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

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CHAPTER 2

As was discussed in the previous chapter, it is generally accepted that the Renaissance punchcutters aimed to replicate handwriting as closely as possible in their production of roman type. The transition from textura type into roman type is mostly described in the literature as a matter of Italian Humanistic scholars' tastes and preferences.[118] The technical consequences of this transition for the punchcutters are underrepresented in the literature. I hypothesise that roman type was largely the result of technical rather than solely æsthetic considerations, and that the production process was based on that of Gutenberg's textura type.

This chapter will focus on the question of how and why the structures of textura type might have been translated into roman type. To do so, it will examine the links between textura handwriting, on which textura type was based, and the Humanistic minuscule, which formed the basis for roman type. The first section briefly presents the historical links between the production processes of textura and roman type. The transition from the Carolingian to the Humanistic minuscule is discussed next, followed by the morphologic relationship between textura and Humanistic minuscule. This discussion will draw parallels between these two hands, in this way supporting the hypothesis that roman type was the result of the standardisation of the Humanistic minuscule to the type production process, in analogy to the standardisation of the gothic hand for the production of Gutenberg's textura type.

2.1 Historical development

There is not much discussion possible about the fact that written letters were initially standardised and eventually formalised by the Renaissance punchcutters.[119] Early printers based their fonts on the writing that was current in books of their day. For example the Venetian printer Manutius, whose punchcutter was Griffo, was 'obsessed by the same dream as Gutenberg' and 'made a repeated claim that his letters were "as good, if not better, than any written with a pen".'[120]

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[118] Morison, *Type Designs of the Past and Present*, p.14.

[119] Johnston, *Formal Penmanship and Other Papers*, p.43.

[120] Martin Lowry, *The World of Aldus Manutius: Business and Scholarship in Renaissance Venice* (Oxford: Basil Blackwell, 1979), p.131.

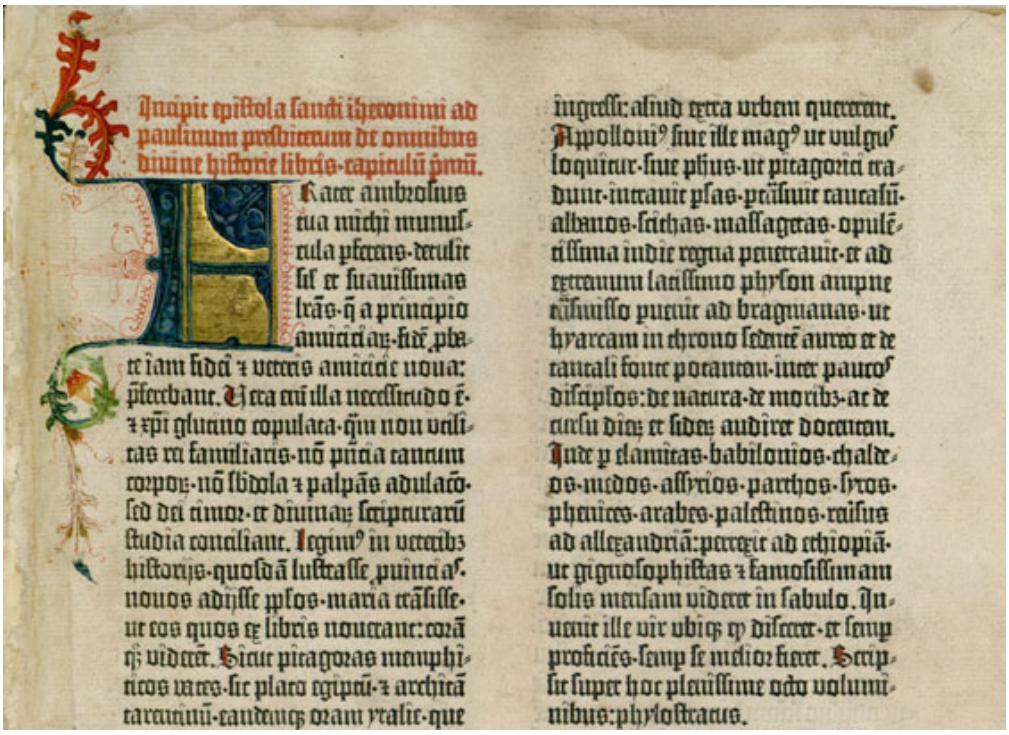

Figure 2.1 Detail from Gutenberg's 42-line bible (1452–1455) typeset in textura quadrata.

