Form and Proportion in a Text Typeface: A Few Guidelines

Amongst the multitude of typefaces available to designers and computer-users in general, the designs which are commonly used for extensive texts adhere more closely to a canon of familiar proportion and form than the fanciful fonts which are created for display purposes only. These forms and proportions, inherent in the types we read most easily, evolved through centuries of alphabetic communication. It would be oversimplifying, but you could say their historical precedents can be found in two sources: the caps (or uppercase) find their ancestral model in the Capitalis Monumentalis, or Roman inscriptional capitals of the 1st – 7th centuries A.D. (Adobe's Trajan is a contemporary interpretation of these), and the lowercase letters find their models in the Humanist Minuscule hand of the Renaissance, which was itself a descendant of the Carolingian Minuscule of the 7th – 11th centuries A.D. That's a simplified description; as usual, the actual historical evolution of these forms is considerably more complex and warrants a thorough investigation by the inquisitive student.

The following guidelines are based upon historical precedents as well as contemporary practice in the design of text typefaces. They do not represent a complete "how to" instruction on designing a typeface; they are merely a small selection of tips that provide the first-timer with some structure for approaching a very complex task. It is assumed here that the student is familiar with the vocabulary of typeface anatomy; i.e. ascender, descender, x-height, cap height, counter, bar, stem, serif, bowl and other terms.

The Uppercase (capitals, or "caps"):

Looking carefully at the Roman inscriptional capitals will reveal that they can be divided into a few basic width classes:

thin	IJ
narrow	BEFLPRS
medium	HATVX
wide	DCGNOQ
ultra-wide	MW

These width proportions are evident in many traditional text typeface designs. [The model letters and text used in the following tips are set in Adobe Garamond Pro, an interpretation of the types created by Claude Garamond, 1480–1561.]

Hh – While the cap height is a principle dimension in a font, the caps are sometimes not as tall as the ascenders – particularly in traditional designs.

B – the upper counter is smaller.

C – the form of the curve corresponds to the left half of the O. (Caution: "corresponds" does not mean "is identical") The stroke endings on the right run out flatter than in the right curve of the O, rising only slightly above the baseline and dipping below the cap height. The terminals often correspond to the terminals of the E, but this is not a necessity. The lower terminal can be omitted.

E – the middle bar is shorter than top bar, the top bar is shorter than the bottom bar. The upper counter is smaller than the lower counter.

F – the bars are the same length as in E but the low bar is somewhat lower than the middle bar of the E (to fill in space).

G – the form corresponds, for the most part, to the C. The horizontal stroke on the vertical stem in the lower right quadrant is more prominent than a serif and is longer on the inside. The upper terminal hangs approximately over the center of the horizontal stroke.

Jp – does not descend as low as normal descender length.

Q – usually, the round form of the Q is identical to the O.

R – upper bowl often corresponds to B but is often larger. The lower counter is kept larger as in B. The diagonal stroke ends on or below the baseline and further right than the upper bowl.

P – the upper bowl corresponds to R but is often a little larger and connects to the main stem somewhat lower (to fill in space). Sometimes, it doesn't connect at all. The bottom serif is often longer on right side.

S – the upper counter is smaller. It is important to note that this is not a symmetrical letter, but has its own particular dynamic movement.

U – slightly narrower than the H.

THE LOWERCASE:

The stems of the lowercase are approximately ⅛ thinner than those of the uppercase. Only then do they acquire the same grey value when set with the caps.

Hn – the width of the lowercase letters have a proportional relationship to the width of the caps. An extensive study of existing typefaces and some practice in creating this relationship is necessary for acquiring the ability to see and obtain it accurately.

nbhadu – the connection of the arc to the left stem is consistent in concept with the m, h, r, b, p and at the baseline with the a, d, q and u.

m – the counters are narrower than the counter in the n.

v – the width of the v is established to obtain the best grey value when set with the other characters. This can be determined when the v is placed between two n's.

w – the counters are narrower than the counter in the v.

u – slightly narrower than the n.

r – connection of arc to main stem is lower than in n, m, etc.

t – top of cross bar is on the mean line (x-height) and shorter on left. The stem part that exceeds the x-height does not have ascender height.

f – top of cross bar is on the mean line and shorter on the left (like t). The lower serif is longer on the right side. When designing the upper arc and terminal, take letter combinations into consideration (particularly fi and fl).

on – counter has optically the same volume as the counter of the n.

b, d – while elements of the o and h can be found in these characters, they are not designed by merely sticking an o onto an ascender. Both have their own individual dynamic and proportions.

p, q – similar in form and proportion to b and d. The descenders are shorter than ascenders. The bottom serif is usually slightly longer under the bowl.

c, e – the left side corresponds in many typefaces to the left side of the o. In some Old Style and Transitional types (Garamond, Caslon, Janson, Times), the thickest part of the bowl in the e is shifted downward.

y, v – the forms and counters of these characters are very similar and frequently identical.

gpn – the three counters in this kind of g are not optically the same size, but they still have a kind of optical balance that keeps any single part of the character from becoming too small or too large. The character segment below the baseline is often shorter than descender length.

kn – the connecting point between the angular element and the vertical stem is often kept delicate so as not to create a dark spot in text. Sometimes, the angular part will come close to – but not touch – the stem in order to avoid unnecessary darkening at this point. The width of this character works proportionally with the other lowercase letters.

jpi – the top of the j is usually similar to the i. The bottom will sometimes have full descender length, but in some designs it is kept a bit shorter.

il – the dot of the i and j is often kept lower than ascender height for optimal legibility. This makes it more difficult to confuse the i for an l – something that makes reading words like "brilliant" or "million" a little easier.