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A “manuscript” is written by hand. A poem hastily inscribed with crayon on a napkin is a manuscript, as is a handwritten price list on a clay tablet. Manuscripts can be constituted of pages that have been bound together, or loose sheets of any size—even carrying printed graphics, such as in the case of postcards and tax forms.\(^1\) They might be parchment fragments that have been used to reinforce the spine of a printed book, or strips of linen that are wrapped around a mummy; manuscripts can be made of palm leaves, bark, wax, bone, bamboo, papyrus, paper, or silk. Although the term has become associated with particular genres or formats, manuscripts themselves do not abide by these categories. Ranging from personal notes not intended for circulation to ceremonial objects designed for public display, manuscripts can transmit multiple texts simultaneously, and represent various stages of formality and publication.\(^2\) For example, the *Book of Kells*, a lavishly decorated copy of the Gospels on parchment from the early Middle Ages, was also used to register property transactions—a conventional method of safeguarding valuable materials.\(^3\) An elaborate building plan of St. Gall monastery, dedicated to the abbot in the ninth century, was folded into book format and carries a twelfth-century copy of the *Life of Saint Martin* of Sulpitius Severus on its reverse. Plains artists in 19th-century America drew illustrated histories in printed ledger books; the initial pages of family bibles are commonly used to record the names of kin. Once prized locally as shared objects of symbolic and economic import, such diverse materials are now held in institutional repositories, and furthermore transcribed or digitized by hand

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for widespread use. A single manuscript might therefore perform across what are now considered documentary and literary realms, and accrue a rich multi-media life with varied readership over time. The manuscript is a site of complex and intersecting temporalities, traversing social class, gender, geography, language, literacy, material and medium, and comes to rest equally in archives, museums, libraries, businesses, private domiciles—and even dumpsters.⁴

But refusal to heed these received categories has come at a cost. Indeed, the manuscript is often dismissed as unruly and prone to error in relation to the purported stately precision of its printed counterpart in the West. As L.M.J. Delaissé observed, “The possibility of introducing unlimited variety into the execution of a manuscript apparently led people to think that each was a unicum, unworthy of being called a book, whereas the mechanical process of printing, in assuring the uniformity of a number of copies, became, perhaps unconsciously, a condition for this status.”⁵ The apparent ability of the printing press to generate graphically consistent materials was conjoined in the imagination with notions of accuracy and authoritativeness.⁶ Furthermore, this particular conception of mechanical reproducibility, including a concomitant depreciation of handwork, became adopted as a standard by which other modes of communication came to be judged. The preferential attention bestowed upon printing technologies has thus operated to define other traditions of transmission. As Bruno Latour has pointed out, all measures “construct a commensurability that did not exist before their own calibration.”⁷ Oral and handwritten modes of transmitting knowledge have been made subordinate by virtue of not functioning in the same manner as printing in this configuration of history. Consequently, their distinctive characteristics, including the complex ways that they invoke embodied performance and remembering, may be too easily cast as a problematic or faulty way of making knowledge visible.⁸

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Naturalized over centuries, the contributions of manuscript are now taken for granted. Yet handwork has played a profound role in the development of knowledge practices. Indeed, it is by hand that techniques for arranging information were—and often still are—refined, from the strategic layout of words, diagrams, and musical notation, to the cycles of remembering, circulating, and revising. Handwritten narratives were shared through early modern global networks, such as that of the Society of Jesus, and translated into printed tables and statistics. These manoeuvres in which the printing hand takes up and obscures manuscript tradition have helped define the look of information and power today. Similarly, hands now digitize manuscripts and encode text, and the design of an algorithm is often first sketched by hand before being implemented—these are writing hands that remediate the written hand. Purposely excluded from the recent history of knowledge practices, the hand is not perceived as a technology. It is instead recast as orthogonal or even in opposition to the production and transmission of information. Nevertheless, the hand supports the production and circulation of ideas in manuscript, printed, digital, and other forms. The hand that draws with a pencil is mimeographed; a hand that inscribes on bone may also photograph, calibrate, or code. The writing hand is transmedial and transmaterial.