The mimicking of handwriting was certainly the case for books printed in textura type, such as applied by Gutenberg (Figure 2.1). The type in Gutenberg's 42-line bible (1452–1455) comes indeed very close to written textura quadrata in the *Giant Bible of Mainz* from 1452/3 (Figure 2.2).

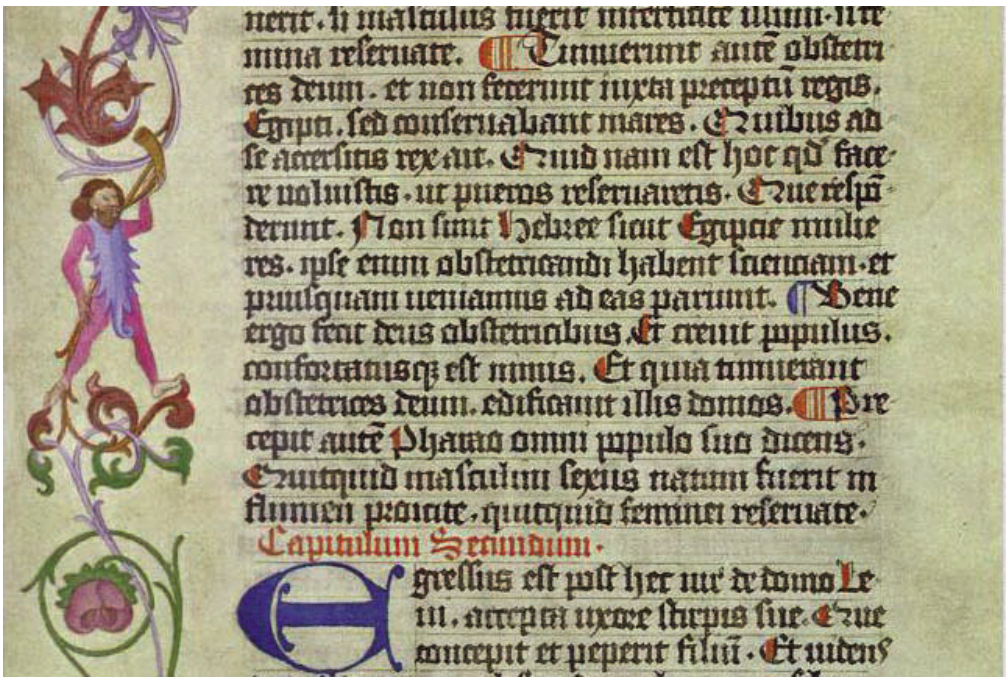

Figure 2.2 Detail from the *Giant Bible of Mainz* (1452/3) written in textura quadrata.

The written textura quadrata (Figure 2.2) was perfectly suited for justifying and casting, because it made the equal distribution of space between the letters – when placed on rectangles– quite simple. Furthermore the number of character widths can be easily limited, because this is an intrinsic element of the textura quadrata's morphology; it was almost as if the model was developed with the standardisation and systematisation of movable type in mind.

