## The evolution of letter-shapes

An extract from the Companion Material written to accompany Christopher Upward and George Davidson, The History of English Spelling (2011), which I edited for Blackwell's Language Library. I have added paragraphing.

The capital letters of the English alphabet are characterized by a bold, geometrical simplicity of form - notwithstanding the immensely complex, exuberant embellishments that scribes, artists and typographers have delighted in adorning them with through the ages. The basic capital forms of the letters are made up from the simplest of elements: one or more straight lines (vertical, horizontal, or diagonal), or circles (whole or semi-, though their circularity is not usually exact), or else a combination of such straight and curving lines. Only two letters, G and Q, show any other features than these.

The following fifteen letters (almost two-thirds of our alphabet) are, in their most basic forms, made up entirely of straight lines: A, E, F, H, I, K, L, M, N, T, V, W, X, Y, Z. Three more letters consist entirely of curved lines, forming a full or partial circle, or else two three-quarter circles joined in reverse directions: C, O, S. The following six letters are constructed from straight lines and curves or semi-circles (bowls) joined in various ways: B, D, J, P, R, U. And the two letters G and Q are essentially circular, but have a short bar or spur (straight or curled) to distinguish them from similar curved letters, G being thus distinguished from C , and Q from O .

These capitals are not convenient shapes for the practical task of rapid composition of long texts by hand. For this purpose, most capitals early acquired reduced, cursive (or 'running') forms which gradually evolved into the lower-case letters that have become standardized in the last 500 years through printing. The disadvantage of the Roman capitals is that many of them require the writer to make more strokes of the pen than is compatible with fast writing, and in the centuries before printing, when every copy of a text had to be individually written out by scribes, this was a serious practical consideration. Thus E and M each require four strokes, and $\mathrm{A}, \mathrm{B}, \mathrm{F}, \mathrm{H}, \mathrm{K}, \mathrm{N}$, $\mathrm{R}, \mathrm{Z}$ require three, while only C and I are easily written with a single stroke.

The most dramatic simplification in writing was made to capital E, when its three horizontal limbs attached to a vertical stem were incorporated into a single, spiralling curl, to create <e>. Some other capitals lost bowls or limbs: B lost its upper bowl to become <b>; the upper limb of F curled to become a mere extension of the stem in $<\mathrm{f}>$; H lost its upper right extension in <h>, so enabling the letter to be written as one vertical stroke with an attached arch; the horizontal limb of L shrank to a mere curving extension of the stem or disappeared entirely; the four strokes of M were smoothed into two contiguous arches; R merged its top bowl with its raised leg to become <r>; and in many writing styles S was straightened to $<\beta$ - a form that survived in print in English until the beginning of the nineteenth century.

The way in which A developed into <a> is less obvious, but is explained from an early tendency (for instance in the uncial and half-uncial styles of scribal writing common after the fall of the Roman Empire) to write the right-hand diagonal of A
first, and then to add a single loop to represent both the left-hand diagonal and the crossbar. If the right-hand diagonal protruded at the top, it would often curl over to the left, so producing the form <a>; if it did not protrude, the form <a> would result. The evolution from D to d was rather similar: the straight left edge began to be written with a sweeping movement that then curled round at the bottom to rise initially in a broad curve on the right hand side, finally extending back above the left-hand edge like the mathematical symbol $\partial$; the right-hand edge was later straightened, so that today's lower-case $<\mathrm{d}>$ is curved where D is straight, and vice versa.

In the context of such widespread simplification, the development of $\langle\mathrm{g}\rangle$ from $G$ was anomalous, as it constitutes an elaboration. In the post-Roman period, the bar or spur of $G$ was written in various ways, sometimes spiralling into the interior of the letter, but often drawn down with a flourish which in due course curled up beneath it (as in $\langle\mathrm{g}\rangle$ ). In some styles it closed up to form a bowl of its own, hence the form $<\mathrm{g}>$. The upper bowl closed in both cursive styles.

The evolution of such distinctive lower-case letters (for which there are parallels in the Greek and Cyrillic or Russian alphabets, but not in other writing systems) has created a second alphabet, in the sense that many letters have two different forms (and in the case of G, three). Consequently, the learner is faced with having to master not just 26 shapes, but nearer twice that number. Only eight (at least as used in print) lower-case forms - $\mathrm{k}, \mathrm{o}, \mathrm{p}, \mathrm{s}, \mathrm{u}, \mathrm{v}, \mathrm{x}, \mathrm{z}$ - bear an unmistakable resemblance to their capital equivalents, and the upper-case form DANGER has, for example, hardly any visual affinity at all with its lower-case counterpart danger.

