Parts of a Character

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5-1. **Roman face**–denotes the upright, vertical portion of a letter, as opposed to a slanted, italic form; type fonts based on the design of ancient Roman capitals.

5-2. **Uppercase**–capital letters, historically placed in the upper of the two drawers used in hand composition of lead type; also called majuscule.

5-3. **Lowercase**–small letterforms, originating from the semi-uncial lettering style; includes ascenders and descenders. The name comes from the placement of the letterpress case of small letters in the lower of the two wooden type cases used by hand compositors; the small letters were placed so that they were within hands' reach; also called lc, or minuscule.

Introduction

In this chapter, we review the names of specific parts of letters. Knowing the names of the parts of characters is essential for a designer who will communicate with typesetters, other designers and clients in the future. When you need to explain why you've chosen a particular font for a headline or for body copy, it can be very helpful to use the correct terminology to describe the parts of the letters that resonate with certain associations. Also, in the process of learning the names of the different parts of a character, you will begin to notice the subtle differences in how a particular area is structured or transitions from one shape to the next. This, in turn, leads to a fuller appreciation of fonts in general, and it improves your ability to discern one font from another, by noting and appreciating these distinguishing details.

Learning the details of type is also the initiation of a designer—the opportunity to learn a new lexicon and to become familiar with the jargon of the field. If words indeed make our reality, then knowing the vocabulary of typography is necessary for designers who are using type as the paint on their canvas.

Benefits of Knowing Type Details

Knowing the details of type allows you to speak with confidence about a font selection and justify your decision articulately. You will eventually develop your own typographic sense, deciding which fonts you prefer, the font that you feel is effective, and the fonts that you find emotive. Long before you get to this point, you will have to begin to look at type more critically, understanding why a designer chose a particular font, and analyzing how well you think it has been used or how you would change it. In order to recognize fonts more readily, you must come to know the parts of a character very well so that you

can compare the nuances of one face to another. Minute details in serifs can determine the difference between a font appearing elegant, engineered, or casual. You will likely attribute personalities to fonts that you become familiar with. You may even find yourself sketching out your own font at some point in the future!

Roman and Italic

These two styles of fonts are easily distinguished: italic is always slanted, or sheered, to the right. Many typophiles argue that you can tell the true quality of a font by examining the italic and its relationship to the Roman face. The italic should retain a sense of the Roman and its style, but it should also be distinctly different from the Roman, incorporating the hooked finials, the descender on the "f"-curved terminals and some loops in characters. Maintaining the essence of the font, yet creating an italic that harmonizes with the Roman is not an easy task.

5-4. ***Italic***–denotes letters slanted to the right, distinct from Roman letters in their form, construction and terminals; used for emphasis and for the titles of complete works, such as books, movies, plays, etc.

5-5. ***Descender***–the part of the lowercase letters "g, j, p, q, y and cap J," which extend below the baseline.

5-6. ***Ascender***–the part of the lowercase letters "b, d, f, h, k, l, and t" extending above the x-height line.

Uppercase and Lowercase Ascenders and Descenders

Upper- and lowercase letters are distinguished by the presence of ascenders and descenders. The capitals are all the same height. The ascender line and the cap height line may be the same in some fonts; sometimes the caps are a bit shorter than the ascenders.

Ascenders are the parts of the strokes of a font that extend above the waist line or x-height line of the font. *Descenders* are the parts of strokes of letters that extend below the base line of a font. Ascenders and descenders are found only in the lowercase letters of an alphabet. They help readers to recognize words more easily due to the distinct shapes created when they are combined into words.

Hairline Stroke and Stem Stroke

The *hairline stroke* of a character is the thinner of the strokes. The *stem stroke* is the thicker or main stroke of a letter. The design of the transition from the hairline to the stem stroke often gives a font much of its unique appearance.

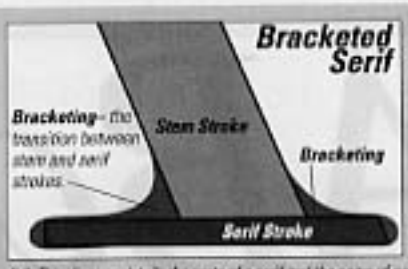
Hairline–the secondary stroke of a letter, usually thinner than the stem.

