

## **Brunelleschi's epitaph and the design of public letters in fifteenth-century Florence**

Paul Stiff

Copyright © 2005, 2022 *Typography papers*, the author(s), and the Department of Typography & Graphic Communication, University of Reading.

This PDF file contains the article named above. All rights reserved. The file should not be copied, reproduced, stored in a retrieval system, transmitted, or distributed in any form or by any means without the written permission of the copyright holder or the publisher.

*Typography papers 6* was edited, designed, and prepared for press in the Department of Typography & Graphic Communication, University of Reading ([www.reading.ac.uk/typography](http://www.reading.ac.uk/typography)) and published by Hyphen Press, London ([www.hyphenpress.co.uk](http://www.hyphenpress.co.uk)).

This file is compatible with Adobe Acrobat 7.0 or higher.

Colour and greyscale images downsampled to 240 ppi with 'high' image quality JPEG compression; monochrome images downsampled to 400 ppi. Printing is enabled to 'high resolution'.

Minor copy-editing faults that may have occurred in the article, as printed, have been silently corrected. Substantive corrections, if any, are listed below.

### *Corrections*

p. 79, marginal table, 'Letter frequencies':

° 3 (abbreviation above M, C, VI) changed to

° 4 (abbreviation above V, M, C, VI)

[Intentionally blank]

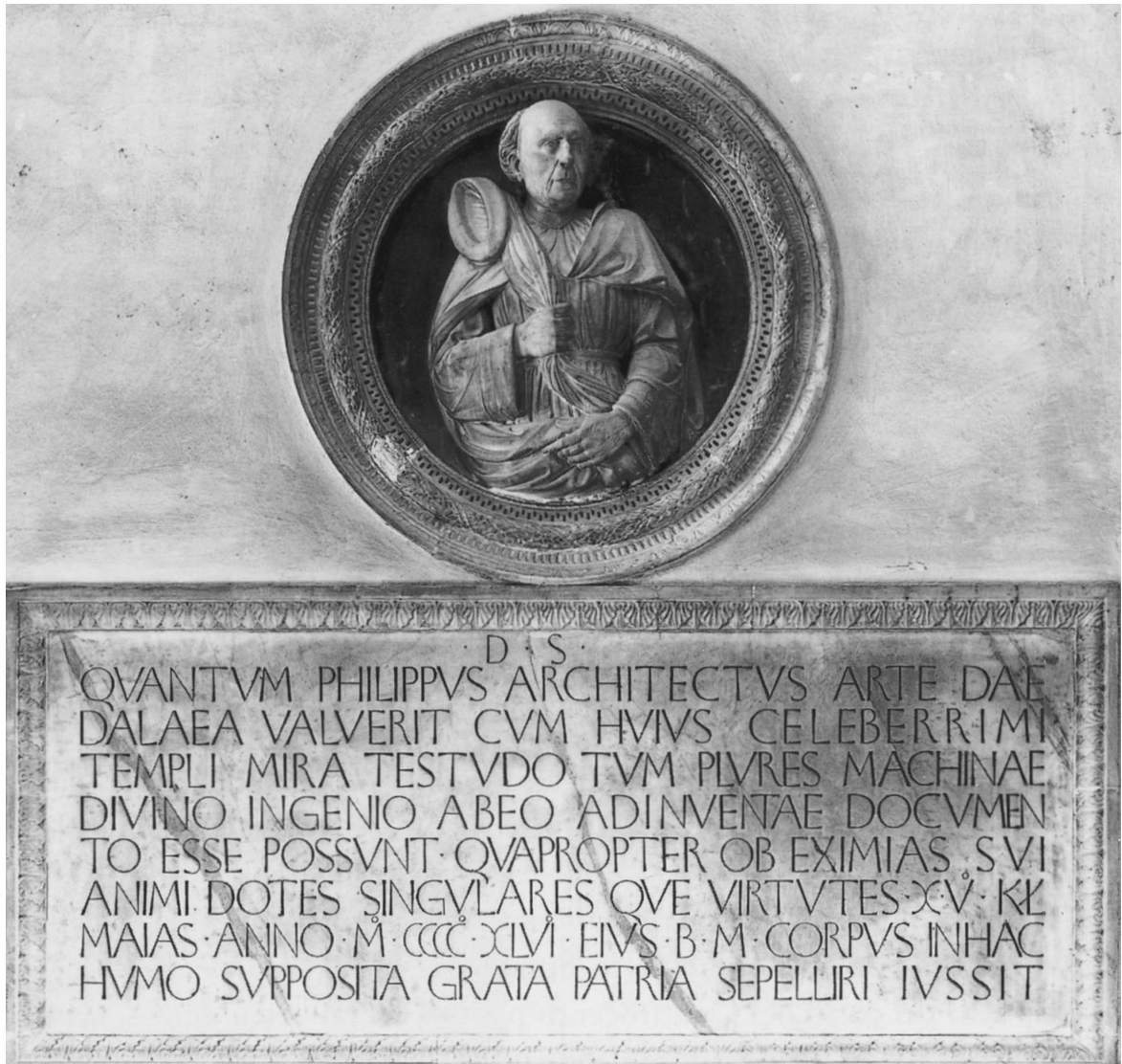


Figure 1. Workshop of Buggiano, c. 1447: marble memorial to Filippo Brunelleschi in the cathedral of Florence, set in the wall of the south aisle, near to the west front and close to the door. Inscriptional panel: height 1.15 m, width 2.65 m (aspect ratio c. 2 : 5); from the pavement to the base of the panel is 3.33 m (measurements by the Opera di Santa Maria del Fiore di Firenze). Approximate height of letters, based on my measurement of photographs, is 78 mm. (Photograph E. Oy-Marra and Kunsthistorisches Institut in Florenz.)

## Brunelleschi's epitaph and the design of public letters in fifteenth-century Florence

This essay could be sub-titled 'a designer looks at the classical tradition of letterforms in early renaissance epigraphy'. It is about the design of inscriptions in works of art and architecture in Florence around the middle of the fifteenth century, a time which has been described as a period of experiment in letterforms. I examine the graphic aspects of inscriptions: their configurations and the new style of capital letters which gave material form to texts. Starting with an unregarded inscription which, I argue through illustrated comparisons with contemporary work, epitomizes its type, I survey the design of letters for public texts in Florence during this period.

*author's address*

Department of Typography  
& Graphic Communication  
The University of Reading  
Reading RG6 6AU  
England  
p.stiff@reading.ac.uk

\* All the works illustrated here are in Florence unless otherwise stated.

In the Florentine cathedral of Santa Maria del Fiore there is a stone memorial to the architect-engineer Filippo Brunelleschi. It takes the form of a half-length portrait in deep relief, set within a wreath, below which is an inscribed epitaph in Latin honouring the designer and maker of the cathedral's dome. This work in marble is that of Brunelleschi's adopted son, known as il Buggiano after the Tuscan village of his birth. The light here is just adequate for viewing and poor for photography (figure 1, opposite).\*

The inscription passes almost unremarked in the literature of renaissance epigraphy.<sup>1</sup> This cannot be because the letters are unnoticed. Possibly it is because the monument of which they are part is the work of a disregarded artist. However the subject of this inscription, the author of its text, and its occasion – a eulogy for a citizen granted the rare privilege of burial in his city's cathedral – are enough to attract attention. For anyone interested in letters, so is its design, which is, I will argue, a highly controlled essay in the reconstruction of classical letters. It is rarely possible to be sure about the circumstances in which inscriptions were designed and made in the early renaissance. Although uncertainty lingers here too, those circumstances can be broadly reconstructed, to provide a context for questions about the design of public letters in Florence around the middle of the fifteenth century. Who designed inscriptions, and how? What ideas formed designers' judgement about the configuration of inscribed texts, and about the shapes of letters?

Contemporaries thought that the memorial was special. Antonio di Tuccio Manetti, who probably composed his *Life* of Brunelleschi some forty years after the death of its subject, wrote that he 'was granted the great distinction of being buried in Santa Maria del Fiore ... the marble bust, which they say was carved from life, was placed there in perpetual memory with such a splendid epitaph'. In the 1490s Bartolomeo Scala wrote, in his *Historia Florentinorum*, that 'In praise of his genius Brunelleschi received the honour of a public burial. His marble effigy is near the entrance of the right-hand portal with a carefully composed epigram ... Carlo Marsuppini, the renowned poet,

1. Not entirely: the art historian Christine Sperling (1989, p. 225) mentions it as an example of 'the Sanserif epigraphical style'. Paul Shaw partly based the typeface 'Donatello Alternativo' on it, shown in LetterPerfect's 1997 edition of Nicolette Gray's 1960 article on early renaissance lettering. And in a footnote Nicolette Gray (1960, p. 68 n. 3) suggested a similarity

between letters in a floor tomb in Santa Croce, in the Cossa tomb in the baptistery, and in this inscription; see p. 80 below. Other art historians who have noticed it include Eugenio Battisti in his comprehensive account of Brunelleschi's work (1981; see n. 64 on p. 97 below); and Doris Carl (2001).

composed the epigram.' Giorgio Vasari, although writing sixty years further on, seems to have been well-informed about Brunelleschi's memorial, and he also tells us where to look: 'Il Buggiano . . . did from life a marble head of his master which was placed after Filippo's death in Santa Maria del Fiore, to the right of the door at the church entrance. The following epitaph can still be found at this spot, where it was put by the people to honour Brunelleschi after his death as he had honoured his country during his life . . .'<sup>2</sup> Here is its text as it almost actually appears, line for line:<sup>3</sup>

· D · S ·

QVANTVM PHILIPPVS ARCHITECTVS ARTE DAE  
DALAEA VALVERIT CVM HVIVS CELEBERRIMI  
TEMPLI MIRA TESTVDO TVM PLVRES MACHINAE  
DIVINO INGENIO ABEO ADINVENTAE DOCVMEN  
TO ESSE POSSVNT · QVAPROPTER OB EXIMIAS SVI  
ANIMI DOTES SINGVLARES QVE VIRTVTES · X · V° · KL  
MAIAS · ANNO · M° · CCCC° · XLVI° · EIVS · B · M · CORPVS INHAC  
HVMO SVPPPOSITA GRATA PATRIA SEPELLIRI IVSSIT

This translation is provided by Margaret Haines:

(?Sacred to God) 'Not only the marvellous dome of this celebrated temple but also the many machines he invented with divine genius stand to prove how Filippo the architect excelled in the Daedalian art. Wherefore, because of the distinguished gifts and singular virtues of his mind, on the 15th of the Calends of May, 1446, a grateful fatherland decreed that his worthy body be buried in this grave.'<sup>4</sup>

Howard Saalman sees in the words *arte daedalaea* 'an image of miraculous flight created by the vault raised without centering'. Eugenio Battisti's reading is more prosaic: Daedaleus, he suggests, was a fairly common term of praise indicating technical and architectural ability. And here it is worth adding that its author Carlo Marsuppini's unusual use of the classical Latin formula for dating – the Kalends of May – may have been given authority in Florence twenty years earlier by the epitaph for the anti-Pope John XXIII in the baptistery.<sup>5</sup>

Filippo Brunelleschi had died in the month after the dedication of the cathedral cupola, on the night of 15/16 April 1446, in his 69th year. This is what then happened. His body was quickly buried in the bell tower after a brief ceremony.<sup>6</sup> Eight months later, in December, the consuls of the wool guild decided to provide a proper tomb and a marble memorial on the cathedral's wall for their architect.<sup>7</sup> They awarded the commission to Buggiano and secured from Carlo Marsuppini, the chancellor of Florence, the promise of an epitaph. The overseers of the cathedral's works, the *Opera del Duomo*, would

7. The *Arte della Lana*, manufacturers and merchants of woollen cloth, whose permanent responsibility from 1331 for the cathedral building project was recorded in a Gothic inscription now on the north side near to the façade. The guild's senior consuls appointed members to the *Opera del Duomo*, the committee of overseers of the cathedral works, which had authority over financing, administration, and

design; in all this, the cathedral's clergy had little say. Under an edict of the Cossa pope, John XXIII, the clergy came under the direct control of the *Arte*. Burial in the cathedral, a privilege reserved for a few distinguished servants of the republic, could be granted only by the guild's consuls. In April 1400 the *operai* forbade any further tombs above ground level.

2. Manetti's words are from the 1970 edn, p. 34; Vasari's from vol. 1 of the 1971 edn, pp. 171–2.

3. But without the NT ligature (in ADINVENTAE, line 5) and the L-bar contraction sign in KL (line 7).

4. Haines 1989, p. 124. Other translations to English, all different, can be found in: Vasari (vol. 1, 1971 edn, p. 172n.), Battisti (1981, p. 16), and Manetti (p. 129, n. 4) where his editor, Howard Saalman, offers: 'How valiant Filippo the Architect was in the Daedalian art both the wonderful vault of this celebrated temple and the many machines invented by his divine genius document. Wherefore because of the excellent unique and virtuous gifts of his mind, a grateful country ordered his body to be buried in this grave on the XV Kalends of May in the year MCCCCXLVI.' All these translators ignore the abbreviated dedication, DS. Iiro Kajanto (1980, p. 26) notes its appearance in humanistic epitaphs in Rome in the second half of the fifteenth century, suggesting that it can be read as D(eo) S(acrum) or S(alvatori) or S(oteri).

5. Saalman in Manetti, p. 129, n. 4; Battisti p. 338, n. 1; on the dating formula, Sarah Blake McHam 1989, p. 162.

6. This account of Brunelleschi's burial and memorial is based on Manetti, Vasari, Leader/Baker 1901, Battisti 1981, and Haines 1989. Documents from the archive of the *Opera del Duomo*, of February and May 1447, are given in Margaret Haines's edition of vol. 2 of Giovanni Poggi's *Il Duomo di Firenze, documenti sulla decorazione della chiesa e del campanile tratti dall'archivio dell'Opera* (1909); 1988, Firenze: Edizioni Medicea; pp. 130–131; documents 2076, 2077, 2078; (*Sepoltura di Filippo Brunelleschi*). Documents from the *Opera*'s archives also appear in Saalman, 1980.

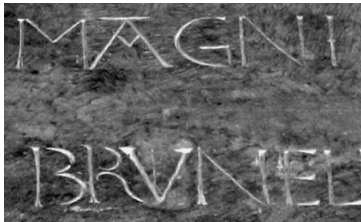


Figure 2. Detail of the inscription on Brunelleschi's tomb, c. 1447, now near the gift shop beneath the cathedral pavement. Note the Gothic A and roman G, and the construction of B and R.

supply the materials for the memorial or pay for them. All this was unusual: a monument inside the cathedral, let alone a tomb, was an honour reserved for those such as the *condottieri* Sir John Hawkwood and Niccolò da Tolentino.<sup>8</sup> In February 1447 a committee of *operai* determined that Brunelleschi's remains should be interred beneath the floor of the cathedral, and that a marble tomb-marker should be set into the pavement above it, bearing the words 'FILIPPVS ARCHITECTOR'. At last, in May, thirteen months after his death, 'He was buried with great honour and dignity in Santa Maria del Fiore ... under the pulpit opposite the door'.<sup>9</sup> Carlo Marsuppini, author of another significant funerary epitaph in the city – that of his predecessor as chancellor, Leonardo Bruni – duly provided his text and it was approved in the same month.

Originally, then, Brunelleschi's presence was marked at three locations inside the cathedral: his tomb beneath the pavement, the marker set in the pavement above it, and the memorial – portrait and inscription – on the south wall. The tomb was found in the excavations of 1972 and can now be seen under the south aisle, at the foot of the stairs down to the gift shop. The simple text of its inscription, displayed in a strikingly florid letterform, refers to the great man's 'ingenuity': CORPVS MAGNI INGENI VIRI / PHILIPPI S. BRVNELLESCHI FIORENTINI (Here is the body of the great and ingenious Filippo Brunelleschi of Florence)<sup>10</sup> (figure 2). The tomb marker was lost during works on the cathedral's pavement. As for the memorial, Buggiano's commission was for the whole piece: the portrait and, below it, the inscribed epitaph.<sup>11</sup>

The facts of Buggiano's life are scant.<sup>12</sup> He was born Andrea di Lazzaro Cavalcanti around 1412 in Borgo a Buggiano, near Pescia, 54 kilometres west of Florence. As a seven-year-old orphan he was adopted by Brunelleschi, taken into his household in the parish of San Michele Berteldi, and there apprenticed by him. In his tax declaration of July 1427 Brunelleschi stated that he kept in his house the youth who had been there with him ever since childhood and was treated as if he were an adopted son. In 1434, following the resolution of some serious difficulty between them – in the previous year the young man had absconded to Naples, and was restored to his father's house only after the intervention of Pope Eugenius IV and some exercise of diplomatic skill by his secretary Leon Battista Alberti – Brunelleschi declared his adoptive son as his heir. The trouble had been over payment, which Brunelleschi had withheld, for a commission in 1433. This is the probable date of the tomb of Giovanni d'Averardo de' Medici (Giovanni di Bicci) and his wife Piccarda de' Bueri, in the Old Sacristy of San Lorenzo.<sup>13</sup> Very likely this was designed by Brunelleschi and executed by Buggiano.

8. For these see p. 95 and figures 59, 60 below.

9. Vasari, p. 171. Battisti (1981, p. 338, n. 1) suggests that the long delay between Brunelleschi's death, the Arte's decisions to bury him in the cathedral and to erect a memorial, and their implementation, is part of the evidence for an anti-Brunelleschi faction in Florence. Diane Finiello Zervas revealed 'Filippo Brunelleschi's political career' in the *Burlington Magazine*, 121 (1979), pp. 630–9.

10. Anthony Grafton (2000, p. 99) remarks that in Brunelleschi's world 'ingegno, like the Latin cognate ingenium ... had two principal senses: the brilliance specific to the engineer, and the novel inventions that he created.'

11. Buggiano based his portrait on the death mask which is now in the Museo dell'Opera del Duomo and which he may have made.

12. My principal sources are Francesco Quinterio (2000) and Eugenio Battisti (1981).

13. Eugenio Battisti (1981, p. 334) cites Brunelleschi's tax declaration of May 1433: 'I must pay Andrea di Lazzaro di Cavalcante, master carver, for a sepulchre and altar that he has done for Cosimo de' Medici and other citizens'. These have been identified as the sarcophagus for

Giovanni d'Averardo and Piccarda (parents of Cosimo), and the altar, in the *Sacrestia Vecchia* of S. Lorenzo. Giovanni d'Averardo was founder of the Medici fortune; he engineered the ransom of his friend Baldassare Cossa, the anti-Pope John XXIII, after three years of imprisonment in Germany, arranged for his return to Florence, was an executor of his will, and partly financed his tomb in the baptistery.

John Pope-Hennessy referred in passing to Buggiano as Brunelleschi's 'sculptural amanuensis'. Eugenio Battisti saw more in their work relationship: 'the young man was more than an aide or partner to the master, functioning rather as his *alter ego*, maintaining a domestic workshop which no doubt came in handy whenever major commissions were scarce'. And he offers a more positive assessment of his sculptural abilities than most: 'at times he appears indistinguishable from Brunelleschi; at times he surpasses his master; occasionally he proves merely a mediocre artisan.' Buggiano is credited with few independent works, however. Anne Markham Schulz assigns to him just four pieces in Florence before the cathedral memorial, two of which were commissioned by the *Opera*. Indeed, she refers to a monopoly in the patronage of the *Opera* held by Donatello, Luca della Robbia and Buggiano during the second quarter of the fifteenth century. His father's memorial was done at the moment when Buggiano's share in that monopoly came to an end. We can infer that, no longer standing on his father's shoulders, work more or less dried up.<sup>14</sup> Markham Schulz's verdict is brusque: 'The dearth of commissions to Buggiano after (Brunelleschi's death) suggests that it had been Brunelleschi's influence with Cosimo de' Medici and the *Opera del Duomo* that had previously won commissions for this mediocre sculptor'. She provides a signal fact: between 1446 and 1451 Bernardo Rossellino's workshop received all known commissions for marble sculpture in Florence, save one. That exception was the memorial to Filippo Brunelleschi.<sup>15</sup>

After completing his father's memorial, Buggiano worked for about three years in the Rossellino *compagnia*, which he entered as 'an accomplished master'.<sup>16</sup> After this period of employment came the most substantial project attributed to him, the design of the Cardini chapel of San Francesco, in Pescia, for which the dedicatory inscription is dated 1451. He then appears in a document of 1452 recording arbitration of a dispute between him and Fra Andrea Rucellai about the price for his carving of four marble reliefs on the pulpit – the 'Rucellai pulpit' – in Santa Maria Novella. His final documentary appearance is in July 1459, when he was appointed as an independent assessor of Luca della Robbia's monument of Bishop Benozzo Federighi, now in Santa Trinita (figure 75 below). Buggiano died on 21 February 1462. The direct influence of his memorial to Brunelleschi can be seen a few metres eastwards: in Benedetto da Maiano's memorial to Giotto of 1490, and also, of around the same time and in the opposite aisle, the memorial to the musician Antonio Squarcialupi by Benedetto's workshop.<sup>17</sup> Whatever the judgement of today's art historians on Buggiano's work, his reputation among his contemporaries cannot have been negligible, and their estimation of his ability may not have been based entirely upon reflected glory.

