



TYPOGRAPHY PRIMER



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What's in a Letter

Every serious subject has a language of its own. Typography is no exception. The following diagram shows a few terms used to talk about letterforms. Many more appear in the Glossary of Typographic Terms at the end of this document. These terms let you discuss type like an expert.



Serif and Sans Serif

The serif, or cross-line at the end of a stroke, probably dates from early Rome. Father Edward Catich proposed in his seminal work, *The Origin of the Serif*, that the serif is an artifact of brushing letters onto stone before cutting them. Serif types are useful in text because the serifs help distinguish individual letters and provide continuity for the reader's eye.

Serifs come in many styles. Compare the tapered serifs of Kepler® to the slab serifs of Chaparral® and the wedge serifs of Warnock.™

Kepler Chaparral Warnock

Typefaces without serifs are called sans serif (sans is French for without) designs. The first sans serif type design is credited to William Caslon in England in 1816. Sans serif designs are also sometimes referred to as gothic or grotesque designs.

Myriad® Cronos® Ocean Sans™

x-height

Traditionally, x-height is the height of the lowercase letter x. It affects the feel of a typeface, how many characters fit on a line, and depending on how the type is set, how easily your text can be read. At very small point sizes, a font with a larger x-height is easier to read, everything else being equal. Compare the following examples of Adobe Jenson,™ Utopia,® and Minion,® all at a point size of 10:

You can't really talk about type without talking about x-height. Simply put, x-height is the height of the lowercase letters, excluding the ascenders and descenders. Unlike point size, x-height is not a unit of measurement. Rather, it's a proportional description of the lowercase letters. A typeface with a large x-height simply means the lowercase letters are proportionally large in relation to the ascenders and descenders.

Adobe Jenson 10-point type / 13-point leading (10/13)

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Utopia 10/13

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Minion 10/13

Measuring Type

To understand how type works, you must know how it is measured. Basically, typefaces are measured in two ways: height and width.

Type Height

In earlier times when type was cast in metal, it was sold in discrete sizes that were measured in points. Today's digital fonts can be enlarged or reduced by simply selecting, or specifying, a point size.

Originally, the term point size referred to the height of the metal body that held the characters. This was slightly larger than the distance from the highest to the lowest feature in the design.

A traditional point is approximately $\frac{1}{72}$ of an inch or .01384 inch. With the advent of desktop publishing, the point became exactly $\frac{1}{72}$ of an inch. Picas are another unit of measurement used for type; one pica equals 12 points, and six picas equal an inch.

This method of measuring is still used for digital type. Typefaces that have very long ascenders and descenders look smaller than other typefaces when both are printed at the same point size. This incongruity is illustrated below.

26pt Postino®
26 point Bickham Script®

Type Width

In addition to height, a typeface is commonly identified by its width. The width of a typeface is often expressed in the font's style name, such as condensed or extended. Other expressions of width include compressed, expanded, and wide.

Jimbo® Regular Condensed

Jimbo Reg Extended

Variations on a Theme

A type family generally contains three variations on the regular face: italic, bold, and bold italic. However, many families have been designed to include variation in weight from ultra light to ultra black; variation in width from condensed to extended; multiple character sets, such as small capitals, titling capitals, swash capitals, oldstyle figures, alternates; and more.

This variety enables you to achieve just the look you want and allows for a good deal of flexibility. For example, it is often necessary to make a given amount of type fit into a predetermined amount of space on the page. When space is an issue, a condensed or extended version of a typeface can be a real lifesaver!

Times*	Adobe Garamond®
Roman	Regular
<i>Italic</i>	<i>Italic</i>
Bold	Semibold
<i>Bold Italic</i>	<i>Semibold Italic</i>
	Bold
	<i>Bold Italic</i>
	<i>Swash Capitals</i>
	SMALL CAPITALS
	TITLING CAPITALS
	1234567890
	€&*

Spacing

Type is defined by the space around it, whether between letters, words, or lines.

Monospaced versus Proportional

Fonts on typewriters were usually monospaced (also known as fixed pitch). Monospaced means that each character, whether it's an *i* or an *m*, takes up the same amount of space. Monospaced digital fonts, such as Courier, work well when a mechanical typewriter look is desired or in cases where characters should line up vertically.

monospaced (im)
proportionally spaced (im)

Today, most of the digital type used on computers is designed to be proportionally spaced. With proportional spacing, each letter is given just the amount of space it needs to look right and be most legible. Using a proportional font, you can fit much more text on a page than using a monospaced font while at the same time making the text easier to read.

Line Length

As lines of text get long, it can be difficult for the reader to move from the end of one line to the beginning of the next. On the other hand, short line lengths break up the text and interrupt the reader. The ideal line length depends on the design of the typeface, type size, line spacing, and length of the copy. Generally, a line should have 55 to 60 characters, or 9 to 10 words, for optimal readability.

