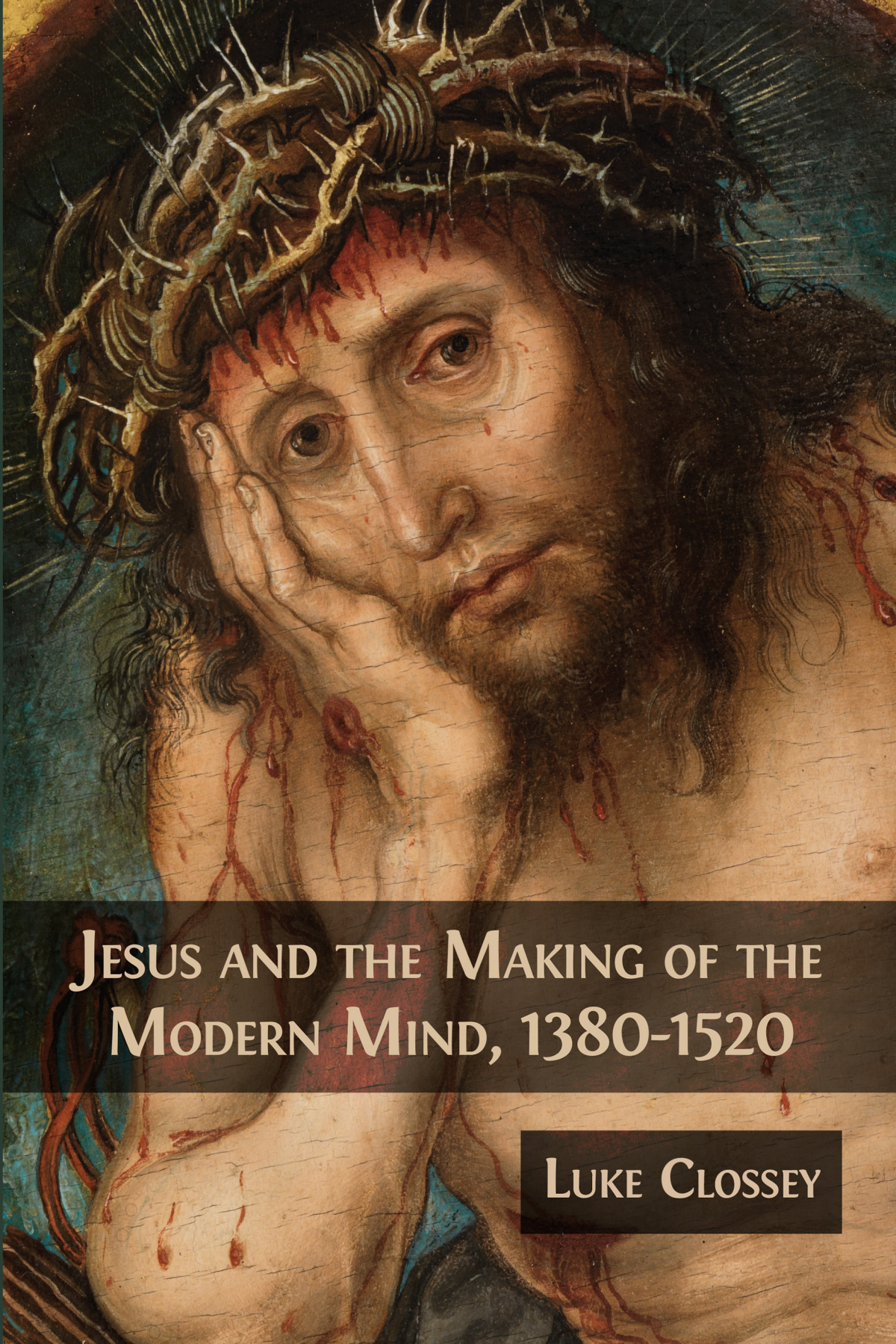

Jesus and the Making of the Modern Mind, 1380-1520

Luke Clossey

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10. Making Canon

How do the two kens apply to scripture? In the plain ken, meaning tended to be constructed in history, by humans for humans, independent of other factors. In the deep ken, meaning is profoundly contextualized, independent of historical time, but dependent on consonance. For example, the deep ken would frown on you reading the Bible or Qur'an on your smart phone in the bathroom. If you want to understand it, you should read a high-quality edition with a serious and purposeful mindset. Beauty and truth buttressed each other. In contrast, the plain ken is not bothered: the scripture's meaning is the same, regardless of where or how you're reading it. In these centuries, toilets were a minor issue and phones were not an issue at all. What mattered then, in the deep ken, was the quality of the physical book—its materials, writing style, and decoration—and the quality of the language used. This chapter focuses on the material side of this issue—the next, "Interpreting Canon," (Chapter 11) turns to the question of mindset in approaching scripture.

Material

The first thing you would notice about Qur'ans in 1400 was their great size, which the deep ken associated with value. This was a peak after a century of large, multi-volume Qur'ans, and the fifteenth century would prefer normal sizes. Extremes still occurred. 'Umar al-Aqta' wrote a miniscule Qur'an in tiny script, small enough to fit inside a signet ring, to the extreme displeasure of the Emir Timur (1336–1405). The calligrapher's next attempt saw each page with a length of one *gaz* (60.6 cm) long.[1] Timur also liked long letters—sending a hundred-footer to Sultan al-Nasir Faraj (ca. 1386–1412) of Egypt—and big mosques—at Samarkand the Mosque of Bibi Khanum could hold 10,000 worshippers. Timur's grandson Baysunghur (1397–1433) wrote another Qur'an, reaching 177 x 101

1 Pages from 'Umar al-Aqta' can be found at the Metropolitan Museum of Art, New York, https://www.metmuseum.org/art/collection/search/453985 and https://www.metmuseum.org/art/collection/search/453987

 https://doi.org/10.11647/OBP.0371.10

cm. The Timurids were the greatest, but not the only, patrons of the huge. A contemporary Qur'an from Mamluk Egypt measured 117 x 98 cm. Such Qur'ans dwarfed even al-Qalqashandi's (1355/56–1418) system of classifying Qur'ans by size: his largest category, the "baghdadi" size, reached only to 100 x 70 cm, less than 40% the surface area of the Baysunghur exemplar.[2]

Traditionally, Qur'ans would be written on parchment (a luxurious word for the skins of dead animals) or, in western India, on palm leaves. Both had been largely replaced, despite cultural resistance, by a "new" invention. The ancient Chinese had invented a process for economically converting rags, rope, or wood into a writing surface. First, the materials were reduced into fibre pulp into which a mould was submerged. The result was glazed with size, a gelatinous solution perhaps made of starch and powdered rice, then rubbed or hammered to smooth out the texture, and then ruled by indenting a cotton-string frame onto the page. Beyond its economy, this was also attractive as a security device against forgers: absorbing ink well, it was hard to erase. The capture of Chinese prisoners during the An Lushan Rebellion (755–63) initiated or accelerated the movement of this wonder material into the Near West: Ibn Khaldun (1332–1406) reported that it had been manufactured in Baghdad from ca. 800 in response to a parchment shortage. Just before our period, it had even reached the Far West. In England it became known as "paper."[3]

Around 1400, the newfangled material was cheap enough to make significant inroads in the Far West market. In France, a piece of parchment was worth six sheets of paper in the fourteenth century, and twenty-five sheets in the fifteenth. Paper had become four times cheaper. Around 1400, one third of all manuscripts copied in France were on paper, as were two thirds of those copied in German and Italian lands, and 85% of those copied in the Swiss cantons.[4]

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2 Qāḍī Aḥmad Qummi, *Calligraphers and Painters*, trans. V. Minorsky (Washington: Smithsonian Institution, 1959), 64. See also Syed Barakat Ahmad, *Introduction to Qur'anic Script* (London: Routledge, 1999), 134; Sheila Blair, *Islamic Calligraphy* (Edinburgh: Edinburgh UP, 2006), 250–51, 265–68, https://doi.org/10.1515/9781474464475; Sheila S. Blair and Johnathan M. Bloom, *The Art and Architecture of Islam 1250–1800* (London: Yale UP, 1994), 37; Clément Huart, *Les calligraphes et les miniaturistes de l'Orient musulman* (Paris: Ernest Leroux, 1908), 93–107, 252; Thomas W. Lentz and Glenn D. Lowry, *Timur and the Princely Vision: Persian Art and Culture in the Fifteenth Century* (Los Angeles, CA : Los Angeles County Museum of Art, 1989), 14–23, 36–39; Annemarie Schimmel, *Calligraphy and Islamic Culture* (New York: New York University, 1984), 15, 24–25.