#### Who designed inscriptions, and how?

Most of what I have presented so far can be gathered from the art historical literature. Much of what follows about the design of inscriptions in works of art and architecture can not. Such inscriptions are present everywhere as material facts yet almost absent in accounts and records of the fifteenth century. Designers and contemporary

14. But this should be read alongside Margaret Haines's observations about the general decline of commissions for sculpture publicly financed and displayed: 'By mid-century the rush of Florentine public sculpture had subsided in all its sites ... In the Cathedral the scarcity of monumental sculptural projects after mid-century is conspicuous.' (Haines 2003, pp. 80–1)

15. Pope-Hennessy: 1985, p. 28; Battisti: 1981, p. 45, p. 42; Markham Schulz: 1977, p. 49 n. 3, p. 10, p. 4.

16. Markham Schulz (1977, pp. 82–3) attributes to him the execution of the upper part of the Bruni tomb, evidence for a high degree of independence within the workshop.

17. The Giotto memorial is the subject of Doris Carl's 2001 article.

18. L. B. Alberti devoted a brief passage (bk 8, ch. 4) of *De re aedificatoria* (completed 1452, published 1485) to ancient inscriptions, but said next to nothing about their design in his times (Alberti, 1485/1988, pp. 255–7). Examples from present-day art history: in her illuminating 1989 article on Brunelleschi and public patronage Margaret Haines illustrates his memorial but omits the inscription from her picture. Francesco Quinterio's (2000) curriculum vitae for Buggiano describes the Brunelleschi memorial as 'consisting of a tondo containing his bust'; the inscription is not mentioned. Ludwig Heydenreich (1974/1996, p. 74) declared the ducal palace in Urbino to be 'the most richly imaginative, creation of its kind', the courtyard its greatest innovation, but had not a word for the inscription which commands the scheme. In Andrew Butterfield's comprehensive account of the tomb of Giovanni and Piero de' Medici in S. Lorenzo, the design of the inscriptions is mentioned once: that on the marble platform is 'in large Roman characters' (Butterfield 1997, p. 208). Occasional exceptions prove the rule: John Pope-Hennessy's catalogue entry for Luca della Robbia's cantoria reserves a section for epigraphy, and begins: 'The inscription on the Cantoria has received less attention than it deserves.' (1980, p. 229) While for most art historians inscriptions are immaterial texts, Christine Sperling's work is notable in the attention it gives to the place and design of letters.

19. Gray 1960, p. 67. In London the Central Lettering Record is held at Central Saint Martins; at The University of Reading there is the Lettering Collection in the Department of Typography & Graphic Communication; Garrett Boge established the Legacy of Letters Digital Photo Archive in 2001. Armando Petrucci's suggestion that 'the bibliography on the humanist graphic reform is very vast' (1998, p. 145, n. 1) seems hyperbolic, and Iiro Kajanto's 'scant attention' nearer the mark (1980, p. 11). In 1960 Millard Meiss (p. 97) wrote: 'Nothing has been written on epigraphy. The inscriptions on buildings or, more important, on sculptures, have simply been omitted from palaeographical discussions.' He was unaware of Nicolette Gray's article, published the same year as his own in what for art historians would have been an obscure periodical. James Mosley's 'Trajan revived' appeared four years later in an even more fugitive publication. Despite some important contributions since Meiss's lament, the study of graphic

commentators say little or nothing about them; clients rarely specify them; and it seems that contracts hardly ever mention them. They are largely missing from records of work and payment. Present-day historians of art and architecture rarely notice them, and casually omit them from reproductions.<sup>18</sup> 'The Renaissance inscriptions of Italy have not yet been collected', wrote Nicolette Gray in 1960.<sup>19</sup> Over four decades on, little has changed, and in some respects the situation is worse: it is now harder to make visual records of letterforms in all sites and by whatever means except under the most formal circumstances. (This is but one among many reasons for showing several pictures in the following pages, even where the image quality is lower – hand-held, low light, the press of crowds – than is desirable.) So what is needed is an illustrated survey and register of a wide-ranging sample of fifteenth-century inscriptions in and on Italian works of art and architecture, and also of Romanesque inscriptions. In the absence of the visual evidence that such a record would provide, any generalizations must be cautiously drawn. But questions are waiting at the door.

Who did inscriptional work? That is: who gave material form to a text, visually realized its arrangement into lines, and the shapes of its letters, their size and positioning and their spacing, and then finally cut or painted or inset them on an object's surface? The same eyes and hands, or different ones? It seems that little more is known about quattrocento practice than about such work in the classical era. So there is speculation dressed as assertion, some of it plausible if vague, such as John Sparrow's: 'It was for the architect or sculptor to determine how prominent a place in the monument should be allotted to the inscription, and how it should be worked into the general design.' It is hard to think of anyone else who would do this other than clients or their advisors. But what is meant by 'architect or sculptor'? Which one – the master, or a specialist to whom this part of the work was sub-contracted, or a junior, or the boy?<sup>20</sup>

Here is a bolder step: Alberti 'probably designed [the inscription] on the architrave of the Tempio Malatestiano at Rimini'.<sup>21</sup> This seems very likely. But even if it were certain, how would he have 'designed' these letters? Alberti was a clean-handed modern architect who could design at long-distance and, while controlling by instruction and description every detail of building design, employed a *capomaestro* on site to organize the work. How would he have made a shape specification in such a form that another person could have executed it? Not as a verbal description, for the vocabulary of letters was not precise enough, before typography, to achieve the control he desired. So then by drawing: on paper? if so, big or small? scaled or not? And once made, and if not same-size and pricked and pounced, then how

aspects of renaissance inscriptions looks underdeveloped. At any rate, a bibliographic survey would be very welcome.

20. Sparrow: 1969, p. 90. Assistants, who did much of the execution of a work of painting or sculpture, were probably the most numerous employees within a workshop. As they were not registered with the guilds, their numbers at any given time are hard to calculate.

21. Gray: this volume, p. 9. In 1960 she excluded discussion of the question of 'Alberti's personal lettering work, and the responsibility which he or Matteo de' Pasti or others had in what was done at Rimini' (p. 73). Giovanni Mardersteig cites correspondence suggesting that Alberti undertook to design letters for Lodovico Gonzaga, lord of Mantua and employer of Andrea Mantegna (this volume, p. 57).



would it be interpreted? Anyone who has tried to follow a specification drawing will have faced questions about what is intentional and what is accidental. If the language of specification is imprecise, much – certainly too much for Alberti – is left open to the executant's interpretation. Alternatively: if not on paper, then direct onto the stone surface? A drawing in outline (like Feliciano's) showing stroke widths? Or drawing as big brush-writing, in the manner of the classical ordinator posited by Catich, the modelling of letters emerging from its ductus? It is hard to see such insight seeping into broader awareness before the sixteenth century. So instead, geometrical constructions with compasses, T-squares, and calipers? And whatever the mode, who had the skill and dexterity to make such drawings? Leon Battista Alberti, according to Howard Burns, who attributes to him just one surviving architectural drawing and finds it sound. He also tells us, of Alberti's design of the Tempio Malatestiano, that 'nothing was done without his advice, and the façade capitals, far from being left to the judgement of the stonemasons or the site architect, were executed from a drawing sent by Alberti himself'.<sup>22</sup>

These questions are still open, as is that of intention. Nicolette Gray (1960, p. 73), referring again to the Rimini inscriptions, steps into the space between intention and action: 'Where it is sans serif one has the impression that the sculptor has not really thought out how he intends to terminate his letters and his execution is not sufficiently precise to force the question.' Speculation comes comfortably, as when Stanley Morison imagines the genesis of the letters on the tomb of the anti-Pope John XXIII in Florence's Baptistery: 'such as might have been sketched by Donatello himself'. It is an attractive thought, but – yes, no, maybe – who can tell? His younger contemporary Andrea Mantegna would have offered firmer ground for speculation about a master's sketches of letters, as there is good evidence for Mantegna's amateur archaeology and life-long passion for script, formed in Padua's epigraphic craze during the 1440s and 1450s.<sup>23</sup>

To say, of an inscription, that the designer's name is unknown, is perhaps the most obvious if least stated fact in accounts of lettering in the early renaissance, a time when the authorship of art works was often of less interest to contemporaries than a patron's name and the materials and techniques of construction. Secure attributions of inscriptional work are still exceptional rather than the rule. For example, it has been assumed that since the tomb of the Blessed Villana in Santa Maria Novella (figure 42 below) is the work of Bernardo Rossellino in 1451, the inscription was also executed by him. But this may not be so. Bernardo ran a big workshop and in 1451 was engaged with several projects; at the end of that year he was summoned to Rome by Pope Nicholas V to work on St Peter's. He may have sketched out the Villana tomb, but probably left its execution entirely to assistants: to Desiderio da Settignano and other members of the workshop.<sup>24</sup> A better default position for the attribution of inscriptions would be to explicitly adopt the collective singular for artists' names. So 'Bernardo Rossellino', or 'Buggiano', would normally refer to the firms of which they were head and to which they gave their names; the designers of inscriptions worked within or for the firm. That, at any rate, is the assumption I make here.

22. Burns 1979, p. 45.

23. Donatello's hypothetical sketch: Morison 1972, p. 272. Mantegna: David Chambers, Jane Martineau, and Rodolfo Signorini (1992) put Mantegna's enthusiasm in the context of an easy association between artists and scribes in Padua.

24. Markham Schulz 1977, p. 12.

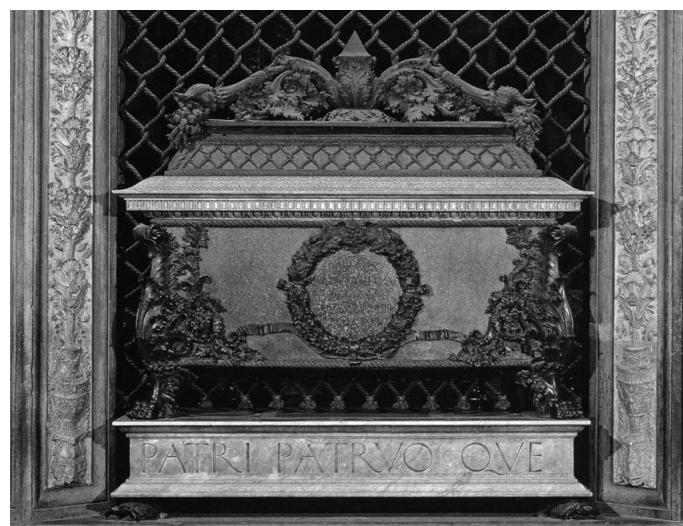


Figure 3, a–b. Workshop of Andrea del Verrocchio, 1469–72: tomb of Piero and Giovanni de' Medici, San Lorenzo.

a (above): detail of inscription on marble base, viewed from Old Sacristy.

b (above, right): detail of tomb, viewed from Old Sacristy, showing marble base and serpentine roundel.

Attribution of lettering can rarely be decided on stylistic grounds alone, but documents, where they exist, may tell only part of a story. In 1469 Andrea del Verrocchio was commissioned by Lorenzo de' Medici and his brother Giuliano to make a tomb for their father and uncle, Piero il Gottoso and Giovanni, in the Old Sacristy of San Lorenzo. In his *Ricordi* Lorenzo wrote that the tomb would be 'the most worthy monument that we know how to erect'. It required inscriptions on the green serpentine roundels centred on the sides of the sarcophagus and also on its marble platform. The quality of these inscriptions must have been important: effigies were inappropriate for this tomb, so the family – its name, its honour – was identified in material words, which record the commissioning. Indeed the letters on the platform have an almost figural quality and are the most dynamic and confident on any sculpture in Florence (figure 3). Charles Seymour quotes a list, made by the master's brother, of Verrocchio's Medici commissions: it includes the tomb and, as a separate entry, 'the cutting of 80 letters inscribed in the serpentine of two roundels in the said tomb.'<sup>25</sup> He concludes that the lettering is thus documented as Verrocchio's work. But to say that the master made the letters is a step too far. Verrocchio also ran a large and busy workshop in which collaboration was the rule. Like other masters, unless a contract specified his hand and no other, it was open to Verrocchio to plan and apportion the work as circumstances and judgement dictated. Seymour himself is careful to remind us that Verrocchio's work 'must be approached as the product of a system in which several hands, minds, and temperaments might be involved in the making of a work of art. ... We want "the master's hand". Unfortunately we will not get it very often in this context of the *bottega* ...'<sup>26</sup>

To grasp the organization of production of artistic goods in fifteenth-century Italy one could do worse than compare it with the present-day business of design in Britain. It involves mainly small companies – like family firms, often trading under a founder's name – and partnerships, as well as individuals working on their own account. The owner's priority is to secure a stream of work and to deliver a product, as the contract specifies, of the right quality, at the right

25. There are in fact 76 letters: 40 within one roundel, 36 within the other.

26. Seymour 1971: p. 52, p. 175, and p. 29. While designing the tomb Verrocchio would have been aware of the letters on Alberti's recently completed commissions for Giovanni Rucellai, the Holy Sepulchre and the façade of S. Maria Novella. In its turn, when completed in 1472/3, the Medici tomb, unprecedented in its design and execution, probably made an immense impression. Andrew Butterfield (1997, p. 44) cites the S. Lorenzo cleric who observed that all of Florence came to see it, as if it were 'one of the wonders of the world'.

price, and in the right time: achieving all three is always a formidable challenge. Reputation matters in this business, and getting work from new clients often involves competitive tendering, and sometimes a network of friends and associates. If a schedule is pressing or mishaps arise this network may be equally important in helping to deliver the work on time. The flow of work is unsteady, often veering between feast and famine. In good times work may be passed on to those friends and associates. Several projects are run concurrently rather than serially, a further challenge to the effective management of resources. The office manager, if not the principal, deals with work flow and allocation of workers to projects. Senior workers may manage projects on their own, although the guiding plan comes from the principal. There may also be juniors, interns, occasional co-workers, self-employed sub-contractors, and specialists on retainer. The principal may take charge of design, and certainly final responsibility for it, but execution will be devolved to the members of a project team.

Art historians tell similar stories. Thus James Beck conjecturing that Brunelleschi was part of a network 'through which commissions were passed on among friends, whenever possible. This intricate interaction must have provided one of the most common means by which work was commissioned and careers made in the quattrocento, as it is today.' Anne Markham Schulz describes the division of labour within the quattrocento sculptor's workshop, for which she found much evidence but little to describe its detailed operation: no evidence, for example, of assistants specializing in the carving of faces, drapery, or hands. She judges that the apportioning of work is 'best explained by the availability of particular assistants at moments when specific tasks were to be performed'. Patricia Lee Rubin also describes delegation: in Verrocchio's workshop the master 'was willing to devolve responsibility to assistants and allow them some degree of freedom in both sculpting and painting. The decision to deputise might have depended upon the prominence or challenge of a commission, the expertise of a particular assistant or the amount of work in hand.' And here is Anne Markham Schulz again, on Bernardo Rossellino's criteria for delivery: 'it was important both to him and to the patron that [a] monument should be designed by him, but what mattered even more was to get the job done quickly with the smallest possible expense.'<sup>27</sup>

When contracts specified, as a guarantee of quality, the masters' share in the work to be done, it was invariably to the principal figures, and especially to faces, that their skill should be applied. There is no reason to think that letters were the places for such demonstrations of mastery. The fact that the visual aspects of inscriptions are barely mentioned by designers, clients, or commentators suggests that letters and their arrangement were rarely priorities in fifteenth century artistic production. If this is so, one might reasonably assume that the letters were not often made by masters. But enough now of conjecture and speculation. It is time to move on to what can be figured out by observation – by looking at the visual organization of inscriptions, and at the shapes of the letters through which their texts were realized in material form.

27. Beck 1987, p. 11; Markham Schulz 1977, p. 11, p. 84; Lee Rubin 1999, p. 15.

### The design of the inscription for Brunelleschi's memorial

In inscriptional lettering the text is known before the letters which will embody it are designed and their positioning is determined. This is a fundamental difference between hand-lettering and the new technology of typography which was being developed, 450 miles north, as Buggiano planned his work. And even if the visual organization of an inscription is determined before work starts, the letterer is still free to reinterpret on site, and to adjust both the shapes and the spacing of letters. Once the text has been composed there are three essential stages in transforming its string of characters into a material object. The first is planning their visual organization: 'layout', or *mise en place*. The second stage is applying the plan to the display surface: making guidelines, such as baselines and capital-height lines, positioning marks, offering up templates, and so on. The third stage is cutting the letters. There may be a fourth and final stage of painting or gilding, though not in this case.

Brunelleschi's portrait bust would probably have been planned and executed first, the inscription coming afterwards. The rectangular panel which displays the letters seems at first glance large relative to the tondo which sits upon it; and the monument as a whole seems to be positioned too high. But as soon as the text was known the panel's size could have been approximated by a rule of thumb: given its height from ground level – its position was dictated by the *operai* – and distance from typical eye level, the letters would have to be of a given size in order to be legible.<sup>28</sup> That letter size, given 49 words, 290 characters, arranged over nine lines, would dictate a rectangle of roughly *this* size. Such calculations would have been within of the compass of some quattrocento designers of lettering. In the third part of his epigraphic treatise – of uncertain date, but late fifteenth century or early sixteenth – the humanist and architect Fra Giocondo of Verona considered 'the practical problems presented by inscriptions raised above the viewer . . . perspective geometry must be used to calculate the proportions of the letters, since the viewing angle would make letters of equal size appear uneven'. In 1525 Albrecht Dürer supplied a diagram to answer such questions (figure 4).<sup>29</sup>

Once chancellor Marsuppini's text had been approved, and the size of the display panel approximated,<sup>30</sup> the designer could then work out that he would have to cut twenty-seven As, twenty-eight Es, thirty-two Is, fourteen Os and three Qs, twenty-nine Vs, and so on. This knowledge could not of itself determine a principle for the shaping and spacing of letters. It could, however, lead to pragmatic questions about how the designing and cutting could be done most efficiently – with efficiency measured in terms of time invested, avoidance of error, and quality of result. There is a good old rule about this, surely well known to all members of the builders' guild if not to humanist scholars: measure twice, cut once.

The first approximation would then be developed and refined into a plan before permanent marks were made – that is, before the letters were cut. The Latin text of 49 words (including abbreviations) is set out in nine lines (figure 5, overleaf). Passing over the first line, the character count per line, excluding inter-word spaces, is: 34, 33,

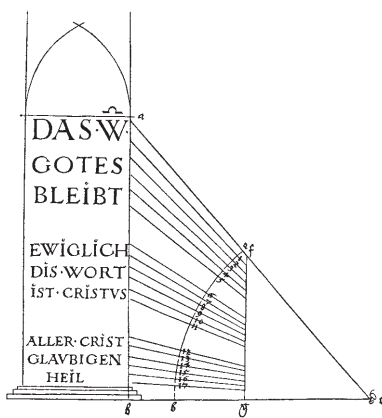


Figure 4. Albrecht Dürer, from *Underweysung der Messung* (Nuremberg, 1525).

28. Sidney L. Smith (1984, p. 171): 'How large a letter should be depends on the distance from which it will be viewed. . . . it is letter size that most seriously constrains display design. If letters must be made large enough to ensure legibility, then fewer letters will fit in a fixed display format.' He provides calculations and formulae.

29. Lucia Ciapponi's account of Fra Giocondo's fragmentary 'De literis': 1979, p. 21. Dürer's text began: 'Now, since architects, painters and others at times are wont to set an inscription on lofty walls, it will make for the merit of the work if they form the letters correctly.'

30. In his account of Luca della Robbia's cantoria in the cathedral John Pope-Hennessy (1980, p. 229) implied surprise that 'the length of the inscription was pre-ordained and was not planned in relation to the space available'. The question is: which comes first, text or site space? The answers: sometimes one, sometimes the other, and sometimes they had to be worked out together.