Stem–the straight, vertical, or main diagonal stroke of a character; the thicker of the strokes of a character.

5-7. This diagram shows the stem and hairline strokes of a character.

Serifs, Bracketing, and Sans Serif Terminals

Serifs are the "feet" that you see on the bottom of the letters that you are reading. They are extensions from the strokes of letters. Serifs are thought to be retained from the days when type was cut into stone with a chisel, but this is debated. Serifs come in many



5-8. This diagram details the parts of a serif and the name of each area.

Bracketed Serif–a serif in which the transition from the stem stroke to the serif stroke is one continuous curve; a serif may have differing degrees of bracketing.

Cupped Serif–the foot of a serif that is arched in the center and touches the baseline in two points. This is a graceful, subtle detail of Old Style fonts.

5-9. **Serif**–a stroke crossing the main terminals of a character and extending beyond the main stroke; believed to be residuals of chisel-cut letters in ancient Rome.

5-10. **Pointed Serif**–a serif in which terminates in a sharp point.

Horizontal Terminal–the end of a stroke of a letter that is parallel to the baseline; usually seen on sans serif fonts.

Vertical Terminal–the end of a letter stroke that is 90° to the baseline.

5-11. **Terminal**–the end of a stem stroke of a character; different types: sheared, straight, acute, horizontal, ball, convex, concave, rounded, flared, hooked, tapered, and pointed.

different sizes and shapes; they can be rounded, pointed, tapered, slab, or ruled. The base of a serif can be flat, or it can be arched or "cupped."

Sans serif fonts do not have serifs; their strokes end in square or rounded or or splayed or angled terminals. Sans means "without" in French, so they are "without" serifs. The ends of sans serif strokes are called *terminals*.

Bracketing is the design of the area that attaches the serif to the stroke of the letter. A serif can be bracketed or not. Bracketing is not essential. There can be heavy bracketing on a serif or very little bracketing. Only serif fonts have bracketing; sans serif fonts do not since they do not have serifs. Bracketing is also a means of discerning one font from another. Once you start to recognize fonts, you can often use bracketing to check which font you are looking at.

Body Height, X-Height, Waist Line, Mean Line

The *body* of a character is the part of a letters that falls between the baseline and the *waist line*, or *x height line*. The x-height line is considered the height of the lowercase letters. The "x" is used to measure the body of a font because it touches both the baseline and the waist line in two flat terminals. The x-height is important to know when it comes to evaluating the readability of a font. The x-height line is also referred to as the *mean line* of the font.

Stress or Bias of a Font

The *stress*, or *bias*, of a font is the angle determined by the direction of the thicker stem strokes of a Roman character. The angle or obliqued stress was historically caused by the flat tipped pen held at a consistent angle. The thickest area of the stroke is referred to as the maximum stress of the letter. The maximum stress of a character is often not directly parallel in serif typefaces, due to the angle of the stress.

Most sans serif fonts also have a stress, but it is sometimes less pronounced than in serif fonts, which have a more clearly defined stem and hairline stroke.

Bowls, Crotches and Counters in a Font

The *bowl* of a letter is the round stroke that encloses space. The bowl is the term used for the stroke, and the *counter* is the term used for the space that is enclosed. If the bowl stroke touches a stem stroke, it creates a closed counter, as for example, in "a b, d, g, o, p, or q." If, however, the bowl does not touch a

stem stroke, it creates an open counter, as in "a c, e, f, h, j, m, n, s, or u."

Even angled strokes can create counters, as in a "v, w, x, y, or z." Counters can be open or closed depending on the letter. The *crotch* is the term for the interior space created by the juncture of two angled strokes of a character, as in the "K, M, N, V, W, X, Y, and Z." An *acute crotch* is an angle of less than 90°, an *obtuse crotch* is when the strokes of a character meet at an angle greater than 90°.