3 Blair, *Islamic Calligraphy*, 45-49.

4 Jonathan Bloom, *Paper before Print: The History and Impact of Paper in the Islamic World* (New Haven, CT: Yale UP, 2001); Carla Bozzolo and Ezio Ornato, *Pour une histoire du livre manuscrit au Moyen Age* (Paris: CNRS, 1983), 31–37; Daniel Hobbins, *Authorship and Publicity before Print: Jean Gerson and the Transformation of Late Medieval Learning* (Philadelphia, PA: University of Pennsylvania Press,

From Europe, where water, an expensive resource in paper production, was in abundance, this cheaply made paper had been imported into North Africa for decades, and, in 1400, was being imported into Iraq and Persia for use even in Qur'ans. In our period, parchment was mostly recycled for use in Qur'an bindings. In Syria, one Qur'an was still made of parchment, for uncertain reasons—perhaps the projection of wealth, or for romantic nostalgia? Only in North Africa were parchment Qur'ans still being regularly produced. Western India in 1400 continued to use palm-leaves as a writing surface, but, within a century, these too were replaced by paper. For centuries later, even non-Muslims there cut the new paper to the old palm-leaf sizes.[5]

Soon, domestic paper production in Tlemcen and Fez would be wiped out under a tidal wave of cheap Italian imports. This created a new problem, in that the imported paper, if you looked closely, carried the watermarks of its manufacturer. These logos were sometimes specifically Christian, sometimes specifically derogatory: one large (1,000-folio) late-fifteenth-century Qur'an, for example, had on each page the subtle watermark of a cross standing victorious atop a crescent. A deep-ken eye would balk at the dissonance, while a plain-ken eye would see no meaning beyond economic realities. In Tlemcen, a deep-ken way was found to take advantage of the usefulness of the plain-ken approach: Ahmad al-Wansharisi (d. 1508) issued a fatwa that writing the Qur'anic truth over Christian untruth erased that untruth, and thus made even the most outrageous designs invisible, even if you could still see them.[6]

Writing Styles

Calligraphy

Writing was itself the principal element of decoration. While the scholar-poet-calligraphers of the Chinese core valued expressive uniqueness, the Qur'an calligrapher suppressed his (or her—we have records of female calligraphers, and families of calligraphers, most visibly in Safavid Shiraz) personality, took up not a brush but a more rigid pen, and wrote to maximize clarity and beauty

2009), 7; Uwe Neddermeyer, *Von der Handschrift zum gedruckten Buch* (Wiesbaden: Harrassowitz Verlag, 1998), 260–62.

5 Blair, *Islamic Calligraphy*, 44–46, 418; Jeremiah B. Losty, *The Art of the Book in India* (London: British Library, 1982), 11.

6 al-Wanšarīšī, *Histoire et société en Occident musulman au Moyen Âge*, trans. Vincent Lagardère (Madrid: Casa de Velázquez, 1995), 42.

of the revealed Word through regular letters, done carefully, systematically, methodically.[7]

Calligraphy had long been a noble art. The famed calligrapher Yaqut al-Musta'simi (d. 1298) was said to have copied the Qur'an over a thousand times. He was doing calligraphy when the Mongols took Baghdad, and, instead of evacuating, he merely relocated to a more secure minaret to continue. Many rulers in our period were accomplished students and patrons of calligraphy. The Timurids, conservatively, valued their cultural heritage going back through Timur to the Ilkhans and Yaqut. Timur's son Shah Rukh (1377–1447) studied calligraphy under Sharafuddin of Yazd (d. 1454); his penmanship commanded the highest praise, that it could pass for Yaqut's. Although less calligraphers in their own right, the Ottoman rulers showed great reverence to the art. Ahmed Karahisari (1469–1556), a calligrapher at Suleiman's (1494–1566) court, famously drew a bismillah with a single breath and a single line, his pen never leaving the surface.[8]

The art's nobility made it powerful and therefore dangerous. 'Umar al-Aqta', mentioned above, was one-handed, perhaps the result of royal displeasure. A calligrapher at the court of Mamluk al-Nasir Faraj had his right hand maimed by that sultan as punishment for using his calligraphy for magic; he took up calligraphy again, with the hand left to him, after the sultan had died.[9]

Scripts

The basic forms of the Arabic alphabet are more homogenous than the Latin alphabet. To make them distinct from each other, Arabic letters need to have dots supplementing their basic forms; in the English alphabet only two letters (i and j) bear dots. About a quarter of Arabic letters do not connect with the following letters, a feature unusual in lower-case English cursive styles. Arabic writing thus is more homogenous in its base forms and more dependent on dots than the words on this page are.[10]

In the Near West, two scripts dominated Qur'an writing. The first was the powerful, angular *muhaqqaq* ("perfect" or "complete"); deep-ken appreciation

7 Blair, *Islamic Calligraphy*, liii, 7.

8 Ahmad, *Introduction to Qur'anic Script*, 122; Bloom, *Paper before Print*, 54–55, 82, 109, 156; Huart, *Les calligraphes*, 108–12.

9 Schimmel, *Calligraphy*, 55.

10 The best overviews are Solange Ory, "Calligraphy," in *Encyclopedia of the Qur'an*, ed. Jane Dammen McAuliffe, 6 vols. (Brill: Leiden, 2001), I, 278–86; Yasin Hamid Safadi, *Islamic Calligraphy* (New York: Thames and Hudson, 1987), 7–17; Nabil Safwat, *Art of the Pen: Calligraphy of the 14th to 20th Centuries* (London: Azimuth Editions, 1996), 228–34.

for that perfection made it an especially frequent choice for Qur'ans. *Muhaqqaq* never dropped far below the line, which would sacrifice the impression of height and grandeur that the deep ken linked to importance. It was distinguished by its towering straight alif, with a distinctively hooked top, of a height equivalent to that of a stack of exactly eight (in Persia) or ten (in Egypt) dots. These alifs soared especially in the late fourteenth century among the Mamluks. The script was used in particular for the huge Qur'ans at the beginning of our period.[11]

The second script, which, in 1400, was about four centuries old, was *naskh* ("transcriptional"), a secretarial script more functional than beautiful, normally used for worldly writings. Because of the ease of writing and reading it, *naskh* was the most common script across all texts, and the second most common for Qur'ans. *Naskh* predominated in Ottoman lands.[12] *Naskh* had a maximum size, but no minimum—and indeed one form of *naskh*, called *ghubar* ("dust"), became so tiny as to be illegible to human eyes; it was originally designed for pigeon mail. A Qur'an in *ghubar* might squeeze twenty lines on a page, about twice the average in this period. One Qur'an in *ghubar* script from ca. 1300 measures 4 x 4 cm, in which the alif struggles to reach 2 mm in height. Why so small? The power of the Qur'an was independent of anyone being able to read it, and *ghubar* became a useful script for tiny portable Qur'ans that served as amulets that still contain the deep-ken truth of the Qur'an. These *ghubar* amulet Qur'ans, frequently octagonal, could be attached to military flags, and brought into battle—few have survived undamaged.[13]

Scripts also varied regionally. We are largely ignorant of Indian Qur'ans before 1400, perhaps because many were destroyed in Timur's attack on Delhi. Soon thereafter, India saw the rise of the crude, wedge-shaped *bihari*, with thick curved letter-endings, which might have been a local script that took up a life of its own when Timur disrupted ties to the west. Early in the fifteenth century, a variation of the stately yet stylish *thuluth* script became popular in India. In the Sinic Core, the flowing *sini* style evolved during the Ming Dynasty.[14]

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11 Blair, *Islamic Calligraphy*, 319–21; Martin Lings, *The Quranic Art of Calligraphy and Illumination* (New York: Interlink, 1987), 100; Martin Lings and Yasin Hamid Safadi, *The Qur'ān: Catalogue of an Exhibition of Qur'ān Manuscripts at the British Library* (London: World of Islam Publishing, 1976), 48.