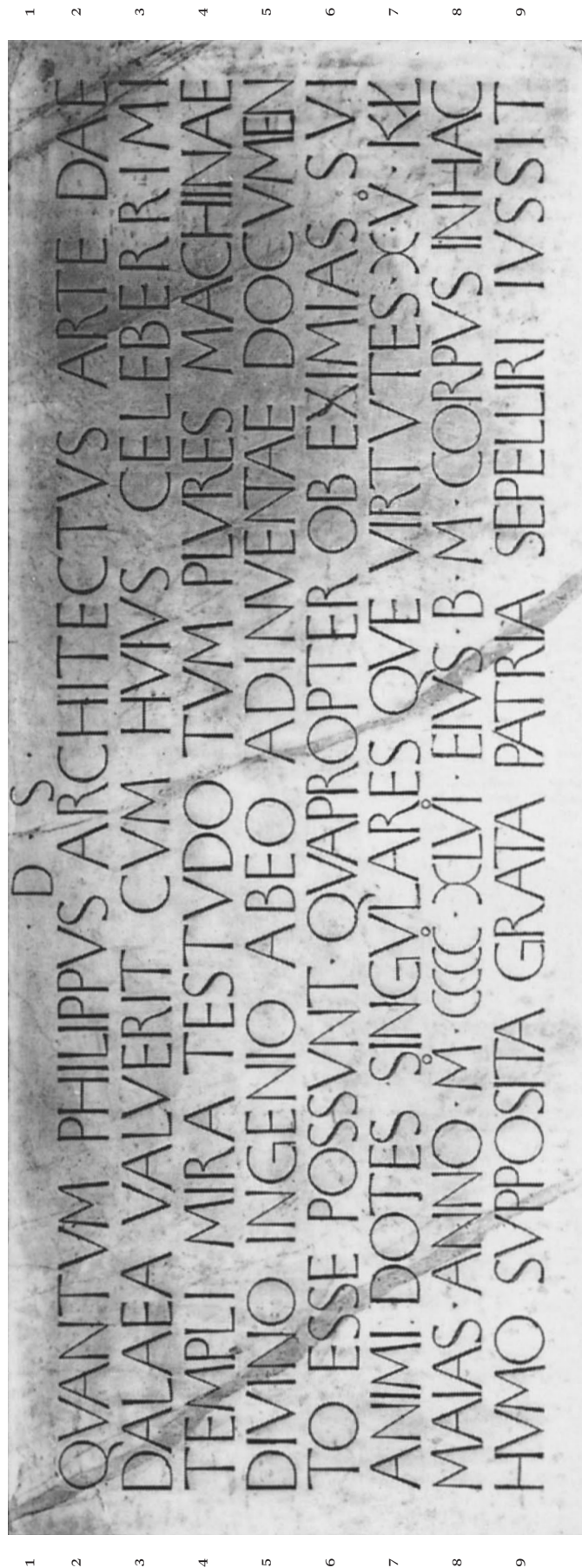


Figure 5. Workshop of Buggiano, c. 1447: epitaph to Brunelleschi, cathedral.  
 (Photograph E. Oy-Marra and Kunsthistorisches Institut in Florenz.)

34, 33, 36, 38, 41, and 39. This relative consistency is not accidental. Buggiano's group has achieved to a notable degree what typographers call 'justification' – the alignment of line endings at the right so as to deliver the visual appearance of a straight line, to match the alignment at the start of lines on the left. In other words, a squared-up block of letters.

Setting aside questions of propriety and aesthetics, it is a fact that squared-up inscriptions, like ones in which all lines are disposed equally about a central axis, demand more careful and hence time-consuming planning of the positioning of characters than those which align only at the left. Justifying means planning, specifying in advance and with some precision the widths of letters, the widths of spaces between letters, and the widths of word spaces. To be done well it cannot be done *ad hoc*, on the stone. And the longer the text, the more planning is needed. We can be sure that the width of every letter and the position of every letter was determined before a single cut was made. Squaring-up exacts a further price. It means, almost invariably, that segmentation of the text into lines is unrelated either to semantics or to syntax. A straight right edge to a block of text is incompatible, except by chance, with line endings marked by sense or grammar.<sup>31</sup>

Buggiano used two principal methods to achieve this very precise alignment of line-ends at the right: varying the space between words from line to line, and varying the space between letters within words. It is hard to say which had the greater effect. It may appear at first glance that he used letter-spacing rather than word-spacing: compare the relatively widely-spaced CELEBERRIMI (line 3, in which there are 33 letters) with the compressed spacing of MACHINAE (line 4, with 34 letters) (figure 6). But variations in word-spacing, from line to line, seem just as prominent: compare the word spaces in line 3 with those in line 7. Words were divided at the end of lines twice: at DAE/DALAEA in the second line, and DOCVMEN/TO in the fifth.

Exact justification of lines seems often to have been aimed for by makers of inscriptions from classical times onwards, but its competent achievement was uncommon, and its mastery exceptional. But it was not invariably regarded as desirable: for each justified inscription – the Brunelleschi epitaph, Ghiberti's Dati tomb of 1425–7, the decree of church union of 1439 or after (see figures 58, 69) – there is one that is unjustified: see for example the papal tombs of John XXIII and Nicholas V (see figures 43, 41). The justification achieved here is remarkably precise by any standards, perhaps standing for a demonstration of virtuosity in this province of the letterer's craft. The alignment is not optically judged but is done 'mechanically'. The letters at the start and end of each line are aligned vertically with those above and below, though their alignment is to the boundaries of notional boxes within which the letters sit. So lines 4 and 6, starting with T, appear to be indented.

By present-day standards the inscription for Brunelleschi is erratically letterspaced. For example, in CELEBERRIMI (line 3) the wide space between L and E is almost confusable with a word space. Letters with adjacent verticals are sometimes crowded (e.g. HIN in MACHINAE, line 4; ANIMI, line 7; INHAC, line 8). Differences occur

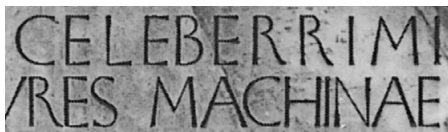


Figure 6. Brunelleschi epitaph: compare spacing in CELEBERRIMI (line 3) and MACHINAE (line 4).

31. See, e.g., G. Cuming, 'Liturgical typography: a plea for sense-lining', *Information design journal*, vol. 6, 1990, pp. 89–92; for typographers' decisions about line shape, P. Stiff, 'The end of the line: a survey of unjustified typography', *Information design journal*, vol. 8, 1996, pp. 125–52

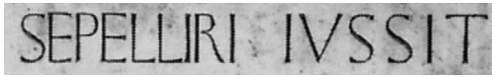


Figure 7. Brunelleschi epitaph: compare spacing in SEPELLIRI and IVSSIT (line 9).

even within the same line: compare SEPELLIRI and IVSSIT in line 9 (figure 7). It is clear that spacing between letters and between words has been ruthlessly subjected to the imperative to justify. At its worst the spacing scheme violates the rule which requires syntactic grouping to be preserved. That is, to ensure the visual integrity of words and lines, the space between letters must be less than that between words, and the space between words must be less than that between lines. Here the spaces between words are emphatically greater, and so more salient, than the spaces between lines. But this was common then, and it seems that to take the spatial disposition of an inscription as a matter of judgement about syntactic groupings would have occurred to few Florentine craftsmen of the quattrocento. More likely they were concerned with massing shapes into patterns. Stanley Morison voiced an opinion which will have been shared by many present-day students: 'They did not understand at the time the importance of proportion and spacing of the letters.'<sup>32</sup> Observation suggests that exactitude in spacing did not appear until the later sixteenth century, in the increasing professionalization of public writing and in the work of scribes such as Luca Orfei.<sup>33</sup> Even the finest of early seventeenth-century inscriptions – for example that which looks down on Rome from the attic of the Fontana Paola – can appear ill-spaced by twentieth-century standards. Yet it may be, however, that Morison's opinion cannot be supported, and that careful consideration of the spacing of letters was not foreign to quattrocento architects. Fra Giocondo of Verona declared quite unequivocally that however fine the shapes of letters they must be properly spaced, even if it is not a simple matter to grasp the principles of good spacing.<sup>34</sup>

The problem is that we do not know what Fra Giocondo meant by good spacing. Even if his criteria bore some resemblance to present-day – inevitably typographic – standards, saying is not doing. This discord is suggested by Lorenzo Ghiberti's inscriptional work. Many years ago Nicolette Gray proposed Ghiberti as a pioneer in the evolution of the new style of lettering, and that he must have granted it some special importance, because 'in his autobiography he mentions his lettering, describing it as *antiche*'. Indeed Ghiberti went further than this, as E. H. Gombrich pointed out when citing the *Commentarii*: 'a script would not be beautiful unless the letters are proportionate in shape, size, position and order and in all other visible aspects in which the various parts can harmonize.' Pioneer in letters he may well have been, but in Ghiberti's inscriptions the realization of these virtues is not immediately evident to modern eyes.<sup>35</sup>

32. Morison, *Politics and script*, p. 272, here again referring to the designers of the inscription on the tomb of Baldassare Cossa in the baptistery (see figure 43, p. 89 below).

33. For examples, see James Mosley's 1997 article, and also his 'Giovanni Francesco Cresci and the baroque letter in Rome' (this volume, pp. 115–55)

34. Fra Giocondo 'insists on the importance to be assigned to the proportions between letters, to the spacing of letters on the same line, and to the distance between lines' (Lucia Ciapponi, 1979, p. 20). Here is Eric Gill: 'Proper spacing is essential to

a good inscription. As a general rule, roman letters should not be too crowded together. Space should be left between each, varying according to the letters – a narrower space between two Os, for example, and generally a wider space between two straight lines.' ('Inscriptions in stone', in Edward Johnston, *Writing & illuminating, & lettering*, 1906: London, John Hogg, p. 394). A more systematic treatment of spacing inscriptional letters was given by Egon Weiss in *The design of lettering* (1932, New York: Pencil Points Press) pp. 21–30.

35. Gray 1960, p. 69; Gombrich 1976, p. 103 and n. 47.

More impressive than the internal spacing – between letters, words, and lines – of the Brunelleschi epitaph is its designer's judgement about positioning the inscription on the panel. There is a consistent and well-judged margin of separation between the area occupied by lines 2 to 9 and the decorative frame of the marble panel. At the top of the panel the rule of separation is broken, and the margin is occupied by · D · S · This is good visual judgement, for the resulting appearance is that of an even rectangle of text, surrounded by an even margin, and edged by the frame. If the positioning of the first line – · D · S · – followed the rule, then the top margin would appear much too large and the inscription as a whole would appear too low within its panel. The next questions are about the letters thus positioned and arranged.

### The letters for Brunelleschi's inscription

Brunelleschi's epitaph has a relatively long text for inscriptional work in stone. There are 290 characters with fifteen medial points. Twenty standard alphabetic letters are present; the absentees are F, Y, and Z. There are also four special characters: a curved version of X as numeral 10, an attenuated version of C for numeral 100, barred L, and ligature NT. The frequency of letters is spelt out in the marginal table.

I	32 (including one as numeral i)
V	29 (including two as numeral v)
E	28
A	27
S	24
T	19
R	15
M	14 (including one as numeral m)
O	14
N	13
P	13
L	11 (including one as numeral l)
C	8 (excluding numeral c)
D	8
H	6
B	4
C	4 (condensed, as numeral)
G	3
Q	3
K	1
X	2 (curved version, as numeral)
X	1 (alphabetic version)
L-bar	1
NT	1 (ligature)
°	4 (abbreviation above v, m, c, vi)

Letter frequencies in the Brunelleschi epitaph.

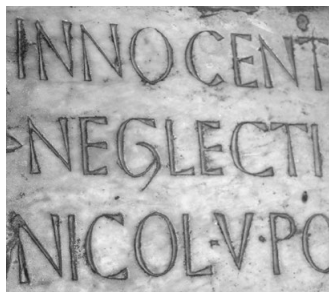


Figure 8. Tomb of Innocent VII (Rome, Vatican grottoes).

Taking these letters as a set the first thing to be said is that they are 'light', as typographers would say in expressing the relationship between stroke width and letter height. Second, the letters are not monolinear; stroke widths vary, which explains why the first ratio varies. The shape of many strokes – in M, N, T, V – could be described as a very long triangle or attenuated wedge shape. (This most Florentine of characteristics is most graphically illustrated in Rome – almost to the point of caricature – in the inscription for Pope Innocent VII, whose tomb was restored by Nicholas V: figure 8). In Brunelleschi's epitaph it can be seen in the Ts in TESTVDO, line 4: the vertical stroke is twice as thick at the baseline as at the top of the stroke where it meets the cross-bar, and so the letter-height to stroke-width ratio shifts from around 10.5:1 to 21:1; the average is around 14 : 1 (figure 9, overleaf). This is also the ratio in E and P, where the vertical strokes do not taper. And, following on, a third observation: although lacking serifs, many strokes exhibit a characteristic which can be described as 'terminal thickening', or 'flaring', which sounds less pathological. It is especially noticeable in letters C, E, I, L, N, S, T, and V, and contributes to an impression of liveliness (figure 10). The fourth observation takes a little longer to make but may be the most interesting: all the character shapes in their various occurrences are remarkably consistent.

The distinctive quality of some letter shapes calls for comment.

If efficiency in the production of the character set was a priority, then one might have expected some rationalization to a common shape for the bowls of B, P, and R. But there is a notable difference between the internal spaces in P and R (best seen in QVAPROPTER, line 6), and those in B seem not to correspond to either P or R. All three bowls are, however, relatively small and therefore high (figure 11). Note also that while the bowl of P meets the vertical stroke, those of B and R do not. In R the bowl does not meet the extending leg:





Figure 9. Brunelleschi epitaph: wedge-shaped strokes in letters T (TESTVDO, line 4).



Figure 10. Brunelleschi epitaph: flared terminals in SVNT (POSSVNT, line 6).

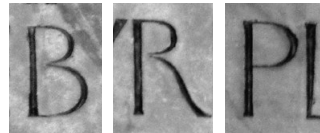


Figure 11. Brunelleschi epitaph: B from CELEBERRIMI (line 3), P and R from PLVRES (line 4): the bowls, although differently shaped, are relatively small and high.



Figure 12. Brunelleschi epitaph: in R (MIRA, line 4) the bowl and extending leg are separate.



Figure 13. Brunelleschi epitaph: numeric Cs in line 8.

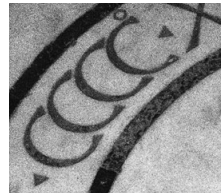


Figure 14. Berto di Lionardo tomb slab: numeric Cs (Santa Croce, dated 1430).



Figure 15. Santa Maria Novella, façade: numeric Cs (dated 1470).

the two strokes are separate (figure 12). And there is still a vestige of Gothic in the serpentine curve of R's leg.

The numeric C (line 8) is highly truncated compared with alphabetic C (e.g. in CORVVS, line 8), and almost nested in a set of four. This close packing appears in the floor tomb for Berto di Lionardo in Santa Croce dated 1430, and also in Andrea del Verrocchio's candelabrum for the chapel of the Sala dell'Udenzia, Palazzo della Signoria, of 1468/9. By contrast, in the Cossa tomb the four numeric Cs appear to be 'normal' width, although there is no alphabetic C for comparison; likewise the façade letters on Santa Maria Novella of 1470 (figures 13, 14, 15).

The letter G is clearly made from C plus a monoline right-angle which is detached, not quite touching (figure 16, opposite). This angled addition is like a diacritical mark, which is good philology because that is how G came to be in the third century BC. The addition offers a clue to the rational and modular character of this assemblage of letters: it is, plausibly, the result of using a template. And here G is more properly antique than the half-Gothic fancies which appear in the Bruni tomb (1446–51) and Luca della Robbia's tomb for Bishop Benozzo Federighi (1454–8) (figures 17, 18). Nicolette Gray suggested similarities between the letters found in a Santa Croce floor tomb, dated 1381, and those here: 'The G is found, for instance, in the



Figure 16. Brunelleschi epitaph: the letter G (from *INGENIO*, line 5) is made from a C plus a monoline right-angle.



Figure 17. G in Bruni tomb (in *GRAECAS*, line 3); Santa Croce, workshop of Bernardo Rossellino, c. 1444–51; see also figure 72.



Figure 18. G in Federighi tomb (line 4); Santa Trinita, workshop of Luca della Robbia, c. 1458; see also figure 75.



Figure 19. *All'antica* G in Spinelli tomb slab, Santa Croce, dated 1381.



Figure 20. Brunelleschi epitaph: internal junction of M above baseline (from *MIRA*, line 4).



Figure 21. Brunelleschi epitaph: O and Q (here from *QVAPROPTER*, line 6) are very circular; and note that the calibre of both is exactly H-height.

epitaph of Brunelleschi in Florence Cathedral of 1446'. Here her memory was good for shape if not detail of construction: nothing quite like the Brunelleschi G is found elsewhere in Florence<sup>36</sup> (figure 19).\*

The internal junction of M is above the baseline; this is normal in mid fifteenth century Florentine letters, but it is rather lower – that is, closer to the baseline – than is common for its time (figure 20). It would be worth trying to trace the classicizing tendency in Renaissance epigraphy by following indicators such as the movement of M's internal junction towards the baseline.<sup>37</sup>

Letters O and Q are very circular, with vertical stress – the axis of the thick strokes being around 90 degrees to the baseline. Letter Q looks like O with an appendix which flows from the stroke but does not cross it. I estimate that the calibre of both O and Q is exactly H-height. This is rational but would today be judged wrong because optically uncorrected: the result is that each letter appears too small (figure 21).

Letter S sometimes appears to be tipped backwards: in line 1, and also in *PHILIPPVS* and *ARCHITECTVS* in line 2, *POSSVNT* and *EXIMIAS* in line 6, *DOTES* and the first S in *SINGVLARES* in line 7, and *MAIAS* in line 8 (figure 22). This brings to mind the similarly back-slipping S in the word *PSALTERIO* which appears in the



Figure 22. Brunelleschi epitaph: S often appears to lean backwards; compare *DOTES* and first S in *SINGVLARES* (line 7) with *SVPPOSITA* (line 9).

36. Gray 1960, p. 68 n. 3. The dating of the S. Croce tomb may be an error, as Nicolette Gray suggested, or it may have been made long after its subject's death.

37. The junction meets the baseline in the handwriting of Poggio Bracciolini and Niccolò Niccoli in the first decades of the fifteenth century. In painting it appears surprisingly early, around 1422–3 – this may be aberrant – in the inscription at the base of the throne in *St Anne with Virgin and Child* by Masaccio and Masolino; Covi (1954, p. 47) describes these letters as 'intentionally made to simulate the capitals of contemporary stone inscriptions'. The baseline meeting appears in

two tomb slabs of inlaid marble in the pavement of Santa Croce: Schiattesi, dated 1423, and Berto di Lionardo, dated 1430; however it is not clear when these were made. In sculpture it can be seen in the tomb of Pope Martin V at St John Lateran, of the mid 1440s; it had already appeared in the medal of John VIII Palaeologus by Pisanello of c. 1438–9. And in architecture it probably first appears in the inscriptions by Matteo de' Pasti and Leon Battista Alberti at the Tempio Malatestiano, Rimini, around 1450. I am encouraged to find that Giovanni Mardersteig (this volume, p. 49) had taken this feature of M to be a key sign for classicism.

\* Nicolette Gray shows the Brunelleschi G in her list of alphabetic variants (this volume, p. 16). Mardersteig (this volume, p. 52, n. 10 & n. 8) identifies a similar G in the work of Agostino di Duccio at Modena in 1442.



Figure 23. Workshop of Luca della Robbia, 1431–7: S in middle register, left, of cathedral cantoria (Museo dell'Opera del Duomo).

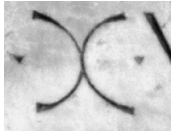


Figure 24. Brunelleschi epitaph: curved numeric X (line 7).



Figure 25. San Clemente, Rome, C12 mosaic arch of apse: curved alphabetic X in EXCELSIS.



Figure 26. Paolo Uccello, 1436: frescoed *Acuto*, cathedral: curved alphabetic X in DUX.



Figure 27. Brunelleschi epitaph: alphabetic X (EXIMIAS, line 6).

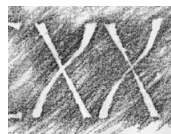


Figure 28. Donatello, c. 1426: Pecci tomb, Siena cathedral: numeric X.

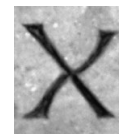


Figure 29. Tomb of Nicholas V, c. 1455 (Rome, Vatican grottoes): alphabetic X.