Leading

Leading is the vertical distance between lines of type and is measured in points. During the days of metal type, printers inserted extra strips of lead between long lines of text to make them easier to read. This procedure gave rise to the term leading (pronounced ledding). Leading is measured from the baseline of one line of text to the baseline of the next line of text. Most word processing and page layout applications let you adjust the leading in your documents. Experiment with this feature to see how it affects legibility.

Too much leading causes the eye to jump from line to line and is disruptive to reading. Too little leading creates dark, uninviting color that may cause the eye to skip a line when scanning to find the next one.

11-point type / 24-point leading (11 / 24)

Too little leading creates dark, uninviting color that may cause the eye to skip a line when scanning to find the next one. Too much leading causes the eye to jump from line to line and is disruptive to reading.

11 / 11

Word and Letter Spacing

You can also adjust word and letter spacing to improve legibility. Although typefaces are designed with the correct spacing between characters for general use, special situations can result in the type looking crowded or too loose. For example, words printed in all UPPERCASE tend to look too tight because the designer assumed that uppercase and lowercase letters would be mixed. If your application allows you to adjust letter spacing, you should add a small amount of letter space to words printed in all uppercase.

LETTERSPACE LETTERSPACE

Some letter combinations, particularly in words set in capitals, result in awkward spacing unless they are kerned. Kerning is the adjustment of space between pairs of letters. Kerning is especially important at large point sizes. As the characters are enlarged, so is the space between them.

AVOID
AVOID

Task Toolkit 118
Task Toolkit 118

Word spacing, the space between words, should be constant in flush left, flush right, or centered text. However, for justified text, word spacing varies from line to line to keep margins even.

To aid readability, it's important to keep word spacing as consistent as possible—even if it means hyphenating words. Tight word spacing lets you place more text on the page, but can make it difficult to distinguish words from each other. Loose word spacing fills up a page with a small amount of text, but the text becomes harder to read as the words begin to look disconnected.

When you justify a column of type, never allow letterspacing to vary. Each letter is designed with just the amount of space it needs to look right and be most legible. Watch that word spaces don't create awkward gaps or rivers. They are disruptive to comfortable reading. Choose a column width, typeface, and point size that work to enhance readability.

Uneven word spacing

When you justify a column of type, never allow letterspacing to vary. Each letter is designed with just the amount of space it needs to look right and be most legible. Watch that word spaces don't create awkward gaps or rivers. They are disruptive to comfortable reading. Choose a column width, typeface, and point size that work to enhance readability.

More consistent word spacing, better typographic color

Typographic Color

Spacing concerns and the design of the typeface itself affect what is known as typographic color. This term may seem like a misnomer in an age when even word processors let you apply actual color (for example, red, blue, or green) to type as easily as changing the point size. Typographic color is really the grey value, or density, of a mass of type on the page. A page may have light or dark color, but you must keep the color consistent on the page to aid readability.

The tighter the letterspacing and word spacing, the darker the lines of type become. You can set condensed type tighter than regular or extended type. And as a rule, you can set display sizes tighter than body text because extended readability is not an issue.

Minion 11 / 14

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Myriad 12 / 14

Using the Right Character

The difference between an amateur-looking document and a professionally produced one can be a matter of details. The following topics cover some of the most commonly overlooked or incorrectly handled details of typography.

Italics, Boldface, and Uppercase

Unless you're indicating text that is hyperlinked, you should avoid underlining text. Underlining is left over from typewriters, which lacked italics. Sometimes underlining is necessary when no adequate

italic is available. Use italics for emphasis or for proper convention, such as the titles of books, periodicals, and plays.

If you want something to jump out on the page, try using boldface—but remember, contrast attracts attention. The best-designed pages display a clear hierarchy of information. If you make everything bold, nothing will stand out. Also, avoid using a bold italic typeface in body text. Usually bold or italic will be sufficient.

Sometimes, by selecting the bold or italic style option, an application will try to automatically create a bold or italic version of a typeface if one is not installed on your computer. These computer-generated styles should be avoided. It is always preferable to use the true bold or italic version of a typeface.

Avoid using all uppercase letters to emphasize text. They aren't as readable as lowercase letters and interrupt the flow of the text. When your document calls for all capitals, use a small capital typeface, such as those included in many Adobe® typefaces.

What to do with CAPITALS in your text? SMALL CAPITALS are the best solution. If they aren't available, reduce the point size of the full-size CAPITALS slightly and letterspace so they aren't crashing into each other.