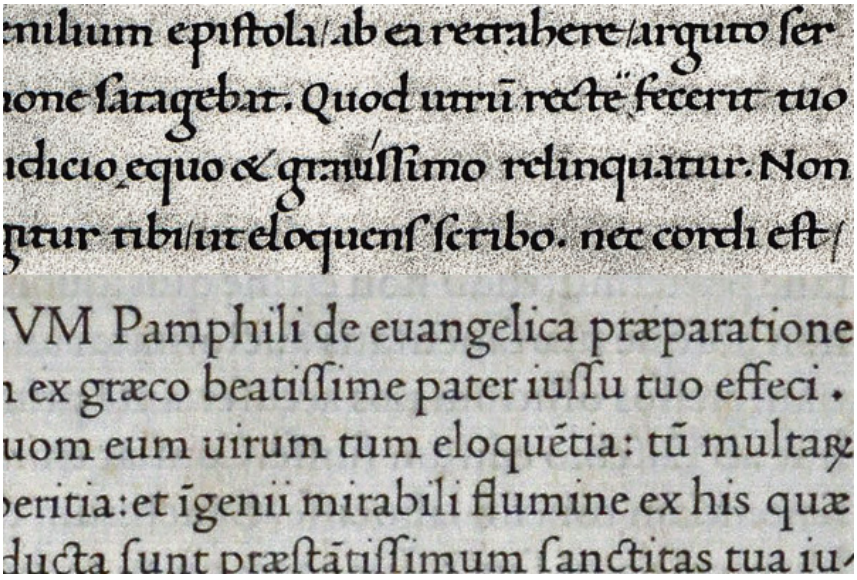

Figure 2.3 Poggio's Humanistic minuscule and Jenson's roman type (below).

The transition from the handwritten Humanistic minuscule to roman type, and later from Humanistic cursive to italic type was less straightforward than the transition from the written textura quadrata to the textura types as applied by Gutenberg. Figure 2.3 shows Humanistic handwriting by Poggio on top of roman type cut by Jenson. There are some similarities between Poggio's and Jenson's models, but there are definitely more differences. In fact, it is hard to trace an exact interpretation of Renaissance handwriting in early Renaissance roman type.

However, some standardisation in early roman type, like that of character widths in relation to the body size, is identical to that in textura type (Figure 2.4). They are the result of the reuse of textura patterns for the production of roman type. Creating roman type with the same scheme as used for casting the morphologically related textura type in mind, simplified design and production matters.

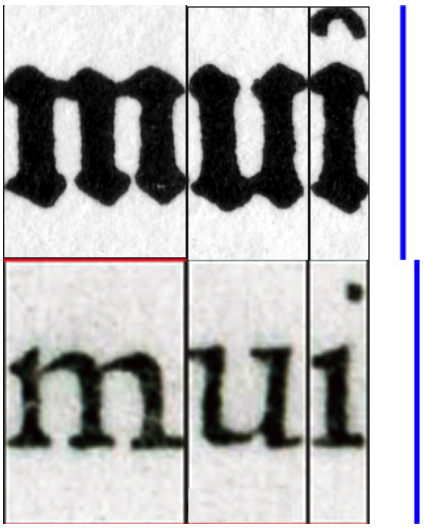

Figure 2.4 Gutenberg's textura type (top) and Jenson's roman scaled to the same body size.

In less than twenty years, Gutenberg's textura type from Mainz was flanked by fully evolved roman type in Venice. The type Jenson made in 1470 for the tractate *De Præparatione Evangelica* of the historian, exegete and polemicist Eusebius of Caesarea (ca.263–339) is generally considered the first highly refined roman type. It directed the development of the types by Griffo and Garamont and their successors. Griffo used Jenson's type as template for the roman type he cut for *De Aetna*, a book published by Manutius in 1495. Although Griffo altered details, the ground plan remained unchanged (Figure 2.5).[121] This was not the first time Griffo used Jenson's type as basis: in December 1475 Francesco da Bologna was commissioned to cut two gothic typefaces to be modelled after the ones used by Jenson. This resulted in Griffo's gothic type from 1477, which was based on a type from that was applied in Venice a year earlier.[122] It has to be noted here that Lowry considers it possible that the Francesco da Bologna in question was in fact Griffo; obviously he was not as sure about this as Mardersteig.[123] However, Lowry fully acknowledges the resemblance between Griffo's font for *De Aetna* and Jenson's roman.[124]

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[121] Typographers tend to look specifically at the details; one cannot see more than one knows, after all. An example that illustrates this is what Morison writes in *Four centuries of fine printing* on the Relation between Jenson's and Griffo's roman types: 'Whether or not the Aldine letters are an improvement upon those of his illustrious predecessor is a matter of taste, but it will at least be agreed that they differ in many important respects. To our eyes they may claim to posses much more "present day" feeling than is conveyed in the letters of the earlier master.' Obviously Morison never investigated the ground plan, which is almost identical for both Jenson's and Griffo's roman types.