12 Blair, *Islamic Calligraphy*, 326, 476; Lings, *Quranic Art*, 53.

13 Blair, *Islamic Calligraphy*, 260, 481; Huart, *Les calligraphes*, 252; Abdelkhatibi Khatibi and Mohammed Sijelmassi, *The Splendour of Islamic Calligraphy* (New York: Rizzoli, 1976), 170; Lings, *Quranic Art*, 54; Qummi, *Calligraphers*, 64; Safadi, *Islamic Calligraphy*, 20.

14 Colin F. Baker, *Qur'an Manuscripts: Calligraphy, Illumination, Design* (London: British Library, 2007), 76–82; Blair, *Islamic Calligraphy*, 386–87; Losty, *Art of the Book*, 37–40; Barbara Stöcker-Parnian, "Calligraphy in Chinese Mosques: At the Intersection of Arabic and Chinese Calligraphy," in *Calligraphy and Architecture in*

Multiple scripts in a single Qur'an had long been used, but was not common until our period. Kufic, thuluth, and ru'qah were almost always used in Qur'ans to offset display text for chapter titles and prostration instructions (for example, see the chapter titles in Shah Tahmasp I (1514–76)'s Qur'an, which is otherwise in nast'aliq).15 Even text not highlighted in this way might switch between, say, thuluth and naskh, just according to the spacing, without any relevance to the actual words being used. The deep ken saw value in meaning in the beauty of the alternating scripts, and so a passage could swap scripts halfway through without disrupting its meaning or decorum.[16]

In 1400, we see the beginning of a Timurid combined-script style: *thuluth* or *muhaqqaq* for the top, middle, and bottom sections of text, separated by lines of *naskh* or *rayhani*. Also fashionable was the thinnest pen in the biggest books. The Persians over the next two centuries would prefer the reverse, big chunks of *naskh* with intervening lines of *muhaqqaq* or *thuluth*. Calligraphy and calligraphers from Persia travelled to India and Turkey, influencing the encouragement of the use of script combinations in local production.[17]

As we go farther west, the writing styles become less complex. The primary script in the Far West was "black letter," which today we sometimes call "Old English." This was a heavy script in which smooth curves contrast with sharp, slender lines. With the rise of paper, black-letter cursive (that is, connected) styles in handwriting became popular and standardized, as they were faster to write on paper, which was smoother than parchment. In the fifteenth century, Italian humanists evaluated the beauty of scripts with a plain ken, by evaluating their clarity of expression and locating them historically: black letter, which they attributed to the Lombards and dismissed as "modern," was inferior to what they called the "roman" script, believed to be ancient.[18] The roman script was an ancestor of the most common families of scripts in use today, including the one on this page.

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the Muslim World, ed. Mohammad Gharipour and İrvin Cemil Schick (Edinburgh: Edinburgh UP, 2013), 147–48. There's an outstanding Qur'an in Indian *thuluth* at the Rampur Raza Library.

15 Exceptionally, the main text of Lings and Safadi, *The Qur'ān*, 50 (no. 68) is in *thuluth*.

16 Ahmad, *Introduction to Qur'anic Script*, 133–34; Lentz and Lowry, *Timur and the Princely Vision*, 12; Lings and Safadi, *The Qur'ān*, 50.

17 Qummi, *Calligraphers*, 156; Lentz and Lowry, *Timur and the Princely Vision*, 12; Lings and Safadi, *The Qur'ān*, 74; Schimmel, *Calligraphy*, 66.

18 Hobbins, *Authorship and Publicity*, 7; Berthold Louis Ullman, *The Origin and Development of Humanistic Script* (Rome: Edizioni di Storia e Letteratura, 1960).

Decoration

Qur'ans

Illustration did not work well in the Qur'an: an artist's visualization could only deface what had been revealed by God. What an artist thought he had created infringed upon God's monopoly on the act of creation. In any case, the Qur'an was not narrative enough to give illustrations much purchase. Illustration endangered the modesty of the artist and endangered the ability of the reader to engage the text without limitations on the imagination.[19]

Thus denied, exuberance instead manifested in calligraphy and in its illumination—not figurative but geometrical and floral—found on frontispieces, at surah headings (title of surah, number of verses it has, whether it was written in Mecca or Medina), and between individual verses or groups of five verses, places where prostration was advised. Repetition of decorative elements gave the written text a rhythm that echoed the recitation of the spoken text, done by humans as well as by angels, as in surah 37. As the Qur'an referred to itself as light and compared a "good word" to a "good tree" (14:24), so the many illuminated suns and trees reflected the content of the text. Rosettes or little suns divided verses. Illumination balanced abundant beauty with restraint—but Qur'an decoration tended to remain at least slightly asymmetrical, not for plain-ken awkwardness (see Chapter 14) but because in the deep ken only God was perfect.[20]

Bibles

Some of this probably influenced some Christian Bibles. Non-representational illustration burnished the beauty, and therefore truth, of both Qur'ans and Bibles. Unexpected representational illustrations drew lines of meaning between Bible events distant from each other in the plain ken's chronological history. All such decorations had a fundamentally deep-ken value.

In the fourteenth century, Coptic gospels seem to have followed patterns of non-representational illustration from Mamluk Qur'ans. Many Bibles, like the vulgates made for private study, had only limited illustration. Others were more lavish. Illustrated Bibles came in a variety of formats. In general, they included short passages of text, supported by commentary and by images. The text was

19 Lings, *Quranic Art*, 75.

20 Baker, *Qur'an Manuscripts*, 73; Blair, *Islamic Calligraphy*, 418; Lings, *Quranic Art*, 75–76.

chosen with little regard for traditional text divisions. The earliest illustrated Bibles were illuminated manuscripts, but by the 1460s, if not earlier, some were printed with woodcut blocks or moveable type. Several distinctive types developed.[21]

Bibles moralisée [moralized Bibles] were produced for the French royal family. A half dozen of these survives from the thirteenth and fourteenth centuries, and a single exemplar from the fifteenth.[22] The page layout is striking for its regularity. The basic visual unit consists of four pieces of text and two images. The first text is a paraphrase from the Vulgate Old Testament, partly a direct quotation but abbreviated and reworked—removing philologically interesting details—so that it can have a clear meaning even removed from its context. The second is a French translation of the first. The third and fourth are commentaries, in Latin and French respectively, linking the first texts to the life of Jesus. To the right of each pair of texts is an illustration, such that an Old Testament image stands directly above a related New Testament image, a relationship only clear to the deep ken. Four such units appear on each page. In one fifteenth-century version, for example, God's instructing Moses on how to sacrifice (Lev. 1:1–3) is paired with an image of the Crucifixion, the commentary explaining that "all the various sacrifices prefigure Christ's sacrifice."[23] God's giving Moses the Ten Commandments is paired with Jesus delivering the Sermon on the Mount.[24]

A similar kind of work was the poem *Speculum Humanae Salvationis* [Mirror of Human Salvation], developed in the early fourteenth century around the southern German-French border, but with a popularity enduring into our time. The *Speculum* was more prominent than the other Bible alternative versions discussed here; hundreds of manuscripts of the original Latin survive, as well as a few in vernacular languages. Many were made for Philip III the Good (1396–1467), grandson of the owner of the last moralized Bible. The text, perhaps written by Ludolph of Saxony (ca. 1295–1378), was drawn and adapted from diverse sources, including Thomas Aquinas (1225–74), the *Golden Legend*,

21 This is speculative, as no early Mamluk Qur'ans have survived. David James, *Qur'āns of the Mamlūks* (New York: Thames and Hudson, 1988), 47, 149.

22 BnF MS Fr. 166. A facsimile edition has been published as *Biblia moralizada de los Limbourg*, ed. Eberhard König and (Valencia: Patrimonio, 2010). BnF MS Fr. 166 was made for the Philip II the Bold (1342–1404) of Burgundy, and might have been orchestrated by Gerson. See John Lowden, "Beauty of Truth? Making a *Bible moralisée* in Paris around 1400," *Patrons, Authors and Workshops*, ed. Godfried Croenen and Peter Ainsworth (Louvain: Peeters, 2006), 197–222; Millard Meiss, *The Limbourgs and their Contemporaries* (London: Thames and Hudson, 1974), 83.