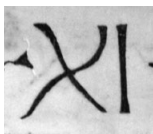


Figure 30. Filarete & Isaiah da Pisa, c. 1449/50: Chiaves tomb, Rome, Lateran: numeric X.

middle – the visual centre – of the second register of the inscription on Luca della Robbia's cantoria of 1431–7 from the cathedral (figure 23); it can also be seen on the altar in the Pazzi chapel (see figure 83). This frequency of this feature in Florentine inscriptions questions the assumption that it is an error; but it is otherwise hard to explain the appearance of both variants – the upright S and the backward-inclined S – within one inscription. It may simply announce that conventions for the shapes and orientation of classical capitals had not stabilized by the middle of the fifteenth century.

On the two occasions in which it appears as a numeral (in lines 7 and 8) X is curved, constructed from a pair of back-to-back Cs – and note that these are the truncated numeric Cs, not the full-width alphabetic Cs. This form is not uncommon: it can be seen in the word EXCELSIS in the great 12th-century mosaic triumphal arch of the apse at San Clemente in Rome, and also in the word DUX in Uccello's *Acuto* in the Florentine cathedral (figures 24, 25, 26).<sup>38</sup> The usage survives in handwritten algebraic notation. In alphabetic X (EXIMIAS, line 6) both elements of the letter appear to be straight, rather than one or both being curved; but it is hard to be sure because the top-left to bottom-right stroke is re-incised over an erased S – that is, it corrects an error. Compare this with, from twenty years earlier, the X on Donatello's Pecci tomb (one straight and one curved stroke) and with two contemporary Roman Xs which each exhibit the Romanesque forms: one straight and one curved stroke in the tomb of Nicholas V in the Grotte Vaticane, and two curved strokes in the Chiaves tomb at St John Lateran (figures 27, 28, 29, 30).

38. It also appears in a modified form: instead of back to back, bottom to top, like two Us.



Figure 31. Brunelleschi epitaph: ligature NT (ADINVENTAE, line 5).



Figure 32. Brunelleschi epitaph: barred L (in KL, line 7).



Figure 33. Barred L in gothic inscription, 1248 (Santa Sabina, Rome).



Figure 34. Florid barred L in Luca della Robbia's cantoria (lowest register, left).

The ligature NT (in ADINVENTAE, line 5) (figure 31) is common Carolingian usage which, like many other ligatured forms, survived well into the late 15th century: it could be seen until recently in Platina's words for Sixtus IV on the Ponte Sisto, Rome (in PONT, N and T are tied). The barred L (in KL, line 7) here calls up the suppressed preceding vowel, A; this was common medieval practice (for example, it appears in the dedicatory altar inscription of Innocent IV in Santa Sabina, Rome, dated 1248. A more florid version can be seen on Luca della Robbia's cantoria, where LAVDATE is reduced to LA crossed by a sprig of foliage (figures 32, 33, 34). And the alternative, medieval, abbreviation – here suspending the nasal consonants M or N – has KL surmounted by a linear mark like a cardinal's hat. This scribal form commonly appears in inscriptions, for example from the Pecci tomb in Siena (c. 1426) to Alberti's façade of Santa Maria Novella (1470). The very small °s above V in XV (line 7), above M and the final C in MCCCC, and above I in XLVI (line 8) are routine abbreviations for the ablative of milliesimo, centurio.



Figure 35. Brunelleschi epitaph: thin diagonal stroke in N (INGENIO, line 5).

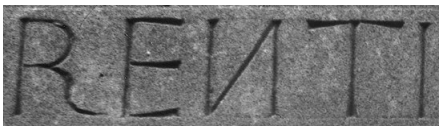


Figure 36. Workshop of Lorenzo Ghiberti, second (East) doors of baptistery: reversed N in signature.

The alphabetic letters in Brunelleschi's epitaph, if not their numeric forms, are inscribed as capitals, true majuscules: there are no uncials or half-uncials here. Nor are there any Gothic letters, despite a lingering hint in the small high bowl and serpentine leg of R. And the too-thin diagonal to N (figure 35) is a Gothic reminder that what many Tuscan designers habitually failed to understand, before the 1470s, was the sequence of thick and thin strokes which characterizes classical Roman letters of the first to third centuries. It seems that they could not see how this canonical sequence had come about, and so were unable to consistently recreate it.<sup>39</sup> The failure is usually most evident in letters with diagonals: A, M, N, and V. In the Cossa tomb, for example, X, V, A exhibit the correct sequence of thick and thin strokes, but N does not. For his signatures on his two sets of Baptistery doors, Ghiberti made a correct N on the first (the North portal) in the word FLORENTINI; but in the second (East) doors, below Jacob and Esau, the famously reversed N in LAVRENTI may be an accident (figure 36). The Ns in Luca della Robbia's cantoria are quite proper: the diagonal is appropriately weighted relative to the verticals, which taper in opposite directions. In the Beata Villana epitaph N

39. Nor was it easy in the 1950s: Michael Twyman recalls similar difficulties faced by students taking the Typography and Book Production option of the Fine Art undergraduate course at Reading.



Figure 37. N in Luca della Robbia's cantoria (middle register, right).



Figure 38. H-like N in tomb of Beata Villana, Santa Maria Novella (workshop of Bernardo Rossellino, 1451).

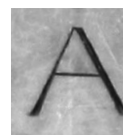


Figure 39. Brunelleschi epitaph: A in ABEO, line 5.

is half-way to H, a feature which can be seen throughout Florentine humanist script. The Brunelleschi inscription is notably free of such solecisms, apart from the unfaithful N; and letter A is a proper model: the thin, left, stroke is not monoline: it tapers from bottom (thick) to top (thin); the right, thicker, stroke, is monoline (figures 37, 38, 39).

I should say now that the many prescriptive, not to say tendentious, words in the preceding paragraph – ‘too-thin’, ‘failed to understand’, ‘could not see’, ‘unable to recreate’, ‘failure’, ‘correct’, ‘solecisms’, ‘unfaithful’ – appeal for their legitimacy to the idea of a standard, a benchmark. They rest on the assumption that Florentine designers sought to achieve fidelity with classical letters by observing and re-making antique models. We know that some did. And most appear to have convened around a hedged-bet antique form – ‘half recorded and half invented’, to adopt Charles Mitchell's phrase<sup>40</sup> – which mixed classical and Romanesque features with some Gothic survivals. This compromise tolerated some difference in stroke weight and sequence, but not much, almost as if diverting attention from its indecision. We also know that attempts at explicit rules for the shapes of inscriptional letters *all'antica* came early, following archaeology: and not in Florence but Verona, in Felice Feliciano's manuscript alphabet of around 1460. I return to this in my final section.

There are some contributors to formal quality which although meaningless in themselves – being entirely contingent upon language – may nonetheless contribute to our visual experience. These abstract features arise from particular combinations of characters, in the sequence in which they occur, within a particular rectilinear arrangement. For example, despite their relative infrequency the letters O and Q – here notably circular rather than oval – have a strong visual effect on the pattern of the inscription as a whole. One could also mention groupings with strong vertical stress such as HILI, NIMI, INH, ELLI (within SEPELLIRI), and also combinations of curved with diagonal or vertical strokes, which are more common and visually even stronger: QVA, DAE, DOCVM, POSSV, DOT, GVLA, CORPV. Analysis of these features would involve not only counts of character frequencies, but also frequencies of digrams and trigrams. For example, the frequency of O-pairs, with O following, is: CO, 1; DO, 3; EO, 1; IO, 1; MO, 1; NO, 1; PO, 2; RO, 1; TO, 1. In O-pairs, with O preceding, the frequency is: OB, 1; OC, 1; OP, 1; OR, 1; OS, 2; OT, 1. And all of the following I-trigrams occur just once, except for SIT which appears twice: AIA, DIN, DIV, EIV, HIL, HIN, HIT, LIP, LIR, MIA, MIR, NIM, NIO, RIA, RIM, RIT, SIN, SIT, VIN, VIR, VIV and XIM. It is unclear, however, either how this form of visual analysis – sometimes, and perhaps inappropriately, described as graphotactics – should proceed or what results it might yield.<sup>41</sup> I do not intend to try here.

40. In ‘Felice Feliciano “antiquarius”’, *Proceedings of the British Academy*, vol. 47, 1961, p. 219.

41. Description of this kind was part of Nicolette Gray's method. For example, of the Cossa epitaph she wrote: ‘strong verticals ... contrasting with the irregular stress of the open curves of O and C’, and, of the inscription over the central door of the Badia at Fiesole: ‘the rhythm made by the round letters, O, C, Q’ (both 1960, p. 69).

### Ideas about the shapes of letters

What ideas would have informed designers' judgement about the shaping of letters inscribed within works of art in the 1440s? By designers I mean professional visualizers and makers – members of various guilds, typically employed in workshops as figural carvers, wall painters, panel painters, mosaicists, glaziers, specialist embroiderers, specialist metalworkers such as medallists, and so on. And more specifically, in fifteenth-century Tuscany, I mean those craftsmen employed by or contracted to the workshops of Ghiberti, Brunelleschi, Donatello and Michelozzo, Luca della Robbia, Bernardo Rossellino, and the rest, and whose work included inscribing letters on sculpture, wall paintings, church furniture, and buildings. The question is hard to answer, as evidence for designers' thinking about letters is sparse, and documents of intention are few and meagre. As for reception, there are no surrogates of the kind invoked by Michael Baxandall to offer insight into the period eye with which clients and audiences viewed paintings – the socially-constructed cognitive styles which generated expectations of, and assumptions about, the interpretation of pictures and sculpture.<sup>42</sup> Skill in the rule of three or in barrel gauging would not have helped Buggiano and his clients to appraise the shapes of letters.

However, Paul Shaw has recently speculated about the reception of letters. Writing about 'humanist' as against 'all'antica' styles of manuscript, he seamlessly shifts to epigraphic letters, hypothesizing: 'In the 1420s, when it was developed by Donatello, Ghiberti and others, this (humanist) style was avant-garde, but in the Rome of the 1460s it must have appeared dated.'<sup>43</sup> Yes, one thinks: this is what happens, styles come, people tire of them, they pass and are replaced by new ones, and so it goes. But it would be good to have more confidence in such a simple, plausible-sounding account. Given our lack of knowledge about the discourse of letters in the fifteenth century, this is not so easy. At some time those Tuscan letters doubtless began to look dated: but as early as the 1460s? Is there evidence about this – for example contemporary statements which support any local appreciation of changing styles of public letters? Their principal commissioners were ecclesiastical, and it is certainly provoking to think of fashion-conscious cardinals under the pontificates of Pius II (1458–64) and Paul II (1464–71). Does the idea of a shift of fashion in the 1460s follow Armando Petrucci's claim for the rebirth in Rome of 'the monumental classical capital' under Popes Nicholas V, Pius II, and Paul II? That claim was specifically about – and perhaps restricted to, though it is hard to tell – handwriting in the humanist codex *de luxe*.<sup>44</sup> For painted and sculpted public letters the decade of Sixtus IV is a better bet: he and his nephews were indeed patrons of the new. And yet, the new styles of architecture, painting, and sculpture which were imported to Rome in the 1470s and 1480s were a

42. Guides to dance and to preaching in *Painting and experience in fifteenth-century Italy* (1972); to calligraphy and to mastersong in *The limewood sculptors of renaissance Germany* (1980).

43. Shaw 2004, p. 21.

44. Petrucci 1993, p. 19. Apart from the Loggia of Benediction overlooking the new piazza of St Peter, Pius II gave much of his attention to Pienza; and while Pietro Barbo, Paul II, created the Palazzo di San Marco complex in the town centre (i.e. the Palazzo Venezia), and had the scribe Tophio in his household, and is known

for his devotion to gemstones, jewels, and medallions, he appears to have been indifferent to humanistic scholarship and in this context may be better remembered for suppressing the antiquarian antics of Pomponio Leto's school. We might here recall that during his pontifi-

cate as Nicholas V (1447–55), Tommaso Parentucelli, enthusiast of all things Florentine, renovated the Vatican Palace: the Sala Vecchia degli Svizzeri was decorated in frescoes of the Virtues, its explanatory texts painted not in the new style but in Gothic textura.



Figure 40 (left). Filarete and Isaiiah da Pisa, c. 1449/50: tomb of Antonio Martínez Chiaves, Cardinal of Portugal (Lateran, Rome).

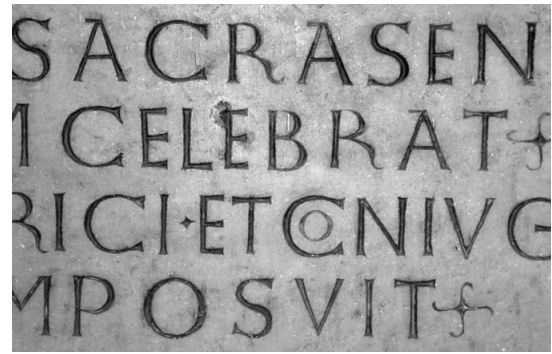


Figure 41 (right). Tomb of Nicholas V (Rome, Vatican grottoes), c. 1455.

mixture of Florentine and Urbinesque: would Florentine letters really have seemed so ‘dated’? Either way, change there certainly was. The Florentine style flourished for a decade or two in Rome in a handful of notable tombs (figures 40, 41). And then around 1470 it began to be replaced by new and more archaeologically correct letters in the tomb sculpture of Andrea Bregno, Mino da Fiesole, and Giovanni Dalmata, and also in painting and on buildings.

Inscriptional letters are rarely mentioned in contractual documents of the fifteenth century.<sup>45</sup> When they are the reference is, not surprisingly, under-specified. For example: John Pope-Hennessy described as ‘extremely detailed’ a contract of 12 July 1451 between Fra Sebastiano di Jacopo Benintendi and Bernardo Rossellino for the tomb of the Beata Villana in Santa Maria Novella. But when it came to the inscription this contract specified no more than ‘an epitaph engraved and painted in oil’; the text would be supplied by Fra Sebastiano.<sup>46</sup> Pope-Hennessy observed of this sculpture that ‘the tomb type is pronouncedly medieval in character’. He did not care to notice its inscription (figure 42). If he had done so he might have been struck by the contrast between the Rossellino workshop’s conservative interpretation of the tomb genre – which might well have suited the client, procurator of the Dominican convent of Santa Maria Novella – and the unusually decorative design of the inscription. Its integration into the iconographic plan, its fluidity, undulating size, florid contrast between the mannered elongation of letters with vertical strokes and the almost circular Os, Cs and Q: all these place it among the most visually remarkable in quattrocento Florence. Perhaps its designer intended to impress his boss Bernardo Rossellino who, shortly off to Rome at the call of Pope Nicholas V, had bigger fish to fry.

When Nicolette Gray cited Lorenzo Ghiberti’s thinking she may have had in mind a passage which comes in his second *Commentarii*, devoted to his own life and work and possibly written a few years after the Brunelleschi epitaph.<sup>47</sup> Here he recalls setting in gold an engraved cornelian, around 1428: ‘Around [the] figures there were cut, by my hand, antique letters giving the name of Nero, which I made with great diligence.’ What can be read from this? In Ghiberti’s short retrospect, of around 2,800 words, in which he offers his *apologia pro vita sua*, he bothers to mention antique letters which he himself – not a workshop assistant – made, with great diligence. Was he staking a claim for priority in the new style?

45. Louis Mustari’s work (2001, p. 198) on payments to stonemasons employed by the *Opera del Duomo* in the fourteenth century supports two generalizations: complex decorative carving attracted higher rates than less complex work, and carving marble was better paid than cheaper stone. It would be good to know how, or if, letter-cutting fitted in the hierarchy of payments, but it is not mentioned.

46. Pope-Hennessy 1985, p. 279: ‘uno epitaffio con quelle lettere che Io gli diro intagliate e messe dj nero a olio’.

47. Given in translation by Richard Krautheimer, *Lorenzo Ghiberti*, (1970, Princeton), vol. 1, p. 13.

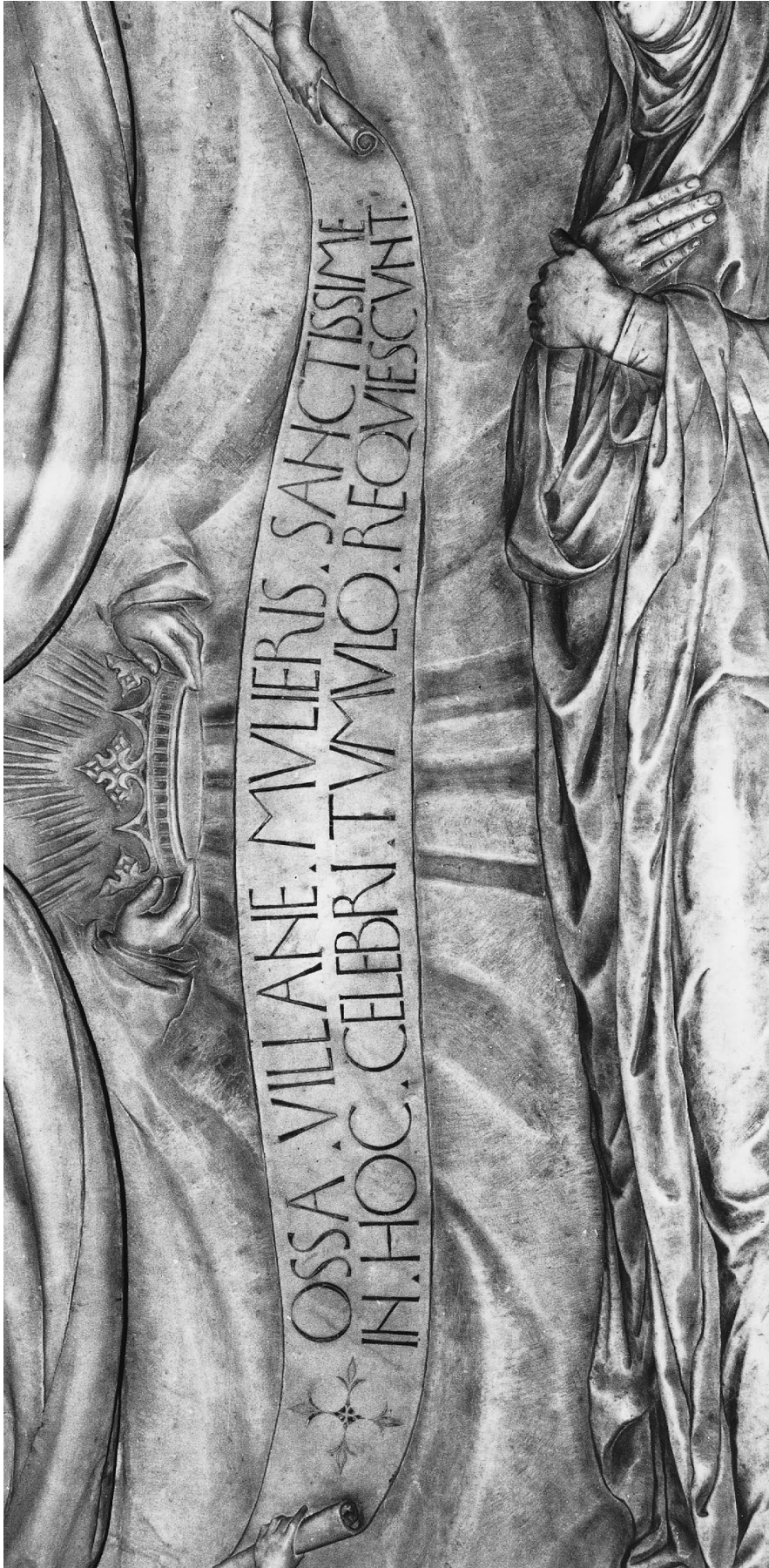


Figure 42. Workshop of Bernardo Rossellino, 1451: tomb of the Blessed Villana, Santa Maria Novella.



More could be said about the sources of designers' judgement. A fair conjecture is that these would have included fidelity to a client's wishes, acknowledgement of the expectations of a wider knowable audience, acknowledgement also of established standards within a genre either by conformity to or deliberate departure from them, shared judgements about propriety and felicity, and, certainly, awareness of what peers and competitors had done and were doing.<sup>48</sup> But such generalized considerations were not deterministic, and would not normally have led to particular letter shapes. They had to be realized in quite particular ways through a shape specification.

