On the origin of patterning in movable Latin type : Renaissance standardisation, systematisation, and unitisation of textura and roman type

Blokland, F.E.

CHAPTER I

It is evident that handwritten models formed the basis for movable type, the quintessential difference between the two forms being that in movable type characters need to be positioned on rectangles. Textura handwriting was characterised by a relentless regularity of the minims that made up each character. This regularity made it possible to translate the characters in a highly standardised manner onto the rectangles of textura type. In the case of Humanistic handwriting, however, such regularity was missing and translating the handwritten models into roman type would appear to require greater freedom on behalf of the punchcutters.

For this reason it might seem obvious to explain the differences that can be found between the handwritten models and roman type as being the result of punchcutters' optical preferences imposed during the act of translation. That the fifteenth-century punchcutters translated handwritten models to these rectangles by eye (visually), both in the case of textura and roman type, has indeed become the generally accepted view. If handwriting was directly translated into type, this means that the rectangles on which letters are placed in movable type were adapted to the letter proportions. But could the opposite be true? That –at least to a certain extent– the letter proportions were adapted to an existing standardised system of rectangles? After all, the by now well established production of textura type was based on such a standardised system of rectangles, and compositors had come to depend on it in their daily practice of setting type.

I hypothesise that roman type was in fact the result of the adaptation of the Humanistic minuscule to the existing type production process based on standardised rectangles. Because of the organic morphologic relationship between the handwritten origins of textura type and roman type, the production of the latter could be standardised in a similar manner as that of the former (this standardisation will be discussed in detail in the next chapter). This does not mean that I deny that manuscript models are at the basis of the production of roman type. What I will try to argue is that the influence of the handwritten models is a matter of formal principles (morphology), while the details and final proportions owe more to the exigencies of the translation process to standardised rectangles. To support my hypothesis, this chapter will first discuss the importance traditionally attributed to handwriting and the eye of the type designer in the production of roman type; it will then closely examine the flaws behind this line of

thinking, highlighting the inherent differences between typography and calligraphy. This information will then be used in subsequent chapters to examine the standardisation of handwriting for the production of roman type.

1.1 The role of the pen

Education today reflects the general acknowledgment of the central role of the pen for the development of type, following the underlying belief that the first roman type set out to imitate handwriting. Writing takes a central place, for instance, at the Graphic Design department of the Royal Academy of Art in The Hague (KABK). This practice was initiated by Noordzij, who lectured at the KABK from 1960 until 1990.

Noordzij is convinced that although developing insight in type design via handwriting is not the easiest way, it is the best way to make complicated and subtle matters clear: 'Convention is no longer a restricting fence but a vast territory.'[99] What Noordzij implies is that writing explores the basic structure of type, on which the designer can develop his own specific idiom. The alternative method for gaining more insight is to study existing typefaces. However, this could severely restrict the designer because it will be difficult for him to imagine what is possible beyond the investigated models.

Noordzij is not the only one who preaches the development of insight via handwriting. For instance, the English typographer and type consultant Stanley Morison (1889–1967) preceded Noordzij's emphasis on writing when, back in 1926, he criticised contemporary type designs from France. In *Type Designs of the Past and Present* he mentions that the designers of these types ('*artists*') should have let the pen help them, and that the conventions for letters have grown out of the very nature of the pen stroke.[100] On the same page Morison concludes: 'To-day education is broadcast and nobody bothers to write with a pen.' In his turn, Morison was undoubtedly influenced by Johnston, who advertised penmanship as the basis for understanding letterforms for those involved in book production. In his collected notes presented in *Formal Penmanship*, Johnston states that even if one cannot write, one may profit from a study of the methods and principles of that penmanship on which one's art is founded.[101]

---

[99] Gerrit Noordzij, 'A Program for Teaching Letterforms', *Dossier A–Z 73: Association Typographique Internationale* (Belgium: Remy Magrermans, 1973), pp.80–88 (p.86).

[100] Morison, *Type Designs of the Past and Present*, p.62.