23 BnF MS Fr. 166, fol. 28v (painted by two, Paul and Johan, of the Limbourg brothers, ca. 1400–04).

24 BnF MS Fr. 166, fol. 33r (painted by the Master of the Psalter of Jeanne de Laval, 1440s).

and Petrus Comestor (1100–78).[25] That text, in Latin verse, breaks plain-ken boundaries. It links details of the life of Jesus not only with the Old Testament, but also with contemporary knighthood:

> Where in the creation of a knight a tap is usually given to the neck, but this knight, Christ, received not only one blow, but an almost infinite number of blows and smacks. His warhorse was an ass, which he mounted on Palm Sunday; the battlefield on which he fought was Mount Calvary; his spear was the lance of Longinus the soldier; a crown of very sharp thorns was his for a helmet; the sign or ornament of the helmet was the [INRI] title [above his head on the cross]... His squire was the most blessed Virgin Mary, who bore all his weapons with pious compassion.[26]

The *Speculum*'s illustrations similarly defied plain-ken boundaries: each New Testament event is matched with three from the Old. One French manuscript links a vibrant image of the Jesus's Flagellation with three undersaturated Old Testament scenes: Achior bound by the Assyrians (Judith 6:9), wives tormenting Lamech (extra-canonical expansion of Genesis 4:23), and the suffering Job (Job 2).[27]

With its origins in thirteenth-century southern German lands, a third category, the *Biblia pauperum* [Bibles of the Poor], had even less text than either the *Speculum* or the moralized Bibles. It could be in Latin, or a vernacular, or in a combination of the two.[28] An example is BodL Arch. G c.14 (ca. 1470), printed as a forty-page blockbook.[29] Here one New Testament image is flanked by two

25 *Speculum humanæ salvationis*, trans. Jean Mielot, ed. J. Lutz and P. Perdrizet, 2 vols. (Mulhouse: Meininger, 1907), I, 183, 352; Adrian Wilson and Joyce Lancaster Wilson, *A Medieval Mirror: Speculum humanae salvationis, 1324–1500* (Berkeley, CA: University of California Press, 1985), 26–27. Joost Roger Robbe, *Der mittelniederländische Spieghel onser behoudenisse und seine lateinische Quelle* (Münster: Waxman, 2010), 93, points out that the usual German identification rests solely on the phrase "more Alemannico."

26 Lutz and Perdrizet, ed., *Speculum*, I, 80–81 (lines 35–54).

27 University of Glasgow Library, MS Hunter 60 (T.2.18), fol. 29v, reproduced at *Glasgow University Library* (September 2000), https://www.gla.ac.uk/myglasgow/library/files/special/exhibns/month/sep2000.html

28 Heidelberg, Universitätsbibliothek, Cod. Pal. germ. 34, a late-fifteenth century blockbook from southwest Germany, has handwritten German translations on additional pages.

29 BodL MS Arch. G c.14. See Nigel F. Palmer, "Junius's Blockbooks: Copies of the 'Biblia pauperum' and 'Canticum canticorum' in the Bodleian Library and their Place in the History of Printing," *Renaissance Studies* 9 (1995): 137–65; Alan Coates, Kristian Jensen, Cristina Dondi, Bettina Wagner, and Helen Dixon, *A Catalogue of Books Printed in the Fifteenth Century Now in the Bodleian Library*, 6 vols. (Oxford: Oxford UP, 2005), I, 16–18.

Old Testament ones. They are integrated into an architectural setting, with a pair of prophets above, and another below, each holding a scroll inscribed with his words. The text is minimal, just captions plus "speech scrolls." If the scrolls were bubbles, we would be looking at something like a modern comic strip. The images have mnemonic verses and commentary. This is very similar to a mid-fifteenth century scroll measuring 11 m, including thirty-eight sets of images, perhaps prepared for or gifted to Mehmed II (1432–81).[30] This typological arrangement proved influential across multiple media, including painting, sculpture, and stained glass.[31]

Such a visual technology appeared even outside of Bibles: a French manuscript from the 1490s illustrates the Latin *Sibyllae et prophetae de Christo Salvatore vaticinantes* [Sibyls and Prophets Prophesying about Christ the Saviour]. These sibyls were prophetesses in the ancient Near West. A dozen double-page sets of illustrations are featured, each showing a throned sibyl, taking up the entire left page, facing a horizontally split right page, with a scene from Jesus's life above Old Testament prophets. Texts give details of the prophecies the set links to their fulfillment, and Bible citations are given textually and with an emblem of the appropriate gospel worked into the illustration.[32]

Something like plain-ken decoration might be found in the earthy annotations of some manuscripts. These speak to the particular circumstances and motivations of the humans involved in these exemplars' production. One such annotation, in Armenian, pities its scribe's hand as too cold to grip the pen. Some Biblical collections, in a variety of languages, contain curses threatening book thieves with the same fate as that which befell Judas.[33] A Coptic-Arabic gospel manuscript has a prayer, of unknown date, that meditates on the nature of copying: "O reader, in spiritual love forgive me, and pardon the daring of him who wrote, and turn his errors into some mystic good… There is no scribe who will not pass away, but what his hands have written will remain for ever. Write nothing with thy hand but that which thou wilt be pleased to see at the

30 Istanbul, Topkapı Palace Museum Library, Rotulus Seragliensis, Nr. 52. See Adolf Deissmann and Hans Wegener, ed., *Die Armenbibel des Serai: Rotulus Seragliensis Nr. 52* (Berlin: De Gruyter, 1934).

31 Robert A. Koch, "The Sculptures of the Church of Saint-Maurice at Vienne, the *Biblia Pauperum* and the *Speculum Humanae Salvationis*," *Art Bulletin* 32 (1950), 151–55; Emile Mâle, *L'Art religieux de la fin du moyen âge en France* (Paris: Armand Colin, 1949), 226–46; Wilson and Wilson, *Medieval Mirror*, 29–30, 134–41.

32 *Sibyllae et prophetae de Christo Salvatore vaticinantes*, BSB Cod. icon. 414. See Robin Raybould, *The Sibyl Series of the Fifteenth Century* (Leiden: Brill, 2017), 143–45, https://doi.org/10.1163/9789004332157

33 Lawrence S. Thomson, "A Cursory Survey of Maledictions," *Bulletin of the New York Public Library* 56 (1952): 59–60.

Resurrection." The prayer concludes with a request that God "cause this holy copy to avail for the saving of the soul of the wretched man who wrote it."[34]

Language

Qur'ans

Islam traditionally has approached the language of the Qur'an through the deep ken. The Qur'an is inherently Arabic, and so a translation of the Qur'an into another language is no longer a Qur'an. In another language, not only would the meanings not translate, it would lose its deep-ken power. Ibn Khaldun believed Arabic had a special ability to transmit both literal and figurative meaning.[35] Despite that special status of Arabic, al-Suyuti (1445–1505) held that the Qur'an incorporated all languages, thus signalling the multicultural and widespread applicability of its prophecy.[36]

As the House of Islam expanded, proportionately fewer Muslims were expert readers of Arabic, and translations became necessary. Both Muslim and Christian proselytism prompted approximations of the Qur'an in other languages. Muslims translated Qur'ans so that its nobility would convert outsiders to Islam, and Christians translated Qur'ans so that its errors, once identified, would convert Muslims to Christianity.

By 1400, the Qur'an had been translated into Latin, Persian, Greek, and Chagatai—the prestigious Turkish language of the Timurids. Perhaps it had also been translated into Sindhi and Berber, but no such translations are now known. Many of these were interlinear diglots, in which Arabic text alternated with, in a less prestigious script, the translated text.[37] For example, this (see Fig. 10.1) fourteenth-century Qur'an from the Persianate world has the Qur'anic text in

34 George Horner, *The Coptic Version of the New Testament in the Northern Dialect, Otherwise called Memphitic and Bohairic: With Introduction, Critical Apparatus, and Literal English Translation*, 4 vols. (Oxford: Clarendon, 1898), I, cxlvi–cxlvii.

35 Ibn Khaldun, *The Muqaddimah: An Introduction to History*, trans. Franz Rosenthal, 3 vols. (New York: Pantheon, 1958), III, 344–46.