Apexes and Vertexes

The *apex* of a letter is the area where two upward-pointing angled strokes come together. The apex of a character usually extends slightly past the cap line to make it optically appear the same height as other letters. There are different types of apexes, for example, pointed, rounded, sheared, hallowed, and flat.

The *vertex* of a letter is the inverse of the apex; it is the juncture of two downward slanting strokes. The vertex also has a number of variations, such as the flat, sheared, pointed or rounded versions. Remember the vertex is the term for the outside of the stroke juncture, and the crotch is the term for the interior of the juncture.

Arms and Legs in Type

Arms and legs are the names of parts of letters that extend out from the main stroke of the letter and are free on the terminal end. The strokes that extend out either straight or are angled upward are called the *arms* of the character. The strokes that extend downward from the stem of the letter are called *legs*. You will notice that these terms are given to extensions that are similar to our own appendages.

X-Height line, Waist line or Mean line–*this line defines the height of the body of the lowercase letters. The lowercase x is used to determine this line because it meets the waist line at two flat areas.*

Baseline–*this is the line on which the bases of all the letters align.*

Body height–*the distance from the base line to the x-height line.*

5-12. This diagram shows the x-height of a letter.

Vertical Stress–*the direction of the thickened area in a curved stroke of a Roman face initially caused by a flat pen held at a constant angle when making a curved stroke. The thickest point is the "maximum stress."*

Biased Stress–*the direction of the thick strokes and curves in a typeface is called either biased, oblique or slanted. The biased stress of italic faces is usually at a greater angle than Roman faces.*

5-13. The stress of a character is the direction of the thick strokes.

Open Counter–*the partially enclosed space within a character that is open on one end; for example, the white space in a "c, h, m, n, u, v, w, or y."*

Crotch–*the interior space formed by the joint of two strokes of a character, as in a "K, k, M, N, V, W, X, Y, or Z." An acute crotch is less than 90°; obtuse crotch is more than 90°.*

Closed Counter Space–*the enclosed area formed within a bowl of a letter; for example, in an "a, b, d, g, o, p, or q."*

5-14. This diagram compares open and closed counters.

Closed Bowl–*the curved stroke that makes a fully enclosed space within a character; the curved stroke meets the stem; for example in an "a, b, B, d, D, g, o, P, R, or q."*

Open Bowl–*the curved stroke that makes a partially enclosed space within a character; the curve does not meet with the stem completely.*

5-15. The examples above compare open and closed bowls.

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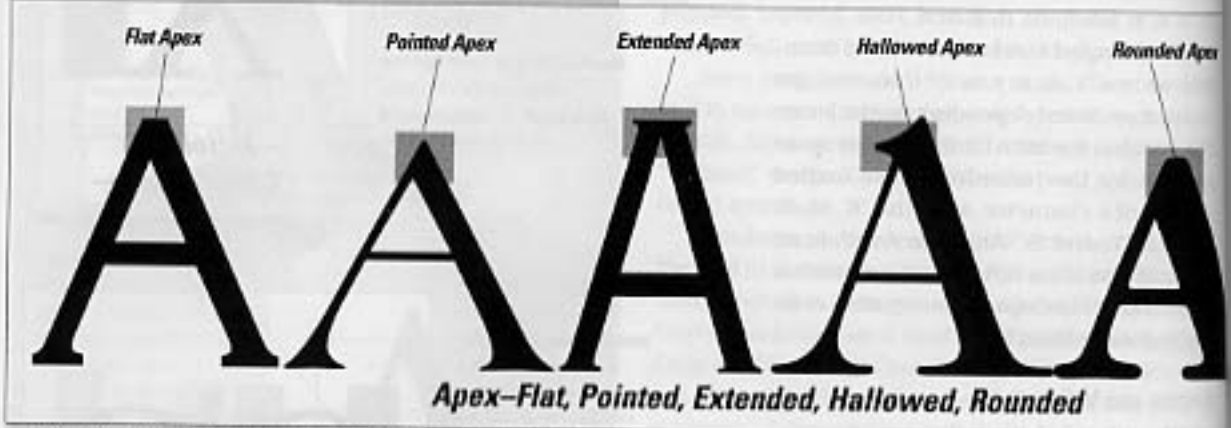

5-16. **Apex**–upper point of letters with an ascending pointed form–this point usually extends past the cap line; examples of different types: rounded, pointed, hallowed, flat, extended.

