kingsley ATF, Varityper

N

Nashville Bold...Compugraphic
Nashville Bold Italic..Compugraphic
Nashville Medium...Compugraphic
Nashville Medium Italic ....Compugraphic
Neon ....Image Club Graphics
Neon Lowercase..Image Club Graphics
Neosho Bold ....MacTography
Neosho Bold Fat..MacTography
Neosho Bold Thin...MacTography
Neosho Light..MacTography
Neosho Light Fat ....MacTography
Neosho Light Thin ....MacTography
Neuland..NeoScribe Int.
New Baskerville (ITC) ....Adobe, Varityper
New Baskerville Bold (ITC)..Adobe, Varityper
New Baskerville Bold Italic (ITC) ....Adobe, Varityper
New Baskerville Italic (ITC) ....Adobe, Varityper
New Caledonia ....Adobe
New Caledonia Black ....Adobe
New Caledonia Black Italic ....Adobe
New Caledonia Bold ....Adobe
New Caledonia Bold Italic...Adobe
New Caledonia Italic ....Adobe
New Caledonia Semi Bold..Adobe
New Caledonia Semi Bold Italic ....Adobe
New Century Schoolbook Bold ....Adobe
New Century Schoolbook Bold Italic ....Adobe

New Century Schoolbook Italic ....Adobe
New Century Schoolbook Roman ....Adobe
New Yorker..Image Club Graphics
New Yorker Engraved ....Image Club Graphics
Newbaby ....MacTography
Neweast...MacTography
News Gothic ....Adobe, Bitstream
News Gothic Bold..Adobe, Bitstream
News Gothic Bold Italic ....Bitstream
News Gothic Bold Oblique ....Adobe
News Gothic Italic..Bitstream
News Gothic Oblique...Adobe
Norfolk..NeoScribe Int.
Nouveau ....Dubl-Click
Novarese Bold (ITC) ....Compugraphic
Novarese Bold Italic (ITC)..Compugraphic
Novarese Medium (ITC)..Compugraphic
Novarese Medium Italic (ITC)...Compugraphic

O

OCRA...Adobe, NeoScribe Int.
OCRB ....Adobe
Old English (88) ....Compugraphic
OldStyle ....NeoScribe Int.
Olive ....Varityper
Olive Bold ....Varityper
Olive Compact..Varityper
Olive Italic ....Varityper
Optima Bold ....Adobe
Optima Bold Oblique ....Adobe
Optima Oblique..Adobe
Optima Roman ....Adobe
Option...MacTography
Option Demi ....MacTography
Option Demi Fat..MacTography
Option Demi Thin..MacTography
Option Fat ....MacTography
Option Thin ....MacTography
Orator Regular ....Adobe
Orator Regular Oblique ....Adobe

Q

R

Revue ....Adobe
Revue(S) ....Studio 231
Rhine ....MacTography
Rhine Fat ....MacTography
Rhine Thin ....MacTography
Riccardo(S) ....Studio 231
Right Bank ....Casady & Greene
Ritz ....Casady & Greene
Ritz Condensed ....Casady & Greene
Ritz Italic ....Casady & Greene
Riverside ....Devonian
Riverside ....Devonian
Riverside Bold ....Devonian
Rock-A-Billy ....Image Club Graphics
Rock-A-Billy Wild ....Image Club Graphics
Romic Bold (88) ....Compugraphic
Romic Light (88) ....Compugraphic
Romic Light Italic (88) ....Compugraphic
Romic Medium (88) ....Compugraphic
Round Black(S) ....Studio 231
Rubber Stamp ....Image Club Graphics
Rubber Stamp Gray ....Image Club Graphics

S

SansSerif ....Casady & Greene
SansSerif Bold ....Casady & Greene
SansSerif Bold Condensed ....Casady & Greene
SansSerif Bold Condensed Italic ....Casady & Greene
SansSerif Bold Italic ....Casady & Greene
SansSerif Book ....Casady & Greene
SansSerif Book Italic ....Casady & Greene
SansSerif Demi Bold ....Casady & Greene
SansSerif Demi Bold Italic ....Casady & Greene
SansSerif Extra Bold ....Casady & Greene
SansSerif Extra Bold Condensed ....Casady & Greene
SansSerif Extra Bold Condensed Italic ....Casady & Greene
SansSerif Extra Bold Italic ....Casady & Greene
SansSerif Italic ....Casady & Greene
Savage ....Image Club Graphics
Scaning ....Image Club Graphics
Scaning Two ....Image Club Graphics