36 John Wansbrough, *Qur'anic Studies* (Oxford: Oxford UP, 1977), 218–19.

37 Baker, *Qur'an Manuscripts*, 76–78; Ismet Binark and Halit Eren, *World Bibliography of Translations of the Meanings of the Holy Qur'an: Printed Translations, 1515–1980*, ed. Ekmeleddin İhsanoğlu (Istanbul: Research Centre for Islamic History, Art, and Culture, 1986); Blair, *Islamic Calligraphy*, 25–27; Maulana Ghulam Mustafa Qasmi, "Sindhi Translations and Tafsirs of the Holy Qur'an," trans. Sayid Ghulam Mustafa Shah, *Sind Quarterly* 5 (1977): 33–49; Christian Wilhelm Troll and Syed Vahiduddin, *Islam in India: Studies and Commentaries* (New Delhi: Vikas, 1982); Jin Yijiu, "The Qur'an in China," *Contributions to Asian Studies* 17 (1983): 95–101.

Arabic, in beautiful *muhaqqaq* arranged in seven lines—itself a beautiful number in the deep ken. Underneath each line is a Persian translation in *naskh*, for even the deep ken did not require that a mere translation be visually impressive. Thus the original text was preserved, satisfying deep-ken requirements, while the translation made it meaningful to those illiterate in Arabic.

Fig. 10.1 Folio from a Qur'an Manuscript (fourteenth century), Metropolitan Museum of Art, New York, public domain, https://www.metmuseum.org/art/collection/search/454114

An exception was the Latin Qur'an. Robert of Ketton's (fl. 1150s) (mis)translation, called *Lex Mahumet pseudoprophete* [The Law of Muhammad the False Prophet] (1143), proved far more popular in Europe than the later and better translation of Mark of Toledo (fl. 1193–1216). For Ketton, Islam was a "deadly" law (*lex letifera*). Ketton insisted he was getting at the sense, rather than the literal meaning, but mostly he paraphrased. At times, the Ketton translation went out of its way to create artificial space between the two subcults. For example, 2:87 refers to *ruh al-qudus*, the Christian Arabs' term for the Holy Spirit, but Ketton translated it as the *spiritus divinus* instead of *sanctus*, a spirit divine rather than holy.[38]

38 Blair, *Islamic Calligraphy*, 27–28; Thomas Burman, *Reading the Qur'an in Latin Christendom, 1140–1560* (Philadelphia, PA: University of Pennsylvania Press, 2007), 15–16, 27.

The Ketton translation was especially popular in a small convenient format. One early (ca. 1300) pocket edition included an index, presumably for quick access during debates. The thirteenth-century BnF MS Lat. 3668 (18 x 13 cm) lacked Ketton's commentary, and was itself repeatedly copied. A fifteenth-century copy was candid in its purpose, beginning with a poem attacking Islam and ending with a list of Qur'anic errors.[39]

In 1400, Spanish scholars had access to experts in Arabic and Islam. Acknowledging that it could have been much worse, Juan of Segovia (d. 1458) criticized the Ketton translation for ignoring the literal and explicit meaning while translating the implicit meaning as Ketton, or the Muslim commentaries he relied on, understood it. Segovia was aware of no other translation, and even Ketton's was obscure in his world. Therefore, he did a new translation. Segovia's translation, now lost, had three parallel columns, the original Arabic, a literal translation into Castillian, and a translation into a new hybrid Latin in which words that could be Arabicized in Castillian he Arabicized in Latin. His assistant Isa (another "Jesus") of Segovia helped with the Castillian translation. The preface, still extant, makes clear that Juan wanted a reliable Qur'an for debating Muslims.[40]

The earliest surviving multi-column translation of a Qur'anic text is that of the Jewish *converso* Flavius Mithridates (1480–81). This edition of surahs 21 and 22 has impressive parallel columns of Arabic and Latin, with notes, but without polemic. Both the translation and the notes are of poor quality, but the first owner, Federico da Montefeltro (1422–82), Duke of Urbino, probably just wanted to have a visually impressive book.[41]

Other editions followed. An unpopular polyglot Qur'an, again with Arabic and Latin, was commissioned in 1517. Segovia influenced the Franciscan Alonso de Espina's (ca. 1410–64) *Fortalitium fidei in universos Christiane religionis hostes* [A Fortress of Belief against All the Enemies of the Christian Religion], which would itself influence Luther. By the early sixteenth century, there were many Qur'anic translations into Castillian, usually anonymous but by Muslims. However, Ketton's would remain the main translation well into the seventeenth century.[42]

39 Burman, *Reading the Qur'an*, 91–94.

40 Ibid., 31–37, 181–83.

41 Biblioteca Apostolica Vaticana, MS Urb.lat.1384, fol. 65r–86r (ca. 1480–81).

42 Hartmut Bobzin, "Pre-1800 Preoccupations of Qur'anic Studies," in *Encyclopedia of the Qur'an*, ed. McAuliffe, IV, 243; Burman, *Reading the Qur'an*, 15, 49; Ziad Elmarsafy, *The Enlightenment Qur'an* (Oxford: Oneworld, 2009), 1–36.

Bibles

When our period begins, the New Testament had been translated into many languages. The genealogy of those translations is rather hypothetical in some details. The original Greek had been translated directly into Armenian (a famously expert and beautiful translation), Gothic, Coptic, Latin, Ethiopic, Syriac, Arabic, and Old Church Slavonic. Four of these translations begat their own trans-translations: Syriac into Persian and Sogdian, Coptic probably influenced the Nubian, and Arabic (itself in turn influenced by Syriac and Coptic) influenced the Ethiopic. Latin translations served as a basis for trans-translations into Anglo-Saxon (Old English), French, German, Catalan, Castilian Spanish, Franco-Provençal, Polish, Italian, Bohemian, Norwegian, and Dutch (the Rhinelandic Rhyming Bible). The Georgian translation's ancestry is largely unknown. Other parts of the Bible, but apparently not the gospels, existed in Aramaic and Icelandic. By 1400, every part of the Bible existed in Czech, but typically different passages were translated by different authors. Frequent war and frequent usage mean that most Bibles from this period are no longer extant.[43]

These vernaculars were done by monks for monks or aristocratic patrons, not for a broad and vulnerable public audience. There is today a false idea that it was widely illegal to translate the Bible into vernacular language, and that this prohibition was so effective that no Bible was translated into the vernacular. Neither of these were true. As we have seen, the Bible had been translated into a dozen vernaculars by 1400. Authorities did not oppose the vernacular per se, but they were pragmatists who understood the difficulties of unsupervised translation and the dangers of it being interpreted outside of tradition. Therefore, occasional prohibitions were issued against allowing the vernacular to get into the hands of vulnerable populations lacking the training to read the Bible correctly. Some believed, with the deep ken, that high status was important for reading, as the high status of the reader must consonate with the high status of the text; skilful means were needed to relay truth to the masses safely.

Thus, for example, Charles IV (1316–78) had outlawed the German translations made by mystics for women and the lay Friends of God movement. His daughter, Anne of Bohemia (1366–94) read the gospels in Czech and German, in addition to Latin, and brought them with her to England in 1381.

43 Peter Brock, *The Political and Social Doctrines of the Unity of Czech Brethren in the Fifteenth and Early Sixteenth Centuries* (The Hauge: Mouton and Co., 1957), 31; Wim François, "Vernacular Bible Reading in Late Medieval and Early Modern Europe: The 'Catholic' Position Revisited," *The Catholic Historical Review* 104 (2018): 23–56, http://dx.doi.org/10.1353/cat.2018.0001; Ketevan Gadilla, "Filling Some Gaps: Notes on the History of Georgian Bible Translation," *The Bible Translator* 62 (2011): 46–54, http://dx.doi.org/10.1177/026009351106200106

Charles's university had been open to Wycliffite ideas. Thomas Arundel (1353–1414), the Archbishop of Canterbury, allegedly remarked at Anne's funeral that she encouraged English translations "with the doctors' glosses upon them."[44] Wycliffe defended his own desire for a vernacular Bible by mentioning that Anne had brought her German-Czech-Latin polyglot Bible to England.[45]

In other contexts, the vernacular could even be a form of humility. The 1454 *Giardino de oratione fructuoso* [Garden of Fruitful Prayer], ascribed to Nicholas of Osimo but probably written by an unknown canon regular in Venice, reflects that the kingdom of Heaven may in fact be "for" the poor and unlearned, and so is written in the vernacular. "Scientific vanity [...] makes the soul proud," and the author chose the vernacular to achieve something more "useful" than to "satisfy the vanity and curiosity of those who seek to have ornate speech that is Rhetorical and exquisite."[46]