Buggiano's clients were drawn from the city's ruling class, members of the wool guild and cathedral overseers; likewise his wider audience, consisting of men of influence, judgement, and advanced taste among the cathedral's congregation. Their expectations are likely to have been demanding. Add to these the extraordinary circumstances of this work – the burial of a distinguished and controversial citizen in the cathedral, the memorial commission given to his adopted son and heir, a public act of devotion – and we can imagine Buggiano's self-imposed injunction: make this piece as good as it can be. What kind of letters would have been proper and felicitous? They should not be in the contemporary modern style – 'Gothic' as we call it – but in a style fitting to their subject, to Brunelleschi the 'reviver of ancient building in the Roman style'.<sup>49</sup> This meant *all'antica*. The Tuscan standards for this style had been set over the preceding two decades in the workshops of Ghiberti, Donatello and Michelozzo, and Luca della Robbia. And it is almost a commonplace that, in epigraphy as in architecture, realizing the antique style owed as much to Romanesque as to Rome, and that the capitals employed by its designers between the 1420s and the 1460s mix both mediaeval and classical forms.<sup>50</sup>

These perceptions were presumably not available to Stanley Morison, who appears to have seen literal truth in Florentine *all'antica*. He also felt confident enough to suggest that in forcing the new epigraphy into the public arena in the 1430s, reception, or demand, decisively drove production, or supply: 'at this time it seems that the Florentine artists felt the use of antique Roman capitals of the sans-serif type was obligatory if their patrons were to be pleased'. This set a hare running which we will catch up with later. Armando Petrucci seems equally confident about the origins of the new epigraphic style. He says that both its orthography and its 'artistic form' – what he calls 'a new-old script' of 'Romanesque type' – are directly attributable to Niccolò Niccoli, who prompted Donatello and Michelozzo to adopt it for the tomb of the anti-Pope John XXIII. This is the inscription, of around 1428, which Morison described as the

48. James Beck's lively conjectures of the interplay between Donatello and Jacopo della Quercia seem to hit the mark. He imagines the 'sharing of ideas that were "in the air"', certain stylistic and thematic issues that they treated similarly, but with a distinctive personal coloration . . . there was a significant sharing of experience . . . In an excited atmosphere, ideas moved fast

and furiously, were kicked back and forth from one another, and in the process were modified and perfected.' (1987, p. 14)

49. This famous description – *risucitatore muraglie delle antiche alla romanesecha* – is from the commonplace book of Giovanni Rucellai. See F. W. Kent, 'The making of a Renaissance patron of the arts', and Alessandro Perosa, 'Lo zibaldone

di Giovanni Rucellai', both in *Giovanni Rucellai ed il suo Zibaldone*, 2, *A Florentine patrician and his palace*, 1981, London: The Warburg Institute, pp. 9–95 & pp. 99–152 respectively.

50. Various proposed and endorsed by Gray 1960, pp. 67–8; Meiss 1960, pp. 100–01, p. 109; Covi 1963, p. 7; Casamassima 1964, pp. 24–5; Gombriich 1976, p. 103.



Figure 43. Workshop of Donatello and Michelozzo, c. 1428: tomb of Baldassare Cossa, the anti-Pope John XXIII, baptistery.

first datable public appearance of antique capitals, which Nicolette Gray thought ‘fine’, and which Millard Meiss described as ‘rather cold and pretentious’ (figure 43). And it is the tomb for which most of the *Arte di Calimala*’s records have been lost, although the principal actors are known and the chronology has been reconstructed.<sup>51</sup> I do not find this instigating role for Niccolò entirely convincing, although ‘prompt’ also has the weaker sense of reminding someone of what they already know or are expected to know. Petrucci has here hardened up, without any new evidence, the more nuanced thread of E. H. Gombrich, on whose essay of 1967 this part of his argument seems to be based.<sup>52</sup> Gombrich had cited Vespasiano di Bisticci’s biography of Niccolò, merchant, bibliophile, and member of the circle of Cosimo the elder: ‘It may be said that he was the reviver of Greek and Latin letters in Florence’. But Gombrich was cautious about Vespasiano’s testimony that Niccolò was intimate with the new wave – Ghiberti, Brunelleschi, Donatello, Luca della Robbia – finding it ‘rather vague and late’.<sup>53</sup>

The widely-accepted answer – there seems to be no other candidate – to the question which opens this section is: the designers learnt from humanist scholars and antiquarians, whose handwriting – the *bella lettera antica* – had in turn been copied from eleventh- and twelfth-century manuscripts. In other words: a few gentleman humanists, who had copied Romanesque manuscripts in the belief that they were classical relics, convinced a handful of avant garde artists that as models for inscribing letters in marble or bronze sculpture they should use handwriting which happened to be a tenth, a fifteenth, or a twentieth of the epigraphic size they desired. How credible is this? Enlarge the written capitals of Poggio Bracciolini or Niccolò Niccoli to epigraphic scale and you may find little resembling the sculpted letters of the 1420s. If Poggio or Niccolò had shown a sample of his handwriting to the designers and told them ‘make it like this’, then what would we make of these results? (figure 44)

51. Morison 1972, p. 272; Petrucci 1998, p. 70; Gray 1960, p. 69; Meiss 1960, p. 101. The chronology for the Cossa tomb: H. W. Janson, *The sculpture of Donatello*, rev. edn, Princeton 1979, and R. W. Lightbown, *Donatello and Michelozzo: an artistic partnership and its patrons in the early Renaissance*, London 1980. The *Arte di*

*Calimala*, the merchants’ guild, administered the Baptistery and supervised its works.

52. Perhaps also on Stanley Morison’s observation that ‘Poggio’s capitals may earlier be seen on monuments in Florence’ (1972, p. 269). He meant the Cossa tomb.

53. Gombrich 1976, p. 103.

- a. Poggio Bracciolini, 1408 (Cicero, *Epistolae ad Atticum*; DSB Berlin, Hamilton 166, f. 96<sup>r</sup>)
- b. Poggio Bracciolini, 1423–31 (Cicero, *De Oratore*; Florence, Laur. 50, 31)
- c. Niccolò Niccoli, 1423 (Ammianus Marcellinus, *Rerum gestarum libri XXXI*; Florence, Naz. Cent., Conv. Soppr. I. V. 43)
- d. Donatello, Pecci tomb, Siena, c. 1426
- e. Ghiberti, Dati tomb, 1425–7
- f. Donatello & Michelozzo, Cossa tomb, c. 1428
- g. pavement letters in San Miniato al Monte, dated 1207

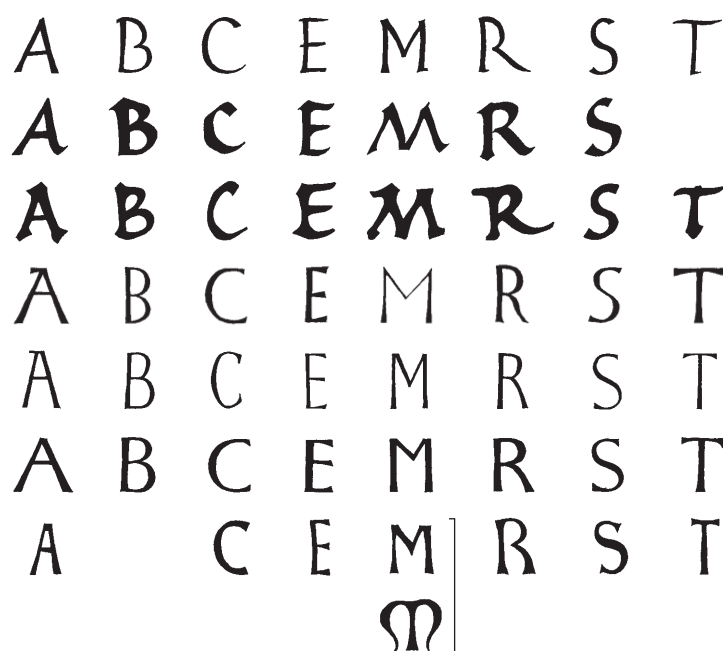


Figure 44, a–g. Drawings of written and sculpted letters, with letter heights equalized. The manuscript letters are extracted from passages written entirely in capitals.

The answers ‘humanist handwriting’ and ‘as much Romanesque as Roman’ may have led to the assumption of a single and exclusive direction of ‘influence’: that small fast handwritten letters determined the shapes of big slow drawn and cut letters. A more liberal understanding of how the new ideas were assimilated might be achieved through an enquiry into the range of Romanesque materials available to Florentine designers in the fifteenth century, and some visual comparisons. This could start in the baptistery, throughout the renaissance thought to have been a temple of Mars before its conversion to San Giovanni. Look up to the mosaics in the dome, the drum, and the arch and vaulted ceiling of the apse which all bear Latin titles identifying its themes: in the dome, for example, the ‘Dominions’, the ‘Powers’, and the ‘Archangels’, ‘Principalities’, and Virtues’, all of around 1250–60 (figure 45). Better still, look down to the richly decorated carpets of inlaid marble in the early thirteenth century pavement. One might inspect the famous palindrome at the centre of the zodiac:<sup>54</sup> although worn, it is in good antique-Romanesque style (and is consistent, with no uncials). The larger letters in the inscription which encircles the edge of zodiac wheel are far more like those in San Miniato’s pavement. So one could then return to that inlaid pavement of 1207, the predecessor of the baptistery’s interior decorations (figure 46). And then back down to Santa Croce, although it is not clear how, or if, the letters on the tomb slabs in its pavement contribute to an explanation of the new style of letter. If we were confident that their dates testified to execution, then other claims for priority in the new epigraphy might be set aside: the Schiattesi tomb, dated 1423, and the Bannchozi-Chatenaci, dated 1424, would clearly have been outriders of the new style (figures 47, 48). But the date cut on a tomb may not be contemporary with the work, and in the absence of document records all we can know is that the work was unlikely to have been done before the inscribed date.<sup>55</sup>

54. Its text, inscribed in a circle, is: EN GIRO TORTE SOL CICLOS ET ROTOR IGNE (Behold I the sun turn the orbits obliquely and am turned by fire).

55. Nicolette Gray was herself aware of difficulties in dating some of the ‘experimental’ letterforms in Santa Croce: she declared a tomb dating of 1381 to be an error. One she did not mention (Lapi de Chiacceto) displays articulated ‘antique’ letters, fully modelled and seriffed, and is dated 1433. Without supporting documents, dating the work on tombs is conjectural.



Figure 45. Mosaic in baptistery dome, c. 1250-60.



Figure 46. Inlaid pavement dated 1207, San Miniato al Monte.



Figure 47 (above). Detail from Schiattesi floor tomb, dated 1423, Santa Croce.



Figure 48. Bannehozi-Chatenaci floor tomb, dated 1424, Santa Croce.

We may feel sure that the humanists initiated the long process which led to the elimination of Gothic letters for all but specialized purposes. We can be less sure of the new model which they provided. This idea that the *lettera antica* originates with scholars is not new;<sup>56</sup> but the nature of the relationship between their letters and those of the designers has still, after forty years, to be worked out in convincing detail. And as I say, other relationships also demand attention: between writing extended passages of text in small sizes with shaped pens on soft surfaces, and big writing drawn and painted or cut or both onto hard surfaces; between scribes like Feliciano, students of ancient building and letters like Giuliano da Sangallo, and theorists like Alberti; between Poggio, Niccolò, and the Florentine avant garde, most especially Donatello; between the painted inscriptions of Andrea Mantegna and the written majuscules of Bartolomeo Sanvito; between the Paduan style and that of the Rome of Sixtus IV and in turn between Andrea Bregno's epigraphy and Sanvito's writing;<sup>57</sup> and, so far apparently untouched, between letters in the ducal palace of Urbino and on the first buildings of the high renaissance in Rome. All this is rich territory for exploration.

It is understandable that surveys of fifteenth century letter design tend to stress change not continuity, and to select exceptional examples of the avant garde which tell the story of rediscovery. So we need to keep in mind what was ordinary settled practice. Gothic letters may have had their heyday in the fourteenth century (figure 49) but the plain round Bolognese hand still remained the normal vehicle for text throughout most of the fifteenth century. And in artistic practice at the heart of the early renaissance, a mixture of Gothic and classical features was typical: Dario Covi's survey concluded that 'the roman capitals employed by Florentine painters from about 1420 to about 1470 are in reality a mixture of mediaeval and classical forms'. These half-Gothic, half-classical letters can be found throughout the city, and in every decade of the century; they did not suddenly disappear in 1470. Nicolette Gray pointed out a group of inscriptions which suggest a slow shift from Gothic to roman: they can be found on the courtyard stairway of the Bargello, displaying the arms of the podestà which, she reckoned, 'must have been executed by conservative craftsmen following the established fashion of each decade' (figure 50). And they are everywhere in the work of figural artists: for example in Taddeo di Bartolo's frescoes of 1413–14 in the Palazzo Pubblico in Siena; in the letters inscribed on Nanni di Bartolo's *Abdias*, c. 1422, for the campanile of Santa Maria del Fiore; on the sarcophagus in Masaccio's *Trinity* at Santa Maria Novella (c. 1425–8); and painted on the pages held open by St John Gualberto in Neri di Bicci's fresco of 1455 in Santa Trinita (figures 51, 52, 53).<sup>58</sup>

The literal shift within avant garde practice from Gothic towards the *lettera antica* can be seen in a handful of early works, and first in two of Ghiberti's monumental sculptures for Orsanmichele: St John the Baptist of 1412–16, and St Matthew of 1419–22. The letters on the Baptist's scroll are, in Meiss's judgement, in 'a style basically related to humanistic script' (figure 54, overleaf). Iiro Kajanto finds Matthew's letters to be of far more interest: the saint's opened gospel has 'letters modelled on Roman capitals, something of a feat in a period when the Bible was still read in Gothic script'.<sup>59</sup> These are then

56. Morison 1957/72, pp. 269–72; Gray 1960, p. 67; Meiss 1960, pp. 98–9; B.L. Ullmann, *The origin and development of humanistic script* (Rome 1960); Covi 1963, p. 11; Casamassima 1964, pp. 24–5.

57. In 1959 Giovanni Mardersteig drew attention to Bregno's Roman epigraphy (this volume, p. 61). I look forward to publication of the results of Paul Shaw's work on the stylistic connection between the epigraphic capitals in the manuscripts of Bartolomeo Sanvito and those employed on the tombs made by Andrea Bregno and his workshop. He presented preliminary findings at the ATYPI conference in Rome, 2002, and in his second article on Sanvito in *Letter Arts Review*, 2004.

58. Covi 1963, p. 7; Gray 1960, p. 68.

59. Meiss 1960, p. 99; Kajanto 1980, p. 12.

Figure 49. Gothic letters on Andrea Pisano's baptistery doors, 1330–36.



Figure 50. Detail of arms of podestà Jacopo Condulmaro de Racanato, Bargello, dated 1454.

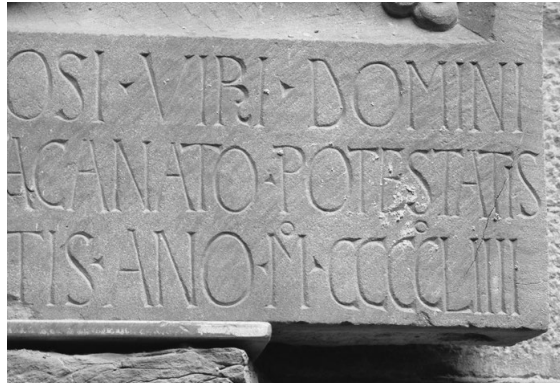


Figure 51 (below, left). Letters inscribed on Nanni di Bartolo's *Abdias*, c. 1422 (Museo dell'Opera del Duomo).



Figure 52 (above, right). Letters painted on the sarcophagus in Masaccio's *Trinity*, Santa Maria Novella, c. 1425.

Figure 53 (right). Letters painted on the pages held open by San Giovanni Gualberto in Neri di Bicci's fresco of 1455, Santa Trinita. 'In the work of such transitional masters as ... Neri di Bicci, one is hard put to know whether to call the letters "Gothicized roman capitals" or "Romanized Gothic majuscules"' (Covi 1963, p. 7).



followed by Ghiberti's signature on the first of his baptistery doors, 1424 (figure 55), Donatello's tomb of Bishop Pecci in the cathedral of Siena, c. 1426 (figure 56), the tomb of anti-Pope John XXIII in the baptistery by the Donatello-Michelozzo partnership, c. 1428 (figure 57), and the tomb slab of Leonardo Dati, in Santa Maria Novella, 1425-7 (figure 58).

Figure 54 (right). The revival of ancient letters: Ghiberti's Baptist, Orsanmichele, 1412-16.



Figure 55 (far right). Ghiberti's signature on his first (North) baptistery doors, 1424.



Figure 56 (below). Donatello, c. 1426: inscription on tomb of Bishop Pecci, Siena cathedral.

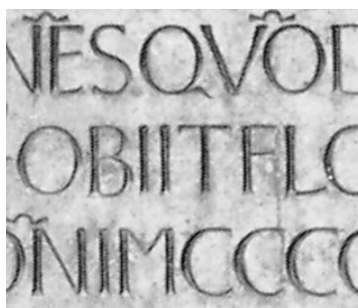


Figure 57. Workshop of Donatello and Michelozzo, c. 1428: tomb of anti-Pope John XXIII, baptistery.



Figure 58. Workshop of Ghiberti: inscription on tomb slab of Leonardo Dati, Santa Maria Novella, 1425-7.



Figure 59 (top). Detail from Uccello's fresco of Sir John Hawkwood, cathedral, 1436.

Figure 60. Detail from Bicci di Lorenzo's fresco for Fra Luigi de' Marsili, cathedral, 1439.

60. For the cathedral's muralled cenotaphs to soldiers and churchmen, see Eve Borsook, 2001. Dario Covi (1963, p. 14 n. 121) described the *Acuto* as the 'earliest Florentine painting with an inscription of antique inspiration'; John Sparrow (1969, p. 17) said, of the lettering, that 'Uccello had evidently taken lessons, if only elementary lessons, from the Romans'.

61. The Council was 'the last and greatest endeavour to unite the separated Churches of East and West, an attempt conceived on a grandiose scale' (Joseph Gill: *The Council of Florence*, 1959, Cambridge, p. vii). Stanley Morison (1957/72, p. 281) suggested that the merchant traveller, amateur scribe, and antiquary Cyriac of Ancona would have been 'very active behind the scenes in forwarding the arrangements for the Council, and he was certainly influential with the Pope.'

A suggestive comparison can be found in the inscriptions within two frescoes of what Eve Borsook calls 'fictive tombs' in the cathedral itself, one of a soldier, the other of a churchman. Paolo Uccello's equestrian portrait of Sir John Hawkwood of 1436 displays an awkward attempt at antique letters, if more convincing in his signature than in the eulogium on the sarcophagus, the text of which was taken verbatim from a recently discovered epitaph for Q. Fabius Maximus in Arezzo.<sup>60</sup> (It might be said that Uccello condensed the letters in order to retain height and so preserve visibility for viewers below; also, they are clearly seriffed.) On the opposite side of the nave, and made three years later, is Bicci di Lorenzo's monument to the Augustinian theologian and diplomat Fra Luigi de' Marsili: this displays a more conservative mixture of antique and medieval letters (figures 59, 60).

What work had been done in Florence in the years before Buggiano's commission to commemorate his father? In other words, how had the visual climate evolved in, say, the five preceding years? It should be recalled that during part of that period a Pope sat in Florence: following an insurrection in Rome in May 1434, Eugenius IV had escaped the city in disguise and for most of his period of exile – until 1443 when he finally returned to Rome – his papacy was run from the Dominican conventual monastery of Santa Maria Novella. Ostensibly the signal achievement of his pontificate was the unification, short-lived as it turned out, of the Latin and Greek churches at the Council of Florence.<sup>61</sup> For six months Florence had been the centre of Christendom, as the Bishop of Rome had welcomed numerous Greek scholars and churchmen to the city for the conciliar discussions. On 6 July 1439 the decree of union was recited in the cathedral, in Latin by Cardinal Cesarini and in Greek by Bessarion, metropolitan of Nicea; it is recorded in a large inscriptional tablet in the choir of the cathedral, partner to that which commemorated



its consecration three years earlier (see figure 69, p. 101). The events which led to Eugenius's achievement are described in the reliefs on the doors which he commissioned from Filarete, the Porta Argentea of St Peter's in Rome.