Let us for a moment, then, suspend any assumptions about handwriting that have been influenced to a large degree by notions of mechanical objectivity and modernist attitudes about the past. In the tradition of a florilegium or commonplace that gathers together excerpts from diverse sources, the following discussion offers a series of vignettes that may illuminate the ways in which manuscript technologies continue to

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configure the organization and transmission of ideas.\textsuperscript{13} The assembled examples demonstrate how the materiality of manuscripts—and attentiveness to its conditions—act on the practices of writing, its transmission, and reception across temporal and geographical boundaries. Indeed, a material sensibility has exerted significant influence upon the composition and circulation of texts over time. As we shall see, a detail as minute as the direction of a pen-stroke in the Middle Ages nevertheless contributes in a fundamental way to the broad infrastructures of knowledge-exchange in the twenty-first century. Meanwhile, the manuscript and its organizational devices—of space between words, of tables, indexes, and citations—provide graphic evidence of the changing demands of readership as well as a shift towards the regularization of how information may be visualized. More than simple vehicles for communication, manuscripts configure knowledge on the page; their embodiment of information suggests how ideas should be expressed and comprehended. Decisions related to the visualization of information, some made over a millennium ago and in the intervening years by writers, scribes, editors, designers or compilers, govern how works are transmitted and read today in printed, digital, and other forms.

The somatic experience of handling manuscripts has impressed itself upon literary practice and the imagination, affecting language, writing, and interpretation.\textsuperscript{14} In the pre-modern period, words were frequently vocalized—dictated to be copied down; mumbled aloud to oneself; or declaimed for an audience. Fingers, lips, and the page were touched. Knowledge-transmission was thus understood as an embodied act, a performance that would accordingly influence the production and use of manuscripts and their texts. Even in antiquity, attention to materiality could affect the composition and internal structure of texts. For example, wax tablets were employed from the classical to the early modern period for ephemeral compositions, such as letters, school exercises, drafts, and accounts. Physically similar to small picture frames and writing slates, these devices are usually made of wood with a layer of tinted wax flattened into the central void. Multiple tablets could be strung together with leather or wire, and then closed together at the hinge-point to protect the writing surface. An implement such as iron stylus or sharpened bone was used to inscribe letters into the wax. Such manuscripts were perceived as flexible and


customizable, with material properties that could be directed with intention. Indeed, in
the first century CE, the Roman rhetorician, Quintilian, relates that a young man who
unable to shorten his lengthy compositions was finally corrected of the habit by
modifying the size of the wax tablets on which he wrote (Inst. X.3.32). By using the
materiality of the tablet to set parameters on communication, the manuscript imposes
discipline upon a writer and the composition of the text. Manuscripts are therefore
designed not merely to transmit text, but also to control its transmission. But the dynamic
is not so simple, for what was perceived as a material limitation of writing in one
particular platform could eventually become known as fundamental to its process. For
instance, Quintilian indicates that the wax tablet is a superior technology for composition
because the hand need not be lifted from the surface while writing, an act that interrupts
the flow of thought (Inst. X.3.31). Compare Quintilian’s sentiments with those of Samuel
Coleridge, almost two millennia later, who suggests that the perfect inkstand enables
dipping the pen “without requiring any effort or interruptive act of attention from the
writing.” Coleridge signals, then, that there were ways that a pen could be lifted from
the page without being disruptive. With centuries of practice and repetition, the material
pragmatics of writing with pen and ink came to shape how texts were thought to be
composed and produced. Once perceived as an unavoidable distraction, the regular
pauses to refresh the pen were later reimagined as essential to composition. One hand
rewrites the other.