The Waldensian Poor represented something new, a subcult that had learned the scriptures so well in their own language that they could impressively rely on them to defend themselves against ecclesiastical prosecution, although their well-grounded arguments were no refuge from violence. Attempts to make the scripture available to a wide audience in the vernacular relied in part on an old idea that the Holy Spirit would guarantee that even uneducated Christians would not go too astray in their readings.[47]

Similarly, for Wycliffe and the Wycliffites, liturgical bits of scripture did not suffice; Christians need to know the Bible as a whole. Sermons should abandon entertaining non-Biblical stories, characteristic of mendicant preachers' sermons, and instead rely on scripture. The Wycliffites used the Bible itself, and especially Jesus, to justify this need to propagate the Bible. God had ordered Moses to make the people know the Law. The Prologue to the Wycliffite Bible noted that Jesus "says that the gospel shall be preached in all the world."[48] Wycliffe's *Mirror*

44 G. R. Evans, *Language and Logic of the Bible: The Road to Reformation* (Cambridge, UK: Cambridge UP, 1985), 83-84, https://doi.org/10.1017/cbo9780511555237; Nikki R. Keddie, "Symbol and Sincerity in Islam," *Studia Islamica* 19 (1963): 27–63; Henry Hargreaves, "The Wycliffite Versions," in *Cambridge History of the Bible*, ed. G. W. H. Lampe, 3 vols. (Cambridge, UK: Cambridge UP, 1969), II, 392; Richard Marsden, "The Bible in English," in *The New Cambridge History of the Bible, Volume 2: From 600 to 1450*, ed. Richard Marsden and E. Ann Matter (Cambridge, UK: Cambridge UP, 2012), 217–38, https://doi.org/10.1017/chol9780521860062.014

45 John Wycliffe, "De Triplici Vinculo Amoris," in *Polemical Works in Latin*, ed. Rudolf Buddensieg, 2 vols. (London: Trübner, 1883), I, 168 (ch. 2).

46 Nicholas of Osimo, *Giardino de oratione fructuoso* (Venice: Simone Bevilacqua, 1496), 8–9.

47 Evans, *Language and Logic*, 33, 82.

48 "Notes to the Prologue to Wycliffite Bible. Chapter 15," in *Selections from English Wycliffite Writings*, ed. Anne Hudson (Cambridge, UK: Cambridge UP, 1978), 67.

of Secular Lords argued for the vernacular on the grounds that Jesus himself did not teach in Greek or Latin.[49] One Wycliffite commentary on the paternoster noted that Jesus taught his disciples this prayer neither in French nor in Latin, but in the language they actually spoke. For "the truth of God standeth not in one language more than another, but whoever liveth best, teacheth best, pleaseth most God, of what language ever he be."[50] Wycliffites would refer to their translations of the New Testament as "Christ's law."[51]

The Wycliffite philosophy of language located knowledge not in the words themselves but in what they meant underneath. Their tracts note that "wit stands not in language but in grounding of truth," regardless of language.[52] The particular words were incidental: truth was truth regardless of language—or indeed whether we spell it "treuthe," "troughe," or "trwothe." This promotion of meaning over words removed any obligation on the translator to preserve the syntax of the Latin, and Wycliffite vernacular translations sought to preserve instead the meaning. The ultimate goal, as the Prologue explains, was "to make the sentence as true and open in English as it is in Latin," or even "more true and more open than it is Latin."[53] English thus had the potential to be superior to the Latin. For Wycliffites, scripture was equally good in any language.[54]

In the 1390s, a translation team began a new vernacular translation. Wycliffe started and probably played some managerial role in the translation. Nicholas of Hereford (d. 1420) (see Chapter 21) was involved with the Old Testament if not the New. The team gathered various copies of the text, and worked with commentary to make and then correct a translation. Unlike earlier vernacular translations, this team did not rely on commentary to interpret scripture, but only to build up a reliable Latin source text. At first the translation lingered close to the Latin, sometimes too literal to be understood, but in time the translators became more vernacular in their vernacular. With a plain-ken motivation, they sought to preserve and transmit the meaning, rather than the words, to a wide audience.[55]

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49 "Speculum secularium dominorum," in John Wycliffe, *Opera minora*, ed. Johann Loserth and F. D. Matthew (London: Wyclif Society, 1913), 75.

50 John Wycliffe, "Þe Pater Noster," in *Select English Works*, ed. Thomas Arnold, 3 vols. (Oxford: Clarendon, 1869), III, 98–99.

51 Hargreaves, "The Wycliffite Versions," 392; Anthony Kenny, *Wycliffe* (Oxford: Oxford UP, 1987), 64; Evans, *Language and Logic*, 83, 154.

52 "Tractatus de Regibus," in *Four English Political Tracts of the Later Middle Ages*, ed. Jean-Philippe Genet (London: Royal Historical Society, 1977), 5.

53 Hudson, ed., "Notes," 68.

54 Rita Copeland, *Pedagogy, Intellectuals, and Dissent in the Later Middle Ages* (Cambridge, UK: Cambridge UP, 2001), 99–140.

55 Mary Dove, *The First English Bible: The Text and Context of the Wycliffite Versions* (Cambridge, UK: Cambridge UP, 2007), 81; Hargreaves, "The Wycliffite Versions,"

Over two hundred Wycliffite Bibles survive. Wycliffites tended to prefer to translate the gospels; over two thirds of surviving Bibles contain only New Testament material, and they also translated Clement of Llanthony's twelfth-century gospel harmony *Unum ex Quattuor* [One from Four]. Vernacular Bibles had a diversity of grammar and spelling: Jesus advised gouging out an eye that caused sin, and that eye could be "ei3e, e3e, i3e, y3e, eighe, eigh, eghe, egh, ehe, ei, ee." Many vernacular Bibles had highlighted capital letters at the beginning of chapters, with any parenthetical words underlined in red. The gospels often had lectionaries, for use in church service on the major festival days, and were punctuated for reading in church. They tended to be well made.[56]

A prologue to the Wycliffite Bible explicitly historicized the translation process: we are making a vernacular just as Jerome (d. 420) once did in writing the Vulgate, for Latin was the vernacular language of the Roman Empire. Jerome, placed in time, "was not so holy as the apostles and evangelists whose books he translated into Latin." What to us is a too reverentially handled text was originally produced as a simple vernacular translation. Careful scholarship backed up this new translation, and the prologue asserted that it was likely less corrupt than the Vulgate: the translators understood the Latin Bible, because it was a historical product, to be filled with errors that had crept into the text over the centuries. The prologue asks that God allow an English translation for the English people, just as there was once a Latin translation for the benefit of the Roman people.[57] Such thinking was echoed in Prague, where Jan Hus (ca. 1370–1415) justified vernacular translation by appealing to the historical multiplicity of gospel languages: only Mark's Gospel, he wrote, was originally in Latin, as Matthew's had been in Hebrew, Luke's in Syriac, and John's in Greek.[58]

No such defences stopped contemporaries from attacking Wycliffites for being too focused on the literal meaning. In 1389, the Bishop of Hereford complained that they interpret canon "literally, in the modern way, rather than as the Holy Spirit demands." The words in these interpretations "wander from their proper meanings and seem to be guessed new," for the Wycliffites judge words not "from the sense they do make but by the sense from which they are

399–400, 405; Anne Hudson, *The Premature Reformation: Wycliffite Texts and Lollard History* (Oxford: Clarendon, 1988), 239; Kenny, *Wycliffe*, 65–66; Marsden, "The Bible in English," 230; Hudson, ed., "Notes," 67–68.

56 Dove, *First English Bible*, 17–18; Hargreaves, "The Wycliffite Versions," 394, 409; Hudson, *Premature*, 198, 203, 232.