Siegfried Bold Italic ....Varityper
Siegfried Italic ....Varityper
Signature ....Image Club Graphics
Signature Thin ....Image Club Graphics
Single Pipe(S) ....Studio 231
Sirus ....MacTography
Sirus Italic..MacTography
Slant Helvetica/Times...MacTography
Sofa..Image Club Graphics
Sofa Bold ....Image Club Graphics
Sonata...Adobe
Souvenir ....Varityper
Souvenir Bold...Varityper
Souvenir Bold Italic ....Varityper
Souvenir Italic ....Varityper
Souvenir Demi (ITC)...Adobe, Bitstream (88)
Souvenir Demi Italic (ITC) ....Adobe, Bitstream (88)
Souvenir Light (ITC)...Adobe, Bitstream (88)
Souvenir Light Italic (ITC)...Adobe, Bitstream (88)
Spartan Black ....Kingsley ATF Corp.
Spartan Black Italic..Kingsley ATF Corp.
Spartan Medium ....Kingsley ATF Corp.
Spartan Medium Italic..Kingsley ATF Corp.
Spokane...MacTography
Spokane Fat ....MacTography
Spokane Thin ....MacTography
Stack Helvetica/Times ....MacTography
Standard Bold(S)..Studio 231
Standard Condensed(S)...Studio 231
Standard Light(S) ....Studio 231
Standard Medium Condensed(S)...Studio 231
Standard Medium(S) ....Studio 231
Standard(S) ....Studio 231
Stationers Semiscript..Kingsley ATF Corp.
Stencil ....Adobe
Sterling..Image Club Graphics
Sterling Reverse ....Image Club Graphics
Stone Informal Bold ....Adobe
Stone Informal Bold Italic...Adobe
Stone Informal Medium ....Adobe
Stone Informal Medium Italic..Adobe
Stone Informal Semibold ....Adobe
Stone Informal Semibold Italic..Adobe

Stone Sans Bold ....Adobe
Stone Sans Bold Italic..Adobe
Stone Sans Medium..Adobe
Stone Sans Medium Italic...Adobe
Stone Sans Semibold ....Adobe
Stone Sans Semibold Italic..Adobe
Stone Serif Bold..Adobe
Stone Serif Bold Italic ....Adobe
Stone Serif Medium..Adobe
Stone Serif Medium Italic ....Adobe
Stone Serif Semibold ....Adobe
Stone Serif Semibold Italic..Adobe
Structure ....Allotype Typographics
Stymie Bold ....Kingsley ATF, Varityper
Stymie Bold Italic ....Kingsley ATF, Varityper
Stymie Light ....Kingsley ATF Corp.
Stymie Medium ....Kingsley ATF, Varityper
Stymie Medium Italic ....Varityper
Styx ....MacTography
Styx Fat..MacTography
Styx Thin...MacTography
Surf Style ....Image Club Graphics
Surf Style Bold ....Image Club Graphics
Sverdlovsk..Devonian
Symbol ....Adobe
Symphony ....Compugraphic
Symphony Bold ....Compugraphic
Symphony Bold Italic ....Compugraphic
Symphony Italic...Compugraphic
Szwacarskie ....Allotype Typographics
Szwacarskie Bold ....Allotype Typographics
Szwacarskie Bold Italic...Allotype Typographics
Szwacarskie Italic..Allotype Typographics

T

Tempora ....Allotype Typographics
Terra...MacTography
Terra Fat..MacTography
Terra Thin...MacTography
Terra Bold ....MacTography

Terra Bold Fat...MacTography
Terra Bold Thin...MacTography
Thames ....MacTography
Thames Fat..MacTography
Thames Thin ....MacTography
Theater ....Image Club Graphics
Theater Bold ....Image Club Graphics
Thingamajigs ....MacTography
Thompson Quillscriopt ....Kingsley ATF Corp.
Tiffany Demi (ITC)...Adobe
Tiffany Demi Italic (ITC)..Adobe
Tiffany Heavy (ITC) ....Adobe, Varityper
Tiffany Heavy Italic (ITC) ....Adobe, Varityper
Tiffany Medium (ITC)..Adobe, Varityper
Tiffany Medium Italic (ITC)..Adobe, Varityper
Times Bold...Adobe
Times Bold Italic..Adobe
Times Italic ....Adobe
Times Roman...Adobe
Times Ten Bold ....Adobe
Times Ten Bold Italic ....Adobe
Times Ten Italic ....Adobe
Times Ten Roman ....Adobe
Tipe Heavy..Image Club Graphics
Tipe Thin ....Image Club Graphics
Trent..MacTography
Trent Fat ....MacTography
Trent Thin ....MacTography
Triangle Helvetica/Times...MacTography
Trisse ....MacTography
Triumvirate...Compugraphic
Triumvirate Compressed (88)..Compugraphic
Triumvirate Extra Compresed (88) ....Compugraphic
Triumvirate Inserat (88)..Compugraphic
Triumvirate Inserat Italic (88) ....Compugraphic
Troubador ....Electric Typographer
Trump Mediaeval ....Adobe, Compugraphic
Trump Mediaeval Bold..Adobe, Compugraphic
Trump Mediaeval Bold Italic ....Adobe, Compugraphic
Trump Mediaeval Italic ....Adobe, Compugraphic
Tschichold ....NeoScribe Int.