5-17. **Vertex**–the downward pointing, free ending junction of two angled stems; the point touches just below the baseline. Examples of different types of vertices: rounded, pointed, hallow flat, extended, found on the letters "w" and "v."

Ears and Spurs in Type

An *ear* in type is the small terminal stroke (sometimes rounded or tear-dropped) projecting from the top of lowercase Roman "g, r, f, and a." The ears are different from one font to the next, and they can be used to distinguish fonts.

A *spur* is a small stroke that connects the curved stroke to the vertical stroke in the uppercase "G." The spur usually has a small extension on it, which varies from font to font. Some fonts, particularly sans serif fonts, have little or no spur on the "G."

The Cross Bar and the Cross Stroke

The *cross bar* in type is the horizontal stroke that connects two other strokes in a character. Both ends of the cross bar meet and are joined by a stem or hairline stroke.

The *cross stroke* is a horizontal stroke that intersects across one of the main strokes of the character, but is free on one or both ends. Usually cross

Arm–the horizontal or diagonal upward sloping stroke that attaches to the stem and is free on one end.

5-18. This diagram shows the arms and legs of type characters.

Leg–the downward angled stroke that is attached to the stem on one end and is free on the other terminal end.

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bars and cross strokes are the same width as the hairline stroke of the font. Cross bars and cross strokes can be curved, angled, or stepped, depending on the font.

Loops, Links and Tails

A *loop* is the lower bowl or descender on the lowercase "g." The *link* is the stroke that connects the loop to the upper bowl in the lowercase "g."

The *tail* is the swashed stroke that differentiates an "O" from a "Q." The tail can be simple and functional, or magnificent and decorative.

Loops, links and tails are often good places to inspect a font for the idiosyncratic tendencies of a type designer. Frequently these parts of letters show a great sense of the personality of the type.

Spines, Eyes and Shoulders in Type

The *spine* is the name given to the sinewy, double curving stroke in the letter "s." The spine is often the thickest part of the letter "s." This term is easy to remember because the back of the "s" is shaped the same as the human spine.

The *eye* in type is the specific term given to the counter of the lowercase "e." The eye is very important to type designers because it is often the first area to plug up on press if the type is very small.

Shoulders are the name of the transition from the vertical to the curved stroke in letters. Shoulders are found in "f, h, j, m, n, and u." The design of the shoulders in a font is very subtle and the weight has to be refined perfectly to create an undistracting area. The shape of these transitions determines whether a font appears round, oval or squared off.

5-19. **Ear**–the small terminal stroke (sometimes rounded or tear-dropped) projecting from the top of lowercase Roman "g, r, f, and a."

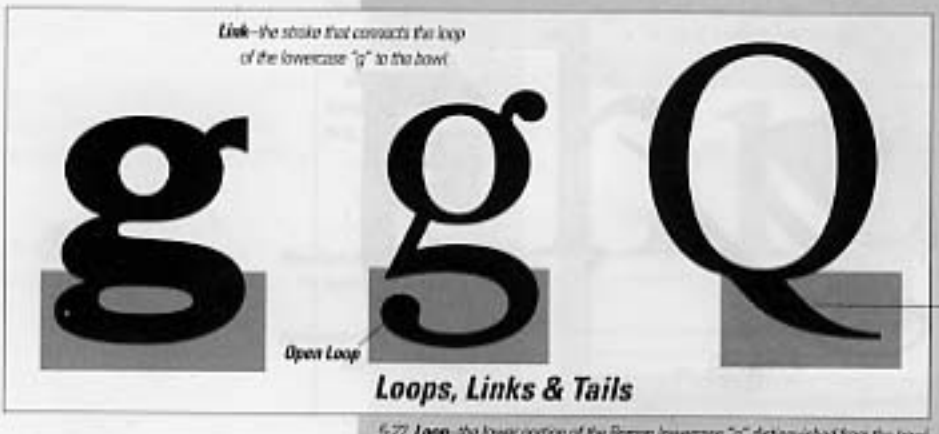
5-20. **Spur**–the nodule descending from the vertical stroke of an uppercase "G"; it connects the straight to the curved stroke but is separate from both.