[122] Giovanni Mardersteig, *The Remarkable Story of a Book Made in Padua in 1477: Gentile da Foligno's 'Commentary on Avicenna' printed by Petrus Maufer* (London: Nattali & Maurice Ltd., 1967), pp.9,10.

[123] Lowry, *Venetian Printing*, p.17.

[124] Lowry, *Nicolas Jenson and the Rise of Venetian Publishing in Renaissance Europe*, p.208.

The way movable type could have been copied during the Renaissance and surely was in later times, is discussed in Section 3 of Appendix 5: *Tricks and trade secrets*. The relation of Jenson's roman type to that of his Renaissance colleagues and its influence on later type are discussed in more detail in Appendix 2, *The Jensonian gospel*.

Figure 2.5 Jenson's roman type from 1470 (top) and Griffo's roman type from 1495 compared.

The morphologic relationship between the textura quadrata and the Humanistic minuscule made the reuse of textura patterns for the production of roman type possible. However, differences between textura handwriting and Humanistic minuscule have important implications for their use as bases in type production: while textura handwriting could be used to produce type with little modification, the Humanistic minuscule required a greater degree of standardisation. This will be discussed in greater detail in the following sections.

2.2 From the Carolingian to the Humanistic minuscule

In order to prove that Roman type was the result of the standardisation of the Humanistic minuscule to the type production process, this section will examine first the transition from the Carolingian minuscule to textura handwriting, and then from textura handwriting to the Humanistic minuscule. This discussion will then serve as a basis from which to build a comparison of these hands with regard to their standardisation for type production.

Figure 2.6 Transformation from roman capital (left) to Humanistic minuscule.

Figure 2.6 shows the transformation from roman capital to Humanistic minuscule via uncial, Carolingian minuscule, textura, and rotunda. The diagram spans roughly 1400 years. The Humanistic minuscule was a formalised variant of the Carolingian minuscule: it was mostly the result of the removal of the upstrokes that can be found in the Carolingian minuscule (Figure 2.7). This resulted in an interrupted construction, which means that the pen has to be lifted for writing the different strokes that make up a letter. However, in Renaissance Italy also the original uninterrupted construction can be traced. The differences between the Carolingian and Humanistic minuscule are not always completely clear. This probably made George Abrams state that Jenson transposed the structure of the Carolingian script into a lowercase roman letter.[125]

Figure 2.7 The relation between the Carolingian and Humanistic minuscule.[126]

The shift from gothic letter forms back to Carolingian-based ones in the Renaissance seems to have been triggered by the examination by the Humanists of ninth- and tenth-century copies of the classical Latin literature. Through this examination Italian Humanists became familiar with Carolingian handwriting, which predated the gothic hands. Clearly, they were willing to break with tradition.[127] Johnston's Foundational hand, which is often presented as

[125] Lowry, *Venetian Printing*, p.55.
[126] Noordzij, *The Stroke of the Pen*, p.27.
[127] Ullman, *Ancient Writing and its Influence*, pp.137,138.

Humanistic minuscule (as discussed in section 1.2), is based particularly on the Carolingian minuscule applied in the tenth-century *Ramsey Psalter* (Figure 2.8).[128]

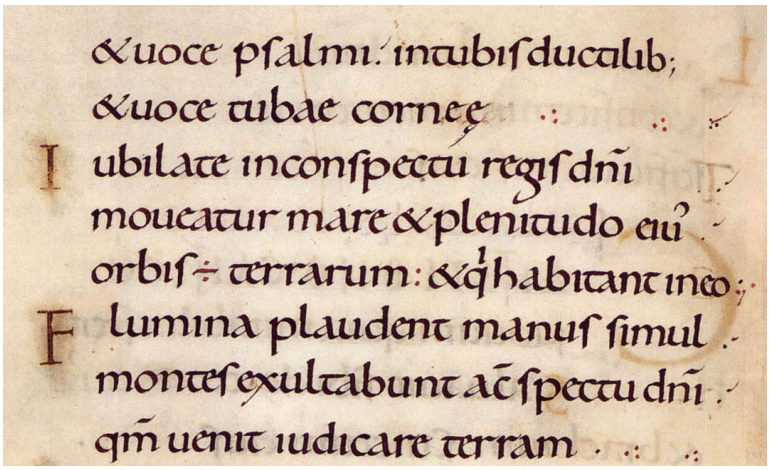

Figure 2.8 Detail from the *Ramsey Psalter*.[129]