Regular capitals

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Reduced size capitals

Optical Sizes

High-quality typefaces have always had different designs depending on the point size of the text to be set. In the days of metal type, each point size had its own unique design that was specifically tailored for its usage. For example, a typeface to be used at 6 point, such as in a photo caption, would be a bit thicker or denser than a typeface used for a headline set at 72 point. Several of Adobe's OpenType® fonts include four optical size variations: caption, regular, subhead, and display. Called Opticals, these variations have been optimized for use at specific point sizes. Although the exact intended sizes vary by family, the general size ranges include: caption (6–8 point), regular (9–13 point), subhead (14–24 point), and display (25–72 point). Several of Adobe's Multiple Master fonts also include the ability to select an optical size.

Warnock Pro Caption
Warnock Pro Reg (text)
Warnock Pro Subhead
Warnock Pro Display

All fonts shown at 30 point

Getting Your Quotes Right

The neutral quote marks, ' and ", that are accessible from your keyboard are traditionally used to indicate units of measure. True, or directional, quotes, ‘ ’ and “ ” (sometimes called curly quotes), should be used whenever possible. Some applications automatically apply true quotes by changing the application's preferences.

4'6" = 4 feet, 6 inches

4'6" = 4 minutes, 6 seconds

“Typography is not an independent Art: it is a means to an end, not an end in itself. It must always be subservient to the text which is its ‘raison d'être’...”

—HERBERT SPENCER

Using the Experts

Adobe sells a number of expert-set typeface collections. These collections contain many of the less frequently used characters that add a professional look to your documents, including oldstyle figures, small capitals, ornaments, and ligatures. For example, you can use f-ligatures, which eliminate awkward character combinations. Compare the fi, fl, ff, ffi, and ffl ligature combinations in the second line with the individual characters in the first line.

fi fl ff ffi ffl difficult sniffle
fi fl ff ffi ffl difficult sniffle

Adobe's OpenType Pro fonts typically combine these special expert-set characters and the base character set in a single font. With an application that supports OpenType features, such as Adobe InDesign™, substitution of these characters can be automated.

Upper- and Lowercase Numbers

When you are setting numbers with lowercase text, it is best to use lowercase numbers. That's right! Numbers come in upper- and lowercase versions.

The lowercase versions are often called oldstyle figures, and they contain characters with ascenders and descenders. Uppercase numbers look fine in spreadsheets and in uppercase text, but look too large in body text.

1234567890

Uppercase numerals

These numbers, 123 and 456 or 789 and even 0, set in uppercase look too large in text.

1234567890

Lowercase numerals

These numbers, 123 and 456 or 789 and even 0, set in lowercase work much better with text.

Small Capitals

Smaller versions of regular capital letters, called small capitals or small caps, are drawn to have the same typographic color as the lowercase characters in a typeface, and to be visually appealing when used alongside lowercase text.

Some applications allow you to apply a small-capitals style to your text. This usually means that the application reduces the point size of full caps to about the height of the lowercase. The resulting letters are usually too light, even if the application does something like expanding the type horizontally. Small capitals are useful for section headings or chapter titles, to accent important words or phrases in mid-sentence, or at the beginning of a paragraph for a lead-in. True small caps are one sign of a truly professional typesetting job.

SMALL CAPITALS VS
FAKE SMALL CAPITALS

Many of Adobe's OpenType fonts contain small capitals, and applications that support the OpenType small caps feature, such as Adobe InDesign, can substitute these letterforms automatically.

Alignment

The alignment of the text within text blocks contributes to the tone of your documents. When text is aligned to one margin and ragged on the other, it can create an informal feeling. Left aligned text is easier to read than right aligned text. Avoid right alignment unless it is appropriate as a design treatment. Justified text aligns on both the left and right hand sides and is used in newspapers, newsletters, and traditionally in book work. Justified text is sometimes considered more formal than ragged text. Not surprisingly, it optimizes the amount of copy you can fit on a page.

The alignment of text within text blocks contributes to the tone of your documents. When text is aligned to one margin and ragged on the other, it can create an informal feeling. Left aligned text is easier to read

Left aligned

The alignment of text within text blocks contributes to the tone of your documents. When text is aligned to one margin and ragged on the other, it can create an informal feeling. Left aligned text is easier to read

Right aligned

The alignment of text within text blocks contributes to the tone of your documents. When text is aligned to one margin and ragged on the other, it can create an informal feeling. Left aligned text is easier to read than right aligned text.

Justified

Copyfitting

Copyfitting is the process of deciding which typeface, point size, leading (line spacing), and line length are necessary to fit a certain amount of text into a given space. With careful planning, these choices need only be made once, at the beginning of a job.

It is important to understand how each of these choices affects readability. In general, text becomes less readable as the typeface becomes too condensed or too extended, point size becomes smaller, leading becomes tighter, or line length becomes longer.

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If you find yourself forced to use 6-point Helvetica* Compressed Ultra with 6-point leading, it is time to start editing!