[101] Edward Johnston, ed. Heather Child, *Formal Penmanship and Other Papers*.

One can find numerous quotes on the fact that written letters formed the basis for the Renaissance invention of movable type in literature; I will cite just a few here. The alert reader will note that the wording does not always make it quite clear whether the comment refers to textura or roman type or both, but that is precisely the point. I agree that this was the case for textura type, but I don't think it was for roman type. Johnston: 'The first printers' types were naturally and inevitably the more formalised, or materialised, letter of the writer.'[102] Bringhurst: 'The original purpose of type was simply copying. The job of typographer was to imitate the scribal hand in a form that permitted exact and fast replication.'[103] Morison: 'Handwriting is, of course, the immediate forerunner of printing, and some knowledge of its history is essential to any sound understanding of typography.'[104] And finally Ullman: 'The early printers based their fonts on the writing that was current in books of their day.' According to Ullman they imitated writing as closely as possible, 'so that their product might not suffer by comparison.'[105]

However, if the goal was to imitate handwritten books, the early typographers did not completely succeed. The most famous printed books from the Renaissance were not always considered of a quality equal to handwritten ones. Morison notes that in spite of Jenson's almost divinely assisted craftsmanship, fine writing was nevertheless so highly esteemed elsewhere that even his printing failed to please many contemporary collectors of books. According to Morison the bibliophiles of Florence even insisted that printing was so inferior to the manuscripts as to be unworthy of their libraries.[106]

In *Printing Types* Updike mentions the negative effects on type of the imitation of handwritten letterforms. He discusses the first printers and how they, in his opinion, made certain errors in designing and cutting types that profoundly influenced typography; he attributes these errors to the fact that their types tried to imitate the text in written manuscripts. Because of this reproduction '[…] they had neither time, opportunity, nor desire to consider what types were, or to realise that they could never successfully reproduce in metal all forms derived from the

---

(London: Lund Humphries, 1971), p.29.

[102] Ibid., p.43.

[103] Bringhurst, *The Elements of Typographic Style*, p.18.

[104] Morison, *Type Designs of the Past and Present*, p.1.

[105] Ullman, *Ancient Writing and its Influence*, p.150.

[106] Stanley Morison, *Four Centuries of Fine Printing* (London: Ernest Benn Ltd., 1949), p.19.

pen.'[107] Updike was perhaps closer to the truth than he suspected, except that the reason was perhaps not that the punchcutters did not succeed in reproducing 'all forms derived from the pen', but that they did not even try. Instead they were most concerned with standardising the details and proportions to the demands of the rectangles they needed to fit.

The invention of movable type did not make handwritten books obsolete. In his treatise *De Laude Scriptorum* Johannes Trithemius (1462–1516), a German abbot, explains why the invention of printing should not discourage his monks from copying books –if only to keep idle hands busy, and to encourage diligence, devotion, and knowledge of Scripture.[108] In return therefore, movable type also influenced handwritten letterforms. A large number of the manuscripts made during the late fifteenth century were copied from early printed books because, by then, so much printed text was circulating.[109] The sixteenth-century calligrapher Alejo Vanegas advised calligraphers to copy details from Aldine italic that was cut by Griffo.[110] For this reason too, we have to exert extreme caution in asserting that handwritten forms served as exemplars for type.

The citations adduced so far show that roman type is widely believed to have been the result of the Renaissance punchcutters' imitation of the Humanistic minuscule. The next section will bring this belief into question by illustrating the flaws in the Foundational hand model, which is used in education to prove that roman type is directly based on the patterns and structures of preceding written letters.