There are several differences between textura handwriting and Humanistic minuscule, and these differences are important in this discussion because both hands formed the basis for analogous type production processes. Textura handwriting was much darker than its Carolingian precursor; the space between the stems of its letters was smaller. This is because a calligrapher tries to distribute the space between strokes as evenly as possible, irrespective of whether this space is within or between the letters. The starting point is the stem interval, which is the distance between the stems of the n and related letters such as the m. If an n is wide, consequently there is a lot space in all letters and subsequently between the letters. The reduction of space in and around the letters as a result of compression in the later Middle Ages, which eventually resulted in the textura quadrata, was explained by Noordzij by what he names 'the consolidation of the word'. In his view the letters were not first compressed, which subsequently resulted in more compact words; on the contrary, he reverses the process by stating that the compressed letter forms resulted from placing the letters closer together, which required smaller counters: 'To keep the rhythm intact they make the interior shapes of the letters ever smaller.'[130]

[128] Johnston, *Formal Penmanship and Other Papers*, p.135.
[129] <http://www.snipview.com/q/Ramsey_Psalter>
[130] Noordzij, *The Stroke*, p.51.

Space and letterforms are indissolubly connected with each other. Figure 2.9 shows an increase of weight, which results in smaller counters. The x-height is identical in the three lines and the smaller counters are the result of an increased width of the broad nib. Because a larger pen nib will result in less space within the letters when the calligrapher makes the same movement, less space between the lines is required. This automatically results in a decrease of the length of the ascenders and descenders.

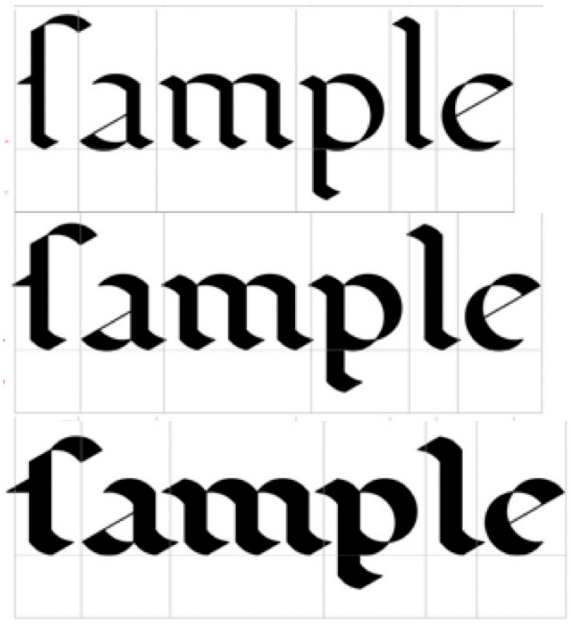

Figure 2.9 Increase of weight (as the result of larger pen nibs) results in smaller counters.

With the reduction of space in the counters of the textura, the space between the lines was reduced accordingly. This was the result of the hierarchical system in which the space between letters is determined by the space inside the letters; the space between the words by the space inside the words; the space between the lines by the space inside the lines; and the space around the text (the margins) by the space within the text. Smaller line spacing leaves less room for the ascenders and descenders. To avoid the clipping of the bottom of descenders with the top of ascenders from the next line, both have to be shortened. To retain a balanced relationship between the letter forms within the x-height and the ascenders and descenders, the lengths of the latter have to be reduced when compressing the letters anyway. This also implies vice versa, that if letters become more open, as they do in the Carolingian and Humanistic minuscule, the ascenders and descenders have to be made longer to retain visually attractive proportions.

In the course of time the written textura not only became darker but also the roundness of the shapes was suppressed, which eventually resulted in the complete removal of curves in the textura quadrata. A direct comparison of the squarish shapes of the textura quadrata and the round ones of the Humanistic minuscule could therefore give the impression that both models are intrinsically different. The following section further investigates the morphologic relationship between the Humanistic minuscule and textura handwriting.