Here, then, are some notable works from that five-year period. In 1442 construction was under way at the new church and convent of San Marco, designed by Michelozzo under the authority of Cosimo de' Medici; the Dominican Fra Angelico was already decorating with frescoes the dormitories and chapter house. In the same year building work resumed at San Lorenzo, also now under the patronage of Cosimo. In 1443 the structure of the Pazzi chapel was far advanced (a date, 10 May 1443, is written in red ochre on its left-hand outer wall). Brunelleschi's last documented commission, a pulpit, is recorded in the accounts of Santa Maria Novella.<sup>62</sup> Ghiberti's workshop was making slow progress on his second set of bronze doors for the Baptistery: four of the ten reliefs were still incomplete, and would not be finished until 1447 (and the doors of which they were part in 1452). Donatello left Florence for Padua to work on the Gattamelata and the high altar of Sant' Antonio. The year 1444 saw Leonardo Bruni's death and funeral, and the start of building work on the Palazzo Medici. In January 1445 the still unfinished Foundling Hospital was formally opened. In the same year Domenico Veneziano completed the frescoes – now lost – at Sant' Egidio, which he had begun in 1439 with the assistance of the young Piero della Francesca. The patrician Castello di Pietro Quarates failed to persuade the *operai* of Santa Croce to accept his funding of a marble façade for the basilica (it was conditional upon his family's arms being displayed). In 1445, or possibly early 1446, Fra Angelico left Florence for Rome at the call of Eugenius IV, and work began on the site of the Palazzo Rucellai in Via della Vigna Nuova. Filippo Brunelleschi died in the night of 15/16 April 1446. (Apart from the cathedral's cupola his completed work included the Old Sacristy and two adjacent chapels at San Lorenzo, and the loggia and upper storey of the Foundling Hospital. His uncompleted work included the exedrae and lantern of the cathedral, Santo Spirito, San Lorenzo, the Pazzi chapel, Santa Maria degli Angeli, and the Palazzo di Parte Guelfa.) In the month of his death the first monolithic column was brought to the site of Santo Spirito, although it was not raised until May 1454. In that year of 1446, in which the Florentine *signoria* ordered Jews to wear yellow badges, Ghiberti was probably writing his *Commentarii*, and Paolo Uccello probably working on his frescoes of the *Flood* and the *Drunkenness of Noah*, in the *Chiostrò Verde* of the convent of Santa Maria Novella. In 1447, the year of Brunelleschi's reburial in the cathedral, work on the Bruni tomb in Santa Croce may have been continuing or may have been completed;<sup>63</sup> Andrea del Castagno made a fresco of the *Last supper* in the refectory of the Benedictine convent of Sant' Appollonia during about ten weeks in the summer and autumn, and the Carmelite Fra Filippo Lippi painted *Saint Bernard's vision of the Virgin* on a hexagonal panel, possibly for the Palazzo Vecchio.

During the same five-year period the following work was done at the cathedral. In 1442 Luca della Robbia gave to the *Opera* a design for a pulpit in the South sacristy (the *Sacrestia Vecchia*), for which

62. 'Item, today 31 August, given to Filippo S. Brunelleschi, by the hand of magister Geronimo, for the wooden model of the pulpit being made in the church, one large gold florin of the value of 4.15 lire, this year 1443.' See p. 101 below and figure 71.

63. See note 72 on p. 102 for the disputed dating of this monument.

Buggiano was commissioned to make a lavabo; he provided a terracotta model, based on the design of an earlier lavabo in the North, or new, sacristy (the *Sacrestia delle Messe*). Paolo Uccello completed the decoration of the great clock, and Lorenzo Ghiberti finished the much-delayed bronze reliquary of Saint Zenobius in the apse. The *Arte della Lana's* consuls discussed with their advisors, Brunelleschi and Ghiberti, the design and materials to be used in the North sacristy; but decisions were stalled for two decades. In 1443 Brunelleschi was appointed superintendent for the lantern of the dome. Between that year and 1445 stained glass windows were made and fitted to the roundels of the drum of the cupola, among them Paolo Uccello's *Nativity* and *Resurrection*, Andrea del Castagno's *Deposition*, Donatello's *Coronation of the Virgin*, and Ghiberti's *Ascension*. In 1445 Luca della Robbia completed a Resurrection relief for a place above the doorway of the *Sacrestia delle Messe*; he had begun this, his first important work in enamelled terracotta, in 1442. In March 1446 work began on the lantern of the dome; after Brunelleschi's death Michelozzo was appointed *capomaestro* for the project.

These works, in the city and in its new cathedral, established the prevailing visual environment in which Buggiano worked. They set expectations, and standards, of artistic ambition and achievement during a period of remarkable productivity. Buggiano was at the centre of a workshop which had enjoyed the patronage of both the Opera del Duomo and Cosimo de' Medici, of an enterprise of great reach, of an extended network of contacts. He was in as good a position as anyone, and far better than most, to know what his peers and competitors had done and were doing. As for the letters which would embody the epitaph to the great and ingenious man in this most public act of filial homage, he knew what should be done, and how.

#### The Brunelleschi inscription within Florentine epigraphy

How good is Buggiano's inscription for his father?<sup>64</sup> This needs breaking down: is the designer's intention well judged, appropriate? And if so, is that intention well executed? And from these questions follow more: are they good interpretations of desired shapes? Are the shapes well realized? And are these realizations equally good on each and every appearance? Are they well positioned – in Fra Giocondo's words, are they 'properly spaced'? And in those of Lorenzo Ghiberti, are the letters 'proportionate in shape, size, position and order and in all other visible aspects in which the various parts can harmonize'?

This inscription is not the most visually striking in Florence: it displays none of the flourished mannerism of the Beata Villana inscription four years later (figure 74, below), or, twenty-five years later, the exuberant confidence of the big letters in marble on the platform of the sarcophagus of the Medici brothers in San Lorenzo (figure 61, overleaf), let alone the gravity of Alberti's Holy Sepulchre of 1467 (figures 62, 63, 64). (These inscriptions, it may be noted, embodied short texts – 54, 48, and 74 characters respectively – and so offered a freer hand to their designers.) But its modesty and propriety seem well judged to its subject and occasion. My hunch is that Buggiano learnt from the two large inscriptional panels, commemorating events of 1436 and 1439, in the cathedral's choir;

64. I have found only one appraisal, that of Eugenio Battisti (1976/81, p. 16): 'the epitaph [is] inscribed in monumental Roman characters with all the elegance of humanist epigraphy'.

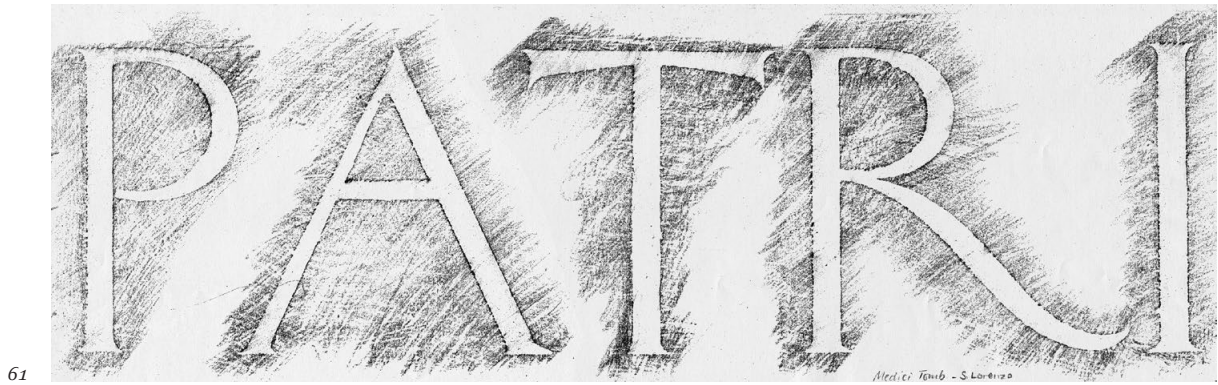


Figure 61 (top). Workshop of Verrocchio, 1469–72: detail of inscription on marble platform of the Medici sarcophagus, Old Sacristy, San Lorenzo.

Figure 62. Detail of inscription on the architrave of the Holy Sepulchre (slightly foreshortened).

Figure 63. Detail of inscription on the architrave of the Holy Sepulchre (slightly foreshortened).

Figure 64 (right). L. B. Alberti, 1462–7: Holy Sepulchre of Jerusalem, Capella Rucellai, San Pancrazio.



(figures 66 and 69, below). I have already said that the positioning and spacing of the letters are of unusually high quality. The scheme is rational and well planned; it is executed with precision. The remarkable thing about the letters is their consistency: their repeatability is almost typographic. I guess that most occurrences of a letter could be mapped onto each other with a high degree of congruence. The length and layout of this inscription, its precise justification, the consistency and rationality of its letters, presuppose a work plan which specified in advance how to make the letters and how to position them. The plan would have been worked out in precise detail before a cut was made. All its visible attributes testify that it is very well made.<sup>65</sup> How did Buggiano achieve this notable consistency in shaping and spacing letters? There are grounds for thinking that he used a method for replicating shapes and for positioning them – templates, patterns, or stencils – in the planning stage.

Eric Kindel's study of designing with stencil letters<sup>66</sup> leads him to suggest conditions for supposing that a form of template might have been used in making an inscription. These include: a large number of characters which makes the work of generating patterns in advance worth the investment of time; consistency in the shape of characters and in character heights; regularity of weight (the ratio of thick to thin strokes); regularity in the increments of interlinear space. As I have said above (p. 77), much planning was needed to organize the positioning and spacing of 290 characters; a high degree of control, hence predictability, was needed before marks were permanently made.<sup>67</sup>

Buggiano must have learnt much from his master, not least about invention in the use of tools and materials and efficiency in work. He must have acquired some mechanical ingenuity. He was likely a professional in such matters. But while the designing and making of Brunelleschi's epitaph may have been innovative, its appearance is not. It makes no new move towards the realization of the antique letter, but looks like what indeed it is: a highly accomplished interpretation of what by the middle of the century had become a norm in Florentine avant garde artistic practice. This norm has been called by Millard Meiss the 'Florentine epigraphic style', by Nicolette Gray 'Renaissance letters' or 'Renaissance sans serif' (as against the later 'inscriptional Roman'), by Dario Covi a style 'characteristic of the inscriptions in Florentine architecture and sculpture of the early Quattrocento', and by Armando Petrucci the "'Romanesque" Florentine capital' and the "'antique" Florentine capital'. It has also attracted the description 'humanist', as if to underline its assumed lineal descent from the manuscript hand to which the same prefix is attached.

We need to see how well Buggiano's inscription stands comparison with that Florentine norm. I have taken a period spanning roughly fifteen years either side of its making – from 1432 to 1462 – and from these thirty years a sample of nineteen inscriptions, illustrated here where possible. Six of the first seven are from the cathedral. 1431–7: Luca della Robbia, cantoria for the cathedral (now in the Museo dell' Opera del Duomo) completed 1437 (figure 65, overleaf). Some of Buggiano's letters – A, C, H, O, S, T, V – are similar to these. John Pope-Hennessy claimed that here is 'the earliest

65. I have been unable to get close enough to confidently judge the quality of cutting, although by observation with binoculars it appears to be good.

66. 'Recollecting stencil letters', *Typography Papers*, 5, 2003, pp. 65–101. Here I am indebted to discussions with my colleague Eric Kindel in Florence, March 2003, and afterwards.

67. Christine Sperling has observed repeatability in inscriptional letters without concluding that a template was used. She reports, of her study of the Holy Sepulchre inscription (1989, p. 225), that 'comparison of rubbings of letters that appear more than once in the inscription indicates that such letters are identical and made in precisely the same manner'. She believes that the letters were 'formed with a geometric module', and that Alberti's construction becomes clear 'when a module like Felice's is superimposed on to rubbings taken from the principal inscription on the Holy Sepulchre'. She shows a constructional grid based upon Feliciano's of c. 1460–3 at plate 43a. My understanding of her argument is that each letter was newly drawn at each appearance, and in some way following this constructional grid. (Of the 74 characters in the frieze inscription, eleven are Vs.)



Figure 65, a–b.  
a (right). Luca della Robbia,  
1431–7: cantoria for the cathedral.  
b (above). Detail from the middle  
of lowest register.



Figure 66. Tablet recording conse-  
cration of the cathedral in March  
1436.

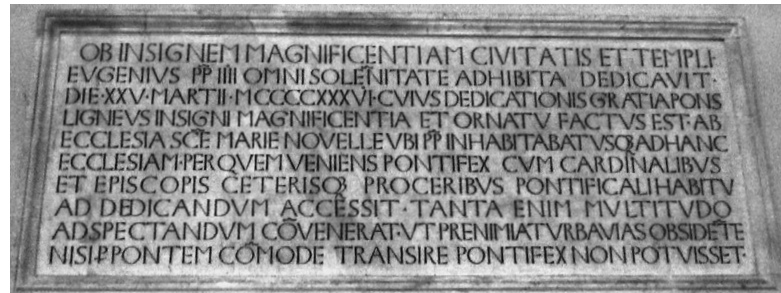


Figure 67. Paolo Uccello, 1436:  
inscription in frescoed equestrian  
portrait of Sir John Hawkwood,  
cathedral.

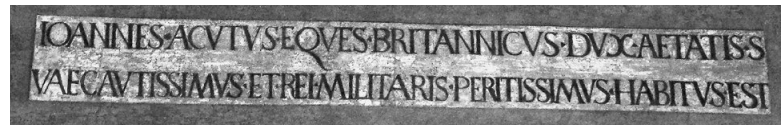


Figure 68. Bicci di Lorenzo, 1439:  
inscription in frescoed monument  
to Fra Luigi de' Marsili, cathedral.



large-scale affirmation of humanist epigraphy in a public monument'. By 'humanist' he meant that 'it has much in common with the majuscule formata developed by Poggio Bracciolini and Niccoli'.<sup>68</sup> This needs further exploration.

?1433: Buggiano, probably to Brunelleschi's design, tomb of Giovanni d'Averado de' Medici (Giovanni di Bicci) and his wife Piccarda de' Bueri: this takes the form of an antique sarcophagus decorated with garlands and groups of putti carrying scrolls, the inscription set within a *tabula ansata*; San Lorenzo, Florence, Old Sacristy.

?1436: Inscriptional tablet in the cathedral recording the consecration of the cathedral in March of that year (figure 66). The two inscriptions in the cathedral choir, this one and that dated 1439 (opposite) merit investigation, and not only because they appear to be candidates for design with templates. So similar in style, they could have been made at the same time, or later by the same crew or one which closely followed the earlier pattern.

68. Pope-Hennessy 1980, p. 21, p. 229.

Figure 69. Inscription recording decree of union proclaimed by Council of Florence in July 1439, cathedral.

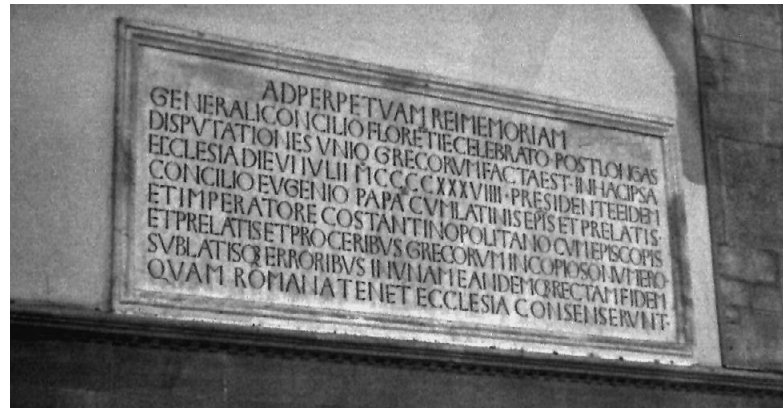
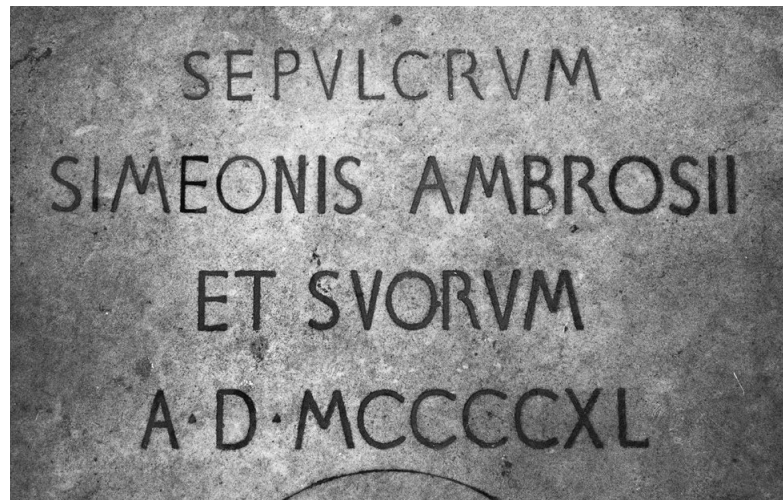


Figure 70. Floor slab, Simeonis Ambrosii, dated 1440, Santa Trinita.



1436: Paolo Uccello, fresco of equestrian monument to John Hawkwood, cathedral (figure 67).

1439: Bicci di Lorenzo, frescoed memorial to Fra Luigi de' Marsili, cathedral (figure 68).

?1439: Inscriptional tablet in the cathedral recording the decree of union proclaimed at the Council of Florence in July of that year (figure 69). Made before 1443, when the union was finally repudiated by the Greek church. Nicolette Gray thought that 'this style was strongly influenced by Romanesque lettering; one has only to compare [it] with a Romanesque inscription of similar size and shape'.<sup>69</sup> Her challenge should be taken up.

1439-42: Lorenzo Ghiberti, inscription of the reliquary of St Zenobius, cathedral apse, completed 1442.

?1440: Floor slab for 'Simeonis Ambrosii', Santa Trinita, dated 1440 (figure 70).

1443-53: Brunelleschi, Buggiano, and others, Rucellai pulpit, Santa Maria Novella (figure 71). Brunelleschi designed this pulpit and provided a model in 1443; a decade passed before the work was completed. The letters are conservative, as befits their client. It is hard to believe that Buggiano, even at his most mediocre, was responsible for their incompetent design; more likely, the *capomaestro* Giovanni di Piero del Taccia passed the work to whoever in his crew was available to finish this part of the long drawn out project.



Figure 71. Brunelleschi, Buggiano, and others, 1443-53: detail from Rucellai pulpit, Santa Maria Novella.

69. Gray 1986, p. 125.

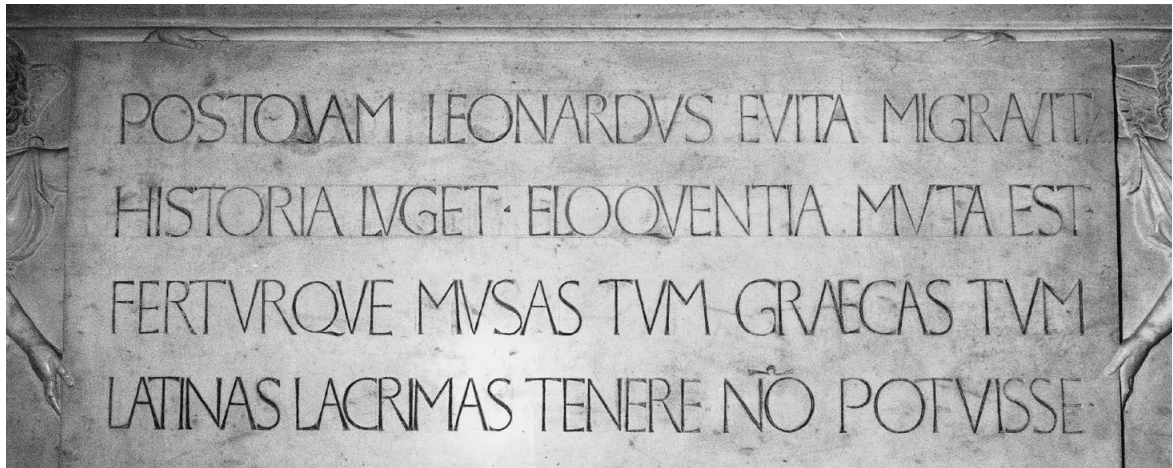


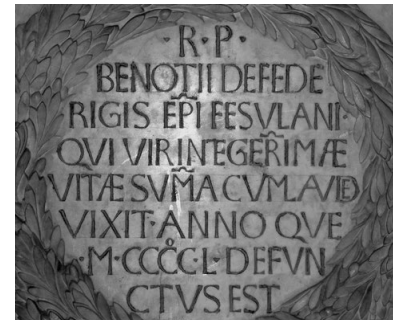
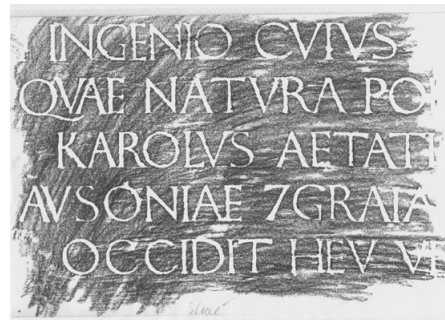
Figure 72 (above). Workshop of Bernardo Rossellino, 1446–51: tomb of Leonardo Bruni, Santa Croce.