1.2 The Foundational hand model

Further emphasising the importance of handwriting in today's typographic studies is the use of Johnston's Foundational hand, which finds its origin in late-medieval models and is used in today's education of type designers and typographers to link roman type directly to Humanistic handwriting. For instance, Noordzij applied his own variant for his lessons at KABK, and I use mine there too (Figure 1.1). However, one has to realise that the Foundational hand and all related present-day models are interpretations of historical hands, which were defined by

[107] Updike, *Printing Types*, Vol.1, p.6.
[108] Eisenstein, *The Printing Revolution in Early Modern Europe*, p.11.
[109] Ibid., p.23.
[110] Arthur S. Osley, *Scribes and Sources: Handbook of the Chancery Hand in the Sixteenth Century* (Boston: David R. Godine, 1980), p.140.

Johnston and his followers long after the invention of movable type. The question is whether it is possible to distil such a model from manuscripts predating the invention of movable type, or whether it can in fact only be made with knowledge of (the standardised proportions of) movable type.

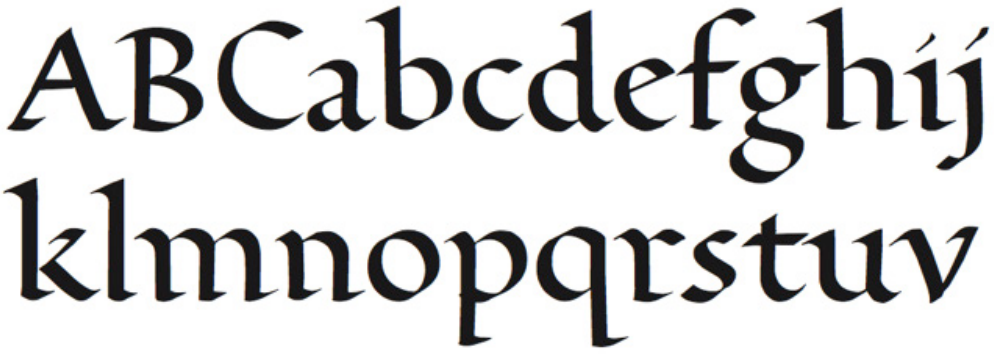

Figure 1.1 Formalised Humanistic minuscule (Foundational hand) with adapted capitals.

Johnston's model was also inevitably influenced by his knowledge of the historical development of writing and typography: he adapted the Foundational hand to Jenson's archetypal patterns. This raises the question of the extent to which the Foundational hand actually show standardisation that was the result of decisions already made during the production process of Renaissance movable type instead of being the inspiration for such decisions. In addition, Johnston's model is an enlargement of the original late medieval and Renaissance small-sized hands, and this results in a more detailed and standardised description. At a larger size it is much easier to make letters uniform and deviations become more visible than at smaller sizes. It seems highly likely that these models use circular logic.

Figure 1.2 From Poggio's model to Jenson's via Noordzij's Humanistic hand.

To illustrate this circular logic, Figure 1.2 shows two enlarged images of a Humanistic minuscule m. The left-hand m is from the Italian scholar and Humanist Gian Francesco Poggio Bracciolini (1380–1459), commonly known as Poggio, to whom the Humanistic minuscule is credited, and Noordzij's 'Humanistic script' variant, which is in fact a Foundational-hand m, is in the

centre. The m from Jenson's roman type is on the right. Although all three m's share the same structure, there is a big difference between Poggio's handwriting and Jenson's type. Noordzij captured the structure of Poggio's model in his 'Humanistic script' illustration from *The Stroke of the Pen* (1982), but he made it more formal in order to make it resemble Jenson's m. Inevitably, Noordzij's m was influenced by the fact that he was familiar with Renaissance roman type, in addition to the fact that he wrote his m at a much larger size. Furthermore, Figure 1.3, with Poggio's hand on top and Jenson's type below, shows, in addition to the structure similarities, that Jenson rigidly standardised and systematised the structure of the Humanistic minuscule. Noordzij's 'Humanistic script' m was undoubtedly influenced by this standardisation, in line with Johnston's Foundational hand. The standardisation of the Humanistic minuscule for the production of roman type will be discussed in detail in the following chapters.