2.3 Morphologic relationship

The aim of this discussion is to emphasise the fact that both the context in which the Renaissance punchcutters worked as well as the morphology of the handwriting used as a basis for roman type were conducive to the standardisation of that handwriting. The width of Gutenberg's movable type could be standardised with relative ease on the basis of textura handwriting; when it came to standardising the Humanistic minuscule for roman type production this standardisation process, while similar, was more difficult. For the production of textura type, the handwritten model could be transformed with hardly any adaptations. In comparison, there are many differences between roman type and the Humanistic minuscule. Producing roman type required a greater degree of standardisation of its handwritten origin. However, there is a clear morphologic relationship between Humanistic minuscule and textura. This made it possible for the Renaissance punchcutters to mould the Humanistic minuscule in a structure in origin as rigidly as that of textura, which was there all along, but that had never been revealed so clearly because handwriting did not require this.

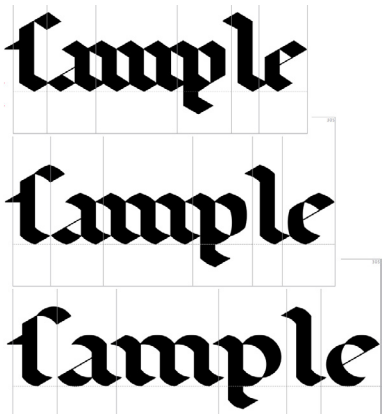

Figure 2.10 The transformation of textura into Humanistic minuscule. The letter is the result of curving the straight strokes of the textura.

At first sight, the letter forms of textura and Humanistic minuscule differ substantially. The compressed and bold gothic letter forms seem to have little in common with the generous open, round, and lighter shapes from the Italian Renaissance. However, the modulation from textura into Humanistic minuscule is no more than a matter of reversing the condensing and curve-flattening (in combination with an increase in weight), which took place in the second half of the Middle Ages and which transformed the Carolingian minuscule into the textura (Figure 2.10).[131] According to Ullman the new writing was not a reaction against the extreme Gothic forms –as is sometimes stated– but rather a gradual simplification of a relative plain Gothic, under Carolingian influence.[132]

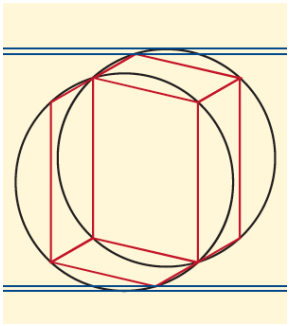

Figure 2.11 The construction of the textura o (red) inside the o of the Humanistic minuscule.

When it comes to the reason for the transformation of curves into straight strokes, which eventually culminated in the textura quadrata (Figure 2.11), the experts' opinions clearly differ. For instance the famous German calligrapher, typographer and author on typography Jan Tschichold (1902–1974) suggested that the curve flattening was partly the result of a desired acceleration of writing.[133]

Figure 2.12 Textura applied in a fourteenth-century *Missale Romanum*.

[131] Ullman, *The Origin and Development of Humanistic Script*, p.11.
[132] Ullman, *Ancient Writing and its Influence*, pp.137,138.
[133] Jan Tschichold, *Letterkennis* (Amsterdam: De Arbeiderspers, 1950), p.19.

This is hard to believe considering the many meticulously refined written medieval manuscripts, as shown in Figure 2.12, and Tsichold's remark on the increasing speed is in complete contrast with what Noordzij states in *The Stroke of the Pen*. Noordzij in fact considers the textura to be the result of formalisation that is achieved by a *reduction* of speed (Figure 2.13).[134] This formalisation is the result of a process that Noordzij calls 'articulation': the strokes become more even and the distribution of space more equal.