Figure 73 (right). Workshop of Donatello, c. 1450: Martelli tomb, San Lorenzo.



Figure 74 (right). Desiderio da Settignano, ?1453–?: tomb of Carlo Marsuppini, Santa Croce.

Figure 75 (far right). Workshop of Luca della Robbia, 1454–8: inscription on tomb of Bishop Benozzo Federighi, Santa Trinita.



70. Once thought to be made in the 1430s, it is now argued that this tomb was finished as late as 1445: A. Esch, 'La lastra tombale di Martino ed i registri doganali di Roma', in M. Chiabò and others (eds.), *Alle origini della nuova Roma di Martino V* (1992, Rome) pp. 625–41.

71. Petrucci 1998, p. 71.

72. There are no documents for the Bruni tomb, and dates and attributions are controversial. Bruni died in 1444; Bernardo left for Rome in 1451. Pope-Hennessy (1985, p. 278) declared the tomb as 'probably completed by 1446–7'. Markham-Schulz (1977, p. 104) disagreed, proposing around 1449–50. Pope-Hennessy rejected her analysis out of hand (1985, p. 354).

73. Meiss 1960, p. 99.

?1445: Tomb of Pope Martin V: designed and cast in Florence and then shipped to the Lateran, Rome.<sup>70</sup> Petrucci says that the inscription is 'carved in a Romanesque kind of capital, though certainly not in the Florentine style'.<sup>71</sup> This needs further investigation. It is hard to see much Romanesque here, and the only features obviously inconsistent with contemporary Florentine practice are the baseline meeting of the internal junction of M, possibly the first instance in renaissance sculpture, and the large bowl of R.

(1447: Buggiano's memorial to Brunelleschi: likely done before, or around the same time as, the tomb of Leonardo Bruni.)

?1446–51: Bernardo Rossellino, tomb of Leonardo Bruni, Santa Croce<sup>72</sup> (figure 72). Millard Meiss: 'In this beautiful inscription the grace and austerity of the Florentine epigraphic style are combined.'<sup>73</sup> On the contrary: these weedy and cramped letters fail their text and its occasion, and are poor in execution.

?1449: Floor slab, Bilotti, Santa Croce, dated 1449.

?1450: Workshop of Donatello, Martelli tomb (in the form of a basket sarcophagus), San Lorenzo (figure 73).

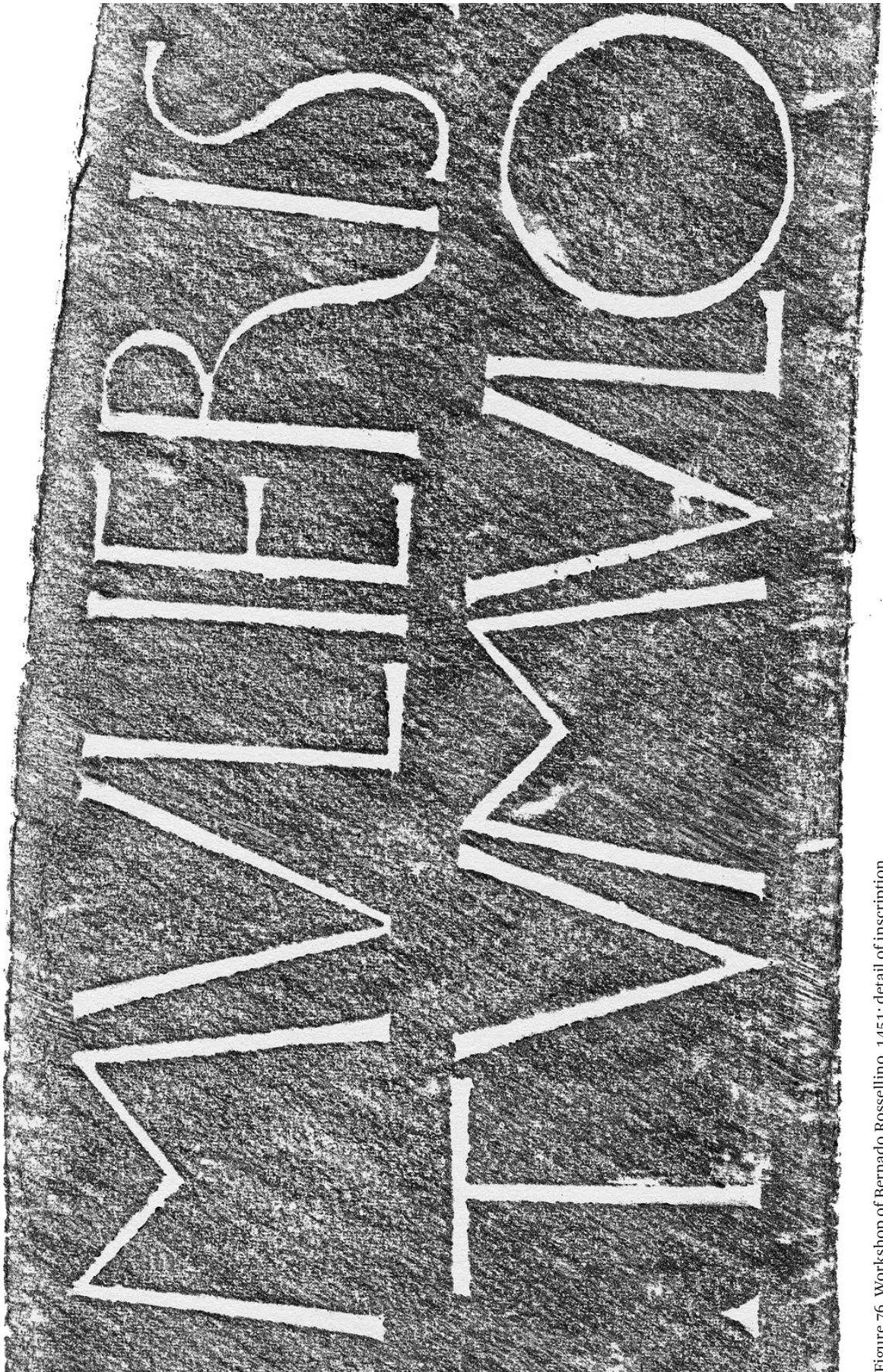


Figure 76. Workshop of Bernardo Rossellino, 1451: detail of inscription on the tomb of the Blessed Villana, Santa Maria Novella (actual size).



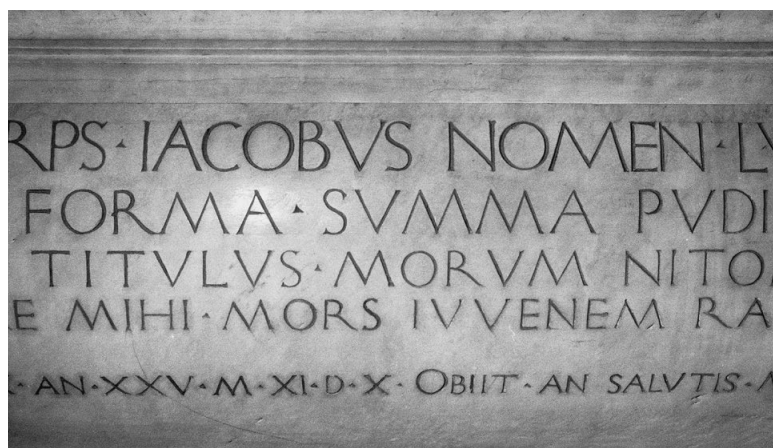
Figure 77. Workshop of Andrea del Castagno, 1456: inscription in frescoed equestrian monument to Niccolò da Tolentino, cathedral.



Figure 78. Donatello, ?1457–64: signature on bronze *Judith and Holofernes*, Palazzo della Signoria.



Figure 79. Workshop of Antonio Rossellino, c. 1462: detail of inscription on tomb of Cardinal James of Lusitania, San Miniato al Monte.



- 1451: Workshop of Bernardo Rossellino, tomb of the Beata Villana, Santa Maria Novella, 1451 (figure 76).  
 ?1453–?: Desiderio da Settignano, tomb of Carlo Marsuppini (d. 1453), Santa Croce<sup>74</sup> (figure 74).  
 1454–58: Luca della Robbia, tomb of Bishop Benozzo Federighi, Santa Trìnita, probably completed 1458 (figure 75).  
 1456: Andrea del Castagno, fresco of equestrian monument to Niccolò da Tolentino, cathedral (figure 77).  
 ?1457–64: Donatello, signature on *Judith and Holofernes*, Palazzo Vecchio (figure 78).  
 ?1462: Antonio Rossellino, tomb of Cardinal James of Lusitania, San Miniato al Monte, in the chapel designed and made 1459–67; the inscription is on the convex surface of a sarcophagus, the lower lines curving away from viewers (figure 79).

74. Pope-Hennessy (1985, p. 286) gave 24 April 1453 for Marsuppini's death, suggesting that work on the tomb 'presumably began soon after this time' and that its date of completion cannot be ascertained.

The nineteen monuments of this sample may be unusual in the value they give to inscriptional letters, which otherwise had various and often unpredictable positions within Florentine works of art and architecture. Once at home in the literal narratives of medieval art, letters became more and more anomalous in the new conceptions of pictorial and sculptural expression. No longer, except for the most didactic purposes, to be found spouting from the mouths of martyrs, saints, and goblins, their natural place, it seemed, was on buildings – in painted triumphal arches or on real façades. Of insubstantial weight in pictures, they might be assigned the status of clouds, landscape, background; but as carriers of literal meanings, of the visible expression of clients' wishes, they had to be grasped and dealt with. Sometimes they were planned, as in these examples; sometimes they appear to have happened as if by default, and they were as often fudged. Inscriptional letters were not unmediated expressions of will, but were subject to the contingencies of designing and making, to lapses and slips between intention and act. A few professional visualizers thought them worthy of consideration as an expression of the new style. Many, possibly most, did not. Some must have discounted them. And many clients and their advisors must have had little or no interest in letters, despite a few influential ones who had. The design of letters must normally have been a minor question, one that could be addressed by securing an all-purpose model, one style fits all.

At any rate the comparisons above suggest that, considered within its norm, Buggiano's inscription for his father was very carefully designed, and that it is an epitome for its type. Further, it offers an inverse lesson – that it is unsafe to assume that quattrocento artists enjoying the highest reputation made the best letters – and so reminds us to be open-minded in our investigations.

### Norms and experiments

Seen for the first time fifteenth-century inscriptional design can seem naïve: letters insensitively stacked in formal patterns, apparent whimsicality, arbitrariness. Yet even when aware of the baggage of 20th-century norms that we carry into the churches, it is still hard to avoid questions like: if they were so good at art, why were their letters so bad? In other words: how could the avant-garde designers employ their observations of classical remains, construct new methods of pictorial representation, articulate new forms of spatial experience, reinvent free-standing figural sculpture – and yet make such naïve attempts at classical letters? Millard Meiss addressed a similar question to Giovanni Mardersteig about Alberti's letters: 'why should the great student of Roman architecture, who reintroduced the monumental inscription on the façades of buildings, not have approximated more closely the shapes and spacing of Imperial majuscules?'<sup>75</sup> The question is rather better than Meiss's answer, a hypothesis that because Alberti assigned the metaphoric role of caryatids to his frieze letters, he had to stretch them vertically out of classical proportion: hence 12 : 1 rather than 10 : 1.

There is an alternative answer. It can be heard in the persistent suggestion, spoken if no longer written, that Florentine designers selectively modelled their letters upon an especially preferred

75. Meiss 1960, p. 110 n.

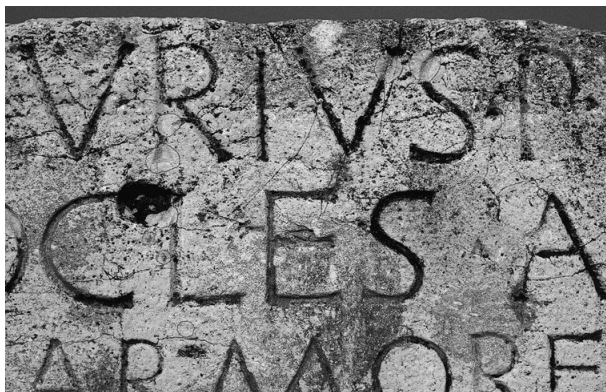


Figure 80 (left). Inscription of the republican period, c. 1st century BC, Via Appia Antica, Rome.

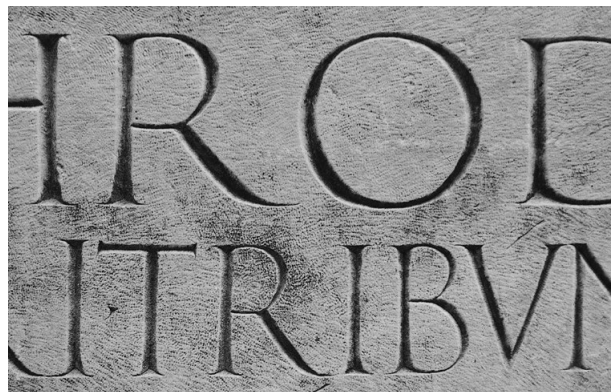


Figure 81 (right). Detail from one of the finest inscriptions of the imperial period: the funerary monument for Epafrodito, after 68 AD (Rome, forecourt, Museo Nazionale Romano).

classical form. To the question of why they failed to achieve fidelity with classical Roman capitals, it offers the simple answer that they did, and that, on the contrary, the Florentine style is close to classical Roman capitals – but not to those of the first and second century empire, rather to those of the republic in the second and first century BC (figures 80, 81). This speculative line appears to have first been played out by Stanley Morison, describing the Florentine style as:

too strongly reminiscent of Rome of, say, 150 BC to be an accident. As the originators of the idea of using it as their symbol were not mere ignorant enthusiasts, it must be assumed that they were aware of this. Many of the political philosophers of the movement were specially devoted to Rome of the Republic. . . . Accordingly it was the discipline of the Republican inscriptions that the successors of Petrarch and Salutati imposed upon their script, and this is the reason why it was accepted as their norm by the great Florentine artists. (Morison 1972, p. 269)

He was not supported in this by Nicolette Gray who found, in Florence, only the Beata Villana inscription in Santa Maria Novella to be ‘at all close to the Republican inscriptions in style.’ Not by Millard Meiss either, who knew of ‘no contemporary statement that would suggest that the humanists had learned consciously to distinguish the style of the two eras.’ This, rather than visual likeness, would be the clincher. And Meiss’s doubts are endorsed by recent scholarship, which finds that Alberti’s contemporaries relied on written texts as much or more than archaeological investigation, and that as late as the 1470s they could not chronologically distinguish Roman art.<sup>76</sup>

At the start of the century, the humanists thought that Romanesque manuscripts were Roman. At its end Andrea Mantegna could unknowingly paint anachronistic letters into his grand reconstructions of the republic’s history. Not long before his death in 1506 he was commissioned, by a Venetian nobleman whose family claimed descent from the Scipios, to make a picture of ‘The introduction of the cult of Cybele at Rome’. It visualized an event said to have occurred in 204 BC during the Punic Wars, showing tombs which display Roman inscriptions to Scipio’s father and uncle, both recently killed in battle against the Carthaginians. But these inscriptions are clearly in good imperial style of the second century AD, with modelled thick and thin strokes, fully articulated and – in Q and R – extravagant serifs of the kind that may be seen in profusion in the Museo Nazionale Romano’s epigraphic collections at the Terme

76. Nicolette Gray 1986, p. 136 n. 4; Meiss 1960, p. 100. For Alberti’s sources see, e.g., Anthony Grafton (2000, p. 239): he ‘studied antiquities not only by direct inspection but also in the virtual forms produced by colleagues like Cyriac and Poggio, and like most of his colleagues he made no distinction in practice between these two forms of knowledge.’ Indistinct chronology is from Alison Wright, in Rubin & Wright 1999, p. 254.

di Diocleziano. They are, in other words, complete anachronisms, notable in the work of such a student of the antique.<sup>77</sup> And if well-informed Mantegna neither knew nor cared about the epigraphic differences between republic and empire then what should we expect of other artists? So: until new evidence is found, we should shelve that attractive hypothesis, suspended until now by a thread of wishful thinking, that in the Florentine baptistery and the cathedral we see reconstructions of letters from the Via Appia Antica.

Buggiano's inscription stands for the first of three styles which emerged in the quattrocento revival of classical capital letters.<sup>78</sup> They represent distinctive responses by designers to the challenge to 'make it in the ancient manner'. Considered as phases, they overlap and might be as well represented in a Venn diagram as in linear prose, which here forces the issue of sequence and so chronology. This first, Florentine, style drew upon both Tuscan Romanesque and classical Roman, and was encouraged by a small intellectual elite among whom were a few enthusiasts of classical orthography and the letters in which, as they imagined, the ancient texts were given material form. In artistic practice its pioneers were in the workshops of Ghiberti, Donatello and Michelozzo, and Luca della Robbia, of whom only the first records literal evidence of interest in letters. Few practitioners would have crossed the social divide which separated workers, who visualized and made with their hands, from their social betters for whom the antique was an idea, an aspiration, rather than a materially constructed form. And in the even more menial, because non-figurative, work of the Santa Croce pavement tomb slabs, we may see a range of letterforms more advanced than those shaped by the artists – 'may' because of the dating difficulties discussed on page 90 above.

The second style is archaeological. It was started in the Veneto by Paduan enthusiasts, and later flowered in the princely courts of Mantua and Urbino. Its scribes include the traveller Cyriac of Ancona, his follower Felice Feliciano the antiquarian, and Bartolomeo Sanvito. Enough is known of the habits of Cyriac, Felice, and Giovanni Marcanova, to cast a caution over early Renaissance 'archaeology'.<sup>79</sup> Its artists were Andrea Mantegna and, later, Melozzo da Forlì. The late work of Donatello might also be included. His signature on *Judith and Holofernes* (figure 78) needs explanation, since it is graphically unlike any other of his: the nested treatment of OPVS so contrived and distinctive as to suggest personal work – a statement of intent, the graphic equivalent of a speech act – rather than that of an assistant. Some features – articulated thick and thin strokes, serifs which are clearly present even if modest, generally classical proportions (note especially D, N, and A) – are comparable with Mantegna's early capitals.

Florence is not the place to search for the accomplished revival of the classical capitals. Its renaissance in letterforms lasted around 50 years, from the 1420s to the 1460s. For roman see Rome,<sup>80</sup> and it was to Rome that the new archaeology moved during the last three decades of the century, just as the cultural and artistic centre of gravity had shifted from Tuscany to the Holy See. The creators of this Roman expression of the antique, of what has been called the Sistine letter (for Sixtus IV della Rovere, not Sixtus V Peretti), were designers

77. National Gallery, London (NG 902); described and illustrated in Jill Dunkerton and others, *Giotto to Durer: early Renaissance painting in the National Gallery* (1991: London, Yale University Press & National Gallery Press), pp. 372–5; also in Keith Christiansen's catalogue entry in Jane Martineau (ed.) *Andrea Mantegna* (1992: London, Royal Academy of Arts), pp. 412–16. There is a cloud on this horizon of certainty: in Martin Davies's National Gallery catalogue of *The early Italian schools* (1961, p. 256) the inscriptions are described as 'retouched'.

78. During an earlier revival, some inscriptional letters made in Rome in the 11th and 12th centuries were as true to the old majuscules as anything made before the middle of the 15th century.

79. Charles Mitchell (1960, p. 481) showed that Felice's well-intentioned falsifications 'were always in the direction of making the antique look more antique still'.

80. Stanley Morison observed that 'roman' may have been used for the first time in 1545, when Palatino used 'lettere romane' in his writing manual instead of the usual 'lettere antiche' (*Fra Luca de Pacioli of Borgo San Sepolcro*, 1933, New York, p. 81).