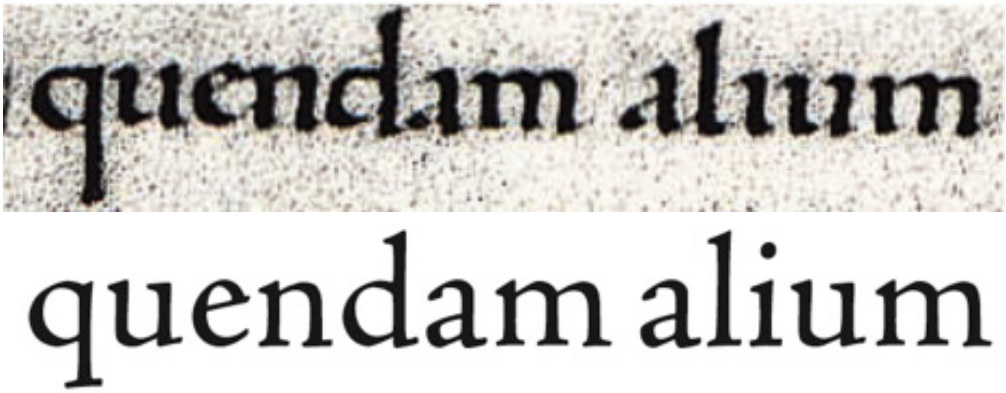

Figure 1.3 The differences between Poggio's model (top) and Jenson's type.

When it comes to details there is a clear difference between Humanistic handwriting and Jenson's archetypal model, which directed the further development of roman type. The generally embraced theory is that Jenson and consorts tried to mimic handwriting, but that view is contradicted by the details of roman type. Figure 1.3 shows that Poggio's model clearly differs from Jenson's. One does not need a trained eye to see that the underlying structure is identical, but that the elaboration of Jenson's letters differs. The British leading scholar in the printing history of Renaissance Venice, Martin Lowry (d.2002), links Jenson's type to the hand of 'a relatively obscure figure' named Battista Cingulano.[111] Also in this case one can see the same underlying structure in the written and printed letters but the differences are huge. If one starts looking for Humanistic

[111] Lowry, *Venetian Printing*, p.22.

handwriting predating movable type that resembles the density ('colour') and patterning of Jenson's roman type, one can find examples that in my opinion come closer, such as shown in Figure 1.4. This is a part of a handwritten edition of Cicero's *Epistolæ ad familiares* that was made in either Florence or Rome around 1450.[112] Still, it does not look as even and well-structered as Jenson's roman type.

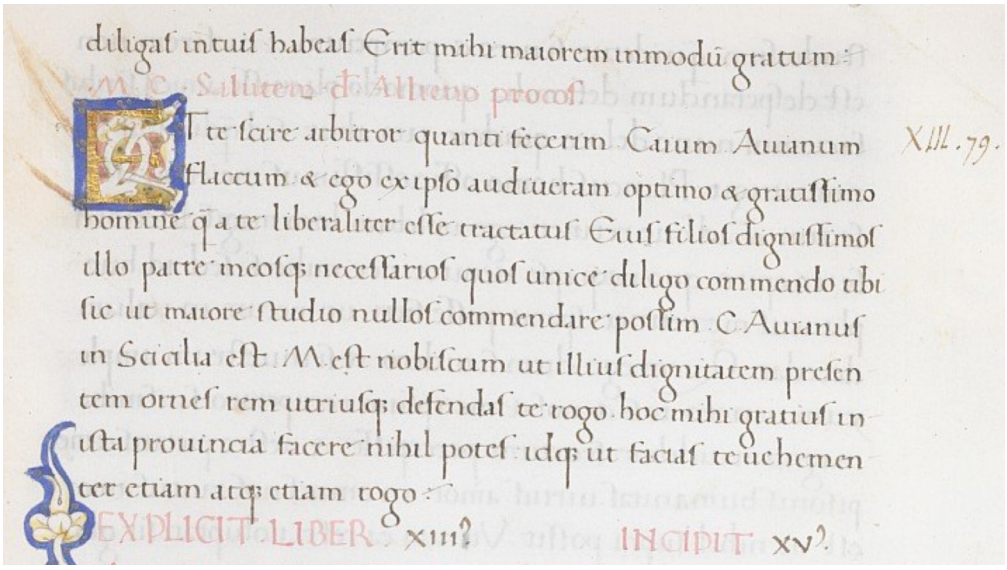

Figure 1.4 Handwritten edition of Cicero's *Epistolæ ad Familiares* from ca.1450 (British Library col.).