When ancient Greek and Latin texts came to be written down in a more formal
manner, longer pieces were subdivided into different papyrus rolls that were called
“books.” A roll was created by attaching around twenty sheets of papyrus together in a
series. The first sheet was called the protocol—often bearing details of its manufacture—
and was of better quality to withstand the wear and tear of being the outermost part of the
roll. The last sheet was called the eschatocot, and was of lesser quality because it would
be protected as the innermost part of the roll and furthermore might be trimmed off
entirely. Although more sheets could be added, this length of about 20 feet (6 m) was
sold by stationers as a basic unit. Text was painted on the papyrus with a brush in
regular columns that ran in a series from left to right across the length of the scroll.
Overly lengthy works in overly lengthy scrolls were to be avoided. For instance, although
his book “had not yet grown too long nor undergone many windings of its scroll,” the
fifth-century writer, Rutilius Namatianus, worries in a fairly common trope that any
longer and the reader might “shrink from handling an undivided work.” He confesses to
have split his “nervous modesty” or “author’s angst” across two smaller books, realizing
too late that it might have been better to have had to face the trauma only once in a single
book (II.1–4, 9–10). In the Historia Augusta, we learn that despite the custom of many

15 S.T. Coleridge, “Substance of a Dialogue, With a Commentary on the Same,” Blackwood’s Edinburgh
Magazine 10.56 (October 1821), 256. See discussion in, Susan Zieger, The Mediated Mind: Affect, Ephemera, and
William A. Johnson, Bookrolls and Scribes in Oxyrhynchus (Toronto: University of Toronto Press, 2004).
17 Nondum longus erat nec multa volumina passus, iure suo poterat longior esse liber: taedia continuo
timui incessura labori, sumere ne lector iuge paveret opus . . . . partimur trepidum per opuscula bina ruborem,
history writers to devote a roll to each emperor, the biographies of the three Gordians were combined to fit together on one (SHA 20.4–5). These passages suggest how some ancient writers might have shaped their texts according to a material sensibility. As E. Maunde Thompson observed, “Although the authors themselves may not originally have divided their writings into separate portions to suit the ordinary length of a conveniently-sized roll, yet the practice of the scribe would eventually react on the author. Thus we find the works of Homer divided into books of a length which could be contained in an ordinary roll; and we know that in the course of time authors did regularly adapt the divisions of their works to the customary length [of the rolls].”18 The division of the “book,” once identified with the physical dimensions of the manuscript roll, is still used today as a structural articulation in the printed and digital editions of classical works. In this way, the form of the manuscript acted upon classical writing and its dissemination, and the conditions of materiality continue to influence scholarship and inform twenty-first-century perceptions of the past.

Another example of the entwined dynamic of material form and textual content comes from Asia, where—among other approaches—Chinese characters could be written with a brush on narrow strips or slips of bamboo. A bamboo slip was held steady against the body with the left hand, while the right hand was used to write in a column down its length. The text is therefore oriented in columns that run in a series from right to left, an arrangement that persists in some sinographic visualization practices in the twenty-first century, especially in Hong Kong and Taiwan.19 Writing on individual slips minimizes the risk of smudging wet ink with a sleeve because the hand need not cross over freshly-written text, an issue to which right-handed writers of English are less attuned than their left-handed counterparts. In preparation for dissemination, the slips were laid out in a series, threaded together, and rolled into a bundle—the result somewhat resembling a window blind. Bamboo bundles are often of standard sizes that reflect the relative importance of the text, and the number of slips for some documents was even regulated by law.20 The longest work up to the 1st century BCE, the Shiji (or Records of the Grand Historian), was composed of over 500,000 characters, which might have been written on 14,000 to 21,000 slips of bamboo. Divided into nearly 700 bundles, the entire text on bamboo likely weighed in the range of 100 lbs (45 kgs).21 Indeed, heavy piles of bamboo bundles had to be moved by ox- or horse-drawn cart, and it was logistically difficult to transport numerous pieces together. Bundles therefore more commonly circulated as


individual treatises or in small groups, and were only later brought together as “chapters” of a larger whole. In the specific case of the Shiji, Endymion Wilkinson has suggested that most of the sections were composed so that they would be meaningful when read in isolation. Understanding that the text was likely distributed in discrete bundles elucidates the considerable repetition of content in the Shiji, and explains “why different aspects of the same event are sometimes scattered among different chapters or even told in a different way.” Materiality and textuality thus emerge as crucially linked, and are of course fundamental to the processes of production and reception; these complicated interrelationships furthermore have the potential to generate competing tensions. That is, the particular structure of the composition might reflect an attentiveness to the circumstances of near-contemporary dissemination. Meanwhile, later reception may be influenced by those same conditions as well as the subsequent agenda of scholars and critics who chose to collect the texts together and assign them a particular coherence.

