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A Newsletter Dedicated to the Past and Present Development of the Typographic Arts

FROM THE FOUNDRY TO THE COMPUTER

Typography is the art and process of working with and printing from type. At the time of Gutenberg's invention of the first practical reusable type in 1454, typography was perceived by its practitioners as an invisible art form. Type (and the letters it recreated) was a vehicle that delivered someone else's message and did not detract from it. Gutenberg's first type was designed to look like handwriting. Readers, accustomed to handwritten books, would have viewed with suspicion the new typeset books with foreign-looking letterforms. Typeset copy that re-created a handwritten appearance made readers comfortable with what they saw.

Today's typeset copy continues this role as message bearer. After finishing a novel, a reader is not likely to praise the type designer for a legible typeface, consistent in style and structure. Nor would the reader praise the typesetter for the page's typographic quality-uniform in color with skillfully crafted line breaks. Instead, the reader might compliment the author on the clarity of the content or the cleverness of the prose. Well-set type delivers an author's ideas and thoughts with a clarity of voice equal to that of a skilled orator. Poorly set type decreases readability, garbling the message like a speaker mumbling to the floor, and increases the chance the text will not be read at all.

In the four hundred years following Gutenberg's invention, type producers and typesetters were separate artisans. Each practiced a craft that demanded skilled knowledge of specific tools, materials, production techniques, and aesthetic principles. As Gutenberg's methods were refined and as the craft of typography evolved, the interests of these two artisans influenced one another. The materials of type limited or enhanced the typesetter's abilities. For example, the range of

typefaces available in the late fifteenth century was limited in part by what images were possible to cast from a metal alloy. Foundry type production techniques could not achieve the halftone typefaces available with the photo-typography production techniques of the 1960s. In addition, phototypesetting techniques freed typesetters from the limited control of letterspacing and line spacing of their linecasting typesetting machines of the early 1900s.

Today's digital type technology for type production and typesetting involves computer programming languages, computer applications, and electronic hardware. The typographic quality achieved by digital typesetters is affected by hardware resolution, software interfaces, application capabilities, and the functional characteristics of available digitized typefaces. Digital typography involves many components. Poor typographic quality can result from hardware problems, software problems, interface problems, human problems, or combinations of any and all. Today's type artist cannot achieve

typographic quality without knowledge of both aspects of the discipline-type production and typesetting.

The current vocabulary of type is an amalgamation of all type production and typesetting methods from Gutenberg's time forward. A word, such as leading, that once referred to the material used in a typesetting procedure, now refers to the visual result achieved by the lead strips used in that original procedure. For today's type artist, who might be unfamiliar with type's history, using the name of an inert metal as a term to describe the horizontal white space beneath letters on a glowing cathode ray tube maybe confusing or unfamiliar (and hard to remember). Although the materials and type production techniques have changed, typesetting principles are the same. The terminology to describe them is rooted in the techniques and developments of the past.

ANATOMY OF TYPE

The anatomical elements of type fall into three categories: endings, and spaces. A **stroke** is a general category that refers to the primary structural components that define the overall appearance of a letterform. Vertical, horizontal, and diagonal marks establish the letter's structural form. An **ending** is a design treatment used to define the beginning and ending of a stroke. An ending completes a stroke in a style complementary to the letterform's overall style. A **space** refers to the negative area in and around a letterform. This area does not print, but it is visually important for style, legibility, and readability. As a general point of reference that defies all categories, the two terms, **head** and **foot**, refer respectively to the top and bottom of a letter.

Stroke The term stroke is applicable to any straight or curved line used to define a major structural portion of a letter. The diagonal line in the middle of the uppercase N is a stroke.

Stem A major vertical stroke within a letter, such as in the uppercase L, E, B, K and the lowercase l, d, and b. The stem does not include any serifs or other stroke endings.

Hairline An extremely thin line used as a stroke or a serif.

Ascender A portion of a stroke in a lowercase letter that extends beyond the mean line or above the lowercase x, such as in the lowercase b, d, f, h, k, l, and comparable letters.

Descender A portion of a stroke (not limited to lowercase letters) that extends below the baseline, such as in the lowercase g, j, p, q, and y, and in some typefaces, the uppercase J.

Bar A horizontal stroke that connects two strokes, such as in the lowercase e, or uppercase A and H.

Crossbar A horizontal stroke that crosses another stroke, such as in the lowercase t and f, and the uppercase T

Arm A horizontal or upward diagonal stroke that is attached to the letter on one end and unattached on the other, such as in the uppercase E, F, L, X, Y, K, the lowercase x, and others.

Tail A downward diagonal stroke attached to the letter on one end and unattached on the other, such as the uppercase K, Q, R, X, and lowercase k, x, and comparable letters. The tail of the uppercase and lowercase K is referred to by some as a leg.