The differences between the handwritten models and Jenson's roman type make it just as plausible that, instead of copying handwriting, Jenson did his very best to come up with a handwriting-related, but at the same time different model to set a new standard. His type certainly did not successfully imitate handwriting. And vice versa, the calligraphers of manuscripts from the late-fifteenth century who tried to imitate roman type did not succeed either. This resulted in little more than crude approximations of the printed type. Figure 1.5 shows a part of a book of hours (*Hours of Bonaparte Ghislieri*) made in Italy around 1500.[113] The structuring of the handwriting and also the stroke endings are clearly influenced by roman type and hence the patterning is stronger than the one shown in Figure 1.4.

[112] <https://www.bl.uk/catalogues/illuminatedmanuscripts/TourBurnShape.asp>
[113] <http://www.bl.uk/catalogues/illuminatedmanuscripts/record.asp?MSID=6432>

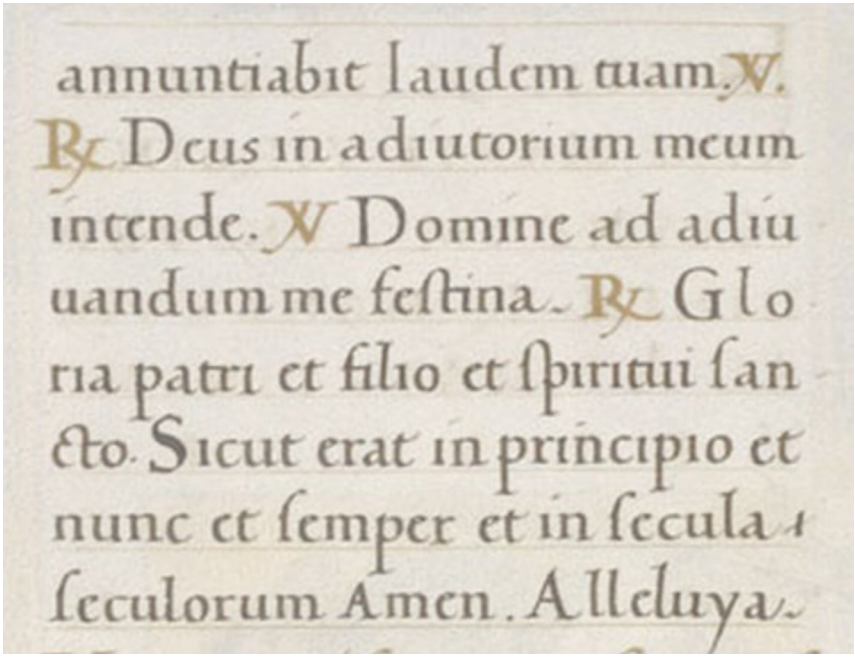
annuntiabit laudem tuam. ℣.
℟ Deus in adiutorium meum
intende. ℣ Domine ad adiu
uandum me festina. ℟ Glo
ria patri et filio et spiritui san
cto. Sicut erat in principio et
nunc et semper et in secula
seculorum Amen. Alleluya.

Figure 1.5 *Hours of Bonaparte Ghislieri* from ca.1500 (British Library col.).

In this book of hours the stroke endings, which are the result of a backward-forward movement with the broad nib like in the textura quadrata, simulate the serifs in roman type. However, the serifs in Jenson's roman type have a clearly different structure. The American type designer Georg Abrams, who used Jenson's roman as inspiration for his typeface named 'Abrams Venitian', concludes that Jenson combined acknowledgement of the broad-nib stroke with the chisel-based shapes of the Roman Imperial capitals.[114] The drawn capitals in the book of hours mimic printed type as much as possible.