U

V

Venzia Bold Italic ....Altsys Corp.
Venzia Bold Italic Extra...Altsys Corp.
Venzia Extra..Altsys Corp.
Venzia Italic ....Altsys Corp.
Venzia Italic Extra ....Altsys Corp.
Vertigo..Dubl-Click
VietnamTimes ....Ecological Linguistics

W

Wave ....Varityper
Wedding Text ....Varityper
Wedding Text Bold ....Varityper
Willamette Medium ....MacTography
Willamette Medium Fat...MacTography
Willamette Medium Thin ....MacTography
Willamette Xtra Light...MacTography
Willamette Xtra Light Fat..MacTography
Willamette Xtra Light Thin..MacTography
Windsor ....Bitstream, Varityper
Windsor Elongated ....Varityper

Y

Yukon ....MacTography
Yukon Fat..MacTography
Yukon Thin ....MacTography

Z

Zapf Chancery Medium Italic ....Adobe
Zapf Dingbats ....Adobe
Zephyr Script...Casady & Greene
Zip Helvetica/Times...MacTography

ITC= Licensed from International Typeface Corporation
(S) = Part of Studio 231 name (e.g., SAlbertus); added to end of name in this table to facilitate
    alphabetizing
 88 = Type scheduled to be released by the end of 1988

GLOSSARY

Ascender A stroke of a lowercase letter such as *d* or *b* that extends above the body of the letter.

ASCII American Standard Code for Information Interchange. A numbering scheme used by computers to denote characters and control commands. ASCII numbers 32 through 255 are used for printing characters.

Baseline An invisible line on which characters sit. In some typefaces, rounded characters such as *e* and *o* dip slightly below the baseline in order to visually line up with the other characters.

Bit map A grid of dots, or pixels, that make up characters or graphics on a computer screen. The Mac displays black characters on a white background to simulate the appearance of a printed page.

Black-letter type (Also called **Old English** or **Textura**) An antique style of type based on the angular calligraphy of thirteenth-century German scribes.

Body copy (Also called **body type**) Text, generally set at 9 to 12 points, used for long passages of reading matter.

Bracketed serif A serif that is linked to a character with a curved bowl, rather than a right angle (vs. square or slab serifs).

Built-in font A set of characters that resides permanently in a printer's memory.

Cap height The height of a face's capital letters. In many faces, the capitals are shorter than the ascenders.

Center justified *See* Justified type.

Color The overall shade of gray perceived when a reader scans a block of type. The uniform color of a page can be disrupted by uneven word or letter spacing. Adding or subtracting leading affects color as well.

Condensed (also **Narrow** or **Compressed**) A typeface with characters that are narrower than those of the corresponding roman face, but retain the original face's cap height. Condensed faces can be created by hand or produced on a computer.

Counterform The space surrounded by closed letters such as *b* or *e.*

CPP (Characters per pica) A calculation used in copyfitting, the process of determining the correct type size and leading to fill a predetermined area. The easiest way to determine CPP is to measure the width, in points, of a face's lowercase alphabet and divide that number by 342.

Decorative typeface A stylized typeface that is intended to catch the reader's attention. Decorative faces run the gamut from script to computeresque, and are used in applications where readability isn't as important as grabbing attention or setting a mood.

Descender A stroke of a lowercase letter such as *g* or *y* that drops below the body of the letter.

Diacritic An accent or mark placed on a letter to indicate a particular pronunciation. Common diacritical marks are the acute accent (é), grave accent (è), umlaut (ü), circumflex (î), tilde (ñ), and cedilla (ç).

Dingbats Ornamental typographic elements such as stars, arrows, pointing hands, and so on. Used for decorative touches, highlights, and borders.