Cross Stroke–a horizontal stroke that cuts across the stem of a letter as in a "t", or "f"; both ends of a cross stroke are free.

Cross Bar–a horizontal stroke that connects two other strokes of the letter; a cross bar is intersected on both ends.

5-21. Above the difference between a cross stroke and a cross bar is shown.

Link–the stroke that connects the loop of the lowercase "g" to the bowl.



Tail–a downward sloping short stroke or arc of a character stem from the stem and ending free, on an uppercase "Q." Sometimes the legs of uppercase "R" and "K" are referred to as tails.

5-22. **Loop**–the lower portion of the Roman lowercase "g" distinguished from the bowl as a flourish rather than a necessary part of the letter.

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5-23. **Spine**–the graceful, conical curving stroke of the letter "s," which is bolder in fonts with stroke differentiation of stem and hairline strokes.

5-24. **Eye**–the enclosed counter form of the lowercase "e". It can be a fully or partially enclosed counter.

5-25. **Shoulder**–a curved stroke that is continuous with a straight stem not a bowl; examples: "C," "h," "bottom of j", g, t, f and u," as well as the top of the "a."

5-26. **Swash**–a decorative flourish used to accent a character, usually at the beginning or end of a word. Swashes can be curled, twirled, or graceful extensions added to letters to call attention to it.

5-27. **Flags**–the small swash-like strokes used on calligraphic fonts to

Swashes and Flags

A *swash* is a decorative flourish used to accent a character, usually at the beginning or end of a word. Swashes can be curled, twisted, or graceful extensions, added to letters to call attention to the letter and to provide a sense of elegance to the type. Swashes are often alternate characters in a script font.

A *flag* is the small swash-like strokes used on calligraphic fonts to add flourish to the vertical strokes. Flags are most often seen on black letter type fonts.

Beaks and Barbs

A *beak* is a half serif at the ends of an "E, F, L, or T." Beaks sometimes extend in two directions from the arm. Beaks are half serifs that are at the end of only straight strokes in letters.

A *barb* is a half serif found at the end of a curved stroke, such as a "C, G, or S." Barbs sometimes extend in both directions from the curved stroke.

Terminals

A *terminal* is the end of a stroke in a font. There are endless possibilities to the design of terminals. There can be flat, hallowed, rounded, sheared, teardrop, or angled terminals. The terminal determines much of the appearance of a sans serif font. The design of terminals is as specific to a sans serif font as the design of the serif is to a serifed font. In serif fonts, the ear of the "a" and the "c" are often ball or teardrop terminals.

Point Size in Type

The *point size in type* is the measure of the font. It comes from the days of lead type, when the slug that letters were cast on had to include space for the ascenders, the body and the descenders of all the

letters. So, point size is measured from the ascender line to the descender line. Although the days of lead type are past, the point size is measured this same way, even on computers. Point size includes ascenders, the body and the descenders of a font. This may not seem logical at first, but it makes sense if you understand that lead type had to be cast in such a way that the baselines of all of the characters would line up.

Knowing Type Terminology

Knowing the names of the parts of type can help you if you are trying to find the right font for a job, or if you are looking for a specific design of a font from a supplier. Knowing these terms will allow you to talk about the details of the type accurately . . . whether with colleagues or with clients.

5-28. **Beak**–a half serif at the end of the horizontal arms of the "E, F, L, T or Z."

5-29. **Barb**–a half serif at the end of the curved strokes of a "C, G or S."