1.3 Comparing handwriting and type

To compare calligraphy to type production too closely ignores the inherent differences between the two processes; the present section aims to make those differences clear. Without question one can find many similarities between Humanistic minuscule and Renaissance roman type. However, there are also many differences due to the fact that the structure of movable type, for which letters had to be placed on rectangles, has inherently different characteristics than writing.

[114] Lowry, *Venetian Printing*, p.55.

Figure 1.6 The quintessence of movable type is the positioning of letters on rectangles.

The structure of movable type is fairly simple: letters are placed on rectangles (Figure 1.6). This is done in such a way that, irrespective of the sequence of letters, the rhythmical pattern results in the best possible equilibrium of white space. Regardless of the adjoining characters always the same exact duplicates of characters are used. The repetition of precisely reproduced letterforms and a standardised distribution of space are characteristic aspects of typography. Even when varying glyphs of certain characters are stored in a font to approximate the versatility of handwriting, applying these randomly will still result in a degree of repetitiveness, owing to the finite number of variants. Written characters, by contrast, are never completely identical (and can never be, even if the hand of the writing master is an expert one). They will always to a degree be adjusted to their context: the letters on either side.

There is another major difference between written letters and type: the calligrapher divides the space with pen strokes while the type designer (punchcutter) has to divide the space between these strokes. The question of where the space belonging to a letter starts or ends does not exist for the calligrapher; he makes rhythmical patterns of black and white shapes and if necessary he can adapt the letterforms, by making them more condensed or wider, to adjust the pattern to for instance the length of a line. The type designer has to divide the space between the letters equally because this is essential for creating even patterns with movable type. He then stores the pattern as separate pieces and the pattern is only restored when the type is actually set for printing. The flexibility and freedom that the calligrapher has when it comes to controlling the space inside and surrounding the letters has to be approximated by the type designer; this is done by adding ligatures, contextual alternates, and corrections on the spacing for specific letter combinations.[115]

[115] These corrections for pairs of letters are named 'kerning pairs'. For some letter combinations, such as 'Ty' or 'Ve' these are always required to get an even distribution of white space.

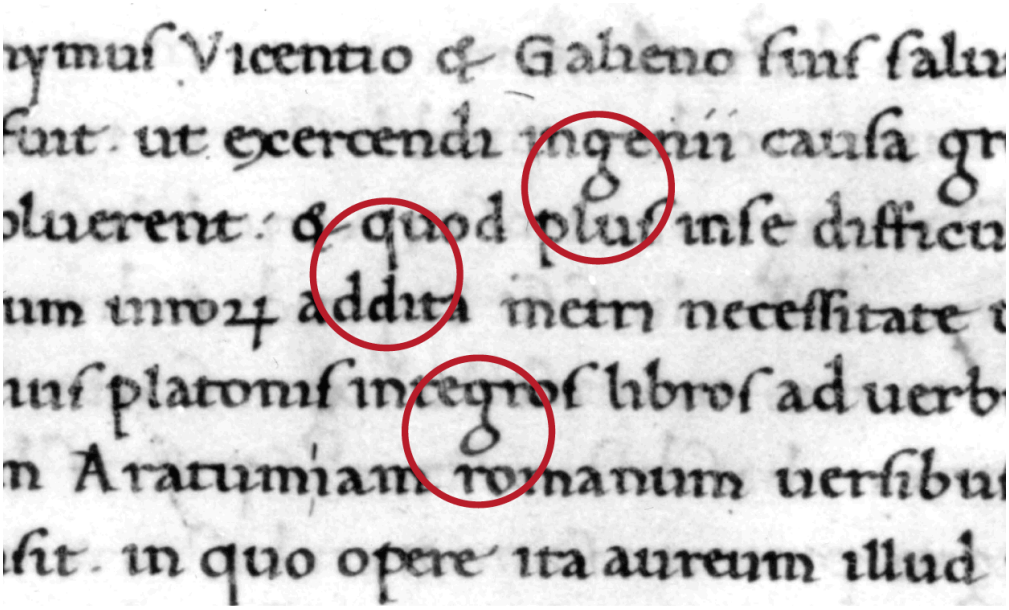

Figure 1.7 Humanistic minuscule with varying ascender and descender lengths (Italy, fifteenth century).