Display face A typeface designed to be set at relatively large sizes

(usually 18 points and up) and used in titles, headlines, signs, and the like.

DPI Dots per inch. The resolution of a computer screen (the Mac's screen resolution is 72 dpi) or an output device such as a laser printer or imagesetter.

Downloadable font A font that can be temporarily stored in a printer's memory, printed, and flushed from memory when the job is done (vs. built-in fonts, which reside permanently in the printer).

Drop cap A large capital letter, placed at the beginning of a chapter or paragraph, that drops into the surrounding text.

Egyptian (Also called **slab serif** or **square serif**) A type style characterized by strong, uniform strokes, and thick, square serifs. This style originated in France after Napoleon's return from Egypt.

Ellipsis A character made up of three periods. Ellipses are used to indicate an omission; often used when portions of quoted matter are omitted.

Family A group of typefaces that share a common design but differ in stylistic attributes such as weight or character width. A typical family consists of roman, bold, italic, and bold-italic faces.

Em A relative unit of measure equal to a face's point size. (An em is 10 points wide when a face is set at 10 points, for example.) Called an *em* because it's usually the width of a face's widest letter, the uppercase *M*. An *em-dash* is one em wide.

En A relative unit of measure equal to half of a face's point size. An *en-dash* is one en wide.

Extended (Also called **Expanded**) A typeface in which the letters are stretched horizontally while retaining their original height. An extended face can be created by hand or produced on a computer.

Font In digital typography, the data that describes the complete character set for a given typeface. On the Macintosh, screen fonts are made up of displayed dots, or pixels, while printer fonts are scalable outlines that can print characters of virtually any size.

Gothic Another name for sans serif type. (Also occasionally used to signify black-letter type.)

Grotesque Another name for sans serif type.

Hot-metal typesetting A form of typesetting in which lines of characters are arranged in a matrix and cast in a molten lead alloy.

Initial cap A large capital letter, often decorative, placed at the beginning of a chapter, paragraph, section, or the like.

Inline A decorative type style in which a solid letterform is placed within an outlined letter.

Italic A slanted variation of a roman typeface, designed to complement the roman face's letterforms. Italics were originally modeled after handwritten script or calligraphy.

Justified type (also called **Center justified**) Lines of text that line up at both the left and right margins. Often letterspacing as well as word spacing is adjusted to even out line lengths when text is justified.

Kerning Adjusting the space between letter pairs accommodate the varying shapes of letters and produce the appearance of consistent letter spacing. PostScript typefaces have built-in kerning pairs, but you may need to manually adjust kerning when type is set at a large size, which makes gaps more noticeable.

Leading The vertical distance between lines of type, from baseline to baseline, measured in points. Leading is expressed as a face's point size, followed by the baseline-to-baseline measurement (for example, "10/12" for 10-point type with 2 points of leading). The term derives from thin strips of lead placed between lines in the days of hot-metal typesetting.

Letterspacing The space between each letter in a word. Some programs add space between each letter to fill out a line when text is center-justified.

Ligature A special character made up of two or more characters. Many PostScript typefaces include the ligatures *fi, fl, œ,* and *æ.*

Line spacing *See* Leading.

Lowercase (Also called **Minuscules**) Small letters of a typeface (a, b, c, etc.). The term comes from the typesetting tradition of storing small letters in the lower part of a printer's typecase.

Modern A type style characterized by extreme contrast between thick and thin strokes, square serifs, and a strong vertical stress.

Monospaced type Type in which all characters are of the same

width, as in a typewriter face (vs. proportionally spaced type).

Oblique A slanted version of a roman typeface. Some oblique faces are created by type designers, while others are produced with computer commands.

OCR face A typeface designed to be read by an optical character recognition device.

Old Style A type style characterized by small variations in stroke width, bracketed serifs, and a diagonal stress. Old Style numbers often extend below a face's baseline.

Outline font A computerized font made up of Bézier curves, which can be scaled to any size before being printed as a bit map. Since outline fonts are scalable, only one set of outlines needs to be created for a given typeface.

Pi font A set of special characters for a particular profession or discipline. Examples of pi fonts include mathematical symbols, cartographic symbols, monetary symbols, fractions, or custom characters.

Pica A typographic unit of measurement equal to 12 points, or approximately 0.166 inches.

Pixel (From *picture element*) A square or rectangular dot that is the smallest unit displayed on a computer screen (the Mac displays 72 pixels per inch). Selected pixels in a grid are turned on or off to create characters or graphics.