Choosing and Using Typefaces

With literally thousands of typefaces readily available it would be logical to ask “How do I go about choosing (and using) the best typeface—or combination of typefaces—for my publication?” Unfortunately, there’s no simple and quick answer to this question—the choice of what’s best will vary with several factors, including the intended audience and their aesthetic values, the tone or attitude you’re trying to convey, the medium you’re designing for, and the content of the publication.

The following guidelines give only a very brief overview of a complicated and subjective topic—entire books have been dedicated to it. But if you combine the following guidelines with your own aesthetic values and common sense you’ll probably avoid making those formal wedding invitations look like a ransom note. Unless, of course, that’s how you want them to look!

Choosing Text Fonts for Body Copy

Extended blocks of text, or body copy, are written (presumably) with the intention of being read. Choosing the wrong font can make a section of text dramatically harder to read. Generally, serif text fonts are dramatically easier to read than sans serif text fonts. Studies (see *Type and Layout* by Colin Wheildon, Strathmoor Press) have shown that more than five times as many readers will show good comprehension of a block of text when a serif text font is used instead of a sans serif text font.

Does this mean that all copy must look the same? Not at all. Within the category of serif text fonts there are many distinct options. The typeface Times differs dramatically from Kepler, Adobe Jensen, Ellington,[®] Chaparral, Bembo,[®] Utopia, or ITC Veljovic[®]—to name just a few!

Times Kepler Adobe Jenson Ellington
Chaparral Bembo Utopia ITC Veljovic

While some of the differences between serif text fonts seem almost insignificant when single words are isolated, each of these fonts has a distinct look and feel when applied to extended copy. Some look more (or less) modern, formal, or just better than others in a given situation. Having a wide variety of serif text faces to choose from means that you'll be able to most effectively convey the intended message of any publication or document.

Choosing Fonts for Headlines

You have many more options in style and flavor when choosing fonts for headlines. Headlines are arguably the most important part of a publication—whether or not they're understood at a glance can determine if anything else is read (or looked at), regardless of how easy or hard it is to read the remaining information. Considerations beyond readability—such as the publication's style, content, or other design considerations—will also affect your choice of headline fonts.

Serif versus Sans Serif

There is virtually no difference in the readability of headlines set in serif versus sans serif typefaces (see *Type and Layout* by Colin Wheildon, Strathmoor Press). Other typographic considerations, such as whether or not the headline is set only in capitals versus mixed (upper- and lowercase) will have a more dramatic impact than whether or not your typeface has serifs. Headlines that are set in capitals are significantly harder to read than those of mixed case.

HEADLINES SET IN ALL CAPS ARE SIGNIFICANTLY HARDER TO READ THAN MIXED CASE

Headlines Set in All Caps are Significantly Harder to Read than Mixed Case

Display and Decorative Typefaces

Many display and decorative typefaces are eye-catching and visually pleasing, but can be hard to read. Should they be used in headlines? If you consider readability alone—probably not. But many display and decorative typefaces are very effective at attracting attention—which may be your main goal when you are designing for competitive spaces such as magazine layouts. You must balance readability with the attention-grabbing ability of a display or decorative typeface.

Having a wide variety of display and decorative typefaces to choose from will keep your creative options open and help ensure that you can convey the intended message of the publication.

Calcite™ Pro

Blue Island™

Voluta® Script

Spring™

Shuriken Boy®

Combining Typefaces in a Publication

Almost all publications will contain headlines and body copy, or at least subordinate textual information. Commonly you'll need or want to use different typefaces for the various levels of information in the publication. This presents a new problem—how do you effectively combine typefaces within a publication?

There are several possible outcomes when you combine typefaces in a publication—they may complement one another, contrast with one another, or conflict with one another. The first two outcomes are usually good, the last one is usually bad. Here are a few guidelines to help you choose:

- ❖ Avoid using an excessive number of typefaces in a single publication. Some experts recommend using no more than two typefaces on a single page, while others set the number slightly higher. Judicious use of typeface variety helps the reader sort information and navigate through a document. Too many competing faces create chaos.
- ❖ Avoid using two or more similar fonts on a page. Selecting fonts that are not different enough can cause conflict. For example, it's usually a poor idea to use two script typefaces on a single page, or a script face and an italic, or two different slab serifs, or two different old faces, etc.
- ❖ Remember that fonts are part of the overall design of a publication and should be chosen to match (or contrast with) the design style of the publication. Readability is important, but so is design!

Additional Tips

Bullets

A single, consistently used graphic element can add flavor to your document and highlight key points. Instead of the standard bullet, look through symbol faces for an ornament that matches your message. If your document is clean and simple and you have only a few bullet points, an ornament will add interest. Be careful not to clutter your document.

