

PACIOLI'S CLASSIC ROMAN ALPHABET

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VERY few of us, familiar as we are with the description "Roman Letter"—and the thing itself—understand at first why a thing so simple to look at should be so difficult to make, and above all, why it should be considered necessary to erect a geometrical scaffolding with     and  in support of an obviously simple construction. Yet simple as the A B C looks we all know it is difficult because we have all tried at one time or another to make a set of capitals, or at least to write our name out in what customs and other officials describe as "block" letters. A better and more admirable term would be "roman." Another term used in official circles is "print"—a permissible if not an admirable term. But "roman" or "print" or "block," the making of even a tolerably decent alphabet is not so easy as it looks, in spite of the fact that rule and compass are not really required, except by workmen engaged in large-scale letter-cutting. The rest of us govern our hands with our eyes, and when we are asked to make a set of capitals we set down, as nearly as we can, the alphabet of the printer.

The most conspicuous difference between the lettering derived from the old roman *scriptura monumental* and the upper-case used by present-day printers is in the extension of several characters which, according to the classical letter-cutters and their disciples of the Renaissance, occupied half a square. If the curious will compare the letters B, E, F, K, L, P, S with the other letters of the alphabet, he will find that they look narrower, and even conspicuously narrower. The only cause

forthcoming for this difference in measure is the difference in form: it was felt that the nature of the shapes of B and S, for example, essentially required a narrower measure than the square which M clearly demands. The letter S, extended to a square in the so-called Lombard style, would have been regarded in classic times as a barbarity; and in fact it was so regarded by the renaissance scholars responsible for bringing writing and printing back to the classical sources of inspiration. It does not follow, however, that if B and S must be less square than M they need be half the square in measure; yet many excellent roman sculptors seem to have considered the half square the best proportion for E, F, S, etc. There exist numerous inscriptions with wide E, but wide S never appears. The general, almost invariable, custom in the *scriptura monumentalis* was to make the short bars to the E of equal length thus: E. The writers of the renaissance including Pacioli departed from the classical exemplars by varying the length of the bars and recommending sculptors to extend the base beyond the length of the upper bars. In the course of time the centre became much shorter than the remaining bars.

This was a natural development, for the necessities of architects and sculptors, though analogous, are not identical with those of punch-cutters and printers. Having learned and memorised the true proportions of roman letter as taught in the manuals of Moille, Pacioli and others, the goldsmiths, punch-cutters and printers relied on their eyes and not upon their measuring tools. The calligraphers were of the same mind. Hence, even in the renaissance period itself, the construction of roman capitals in absolute conformity with classical precedents is exceptional either in written codices or in printed books. There could be no point in the use of the rule and compass in lettering much smaller in scale than the blocks shown in the preceding introduction. The blocks used in Moille are cut on a square slightly over $2\frac{1}{2}$ ", perhaps

the minimum size allowing easy manipulation of the tools. Even in this size, however, it would be quite possible for a true craftsman to draw the characters free hand. But the mass of printing in roman type in fifteenth-century Venice, Florence, Rome and elsewhere was composed in founts whose capitals were not based even at second hand upon the models circulated by Feliciano, Pacioli or Moille. Although not always very literally, the bulk of the roman capitals used by fifteenth-century printers derive from titles employed in the books of that earlier Renaissance which Charlemagne had directed in the eighth century. Thus, Jenson's capitals are by no means immediately classical; they descend from Caroline models. Although these models were themselves based upon roman they are squarer and bolder forms than those of the original inscriptions: in fact they are freely drawn broad-pen versions of the *scriptura monumentalis*. There was, then, only limited use of the strictly classical models in fifteenth-century printing centres.

There was one powerful exception at the end of the century. Aldus Manutius Romanus secured a set of punches from Francesco Griffo of Bologna which are obviously cut upon classical lines. The Griffo fount was first used in 1495. Aldus, who planned to publish editions of Greek and Latin authors, brought out in that year a dialogue which Pietro Bembo had written in the style of Sallust. It seems likely that Aldus instructed his punch-cutter to follow classical models. At least the capitals which Griffo cut more nearly approach the *scriptura monumentalis* than any other in the century. Its faithful adherence to Rome is manifested in the orthodoxy of its E. The size of the original type is that usual in the Venice of that day. I have never seen small types cut in accordance with the classical rules except the capitals to Arrighi's second italic of 1523. This fount possesses the orthodox E with bars of equal length. Of course Griffo's and Arrighi's forms were never

geometrically laid out : inasmuch as printing types are necessarily small, their lines depend strictly upon the engraver's visual and manual skill in following a model, in this case evidently an orthodox set of classical capitals.

A B C D E F G H I J K L M N
O P Q R S T U V W X Y Z

The alphabet (enlarged) according to the proportions of Nicolas Jenson (Venice 1470)

A B C D E F G H I J K L M N
O P Q R S T U V W X Y Z

The alphabet (enlarged) according to the proportions of Aldus Manutius (Venice 1495)

Successive generations of punch-cutters and printers adjusted his varying shapes in order to avoid a contrast between wide and narrow letters. In other words, whereas the old romans and neo-classicists of the fifteenth and sixteenth centuries used an alphabet comprising a square and half a square in measure, the later printer developed a set of characters comprising many varieties of measure expressly to dispose of contrast. By this means, readers have been accustomed to an alphabet whose E and S, for example, are wider than would have been approved by classicists. It would seem, as far as the present-day is concerned, that there is no likelihood of any widespread adoption of the purely classical dimensions by the printing trade. Not since the peak of the Renaissance have printers been influenced by the books of Moille and Pacioli. I have mentioned Arrighi's small classical capitals. The finest large inscriptional letters cast as type and used by any printer known to me are those on the title-page of the superb three-volume Bible published Romae Ex Typographia Apostolica Vaticana (1590). Although printers in the sixteenth century followed Aldus, or rather the letters which Griffo had cut for

him, they did not do so literally. Few cared for the narrow orthodox classical E. Jenson's E was perhaps too wide. The form approved by the majority was E. The wide distribution of books naturally brought the printed letter to the first place as the norm of the alphabet. In consequence the penmanship of later periods increasingly departs from the classical or renaissance models. It seems to have been felt, too, that small letters require thicker stems, certainly thicker than a ninth or a tenth of the height.

Thus the development in typography during the sixteenth and seventeenth centuries moved, without exception, towards an assimilation of the classical capitals as geometrically made, with the changes in scale necessitated by the reduced dimensions of which the growing technique of typographers permitted them the mastery. The smaller the letters became the less the need for the geometry and the less need for insistence upon the classical proportions; capitals became wider as the height was reduced. No doubt Nicolas Jenson saw the advisability to widen the narrow sorts while Francesco Griffo thought that this was necessary only in still smaller letters.

In calligraphy and in the applications of calligraphy which modern parlance describes as "lettering" the situation was at first slightly more favourable to the inscriptional letter. The first copybook compiled in the interest of non-professional writers and brought out by Ludovico Arrighi in 1520, set a precedent followed by two generations of writing masters by presenting students with a copy of the complete alphabet of roman letters. It seems, by the way, that the term "roman" originated at this time. Arrighi (Rome 1520) shows the capitals; Tagliente (Venice 1523) also, but Palatino seems the first (1545) to use the term "Lettere Romane" instead of "antique" or "antiqua" or "antiche" employed by Pacioli and other writers. But the roman letters given by Arrighi, though clearly classical, are put forward as the result of calligraphical, not of