Figure 82. L. B. Alberti, inscription on frieze of Santa Maria Novella; work started c. 1458 and was presumably completed by the date given here, 1470.

attracted to this new market for their work; it seems that they looked closely enough at classical relics to be able to use their observations in a practical way. They therefore managed without the geometry promoted in the third – the theoretical – style, which between the 1460s and the 1550s exhibited a steady shift ‘from antiquity observed on the site to antiquity in the mind’, to use once again a phrase of Charles Mitchell.<sup>81</sup> Theories of geometrical construction with circles and squares, of module and proportion, and still later of ideal and perfect letters, began with Feliciano’s little manual, the earliest yet found in a sequence of treatises described by Nicolette Gray (this volume, pp. 10–12). But the first application of theory to marble surfaces was seen in Florence rather than Rome, in Alberti’s late creations for Giovanni Rucellai (Mardersteig pp. 55–7, this volume) (figure 82).

The Florentine version of letters *all’antica* was not deterministic. It did not imprison designers but offered some flexibility, so reflecting the malleability of the Graeco-Latin alphabet of capitals. It persisted into the 1470s and beyond: in the altar lettering in the Pazzi chapel, probably executed after 1470 (figure 83), and with ever more elegance in Verrocchio’s Medici tomb in the Old Sacristy of San Lorenzo, and in Antonio Rossellino’s epitaph for the Nori family in Santa Croce (c. 1475). The Capella Rucellai floor roundel, before the altar, of 1485 is probably a special case, a craftsman’s interpretation of the letters on the Santo Sepolcro (figure 84). But the reach of the Florentine style was lessening by the time antique letters were fixed in type metal. In the thirty years from 1465 to 1495 the imperial Roman capitals were reconstructed at source, in their home city, as faithful as could be until the lesson offered by Giovan Francesco Cresci’s book of examples in 1560. Before then they could be seen in the tomb sculpture of Andrea Bregno’s workshop (perhaps as early as 1465, on the Labretto tomb in Santa Maria in Aracoeli); in the inscription displayed in two tiers and on four sides of the Cortile d’Onore of the ducal palace of Federigo II da Montefeltro in Urbino, probably after 1482<sup>82</sup> (figure 85); in the inscription, dated 1483, on the entablature of the new church of Sant’ Agostino, Rome (figure 86); in inscriptions at the castle of Ostia, 1483–6;<sup>83</sup> in the inscription, dated 1495, which

81. Mitchell 1960, p. 479.

82. The courtyard was designed by the Dalmatian Luciano Laurana 1466–72 and by Francesco di Giorgio Martini of Siena from c. 1476 to 1485. Pasquale Rotondi (*The ducal palace of Urbino*, 1969, London: Alec Tiranti) says that the eulogy to Federigo inscribed on the frieze was added after 1482. The inscriptional work of the Florentine woodworker and architect Baccio Pontelli merits investigation, at Urbino from 1479 and later in the Rome of Sixtus IV.

83. Fabio Benzi (1990, p. 90) has suggested a similarity between inscriptions made under the direction of Baccio Pontelli and those published later in Luca Pacioli’s *De divina proportione*.



Figure 83. Detail of inscription on altar in Pazzi chapel, Santa Croce; probably executed after 1470.



Figure 84. Floor roundel dated 1485, in front of altar, Capella Rucellai, San Pancrazio.



Figure 85 (below). Cortile d'Onore, ducal palace of Federigo II da Montefeltro, Urbino; inscription probably after 1482.



Figure 86. Inscription on the façade of Sant' Agostino, Rome, dated 1483.



Figure 87 (above). Detail of inscription running the length of the façade, Palazzo della Cancelleria, Rome, dated 1495.

Figure 88. Detail of inscription dated 1504 in the cloister of Santa Maria della Pace, Rome.

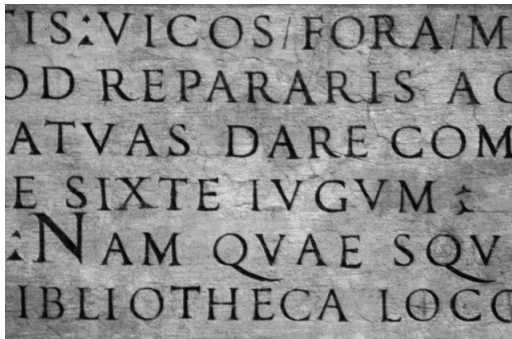
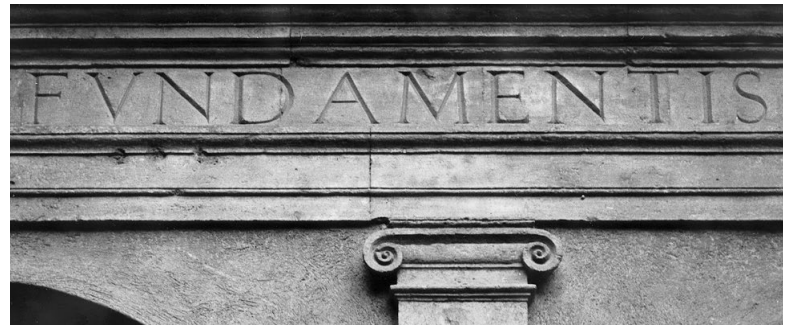


Figure 89. Detail of Melozzo da Forlì's fresco of 'Sixtus IV founding the Vatican library' (c. 1476, Rome, Pinoteca Vaticana).

runs the full length of the façade of the new palace of Cardinal Rafael Riario, nephew of Sixtus IV, later the Palazzo della Cancelleria, Rome (figure 87). And the theory of letters found material expression early in the new century in Bramante's cloister for the new church of Santa Maria della Pace (figure 88). The similarities and differences between the Urbino letters and those at Ostia and in Rome certainly merit investigation.<sup>84</sup> By the mid 1470s the 'perfected' antique was close to an accomplished fact. A good example in painting – if 1476 then perhaps the earliest – is Melozzo da Forlì's fresco of the founding of the Vatican libraries, in which the bookman Platina kneels and points to a six-line inscription praising the Pope's urban renovations: it is 'cut' in good antique form into an illusionistic marble panel – see especially letters R and Q (figure 89). The first phase of the frescoes commissioned by Sixtus IV for his great chapel were made around 1482 by Florentines; the painted inscriptions – possibly guided by Melozzo? – are in this new style.

Already one risks writing a history directed to confirming the inevitable triumph of the imperial roman letter, insensitive to any traffic

84. In 1488 Andrea Mantegna went to Rome, probably for the only time in his life, and wrote: 'Here in Rome there are many worthy men of good judgement', adding that he was treated with favour 'by all at the Palace'. To whom he was alluding? 'Perhaps to the Cardinal Chamberlain, Raffaele Riario, who was about to rebuild the palace where Cardinal Gonzaga had

lived, and would have been excited to have Mantegna at hand.' (David Chambers, Jane Martineau, and Rodolfo Signorini 1992, pp. 20–22). Mantegna returned to Mantua in 1490. Two years later Bartolomeo Sanvito found a new Roman patron in Cardinal Riario, to whom he became secretary.

off that royal road. Nicolette Gray's 1960 article opens and closes in protest against such teleology. Yet the idea of 'experiment',<sup>85</sup> however loosely expressed, is directed to a purpose: it is always 'about' something and implies a hypothesis which directs the investigation's course. These experiments in design were about – they hypothesized – a *rinascimento dell'antichità*, in opposition to the current Gothic repertoire. How Roman capitals were reconstructed in the fifteenth and sixteenth centuries and became normative is still the central question in the history of renaissance letterforms. This should not surprise us. They constitute the older side of an unlikely union – the dual-alphabet script, so familiar that we take it as natural rather than as the artificial construct which it is. After five centuries of relative stability conferred by typographic fixity we have acquired mental models for roman letters and the limits within which their varied graphic expression is tolerable. We can hear appeals to these internalized standards in, for example, John Pope-Hennessy's *ex cathedra* utterances about 'the imperfections of Early Renaissance lettering' and in John Sparrow's on the 'aesthetic irrelevance' of pre-Renaissance letters. For Nicolette Gray, who sought creative expression in letters, rules – particularly geometrical rules of construction – entailed the search for perfection and hence sterility.<sup>86</sup> So she regretted the end of what she saw as a period of experiment and the start of centuries of normality, no matter how consistent in quality and vigorous in realization were the truest reconstructions of imperial inscriptional capitals in their birthplace.

It will be obvious that any conclusions which might be drawn from these pages must be tentative. Some of the pioneers to whose essays mine is in part a response made claims for priority in reconstructing the true roman. Giovanni Mardersteig and Nicolette Gray gave the prize to Alberti; Millard Meiss and Dario Covi awarded it to Mantegna. A case will doubtless be made for Bartolomeo Sanvito, for Andrea Bregno, and perhaps for others. But it may be that priority cannot yet be adjudicated, and even that it is presently fruitless to try, because we have too few well-illustrated and documented examples to allow comparisons over time, place, genre, designer and workshop. Such absences continue to limit our understanding of the design of public letters in the fifteenth century.

85. e.g. 'in all forms of lettering ... up to about 1470, design is experimental' (p.68), and the title of her article itself. The notion also appears in Morison's *Politics and script*, where letters on the Cossa tomb are described as 'sculptured antiqua in the early experimental stage' (p.272).

86. Pope-Hennessy 1980, p. 229; Sparrow 1969, p. 13; Nicolette Gray on sterile rules: 1960, p. 73.

#### References and sources

- Alberti, L. B. 1485/1988. *On the art of building in ten books*. Cambridge, Mass: MIT Press (translation by J. Rykwert, N. Leach & R. Tavernor of *De re aedificatoria*, 1485)
- Battisti, Eugenio. 1981. *Brunelleschi: the complete work*. London: Thames and Hudson (translation by R. E. Wolf of *Filippo Brunelleschi*, Milan: Electa, 1976)
- Beck, James. 1987. 'Jacopo della Quercia and Donatello: networking in the quattrocento', *Source notes in the history of art*, vol. 6, pp. 6–15
- Benzi, Fabio. 1990. *Sisto IV renovator urbis*. Rome: Officina Edizioni
- Borsook, Eve. 1979. *Companion guide to Florence*. 4th edn, London: Collins



- Borsook, Eve. 2001. 'The power of illusion: fictive tombs in Santa Maria del Fiore'. In Haines (ed.) 2001, pp. 59–76
- Burns, Howard. 1979. 'A drawing by L. B. Alberti', *Architectural Design*, vol. 49, no. 5–6, pp. 45–56
- Butterfield, Andrew. 1997. *The sculptures of Andrea del Verrocchio*. New Haven: Yale University Press
- Carl, Doris. 2001. 'Il ritratto commemorativo di Giotto do Benedetto da Maiano nel Duomo di Firenze'. In Haines (ed.) 2001, pp. 129–47
- Catich, E. M. 1961. *Letters redrawn from the Trajan inscription in Rome*. Davenport, Iowa: Catfish Press, St Ambrose College
- Catich, E. M. 1991. *The origin of the serif*, 2nd edn Davenport, Iowa: Catich Gallery, St Ambrose University
- Casamassima, E. 1964. 'Lettere antiche. Note per la storia della riforma grafica umanistica', *Gutenberg Jahrbuch* 1964, pp. 13–25
- Chambers, David, Jane Martineau, & Rodolfo Signorini. 1992. 'Mantegna and the men of letters'. In Jane Martineau (ed.) *Andrea Mantegna*, London: Royal Academy of Arts, & New York: Metropolitan Museum of Art, pp. 8–30
- Ciapponi, Lucia A. 1979. 'A fragmentary treatise on epigraphic alphabets by Fra Giocondo da Verona'. *Renaissance Quarterly*, 32, pp. 18–40
- Covi, Dario A. 1954. 'Lettering in the inscriptions of fifteenth century Florentine paintings'. *Renaissance News*, 7, 1954, pp. 46–50
- Covi, Dario A. 1963. 'Lettering in fifteenth century Florentine painting'. *The Art Bulletin*, vol. 45, March 1963, pp. 1–17
- Davies, Gerald Stanley. 1910. *Renascence: The sculptured tombs of the fifteenth century in Rome*. London: John Murray
- Dürer, Albrecht. *Underweysung der Messung*. Nürnberg, 1525. *Of the just shaping of letters, from the Applied geometry of Albrecht Dürer, book 3*. 1917, New York: The Grolier Club. (English translation by R. T. Nichol from Latin text edition of 1535)
- Gill, Eric. 1906. 'Inscriptions in stone'. In Edward Johnston, *Writing & illuminating, & lettering*. London: John Hogg, pp. 389–406
- Goldthwaite, R. A. 1980. *The building of renaissance Florence: an economic and social history*. Baltimore: The Johns Hopkins University Press
- Gombrich, E. H. 1976. 'From the revival of letters to the reform of the arts: Niccolo Niccoli and Filippo Brunelleschi'. In *The heritage of Apelles: studies in the art of the renaissance*, Oxford: Phaidon, pp. 93–110 & 149–52 (first published 1967 in *Essays in the history of art presented to Rudolf Wittkower*)
- Grafton, Anthony. 2000. *Leon Battista Alberti: master builder of the Italian renaissance*. Cambridge, Mass: Harvard University Press
- Gray, Nicolette. 1960. 'Sans serif and other experimental inscribed lettering of the early Renaissance', *Motif*, 5, Autumn 1960, pp. 66–76 (Reprinted 1997 with introduction & additional notes by Paul Shaw; publ. LetterPerfect, 526 First Avenue South, Seattle, WA 98104)
- Gray, Nicolette. 1986. *A history of lettering*. Oxford: Phaidon
- Haines, Margaret. 1989. 'Brunelleschi and bureaucracy: the tradition of public patronage at the Florentine cathedral'. *I Tatti Studies*, vol. 3, pp. 89–125

- Haines, Margaret (ed.). 2001. *Santa Maria del Fiore: the cathedral and its sculpture*. Fiesole: Edizioni Cadmo
- Haines, Margaret. 2003. 'The market for public sculpture in renaissance Florence'. In M. Fantoni, L. C. Matthew & S. F. Matthews-Grieco (eds.), *The art market in Italy 15th–17th centuries*. Modena: Franco Cosimo Panini
- Kajanto, Iiro. 1980. *Classical and Christian: studies in the Latin epitaphs of medieval and renaissance Rome*. Helsinki: Suomalainen Tiedekatemia (Annales Academiae Scientiarum Fennicae, ser. B, 203)
- Leader, Scott (aka Lucy Baker). 1901. *Filippo di ser Brunellesco*. London: George Bell
- MacAdam, A. 1995. *Blue guide Florence*, 6th edn London: A. & C. Black
- McHam, Sarah Blake. 1989. 'Donatello's tomb of Pope John XXIII'. In M. Tetel, R. G. Witt, & R. Goffen (eds.), *Life and death in fifteenth-century Florence*. Durham NC: Duke University Press
- Manetti, Antonio di Tuccio. *The life of Brunelleschi*. Introduction, notes, and critical text edition by Howard Saalman. English translation by Catherine Enggass. 1970. University Park, PA: Pennsylvania State University Press
- Mardersteig, Giovanni. 1959. 'Leon Battista Alberti and the revival of the Roman inscriptional letter in the fifteenth century'. *Typography papers*, 6, 2005, pp. 49–65 (this volume) (translation by J. Mosley of 'L. B. Alberti e la rinascita del carattere lapidario romano nel quattrocento', *Italia medioevale e umanistica*, 2, 1959, pp. 285–307)
- Markham Schulz, Anne. 1977. *The sculpture of Bernardo Rossellino and his workshop*. Princeton, NJ: Princeton University Press
- Meiss, Millard. 1960. 'Toward a more comprehensive Renaissance palaeography', *The Art Bulletin*, 42, pp. 96–112
- Mitchell, Charles. 1960. 'Archaeology and romance in Renaissance Italy', in E. F. Jacob (ed.), *Italian Renaissance studies* London: Faber & Faber, pp. 455–83
- Morison, S. 1972. *Politics and script* (The Lyell Lectures 1957) edited and completed by Nicholas Barker, Oxford: The Clarendon Press
- Mosley, James. 1964. 'Trajan revived'. *Alphabet*, vol. 1, pp. 17–48
- Mosley, James. 1997. 'The baroque inscriptional letter in Rome'. *Bulletin of the Printing Historical Society*, 43, pp. 1–4
- Mustari, Louis F. 2001. 'Some procedures and working arrangements of trecento stonemasons in the Florentine Opera del Duomo: workers' payments'. In Haines (ed.) 2001
- Petrucci, Armando, 1998. 'Florence and Rome'. In *Writing the dead: death and writing strategies in the Western tradition*. Stanford: Stanford University Press (translation by Michael Sullivan of *Le scritture ultime. Ideologia della morte e strategie dello scrivere nella tradizione occidentale*, Torino: Einaudi, 1995)
- Petrucci, Armando. 1993. *Public lettering: script, power, and culture*. Chicago: The University of Chicago Press (translation by Linda Lappin of *La scrittura: ideologia e rappresentazione*, Torino: Einaudi, 1980, 1986)
- Poeschke, Joachim. 1993. *Donatello and his world: sculpture of the Italian renaissance*, New York: Harry N. Abrams, p. 351 (translation by R. Stockman of *Skulptur der Renaissance in Italien*, Munich, 1990)

- Pope-Hennessy, John. 1980. *Luca della Robbia*. Oxford: Phaidon
- Pope-Hennessy, John. 1985. *Italian Renaissance sculpture*, 1985 edn, New York: Vintage
- Rubin, Patrica Lee, & Alison Wright. 1999. *Renaissance Florence: the art of the 1470s*. London: National Gallery
- Quinterio, Francesco. 2000. 'Buggiano (Andrea di Lazzaro Cavalcanti)'. *The Grove dictionary of art online*, L. Macy (ed.) 28 May 2003 <<http://www.groveart.com>>
- Saalman, Howard. 1980. *Filippo Brunelleschi: the cupola of Santa Maria del Fiore*. London: A. Zwemmer
- Seymour, Charles. 1971. *The sculpture of Verrocchio*. London: Studio Vista
- Shaw, Paul. 2004. 'Bartolomeo Sanvito (part 2)'. *Letter Arts Review*, vol. 19, no. 2, pp. 14–23
- Smith, S. 1984. 'Letter size and legibility'. In R. Easterby & H. Zwaga (eds.) *Information design*. Chichester: John Wiley, pp. 171–86
- Sparrow, John. 1969. *Visible words: a study of inscriptions in and as books and works of art*. Cambridge: Cambridge University Press
- Sperling, Christine M. 1989. 'Leon Battista Alberti's inscriptions on the Holy Sepulchre in the Cappella Rucellai, San Pancrazio, Florence', *Journal of the Warburg and Courtauld Institutes*, 52, pp. 221–8
- Sperling, Christine M. 1992. 'Verrocchio's Medici tombs'. In S. Bule and others (eds.), *Verrocchio and late quattrocento Italian sculpture*, Florence: Le lettere, pp. 51–61
- Vasari, Giorgio. *Lives of the artists*, vol. 1. 1971, Harmondsworth: Penguin (translated by George Bull)
- Wackernagel, Martin. 1981. *The world of the Florentine renaissance artist: projects and patrons, workshop and art market*. Princeton, NJ: Princeton University Press, 1981 (translation by Alison Luchs of *Der Lebensraum des Künstlers in der florentinischen Renaissance . . .*, Leipzig, 1938)

#### Acknowledgements

Nearly all the pictures shown here are from the Lettering Collection at Reading. For the use of her photograph of the Brunelleschi memorial I thank Elisabeth Oy-Marra, and the Photothek at the Kunsthistorisches Institut in Florenz. My thanks are due to the Opera di Santa Maria del Fiore di Firenze for information about the dimensions of the memorial, and to the Amici dei Musei Fiorentini for opening the Capella Rucellai beyond normal hours during Holy Week 2005.

I owe a longstanding debt to James Mosley for stimulating discussion over many of the topics ventured here. My thanks to Eric Kindel and Paul Shaw, and also to my reviewers, for critical and helpful comments on an earlier draft. I am especially pleased to acknowledge the enthusiasm of generations of Reading students who have participated in our biennial courses in Rome and Florence, and also that of occasional visitor-participants (including Peter Burnhill, Garrett Boge, Michael Harvey) who have further sharpened our eyes and enlivened our talk. Finally it is good to have an opportunity to express gratitude to past and present colleagues: Martin Andrews, Alison Black, Andrew Boag, Paul Luna, Alan May, Ann Pillar, Mick Stocks, and in particular to Michael Twyman for first introducing me to questions which have occupied us in our walks in these cities over the past few decades. Of course neither he nor anyone else whom I mention here are otherwise implicated in the failings of this attempt to put some of those questions, and new ones, before a wider audience.

In the second cloister of Santa Croce, 1979