Spine The main curved stroke in the upper and lowercase S.

Bowl A curved stroke that creates an enclosed space within a letter, such as the lowercase a, b, d, p, q, uppercase B, P, R, and other comparable letters.

Shoulder The curved portion of a stroke, such as in a lowercase h, m, and n, that does not create an enclosed space within the letter.

Loop The elliptical stroke at the bottom of the lowercase g.

Stress The thickened portion of a curved stroke that determines a direction (vertical, horizontal, or diagonal) in which the letterform appears to lean.

Bracket A curved or sloping shape that smoothly joins a serif to a stroke or stem. Also called a fillet.

Link Short stroke joining the bowl of a lowercase g to its loop.

Apex Section of the top of a letter where two straight strokes or stems join and create an angle, such as in the uppercase A, M, and N.

Vertex Section of the bottom of a letter where two straight strokes or stems join and create an angle, such as in the uppercase and lowercase V and W.

Serif A finishing stroke at the beginning or end of the major strokes of a letterform on either side. A serif enhances readability by moving the viewer's eye horizontally along a line.

Terminal Stroke-end treatments, such as tapering or adding a shape, that are not serifs. Some terminals are described by their shape, such as ball, beak, hooked, pear-shaped, or teardrop.

Swash An extended or decorative flourish that replaces a serif or terminal on a letter.

Swash Terminal A lowercase letter with a long swash extending from it on the right side. This letter is used if it occurs at the end of a word.

Finial The tapering end of a stroke, as on the lowercase e or c. **Ear**—The short protrusion from the top of the lowercase g (and p). Also applied to the arm of the lowercase r, depending upon the typeface.

Spur Small downward extension on some styles of an uppercase G.

Counter The fully or partially enclosed negative space within or adjacent to a letterform. **Eye**—The enclosed counter in the upper portion of the lowercase e.

Aperture The space between two points in a letter forming an opening into an interior portion of a letterform. The aperture in the letter C is created between the two endpoints of this single, curved stroke. The aperture of the lowercase e is created between the right end of its bar and the tip of its finial.





Roman
 Italic
 Oblique
 Script
 Backslant
 Serif

Sans Serif

TYPEFACE STYLES

Typeface styles refer to the ways in which letter parts are designed and connected.

Roman has letters that stand vertically on, or at right angles to, the baseline. Most continuous reading text is roman, since it is the easiest to read.

Italic is structurally redesigned to slant or lean to the right as it rests on the baseline. Effectively used for emphasis within roman text.

Oblique slants or leans to the right as it rests on the baseline; also referred to as machine italic. An oblique typeface is a slanted roman typeface. The angle of oblique can be set, depending upon what typesetting technology is used.

Serif has serifs on the ends of its strokes. Highly suited for continuous reading text because the serif enhances horizontal eye movement.

Backslant slants or leans to the left as its rests on the baseline. The angle of backslant can be set depending upon what typesetting technology is used. Suited for display use only.

Sans Serif strokes end bluntly. A sans serif typeface does not have finishing treatments at the ends of its strokes.

Script imitates cursive handwriting. Many of the letters are created with a single, continuous stroke. Some typefaces have connecting strokes to join the letters together; other scripts have freestanding letters.

TYPEFACE AND FONT

MEASUREMENT

Typefaces and fonts are measured using a unit of measure called a point. For digital typography, the point is standardized to 1/72 inch (1 point = 1/72 inch) or 72 points equals one inch (72 points 1 inch).

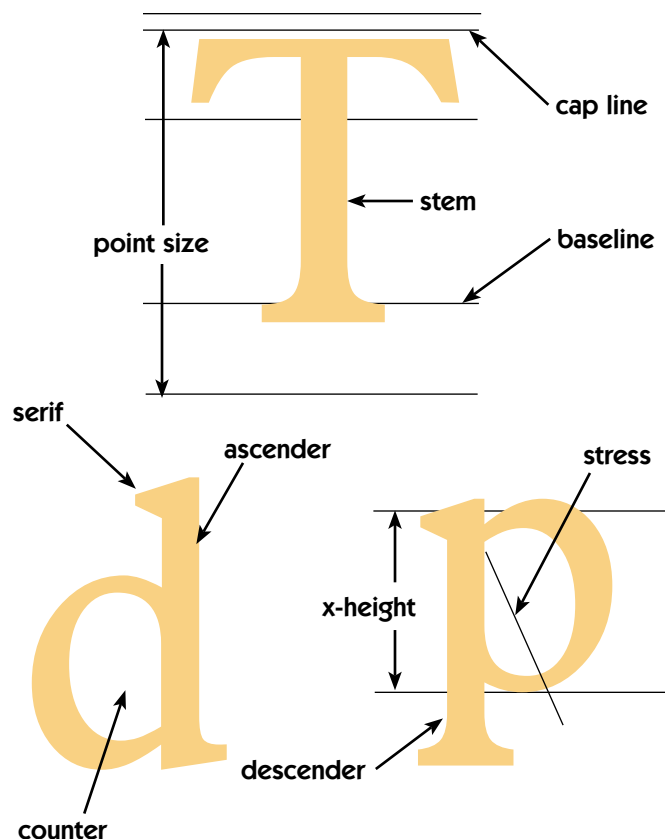
Ascent The vertical distance from the baseline to the top of the highest character in the type font. This location varies from font to font.