The material form of the manuscript had the capacity not only to divide texts conceptually and physically—as we have seen in the examples of the book roll and the bamboo bundle—but also to consolidate them. Quite apart from the intentions of writers, disparate texts could be fused together into a single entity. The example of miscellanies from medieval Europe demonstrates this dynamic. A miscellany is a collection of several texts, often from different writers. Palaeographer Armando Petrucci has argued that the activity of recopying of such third- and fourth-century “libraries” of Greek, Coptic, and Latin texts inscribed them in the imagination as unitary traditions. This configuration had significant consequences for how the texts would be further transmitted and received. Indeed, readers “must inevitably have ended up considering the individual texts contained in the book that they had in their hands as a single whole; they then used them and memorized them as a whole, that is, in their unitary sequence.” As the miscellanies were copied and recopied, they gained a textual and organizational integrity over time as collections—as corpora. The materiality of the manuscript thus generated a physically bounded space that would come to be mapped as the conceptual space of a unified idea. As classicist James J. O’Donnell has observed, “the codex itself as a principle of organization is a contingent thing, implicitly comprehensive and inclusive by contrast to other ways of organizing text.”


24 On the significance of coherence in literary studies and New Criticism generally, see, for example, Terry Eagleton, Literary Theory: An Introduction, 2nd ed. (Hoboken, N.J.: John Wiley & Sons, 2011), 40–43.


Although manuscripts are sometimes dismissed as capriciously variable, whether in terms of textuality, materiality, or both, a closer examination in context reveals that this was not always the case, and especially not when regularity mattered. Indeed, in the early Christian period, scribes around the Mediterranean had considered various ways to organize the Gospels, often using Roman numerals in the margins to designate different sections of text as part of a cross-referencing scheme. Around the fourth century, the Gospels in Latin were arranged into the now-customary order of Matthew, Mark, Luke, and John. The adoption of the Greek custom permitted a more effective use of the Eusebian apparatus, which had been developed in that tradition to index similar topics across the texts. The Eusebian apparatus includes a prefatory set of canon tables that exhibits different kinds of agreement in the Gospels, using section numbers as reference points. These section numbers are repeated in the Gospel texts as marginal notations; additional inscriptions point back to the canon tables in which the respective section numbers appear. Textual order, then, became important to support such cross-referencing schemes. It would have been simpler to preserve the indexical relationships by copying the text and its apparatus together as a package rather than organizing and indexing the material anew. Such devices thus fix the text in place in a specific arrangement in service of the functions of search and retrieval. In so doing, they also formalize a particular sense of textual integrity. That is, the implications of visualizing information with such devices are not limited to the optics of the page or the material expression of ideas. As Thomas O’Loughlin has noted, “the very fact that the apparatus can genuinely solve textual differences . . . lulls the critical sense into assuming that once the apparatus is on the margins of the page, one can resolve all the problems.”

The presence of an apparatus of order can placate readerly scepticism, and thereby encourage an intellectual slip that associates the textual integrity used for indexing devices with textual coherence or even authoritativeness. Given the formidable effect of such devices on transmission and interpretation, it might be worth considering whether the recent tendency to characterize them as “paratext” has operated to obscure their full contribution to the traditions of literature and knowledge.

Designers understood their manuscripts as organizational devices that could be used to control the transmission of ideas. The ways that they chose to visualize information can therefore be read as the manifestation of a design calculus involving scribes, artists, and their audiences. Palaeographer Malcolm Parkes, who appreciated the manuscript as evidence of the history of knowledge-practices, proposed to study the graphic codes and conventions of handwriting. Not limited to observation and description, his “grammar of legibility” concerned itself with broader social and cultural implications of the layout of the manuscript. He observed that the disposition of word, sentence, paragraph, and page developed in stages, coinciding “with changing patterns of literacy, whereby new generations of readers in different historical situations imposed

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29 On the use of tables of contents for establishing legitimacy, see Andrew M. Riggsby, “Guides to the Wor(l)d,” in *Ordering Knowledge*, 88–107 (2007).
new demands on the written medium itself.”30 An analysis of the visual grammar of the page can therefore offer insights into the milieux in which the manuscript was produced and read.