- ❖ Celestia™ Antiqua
- ❖ Chaparral
- ❖ Kepler
- ❖ Adobe Caslon™
- ❖ Caravan Borders*

Hanging Indents

- ❖ When a bulleted or numbered list contains items that run to more than one line, it is common to hang the text from a bullet or number.
 1. The hanging indent more clearly marks the item in the list.

A paragraph may also be hung from the first line of text (often with a run-in head of small caps, bold, or italic) when no bullet or number is present.

Reversed Text

For print publications, white text on a black background should be used sparingly, and never at small sizes. Similarly, for web projects and video titling jobs, white text on a black background is an effective way to grab attention, and works well when there is a minimum amount of text.

Reversed type

Avoid reversing small type or type with thin strokes or serifs that may fill in. You may want to letterspace bold, condensed faces slightly.

Using Styles

Styles are paragraph descriptors that specify, for example, what font to use and how much to indent. If your design application supports styles, you can build a set to give all your documents a consistent look.

When styles are applied to your documents, you can easily change the entire look of a document just by changing the style definitions.

Keeping It Simple

Good document design is mainly a combination of common sense and keeping things simple. Look at attractive examples of documents that are similar to what you're trying to create.

The following list explains some basic rules.

- ❖ Long lines of text are hard to read. Generally, a line should have 55 to 60 characters, or 9 to 10 words. Try multiple columns or, if you are stuck with a long line length, increase the leading slightly to make it easier for the eye to move from line to line.
- ❖ White space on the page makes your document cleaner-looking and easier to read.
- ❖ Use indents and bullets to highlight important points. Use headings and subheadings to help your readers find the information they're interested in.
- ❖ Avoid using more than two type families on a page. Generally one serif and one sans serif make a nice mix. Using the sans serif for headlines and the serif for body text is a common and effective formula.
- ❖ Use italics or bold to highlight words and phrases, rather than using all uppercase. All uppercase is hard to read.
- ❖ Left justification can be easier to read and looks less formal than full justification. Pick the alignment option that matches the tone of your document.
- ❖ Graphs, pictures, and charts add interest to your documents and clarify your text. Horizontal and vertical lines can be used sparingly to break up blocks of text.

Glossary of Typographic Terms

This section provides a small glossary of terms frequently used in the type world.

alignment The positioning of text within the text block or frame. Alignment can be flush left, flush right, justified, or centered. Flush left and flush right are sometimes referred to as left justified and right justified.

ascender The part of lowercase letters (such as **k**, **b**, and **d**) that ascends above the x-height of the other lowercase letters in a font.

Adobe Type Manager® (ATM®) ATM Light is a system software component for the Windows® and Mac OS platforms that automatically generates high-quality bitmapped character shapes on a computer monitor from PostScript® Type 1 or OpenType outline font data. ATM Light also allows you to print PostScript fonts on non-PostScript printers. ATM Deluxe is Adobe's personal font management application.

baseline The imaginary line on which the majority of the characters in a typeface rest.

body text The paragraphs in a document that make up the bulk of its content. Body text should be set in an appropriate and easy to read face, typically at 10 or 12 point size.

boldface A typeface that has been enhanced by rendering it in darker, thicker strokes so that it will stand out on the page. Headlines that need emphasis should be boldface. Italics are preferable for emphasis in body text. Some publishing applications allow you to apply a computer-generated, or fake, bold style to a regular weight font. Using this technique is not recommended.

bullet A dot or other special character placed at the left of items in a list to show that they are individual, but related, points.

cap height The height from the baseline to the top of the uppercase letters in a font. This may or may not be the same as the height of ascenders. Cap height is used in some systems to measure the type size.

centered Text placed at an equal distance from the left and right margins. Titles are often centered. It is generally not good to mix centered text with flush left or flush right text.

character, character code A single letter, punctuation mark, number, space, or any other object or symbol in a typeface set. In the context of modern computer operating systems, it is often defined as a code with a meaning attached to it. For example, the decimal character code 97 represents the letter **a**. Also see *character encoding, keyboard layout, OpenType, Unicode*.

character mapping See *character encoding*.

character encoding A table in a font or a computer operating system that maps character codes to glyphs in a font. Most operating systems are moving from a platform-specific single-byte encoding system that limited the number of possible glyphs in a font to 256 to a new two-byte international encoding standard called Unicode. Unicode allows for the inclusion of up to 65,000 glyphs in a single font. Adobe's OpenType fonts are based on Unicode. Also see *character, glyph, keyboard layout, Unicode*.

color See *typographic color*.

condensed A narrower version of a font, used to fit a maximum number of characters into a given space.