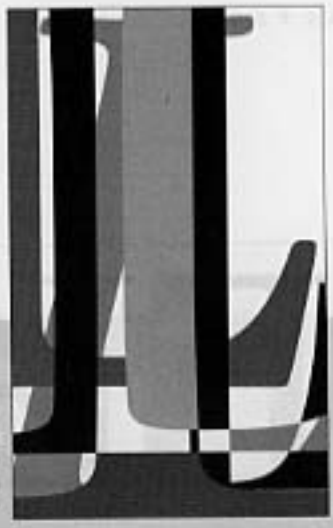
5-30. **Terminal**–the end of a stroke of a character; different types: sheared, straight, acute, horizontal, ball, convex, concave, flared, hooked, tapered and pointed terminals.

Ascender Line or Cap Line–the line that the caps and ascenders touch. (Sometimes these two lines are the same, sometimes, as in Old Style fonts, the caps are smaller than the ascenders.)

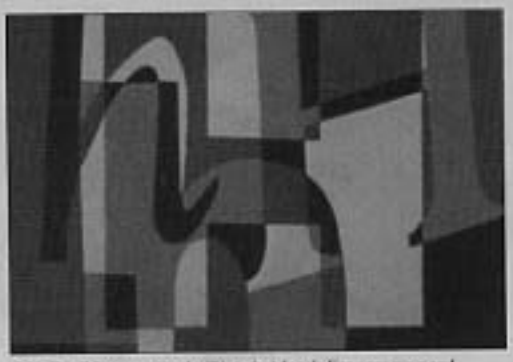
Baseline–the line along which the bases of the letters align.

Descender Line–the line which the descenders of a font touch.

5-31. **Point Size**–is measured from the ascender line to the descender line. It includes the body of the letter as well as the ascenders and descenders.



5-32. This composition of "J's," by KU student Todd Ritman, accentuates the verticality of the structure of the letter "J."



5-33. This "h" composition, by KU student Angela Fass, uses grays and transparencies to create an almost Cubist sensibility to the overall piece.

5-35. This composition overlaps lowercase "g's" in a variety of gray tones.

5-34. This composition, based on "i," by KU student Eugene Yoder, uses transparencies and crisp, distinct areas of gray and black with angles to explore this project.

5-36. In this composition of "M's," the white space balances the positive dark

Project: Design With One Character

The project is to design a creative layout using one character. It can be abstract or very organized. Choose one letter of the alphabet. Using both the capital and lowercase version of that letter, select one serif and one sans serif font. Enlarge the letters, and create an abstract pattern. You can blow up the letters on tracing paper, and use another piece of tracing paper to determine the layout by tracing the letters over one another. You can also enlarge them on the copy machine for the layout, but make sure that you have accurate drawings of the letters to work from.

Using either the italic or the Roman versions (and either upper- or lowercase letters), create your design using one letter. You have four versions of the letter in the serif face to work with, (Roman uppercase, Roman lowercase, italic uppercase, italic lowercase) and four versions of the letter in sans serif to incorporate into your design.

For example: if your letter is "F," use both lowercase or uppercase F from the serif and the sans serif, in italic and Roman. Create a design from at least five different F's.

You are limited to black, white and gray in your design. The final size will be 11" x 17", (either vertical or horizontal) and will be executed in cut paper. On an overlay, mark the names of the parts of the letters from the terms in this chapter.

Begin by doing 15 thumbnails of the design at a small size, drawn to scale. You need not use the entire letter in the design; some of it can bleed off the paper. In fact, you may want to use only a small portion of the letter, but you cannot cut up or cut off the letter unless it is cut off by the edge of the sheet. You can overlap parts of letters, work with the shapes created from this overlapping, etc. You can apply transparency to overlapping parts of letters. The design can be random or highly stylized and organized. This should be an exciting, creative layout when you are done. The design should utilize the three colors effectively.

Objectives:

- To appreciate the detailed nuances of different typefaces.
- To view letters as forms, and experiment with combinations.
- To draw letters at the size type designers work.
- To utilize type as a visual element and an abstract design.
- To develop a design sensibility with abstract shapes.
- To design within a limited color palette.
- To experiment with random vs. planned design solutions.
- To balance the use of color/tone in the overall design.
- To examine the stroke variations in fonts when enlarged.