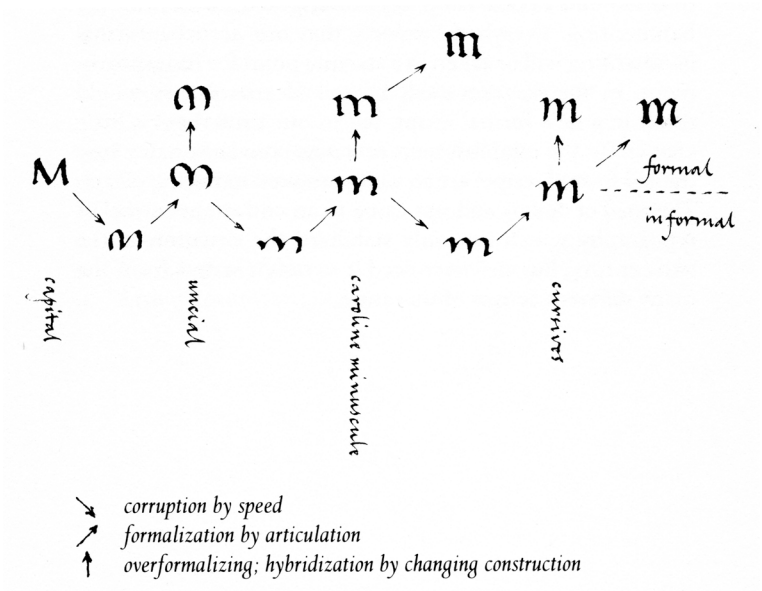

Figure 2.13 Textura (on top) as the result of formalisation by articulation.[135]

The American printer and author on typography Theodore Low De Vinne (1828–1914) was obviously not a fan of gothic letters, which he considered to be degenerate forms of the roman character. He explained the suppression of the curves as the result of a lack of skill.[136] However, as skilled calligrapher I concur with Noordzij's statement that the textura is not the result of an increased speed, nor do I consider it the result of a lack of skill. In contrast with the transformation from Humanistic minuscule to roman type, for which handwriting had to be adapted to technical requirements for the production of movable type, there was no technical reason for the removal of the curves, nor was there any gain in speed. It was above all a matter of taste, as it was also due to a matter of taste that it was replaced by the Humanistic minuscule in Renaissance Italy.

[134] Noordzij, *The Stroke of the Pen*, p.49.
[135] Ibid., p.49.
[136] De Vinne, *The Practice of Typography*, p.291.

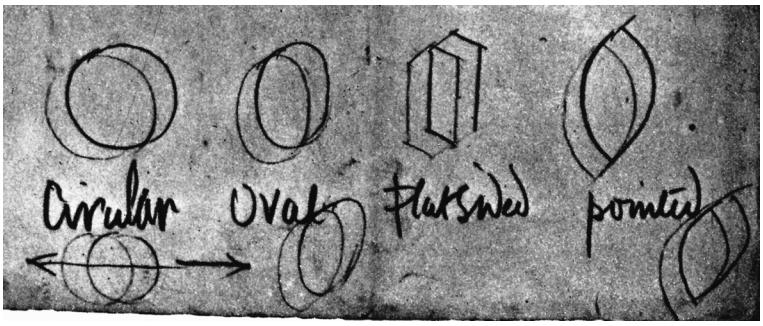

Figure 2.12 Notes by Johnston showing the different handling of strokes.

Johnston was well aware of the fact that gothic and Renaissance hands were variations on the same theme. He noted that, from the Foundational hand, various (more) roman forms and also italic forms could be derived, and that by using a broader nib, a more gothic variant could be developed.[137] Johnston used the letter o to illustrate the historical variants on the same theme: circular, oval, flattened, and pointed (Figure 2.12).[138]

Johnston supports my assertion that there is a closer morphological similarity between textura and humanistic minuscule than meets the eye, and that this similarity makes it not only possible but perhaps even stimulates the application to roman type of the same standardisation process that was applied to the gothic hand in the creation of textura type. This morphologic similarity lends support to my hypothesis that roman type is the result of standardisation of the Humanistic minuscule in the type production process, similar to the standardisation of textura handwriting to create Gutenberg's textura type.

This chapter focused on the similarities between the hands on which textura and roman type were based. It first discussed the transition from Carolingian to gothic to Renaissance hands, followed by the morphologic relationship between textura handwriting and the Humanistic minuscule. This was done in order to lend support to my hypothesis that the production of roman type was the result of the standardisation of handwriting, in a process analogous to the one that produced textura type. The following chapter will make use of both a model that I developed as well as my own software in order to provide concrete evidence of this standardisation.

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[137] Johnston, *Formal Penmanship and Other Papers*, p.49.
[138] Ibid., p.98.