contrast A subjective feeling that graphic elements (such as fonts) are different but work together well. This gives a feeling of variety without losing harmony. Within a particular font, contrast also refers to the differences of stroke thicknesses that make up the characters. For example, *Myriad* has low contrast and **Bodoni** has high contrast.

copyfitting The process of adjusting the size and spacing of type to make it fit within a defined area of the page.

decorative font An appearance-based or usage-based category of fonts. Decorative fonts are often ornate and attention-grabbing. In her book *The Non-Designer's Design Book*, Robin Williams has provided a useful working definition of a decorative font: "...if the thought of reading an entire book in that font makes you wanna throw up, you can probably put it in the decorative pot."

descender The part of lowercase letters (such as *y*, *p*, and *q*) that descends below the baseline of the other lowercase letters in a font. In some typefaces, the uppercase *J* and *Q* also descend below the baseline.

dingbats Symbol characters such as decorations, arrows, and bullets.

display fonts Another category of fonts with characteristics similar to decorative fonts. In some typeface families, a font is categorized as a display font when it has been specifically designed for larger sizes (usually over 24 points) with thinner strokes, more delicate serifs, etc.

dpi An abbreviation for dots per inch. Refers to the resolution at which a device, such as a monitor or printer, can display text and graphics. Monitors are usually 72 to 120 dpi or less, and laser

printers are usually 600 dpi or higher. An image printed on a laser printer looks sharper than the same image on a monitor.

drop cap A design treatment in which the first capital letter of a paragraph is set in a larger point size and aligned with the top of the first line. This method is used to indicate the start of a new section of text, such as a chapter. Also see *raised cap*.

ellipsis A punctuation character consisting of three dots, or periods, in a row. It indicates that a word or phrase has been omitted.

em, em space, em quad Common units of measurement in typography. An em is traditionally defined as the width of the uppercase *M* in the current face and point size. It is more properly defined as simply the current point size. For example, in 12 point type, one em is a distance of 12 points.

em dash A dash the length of an em, used to indicate a break in a sentence: *His friend—also an editor—thought the same thing.*

en, en space, en quad Common units of measurement in typography. An en is traditionally defined as the width of the uppercase *N* in the current face and the current point size. It is more properly defined as half the width of an em.

en dash A dash the length of an en, used to indicate a range of values: *1960–1990.*

encoding See *character encoding*.

expert set, expert collection A font that has a more refined, or expanded, set of typographic characters than regular fonts. Expert sets may contain oldstyle figures, ligatures, small capitals, embellishments, fractions, or other unique characters. Also see *OpenType*.

face See *typeface*.

family A collection of typefaces that were designed and intended to be used together. For example, the Utopia family consists of roman and italic styles, as well as regular, semibold, and bold weights. Each of the style and weight combinations is referred to as a font or typeface.

flush left Text that is aligned on the left margin is said to be set flush left or flush left, ragged right. The term ragged right is sometimes used alone to mean the same thing.

flush right Text that is aligned on the right margin is said to be set flush right or flush right, ragged left. The term ragged left is sometimes used alone to mean the same thing.

font One weight, width, and style of a typeface: Optima* Bold and Helvetica Light Condensed are examples of fonts. Before digital type, a font usually referred to a specific point size of a particular style of a typeface. For example, 48-point Helvetica Bold would have been considered a font. Today, the terms font, typeface, and family are often used interchangeably, though family usually refers to the general type design, such as Helvetica, and font and typeface usually refer to the specific weight, width, or style of a type design, such as Helvetica Bold.

font family See *family*.

glyph In the context of modern computer operating systems, glyph is often defined as a shape in a font that is used to represent a character code on screen or paper. The most common example of a glyph is a letter in a specific font, but the symbols and shapes in a font like ITC Zapf Dingbats® are also glyphs. Also see *character*, *character encoding*, *keyboard layout*.

hanging indent A document style in which the first line of a paragraph is aligned with the left margin, and the remaining lines

are all indented an equal amount. This is an effective way to display lists of information.

headline The short lines of emphasized text that introduce detail information in the body text that follows. Also the category of typefaces that are designed to work best in headline text.

headline font A font that has been designed to look good at large point sizes for use in headlines. Headline fonts generally do not contain a complete set of characters since they do not require a full set of special symbols and punctuation.

hints The mathematical instructions added to digital fonts to make them sharp at all sizes and on display devices of different resolutions.

italic A slanting or script-like version of a face. The upright faces are often referred to as roman. Some publishing applications allow you to apply a computer-generated, or fake, italicized style to a roman font. Using this technique is not recommended. Also see *oblique*.

justified A block of text that has been spaced so that the text aligns on both the left and right margins. Justified text has a more formal appearance, but may be harder to read if not properly set.