One of the defining features of a manuscript is the presence of handwriting. Handwritten letter-forms may be used to transmit a verbal message, but they, and the manuscript in which they reside, constitute an interface of communication that is characterized by particular dimensions and qualities. The shape of letter-forms in particular has been of interest to a variety of scholars—from epigraphers and palaeographers to calligraphers, book artists, and graphic designers.31 Their examination of handwriting has resulted in the classification and codification of a range of scripts, or particular styles. Scripts are identified by the regular manner in which strokes are inscribed upon the writing surface, as well as distinctive features, such as unusual letter-shapes, abbreviations, or ligatures that combine multiple graphemes. The shape of letter-forms is produced in part by technical aspects related to the angle of the pen nib, the consistency of the ink, and the texture of the material substrate; however, the choice to emulate a script might be influenced by social, cultural, political factors. Handwritten scripts can exhibit sufficient regularity that specific aspects of letter-forms, such as curved ascenders or wedge-shaped finials, have been used to develop a history of textual transmission that includes centres of production, genealogies of influence, and networks of trade and expertise.

Over time, particular scripts have come to be associated with specific places, communities, contexts, or ideologies.32 For example, it is well known that the humanist scholars of the late medieval period were concerned with handwriting reforms. Their innovations influenced the design of typefaces through the following centuries, and even now contribute to the “look” of our printed and digital texts. The humanists were active readers and writers: they disseminated their compositions for copying and review; they reacted to the work of their peers, leaving handwritten annotations on the document or formulating separate responses for broad circulation.33 In 1366, a sixty-two-year-old

33 For example, see the accusation of plagiarism levied against Poggio Bracciolini in the letter to Pietro Tommasi, in, Knowledge, Goodness, and Power: The Debate over Nobility among Quattrocento Italian Humanists, ed. and trans. Albert Rabil, Jr. (Binghamton, NY: Center for Medieval and Early Renaissance Studies, State
Petrarch marveled over the clarity of the rounder letter-forms of the Carolingian hand that had been developed some five centuries earlier, calling them castigata et clara, "plain and clear," in contrast to the angular and compressed Gothic script of his time. He describes the latter as painterly—pleasing to the eye from a distance, but confusing when examined up close—as if it had been designed for something other than reading (Fam. XXIII.19.8). The adoption of the older letter-forms by humanists in the fourteenth and fifteenth centuries has generally been understood to be the graphic representation of a new scholarly identity that was characterized by a return to the study of Greek and Latin classics. However, B.L. Ullman noted that the complaints about the clarity of scripts came especially from an aging community of scholars who had devoted a significant part of their lives to reading and writing. From this perspective, the manuscript—and the handwriting in it—can be appreciated as a customizable aid for failing eyesight. As Ullman observed, “Thanks to the improvement of eyeglasses in modern times, we determine our need for them and their strength by the ability to read the telephone book. In 1400 it was easier to change handwriting than to change glasses.”

In addition to being an adaptable technology for the near-sighted, the manuscript was also deployed to support different practices of reading. For instance, the layout of words—which separated or not—can be understood as a design choice related to modes of reading. There is evidence of words being graphically divided by space, vertical stroke, or raised dot from as early as the tenth century BCE. However, words are not generally separated in the papyrus scrolls that transmit ancient Greek and Latin writing; these manuscripts exhibit a contemporary preference for the form of scriptio continua, or continuous script, in which individual words are not visually distinguished from each other. Perhaps more surprisingly for the modern reader, the scribes of Rome abandoned word-division after a period of six centuries in favour of continuous script by the second century CE. Given the consciousness of multiple strategies for organizing text on the page in antiquity, the use of scriptio continua can be read in relation to the broader activities of reading and writing. The unseparated words of continuous script constitute a graphic device that reflects “the mechanics and aesthetics” of reading aloud. As Gregory Nagy has argued in his study of the Bacchylides papyri, scriptio continua


facilitates the observation of metre, or colometry, which is critical to understanding the oral performance of the songs. The continuous script of these manuscripts is, then, a form of graphic instruction that seeks to embody “the mellifluous metrical and accentual patterns of pronounced text” rather than elements of grammar. Because the metrical unit of the colon is constituted of a number of syllables, it may or may not coincide with a word-ending. The separation of words, then, would not have been a great aid to the communication of metre, and was therefore not considered to be a significant consideration in the layout of the page.