57 Hudson, ed., "Notes," 69–71.

58 Jan Hus, *The Letters of Jan Hus*, trans. Matthew Spinka (Manchester: Manchester UP, 1972), 62.

made…"[59] In 1407, Oxford saw debates on vernacular translations of the Bible. Did English have sufficient vocabulary, morphology, and rhetoric to preserve meaning from the Latin? Would people not literate in Latin falsely assume that because they understood the English words they could understand the true, from the deep ken, meaning—and then preach it? Could the Latin language survive this ceding of authority to English? In 1409, Arundel announced a condemnation threatening with death those who translate scripture into English or any other language. Another critic used a Jesus quotation (Mt 7:6) to complain that through this translation "the pearl of the Gospel is scattered abroad and trodden underfoot by swine." Similarly, Lincoln College, Oxford, founded in 1427, intended "to defend the mysteries of Scripture against those ignorant laics who profaned with swinish snouts its most holy pearls." Responding to Hussites and Wycliffites, Jean Gerson (1363–1429) at Constance proposed a vernacular-Bible ban, citing the dangerous precedent of the Waldensian Poor.[60]

The fifteenth century saw vernacular Bibles made in a variety of Romance and Germanic languages, including Danish. Controversy followed many of these translations, sometimes into the books themselves. The Archbishop of Mainz issued a "Censor's Edict" (1486) against vernacular Bibles. The Delft Bible included a defence of the vernacular in its preface. The Cologne Bible, as a precaution, omitted the identify of its publisher. French vernaculars were not condemned, but they were so handsomely produced that only the wealthy could afford them; the lack of widespread appeal made them safe. Murdoch Nisbet (d. 1559) translated the New Testament into Scots, but it was never published because of fear of ecclesiastical wrath.[61]

In Spain, until the Reformation, the authorities' interest in scripture focused on the dangers of Jews and crypto-Jews misusing it (see Chapter 6). Jewish translations of the Old Testament in Spanish tend to use language that downplayed any suggestions of a high Christology. Probably this was partly intentional and partly a reflection of how much the Vulgate went out of its way to emphasize Christological possibilities. The translation from Latin

59 John Trevenant, *Registrum Johannis Trefnant, episcopi herefordensis, A.D. 1389–1404*, ed. William W. Capes (Hereford: Wilson and Phillips, 1914), 232.

60 Jean Gerson, "De necessaria communione laicorum sub utraque specie," in OC, X, 58. See Andrew Clark, "Lincoln College," in *The Colleges of Oxford: Their History and Traditions*, ed. Andrew Clark (London: Methuen, 1892), 172; Hargreaves, "The Wycliffite Versions," 387–88; Hudson, *Premature*, 271; Marsden, "The Bible in English."

61 Hargreaves, "The Wycliffite Versions," 414; W. B. Lockwood, "Vernacular Scriptures in Germany and the Low Countries Before 1500," in *Cambridge History of the Bible*, ed. Lampe, II, 428–34 (434); C. A. Robson, "Vernacular Scriptures in France," in *Cambridge History of the Bible*, ed. Lampe, II, 436–52 (451).

sometimes required explanation: one Spanish version of Matthew expanded *Posseyran la terra* [inherit the earth] to clarify, *lo es, la terra dels vivents* [that is, the land of the living].[62]

Two Revolutions

Manuscript production had seen relatively little improvement in efficiency in recent centuries. In the early Middle Ages, the book-like codex replaced the scroll, and around the year 1000 the "lower-case" miniscule replaced the "all-capitals" uncial. Each replacement allowed manuscripts to be copied more quickly, and more economically. Since then, only cursive and paper had improved efficiency. In 1400, manuscript production was starting to recover from a half-century-long collapse triggered by plague and economic depression. By the 1420s, production had recovered earlier heights, and, in the 1470s, it peaked, with a shift of production from France, the old centre, to the German- and Italian- speaking lands.

Most of these gains were of recently authored works. The high quality of parchment and early paper meant manuscripts had long lives, and traditional works including the Bible had already saturated the market and declined in production. France saw some eighteen times more Bibles being copied in the thirteenth century than in the fifteenth. The Sorbonne's library had forty Bibles in 1338, but only thirty a century later—and they would have been glad to sell you one to raise money for building repairs. This lull in Bible production was partially offset by spikes in demand for Qur'ans, which were used more frequently. Thus, in Istanbul soon after the conquest the demand was so great that Qur'an-manufacture teams could not kill quickly enough to create leather for the bindings, and so used textiles, including a bloodless velvet.[63]

Given the slump in demand for Bibles and the erratic demand for Qur'ans, no one expected a revolution, especially given the deep-ken preference for beautifully crafted canon. In fact, they got two revolutions: miniaturization in the Near West and automation in the Far West.

62 Margherita Morreale, "Vernacular Scriptures in Spain," in *Cambridge History of the Bible*, ed. Lampe, II, 465–91 (474–85).

63 Blair, *Islamic Calligraphy*, 377–78; Bozzolo and Ornato, *Pour une histoire*, 93–95, 116–18; Evans, *Language and Logic*, 156; Hobbins, *Authorship and Publicity*, 9, 25, 143.

Miniaturization: The *Naskh* Revolution

Timur's grandson Ibrahim Sultan (1394–1435) was the governor of Shiraz, a masterful calligrapher who wrote at least five Qur'ans himself, and a generous patron of calligraphy. Ibrahim removed the Qur'an from the domain of *muhaqqaq*, the "perfect" script: *naskh*, the generic, functional ("transcriptional") script used for all writings could also be used for an entire Qur'an. In 1427, he created a small two-volume Qur'an in a distinctive *naskh*. It was beautiful yet compact: final letters stacked themselves up into towers, and final tails stretched out elegantly, but efficiently, underneath the following word. The inspiration could have been the *ghubar* script of the amulet miniature Qur'ans. *Naskh* was an effective script, but still could hold deep-ken power. Indeed, Ibrahim's two Qur'anic volumes were kept as an amulet above the "Qur'anic" Gate of Shiraz, to bless travellers passing through it.[64]

Shirazi scribes passing through this gate took the style to India and Anatolia, and maybe as far as China.[65] This began a revolution of miniaturization—not the extreme miniaturization of the tiny amulet Qur'ans, but a practical miniaturization that allowed for Qur'ans to be more efficiently produced. The average size of Qur'ans in our survey of some 200 exemplars from the 1380–1520s period is about 1,200 cm² (about the size of two adjacent 8.5 in x 11 in pages), with a height-to-width aspect ratio of about 4:1 (about that of a single 8.5 in x 11 in page). This average page size halves in the period spanning 1520–1670s, and halves again between 1670–1820. The average number of lines jumps by over a third between the first two periods. The Qur'anic dominance of *naskh* climbs steadily, as the presence of *muhaqqaq* declines precipitously before essentially disappearing. These three trends—tighter script, denser lines, and a smaller page—all conspired to create a Qur'an that was smaller, more portable, and more efficiently made.

	1400–1520s	**1520s–1670s**	**1670s–1820**
size of page (cm²)	1,200	610 (≈8.5 in x 11 in)	310
height to width ratio	1.38 (≈8.5 in x 11 in)	1.54	1.66 (getting squarer)
lines per page	11	15	15
% *naskh*[66]	58%	67%	89%
% *muhaqqaq*	18%	4%	<1%

Table 10.1 Changes in Qur'an Measurements.

64 Blair, *Islamic Calligraphy*, 263–65; Lentz and Lowry, *Timur and the Princely Vision*, 332–33.

65 Blair, *Islamic Calligraphy*, 352.

66 This is complicated because of the use of multiple scripts.

Automation: The Print Reformation

Europe went in a different direction, more recklessly abandoning beauty to achieve a greater economy. That revolution, too, began with amuletic power.

Aachen was an attractive destination for pilgrims, for its cathedral preserved Jesus's swaddling clothes and the loincloth he wore on the cross. Huge crowds overran the city when the relics were on display. Smart pilgrims sought to carry the spiritual benefits back for use at home. The best tool for this was a mirror, which could capture spiritual rays off the relics, and then at the pilgrim's home release them for application on an ailing relative or cow. One medical treatise, citing Aristotle (384–322 BC), noted that a menstruating woman's glance could "infect" a mirror, making *nuues sanguinolentas* [bloody clouds] appear.[67] One such mirror was 10 x 6 cm, of a lead-tin alloy, with low-relief images of the Madonna with Child and the Crucifixion. The huge number of pilgrims for the display years meant that the local goldsmiths could not meet demand.[68]

In 1438, Hans Riffe and Johannes Gensfleisch saw in this a business opportunity, and joined forces to mass produce 32,000 convex pilgrim mirrors for 1439. Unfortunately, the pilgrims never showed up. Riffe and Gensfleisch had forgotten to check that it was a display year for the relics, and their mirrors would have to sit a year unsold in storage. Gensfleisch took a new last name based on his family's home, Gutenberg, and adapted mirror-production technology into the printing press.[69]

Gutenberg's invention solved a problem for Nicholas of Cusa (1401–64). Cusa sought to standardize the mass and its manual, the missal. The two had opportunities to meet in Mainz and in Strasbourg. Gutenberg helped develop four sizes of the textura typeface, exactly those necessary to print a missal. The earliest owners of Gutenberg's Bibles were abbots supporting Cusa's reforms. A 1470 Vulgate included a preface by Giovanni Andrea Bussi (1417–75) to the pope; it remembered that Cusa described printing as "that which the soul, rich in honours and meriting heaven, of Nicholas of Cues [...] so fervently desired." It is hard to imagine Cusa and Gutenberg not working in tandem.[70]

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67 Johannes de Ketham, *Compendio de la humana salud*, ed. María Teresa Herrera (Madrid: Arco Libros, 1990), 135. This is the 1494 Spanish translation of the original 1491 Latin publication. Aristotle, *On Sleep and Dreams*, trans. David Gallop (Warminster: Aris and Phillips, 1996), 93 (459b29–460a23).