Cap height The vertical distance from baseline to cap line.

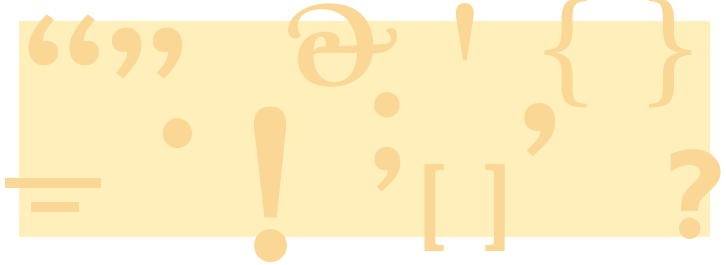
Descent The vertical distance from the baseline to the bottommost point in the type font. This location varies from font to font.

Point size The vertical distance from the bottommost point in the type font to the topmost point in the type font. The point size is the sum of the ascent and the descent.

X-height The vertical distance from the baseline to the mean line. This term loosely refers to the height of the lowercase letters, such as a, o, and s. The term large eye refers to a typeface with a large x-height.



SENTENCE TYPOGRAPHY DECISIONS



Capital Letters

- Start sentences and proper nouns with a capital letter.
- Use capital letters for personal initials and two-letter geographic locations.

Italic Type

- Italicize the space before an italicized word.
- Do not underline a word when italic type is available.
- Italicize the names of books and periodicals.

Punctuation

- All complete text sentences end with a punctuation mark.
- Set punctuation in the style of the word it follows.
- Punctuation following isolated bold words can remain roman to match the rest of the sentence.
- Punctuation point size in text matches the text type size.
- Punctuation size in display type can be reduced in point size.

Periods and Commas

- One space separates typeset sentences.
- A period follows complete sentences and personal initials.
- Use a period after enumerating numbers or letters in a vertical list.
- Commas separate elements in an address or location.
- Commas separate items in a series.

Semicolons and Colons

- Semicolons join sentences that can stand alone.
- Semicolons link elements in a run-in series when complex punctuation is used.
- A single space follows a colon.
- Colons set off elements in a run-in list.
- Colons set off a vertical list after the word follows.

Exclamation Points and Question Marks

- An exclamation point indicates an exclamation.
- Exclamation points are not limited to end-of-sentence usage.
- A question mark indicates an interrogative.
- Question marks are not limited to end-of-sentence usage.
- A question mark requires kerning with all caps and some lowercase letters.

Quotation Marks and Double Primes

- Double quotation marks indicate quoted material.
- A single quotation mark indicates a quote within a quote.
- A double prime is the unit of measure symbol for inches.

Dashes

- Check dashes for kerning.
- Equate dash length to reading-pause length.
- An en dash joins inclusive numbers.
- An en dash indicates a duration.
- An en dash links open compounds modifying a noun.
- An en dash replaces the words between/and and from/to.

Apostrophes and Primes

- An apostrophe indicates possession.
- An apostrophe replaces a letter or number.

Virgules and Solidi

- A virgule separates alternative words, calendar years, and numbers in a level fraction.
- A solidus separates superior and inferior numbers in a piece fraction.
- The virgule (left) is more upright than the solidus (right).

Parentheses and Square Brackets

- Parentheses separate major breaks in sentence content for clarification.
- Parentheses set off the definition of a foreign word.
- Parentheses set off numbers and/or letters when itemizing text elements.
- Square brackets isolate editorial insertions in quoted material.
- Square brackets enclose a phonetic pronunciation.
- Square brackets are used as parentheses within parentheses.

Ellipses

- An ellipsis replaces words intentionally omitted from quoted material.
- An ellipsis in the middle of a sentence is preceded and followed by a space.

Ampersands

- Use ampersands with headlines and company names.
- Ampersands are too informal for text typography.

Ornaments and Dingbats

- Ornaments are designed for one typeface family.
- Carefully size ornaments so they do not overwhelm text.
- Dingbats are informal, keystroke graphics.