As the cultures of reading and writing changed, so too did the interface of the manuscript. The spread of Christianity in particular created a wider audience for the written word. No longer the reserve of a specialized elite, manuscripts were redesigned to accommodate those who had limited skills in literacy. Such an audience might furthermore be called upon to read aloud to those who were exclusively listeners. At stake was the effective transmission of the Christian message. Visualizing text in a way that assisted sense-making became a priority, and the strategies developed in the manuscripts of the early medieval period are still in service today. For example, scribes copied texts using majuscule and minuscule letter-forms, the precursors to upper- and lower-case letters, rather than majuscules only. Next, whereas lines might have previously been filled from margin to margin to create a solid block of text on the page—aesthetically satisfying for its graphic comprehensiveness—scribes began to divide lines according to metrical unit. In this technique of per cola et commata, each new verse begins on a fresh line, with the remainder being inset from the margin on subsequent lines until the end of the unit. The ventilated layout suggested conceptual pauses graphically, designed to facilitate the performances of sense-making and reading. Indeed, in the sixth century, Cassiodorus says that the layout of per cola et commata was of great utility to the “simple brothers” of his monastery who might, thus assisted, “pronounce the holy texts without error” (Inst. I, praef. 9; 1.12.4).

Whereas readers in antiquity may have determined syntax and meaning chiefly through a familiarity with tradition, their later counterparts came to rely on the division of words on the page. Word-separation helps to convey sense by visually isolating and distinguishing elements of grammar. Irish and Anglo-Saxon scribes in the seventh and eighth centuries rejected the custom of scriptio continua when copying texts in Latin, preferring instead to insert spaces between words. In doing so, they drew upon the work of ancient grammarians, whose treatises offered strategies by which different parts of speech could be identified and their syntactical function recognized—a great boon to those acquiring Latin as a second language. When copying in their native language, however, Irish scribes employed a different method of visualization, choosing to organize

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38 Saenger, Space Between Words (1997), 11.
text according to stressed syllables rather than parts of speech. In this arrangement, multiple words might be combined into a single unit. The difference in the two contemporaneous practices suggests that Old Irish was a language that was spoken and heard, while Latin was comprehended chiefly through its graphic expression by these readers and writers of the early Middle Ages. In addition to arranging words to isolate parts of speech, the scribes furthermore inserted punctuation marks—tools that had been used on occasion in antiquity—to characterize the grammatical function of those words within the sentence. Designers of the page also developed a hierarchy of letters in which larger letter-forms are used to demarcate the beginning of different subdivisions of text, a precursor to the modern convention of section headings. This innovation was combined with embellishment and taken to an extreme in manuscripts such as the Lindisfarne Gospels and the Book of Kells, where the initial letter of a word might occupy an entire page. These decorated letters incorporate depictions of serpents, otters, cats, and mice, as well as visual riddles, demonstrating a harmonious integration of the natural and divine.

The copying of manuscripts in the early medieval period was an activity that was chiefly located in monasteries and therefore governed by devotional practice. In a departure from the solitary living that characterized much of early Christian spiritualism, monks and nuns began to reside in community around the fifth century. Their lives were organized according to a set of precepts, some of which were laid out in the influential Rule of St. Benedict. The Rule established reading as an important spiritual activity; reading offered a way to contemplate the divine. Devotional reading was a slow, meditative, and difficult act that was intended to involve the whole body and all its senses. As words were read, eyes and fingers tracked across the page, the mouth enunciated, the ears strained to hear the resultant murmurs, and the torso swayed. This embodied notion of reading thus prompted the use of figurative language related to mastication, ingestion, and digestion, as well as—in some cases—their literal exercise. In the twelfth century, Hugh of St. Victor notes that the lessons in Scripture “like so many sweetest fruits, we pick as we read and chew as we consider them” (Didascalicon 5.5). Monastic reading and meditation, for Hugh, are carnal activities. As historian and philosopher Ivan Illich explained, reading here translated into body movements: “The reader understands the lines by moving to their beat, remembers them by recapturing their rhythm, and thinks of them in terms of putting them into his mouth and chewing.”