kerning The adjustment of horizontal space between individual characters in a line of text. Without kerning adjustments, many letter combinations can look awkward. The objective of kerning is to create visually equal spaces between all letters so that the eye can move smoothly along the text. Some combinations of characters naturally have excessive space between them (such as Ta or Vo) and must be manually adjusted by the designer or typographer. These adjusted combinations are called kerned pairs. Kerning may be applied automatically by desktop

publishing programs based on tables of values built into the font. Some programs also allow manual kerning to make fine adjustments. Adjustments in kerning are especially important in large display and headline text lines. Also see *letterspacing*.

keyboard layout, keyboard mapping A keyboard layout or mapping is a table used by a computer operating system to govern which character code is generated when a key or key combination is pressed. Sometimes known as a character mapping. Also see *character, character encoding, glyph*.

leading (pronounced ledding) The amount of space added between lines of text to make the document legible. The term originally referred to the thin lead spacers that printers used to physically increase space between lines of metal type. Most applications automatically apply standard leading based on the point size of the font. Closer leading fits more text on the page, but decreases legibility. Looser leading spreads text out to fill a page and makes the document easier to read. Leading can also be negative, in which case the lines of text are so close that they overlap or touch.

letterspacing Adjusting the average distance between letters in a block of text to fit more or less text into the given space or to improve legibility. Kerning allows adjustments between individual letters, letterspacing is applied to a block of text as a whole. Letterspacing is sometimes referred to as tracking or track kerning. Letter spacing is often adjusted to open up the look of a typeface or to add drama to a headline by stretching it across a page. Also see *kerning, tracking*.

ligature Two or more letters combined into a single letterform. In some typefaces, character combinations such as **fi** and **fl** overlap, resulting in an unsightly shape. The **fi** and **fl** ligatures were

designed to improve the appearance of these characters. Letter combinations such as **ff**, **ffi**, and **ffl** are available in Adobe's expert set fonts and in most OpenType Pro fonts. OpenType fonts may also have other ligatures designed to improve appearance of other letter combinations (such as **Th**) or for artistic effect.

multiple master A class of PostScript font developed by Adobe that allows you to modify and create new fonts based on a particular style. For instance, you could create fonts that are bolder or expanded while still maintaining the correct proportions, stroke width changes, and other subtle design characteristics of the original typeface. Also see *PostScript, PostScript Type 1*.

oblique A slanting version of a face. Oblique is similar to italic, but without the script quality of a true italic. The upright faces are usually referred to as roman. Also see *italic*.

OpenType A cross-platform font file format developed by Adobe and Microsoft. OpenType is an extension to the TrueType file format that can now support PostScript font data and new typographic features. Based on Unicode, OpenType fonts may include an expanded character set and layout features to provide richer linguistic support and advanced typographic control. Feature-rich Adobe OpenType fonts are distinguished by the word Pro, which is part of the font name and appears in application font menus. OpenType fonts can be installed and used alongside PostScript Type 1 and TrueType fonts. Also see *Unicode, TrueType, PostScript Type 1*.

optical size A specific typeface design that is tailored for the point size it is to be used at. Several of Adobe's OpenType fonts include four optical size variations—caption, regular, subhead, and display—that have been optimized for use at specific point sizes. Although the exact intended sizes vary by family, the general size

ranges include: caption (6–8 point), regular (9–13 point), subhead (14–24 point), and display (25–72 point). Several of Adobe’s Multiple Master fonts also include the ability to select an optical size.

PFB file The portion of a Windows PostScript Type 1 font that contains the font’s outline information.

PFM file The portion of a Windows PostScript Type 1 font that contains the font’s metrics information.

paragraph rules Graphic lines associated with a paragraph that separate blocks of text. Rules are commonly used to separate columns and isolate graphics on a page. Some programs allow paragraph styles to be created that include paragraph rules above and/or below the paragraph.

pica A unit of measure in typography. A pica is equal to 12 points. The traditional British and American pica is 0.166 inches. In PostScript printers, a pica is exactly $\frac{1}{6}$ of an inch.

picture font A font that displays pictures or symbols instead of letters or characters. Picture fonts are useful for making logos, borders or interesting bullets. Like clip art, they can also be used as graphic raw material in some graphics software packages, such as Adobe Photoshop® or Adobe Illustrator®. Also known as pi fonts, symbol fonts, and dingbats.

point A unit of measure in typography. There are approximately 72 points to the inch. A pica is 12 points.

point size The most common method of measuring type. The distance from the top of the highest ascender to the bottom of the lowest descender in points. In Europe, type is sometimes measured by the cap height in millimeters.

PostScript Adobe’s mathematically-based page description language that communicates with your output device and conveys information regarding how to create complex letter shapes and graphics. Developed by Adobe in 1985.