68 Kurt Köster, *Gutenberg im Strassburg* (Mainz: Gutenberg Gesellschaft, 1973), 37, 57.

69 Ibid., 64, 71–73, 84–86.

70 Rudolf Blum, *Der Prozess Fust gegen Gutenberg* (Wiesbaden: Harrassowitz, 1954), 98; Adolph Franz, *Die Messe im deutschen Mittelalter* (Freiburg: Herdersche Verlagshandlung, 1902), 308; Albert Kapr, "Gab es Beziehungen zwischen Johannes Gutenberg und Nikolaus von Kues?," *Gutenberg-Jahrbuch* 47 (1972): 32–40; Eberhard König, "Möglichkeiten kunstgeschichtlicher Beiträge zur Gutenberg-Forschung: Die 42-zeilige Bibel in Cologny, Heinrich Molitor und der

Cusa had ties to Cardinal Bessarion (1403–72), whose ears may have received word about advances in Korean printing. Gutenberg probably got the idea for metal type from Asia, via Cusa, and the idea for the press from wine presses—Mainz was at the confluence of the Mainz and Rhine, both of which have wine-production-rich valleys. He brought his own managerial ingenuity to the table.[71]

Gutenberg did not rush to print the Bible, given its market saturation. His first printed book appears to have been a Latin grammar. Another early publication (ca. 1452–53) was a prophecy foretelling the recapture of the Holy Sepulchre before Jesus's Second Coming. Some early publications could be wildly popular. One indulgence letter had a print run of some 142,950 exemplars.[72]

Only in 1454 had Gutenberg completed the Bible that became known as the B42. Gutenberg's printed Bibles approximated the dimensions of an expensive manuscript Bible (e.g., 42 x 32 cm). Some of his dimensions were dictated, with the deep ken, by the golden ratio. His Bible, unlike the manuscripts of copyists, had lines of uniform length. The B42s had a print run of perhaps 180, made over two years. Each had almost 1,300 pages. Almost three dozen were on calf-skin vellum, requiring a slaughter of some five thousand calves, but the rest were on Italian paper. Once printed, they still required another half year for colouring, illuminating, and binding.[73]

The first printed books used black-letter scripts. *Textualis* was used in 42-line Gutenberg Bibles to imitate handwriting. By the 1460s, the Roman scripts were used in print. Arnold Pannartz and Conrad Sweynheym published the first Roman-script book, the same Latin grammar Gutenberg had printed, in 1464 at Subiaco. In Europe in the 1470s, pressure from the printing press made manuscript production decline.[74]

Einfluß der Klosterreform um 1450," *Gutenberg-Jahrbuch* (1984): 101–02; Köster, *Gutenberg im Strassburg*, 64, 153–54.

71 Elizabeth Eisenstein, *The Printing Revolution in Early Modern Europe* (Cambridge, UK: Cambridge UP, 2005), 220, https://doi.org/10.1017/cbo9780511819230

72 Jonathan Green, *Printing and Prophecy: Prognostication and Media Change, 1450–1550* (Ann Arbor, MI: University of Michigan Press 2011), 15–38, https://doi.org/10.2307/j.ctt1qv5n84; Kapr, "Gab," 189; Oskar Schade, *Geistliche Gedichte des XIV. und XV. Jahrhunderts vom Niederrhein* (Hannover: Rümpler, 1854): 292–332; Frieder Schanze, "Wieder einmal das 'Fragment vom Weltgericht'-Bermerkungen und Materialien zur 'Sybillenweissagung,'" *Gutenberg-Jahrbuch* 75 (2000): 42–63; Kai-Michael Sprenger, "'Volumus tamen, quod expressio fiat ante finem mensis Mai presentis': Sollte Gutenberg 1452 im Auftrag Nicolaus von Kues' Ablaßbriefe drucken," *Gutenberg-Jahrbuch* 74 (1999): 42–57.

73 Köster, *Gutenberg im Strassburg*, 165–71; Raúl Mario Rosarivo, "Der goldene Modul der 36-zeiligen Bibel. Die Entdeckung eines Werkstättgeheimnisses Johann Gutenbergs," *Gutenberg-Jahrbuch* 30 (1955): 70–74.

74 Hobbins, *Authorship and Publicity*, 9; Neddermeyer, *Von der Handschrift*, 222, 288–97, 657. "Drucker mit dem bizarren R (Adolf Rusch) (Straßburg, Offizin 2),"

Muslims long refused to print the Qur'an, as a sacred text should be copied with maximum care and beauty, thus by hand. The intentions of the manufacturers were, with the deep ken, important components in the Qur'ans' quality, worth, truth, and power. The first printed Qur'an (1537–38) was thus made by Christians, a volume full of errors, some possibly intentional. The first printed Arabic work was also by Christians—not a Bible, but, unsurprisingly, a Book of Hours, the *Kitab Salat al-Sawa'i* (1514), supported by Pope Julius II (1443–1513), for non-Catholic Christian Arabs.[75] It concluded with a colophon invitation that implied a simile between the reader's life and a textual tradition: "Let him who finds an error rectify it and God will rectify his matters through the Lord."[76] Allegedly there were bans in 1483 and 1515 against printing Arabic in Ottoman territory, on penalty of death, but I know of no source from this before André Thevet (1516–90), separated from the events by 2,000 km, three generations, and a relaxed attitude towards truth.[77] In the 1490s, Jews were printing in Hebrew in the Ottoman Empire. Perhaps too few people evinced enough interest in printing Qur'ans to trigger its prohibition.

Envoi

Gutenberg's automation revolution maintained textual meaning (and would eventually even find ways to strengthen textual authorities) at the cost of the meaning of the object. Sometimes when I electronically submit a review of a manuscript to a journal, an automatic message of thanks from the editor bounces back. This is an efficient system, that transmits a superficial message at high speed, but some depth of meaning is lacking. In the fifteenth century, automating the creation of canon might have felt like automating the creation of gratitude, efficient but somehow hollow. The Christians did not, for example, automate the consecration of the Eucharist, although as we have seen they did use presses to produce the pre-consecrated hosts. The printing press was dangerous also in that it could spread ideas so quickly, for good or ill.

Just as Gutenberg removed the Bible from manual production, Ibrahim Sultan removed the Qur'an from the Perfect script. The declining size of

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Staatsbibliothek zu Berlin, http://tw.staatsbibliothek-berlin.de/of0655. The idea that Rusch published a Roman book almost simultaneously seems to misread 1474 as 1464.

75 Miroslav Krek, "The Enigma of the First Arabic Book Printed from Movable Type," *Journal of Near Eastern Studies* 38 (1979): 203–12.

76 *Kitāb ṣalāt al-sawā'i* (Fano: Gregorius de Gregoriis de Forli, 1514). Translation from Krek, "Enigma," 208.

77 André Thevet, *Histoire des plus illustres et scavans hommes de leurs siècles*, 8 vols. (Paris: Mauger, 1670), VII, 111.

Qur'ans is also a way of responding to the pressures solved by the printing press, while avoiding the ugly outrage of that printing press. From a strictly plain-ken perspective, which did not balk at the cold-hearted creative power of a machine, the printing press was superior. The genius of miniaturization lay in its balancing economic efficiency with a deeper understanding of value.