Another difference between typography and handwriting is that in the latter there are no strict vertical boundaries between lines. The lengths of the ascenders and descenders can vary, even when the distance between the lines will be kept constant. Particularly with small-sized Humanistic hands, it was obviously difficult to fully control the lengths of ascenders and descenders (Figure 1.7). Collisions between these elements ('clipping') were prevented as much as possible, which resulted in varying lengths of the ascenders and descenders. The x-height is the most constant factor in Humanistic writing; the lengths of the ascenders and descenders much less so.

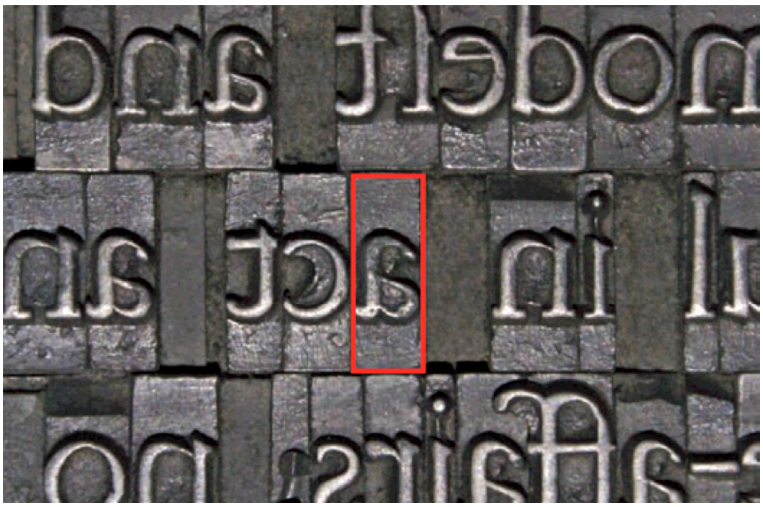

Figure 1.8 For movable type the letters and their surrounding space were captured in rectangles.

In movable type the vertical boundaries are as strictly defined as the horizontal borders (Figure 1.8). This results in fixed vertical proportions for the rectangles in which the letterforms plus surrounding space are captured. Here the structure of movable type, which is meant for the reuse of letters, is completely artificially placed on top of patterns that find their origin in handwriting.

In *Visible Language* the Jesuit Priest Walter J. Ong, who was professor of English literature and professor of Humanities in Psychiatry (and as such could be considered an outsider), makes a distinction between writing and typography by stating that, in the case of writing, words are made by creating marks on surfaces whereas with type words are made 'out of pre-existing things'.[116] This definition is clearly related to Noordzij's description of typography as writing with prefabricated letters, which it actually predates, but it emphasises that writing and typography are basically different things.[117] Ong compares typography to the building of houses by relating type to bricks, and subsequently describing typography as the equivalent to brickwork.

This chapter focused on the importance placed on handwriting and calligraphy in teaching typography today; it aimed in particular to illustrate the ways in which handwriting and type differ, and to question the general use of the Foundational hand model as evidence for the direct link between the Humanistic minuscule and roman type. The next chapter will focus on the relationship between the Humanistic minuscule and textura handwriting, on which the first movable type was based, to examine the possibilities for the use of this relationship by the first Renaissance punchcutters in the roman type production process.

---

[116] Walter Jackson Ong, 'Comment: Voice, Print, and Culture', *Visible Language*, Volume IV, Number 1 (Cleveland: the Journal, 1970), pp.77–83 (p.80).

[117] Noordzij, *The Stroke*, p.49.