PostScript Type 1 A font format designed to conform to the PostScript page description language. On Windows, PostScript Type 1 fonts consist of a PFB file that contains the font’s outline information and a PFM file that contains the font’s metrics. On the Mac OS platform, PostScript fonts are composed of screen fonts (or bitmapped fonts) and printer fonts (or outline fonts). PostScript fonts require a PostScript printer to render accurately or they can be printed to a non-PostScript output device using Adobe Type Manager. Also see *PostScript font*, *Multiple Master*.

printer font One of the two components of a PostScript font for the Mac OS. The printer font contains mathematically-defined outlines for all characters (or glyphs) in that font, and is downloaded to the printer when that font is used in a document. Also known as an outline font.

proportional figures Numerals that have different widths depending on their shape. When setting body text, it is preferable to use proportional figures. Also see *tabular figures*.

raised cap A design treatment in which the first capital letter of a paragraph is set in a large point size and aligned with the baseline of the first line of text. Also see *drop cap*.

reverse The technique of printing or displaying white or light-colored text on a black or dark background for emphasis. This technique greatly reduces legibility, especially with small type.

rivers Word spaces that align vertically from line to line in poorly justified text creating a distracting river of white space in a block of copy.

roman Commonly refers to the upright version of a face within a font family, as compared to the italic version.

rule A solid or dashed graphic line in documents used to separate the elements of a page. Rules and other graphic devices should be used sparingly, and only for clarifying the function of other elements on the page.

sans serif A typeface that does not have serifs.

screen font One of two components for a PostScript font on the Mac OS platform. These are created by sending electronic information to pixels (dots) on the computer screen thus allowing you to view the font on-screen. Also known as a bitmapped font.

script font Fonts that appear to have been hand lettered with a calligraphy pen or brush, or sometimes with a pencil or technical pen.

serif A small decorative stroke at the end of a letter's main strokes. Serifs improve readability by leading the eye along the line of type.

style One of the variations in appearance, such as italic and bold, that make up the faces in a type family.

symbol font A category of type in which the characters are special symbols rather than alphanumeric characters.

tabular figures Numerals that all have the same width. This makes it easier to set tabular matter. Most fonts have tabular figures. Also see *proportional figures*.

text font Text fonts are used for body copy and are most commonly serif fonts. In large families of typefaces these are often denoted with the suffixes regular or book (for example, Utopia Regular or ITC Veljovic Book).

tracking Adjusting the average distance between letters in a block of text. Generally, large type requires proportionally less space between letters to appear subjectively right visually while small type requires more letter spacing to appear right. Also see *letterspacing*.

TrueType An outline font technology developed by Apple Computer.

Type 1 See *PostScript Type 1*.

type family See *family*.

typeface The letters, numbers, and symbols that make up a design of type. A typeface is often part of a type family of coordinated designs. The individual typefaces are named after the family and are also specified with a designation, such as italic, bold, or condensed. For example, the italic style of the Times family is referred to as a typeface or font.

typographic color The apparent blackness of a block of text. Color is a function of the relative thickness of the strokes that make up the characters in a font, as well as the width, point size, and leading used for setting the text block.

Unicode An international double-byte character encoding standard that encompasses virtually all of the world's languages. Supported by many of the leading hardware and software manufacturers, Unicode assigns a unique value to each of the characters (or glyphs) in all of the world's languages.

unjustified Depending on alignment, this term refers to text that is set flush left, flush right, or centered.

weight The relative darkness of the characters in the various typefaces within a type family. Weight is indicated by relative terms such as thin, light, bold, extra-bold, and black.

white space The blank areas on a page where text and illustrations are not printed. White space should be considered an important graphic element in page design.

width One of the possible variations of a typeface within a font family, such as condensed or extended.

word spacing Adjusting the average distance between words to improve legibility or to fit a block of text into a given amount of space.

x-height Traditionally, x-height is the height of the lowercase letter x. It is also the height of the body of lowercase letters in a font, excluding the ascenders and descenders. Some lowercase letters that do not have ascenders or descenders still extend a little bit above or below the x-height as part of their design. The x-height can vary greatly from typeface to typeface at the same point size.

For Further Reading

There are several excellent books that can provide you with additional assistance in choosing and using typefaces and in making type work better in your designs, including:

Beyond the Mac Is Not a Typewriter by Robin Williams. Peachpit Press, Berkeley, CA.

The Non-Designer's Design Book by Robin Williams. Peachpit Press, Berkeley, CA.

Type & Layout: How Typography and Design Can Get Your Message Across—Or Get in the Way by Colin Wheildon. Strathmoor Press, Berkeley, CA.

Stop Stealing Sheep & Find Out How Type Works by Erik Spiekermann. Adobe Press, San Jose, CA.

The Elements of Typographic Style by Robert Bringhurst. Hartley & Marks Publishers Inc., Vancouver, BC

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