Point A typographic unit of measurement equal to approximately $1/72$ inch (actually 0.1383 inches). A face's point size is the distance from the top of its ascenders to the bottom of its descenders.

PostScript A language developed by Adobe Systems to describe pages of scalable text and graphics. PostScript is built into Apple's LaserWriter printers and numerous other laser printers and imagesetters.

Printer font A set of scalable outlines for a given character set. Some printer fonts are built into laser printers and imagesetters, while others can be temporarily downloaded to the device for a particular printing job.

Proportionally spaced type Type in which character widths vary (vs. monospaced type, in which all characters of a face are the same width). In a proportionally spaced face, an *i* is narrower than an *m*, for example.

Ragged right Lines of type that line up at the left margin, but not the right margin.

RAM   Random Access Memory. Temporary storage space in a computer or printer that is used to store data, including fonts. Unlike information in ROM, information in RAM disappears when a device is turned off.

Reverse type   White characters set on a dark background.

RIP   Raster Image Processor. A device that converts computer instructions (PostScript, in the case of the Mac) into bit maps that are output by a printer or imagesetter.

ROM   Read-Only Memory. Permanent memory that is built into a computer or printer and used to store data (including fonts) shared by all programs.

Roman   A style of type characterized by upright, as opposed to slanted characters. Called *Plain* in Mac font menus.

Sans serif face   (also called **gothic** or **Grotesque**) A typeface with no serifs at the ends of strokes. Sans serif faces are often composed of characters with little variation in stroke width.

Screen font   The bit-mapped characters that appear on the monitor when you type. For optimum readability, screen fonts must be

installed in all the sizes you intend to use.

Serif face   A typeface with small counterstrokes at the end of each main stroke. Serifs help the eye tie the letters of a word together.

Slab serif   *See* Egyptian.

Small caps   A set of capital letters that match the x-height and letter width of a given typeface and size. Small caps can be created by a type designer or produced by software.

Solid leading   Leading equal to the point size of the type being used (for example, 12-point type set on 12 points of lead). Most PostScript typefaces have a little extra space built in so ascenders and descenders of adjoining lines don't touch when type is set solid.

Square serif   *See* Egyptian.

Stress   The vertical, horizontal, or diagonal emphasis of a letter stroke.

Text face   A typeface designed to be readable in long passages. Text faces are usually set at sizes from 9 to 12 points.

Tracking   The overall letterspacing in a passage of text. Some programs let you adjust tracking to tighten up a face that looks too airy,

or to add space to even out lines of display type.

Transitional A type style that forms a transition between Old Style and Modern faces. Characterized by moderate variation in stroke weight, smoothly-joined serifs, and a nearly vertical stress.

Typeface A complete set of characters, punctuation, and symbols that share a common design.

Typeface family *See* Family.

Uncial A calligraphic typestyle that combines the attributes of uppercase and lowercase letters, rounding the normally straight lines of the capitals. The name comes from the Latin *uncus*, crooked.

Uppercase Capital letters of a typeface (A, B, C, etc.). The term comes from the typesetting tradi-

tion of storing capital letters in the upper part of a printer's typecase.

Weight Variation in a face's stroke width. Some typeface families include several weights, which can range from extralight to ultrabold. Common weights are light, regular, demibold or semibold, bold, and ultrabold (also called *heavy* or *black*).

Word spacing The amount of space between each word in a line of text. Word spacing is automatically adjusted to even out lines in justified text.

X-height The height of a face's lowercase letters. The lowercase *x* is measured because in most faces it sits squarely on the baseline and has no ascenders or descenders. X-height affects a face's perceived size; faces with large x-heights look bigger than faces with small ones.

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INDEX

the MACINTOSH foNt BOOK

This book covers all facets of Macintosh typography, from definitions of basic terms to detailed tips on managing a large font collection on a hard disk:

- Font management utilities
- How to pick the right typeface for a given job
- Installing screen and printer fonts
- Accessing special characters
- Customizing your keyboard layout
- Adding graphic effects to fonts
- Resolving font ID number conflicts
- Typesetting documents at a service bureau
- Comprehensive list of font vendors

"Finally! Someone has done all the work, so you and I don't have to. Erfert Fenton has brought together everything you need to know about Macintosh fonts and faces in one accessible handbook." Steve Roth, Editor, *Real World PostScript*

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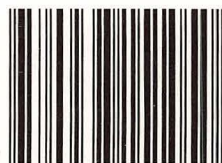
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