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Indeed, the embodiment of Scripture in manuscript opened up performative possibilities in which the divine word could be written and ingested to be retained or recalled. For example, Ezekiel is commanded to eat a scroll transmitting the words that he was to preach to the Israelites (Ezek. 2:9–10, 3:1–3). A similar understanding of ingestion as a mode of “investing the body with traces of the divine” is exhibited in the practice of drinking Qur’anic verses that had been written on paper or painted on the inside of a bowl and then dissolved in water. In both Christian and Islamic traditions, parts of devotional manuscripts were often kissed or rubbed to the point of obliteration in an attempt to absorb any spiritual residue that might be conducted through the interface of word, image, or surface.

Materials for reading were necessary in order to follow the vision of spiritual life that had been laid out in Rule. As a self-sufficient community, the monastery could rally the resources to produce texts for its own use, and set some of its inhabitants to the work of textual transmission. Those who had no craft skills and no inclination to learn were assigned other manual tasks. Recent studies have drawn attention to the contribution of women to the transmission of knowledge, and especially in monastic scriptoria, where the activity of copying texts was shared amongst multiple hands. The codex or book form is composed of a series of folded booklets that are known as quires or gatherings. This format is conducive to piecework, because different quires could be handed out to different members of the community. Certain scribes might be responsible for copying the main text; anything that required red ink would be passed to the rubricator. Decoration or illustration was the particular skill of yet another worker, and the application of gold leaf might be the expertise of another. A corrector would check the text for errors. Catchwords were added at the end of each quire to ensure that the pieces would be assembled in order. The catchword repeats the first word of the following quire so that the gatherings can be matched together by casting the eye quickly over the end of


one quire and the beginning of the next. Details about ideal scribal activity in the monastery can be gleaned from Cassiodorus, who offers guidelines in the sixth century for the copying of both sacred and classical texts.\textsuperscript{48} According to Cassiodorus, copying texts was a way to engage closely with the sacred word and aid its dissemination. He discusses how to balance personal judgement and authority in textual transmission, noting that although a word or idiom in the exemplar might seem wrong, it should not be changed if found in multiple instances of the text (\textit{Inst.} I.15.5). However, if there are words in the exemplar that make no sense, “they must be courageously corrected” in accordance with more trustworthy sources (\textit{Inst.} I.15.11). Reading and writing in the monastic \textit{scriptorium} might therefore involve thoughtfully emending texts with the aid of more authoritative copies.

Scribes were acutely aware of the corporeal toll associated with the devotional practice of copying manuscripts. Surviving colophons indicate that the work could be backbreaking and painful; complaints make reference to flickering or low light that was hard on the eyes, the injustice of working with poor writing materials, and the cramping of hand and body. A tenth-century scribe named Florentius describes the burden of writing, “It makes the eyes misty. It twists the back. It breaks the ribs and belly. It makes the kidneys ache and fills the whole body with every kind of annoyance.” He concludes by asking readers to respect his handiwork in the massive manuscript of 500 folia, “Turn the pages slowly, and keep your fingers far from the letters, for just as hail damages crops, so a useless reader ruins both writing and book.”\textsuperscript{49} Some of the embodied and material costs of literary tradition are thus communicated by the manuscript. Indeed, the body is central to textual transmission—whether it be slave scribes who took dictation in antiquity, stoncutters who created the inkstones that are indispensable to the world of scholarship and art in China, or the legions of graduate students and overseas workers who manually transcribe and encode literary texts in service of their digital use. The production and circulation of texts has been and continues to be shaped by these agents and their working conditions; to understand the extent of the influence of materiality in and on the traditions of knowledge means grappling with its social, political, and economic implications.\textsuperscript{50}

As the written word was further incorporated into the activities of devotion and administration, the role of the manuscript began to change, as did its design.\textsuperscript{51} Ensuring

\textsuperscript{48} There is some debate as to his historical importance. See Mark Vessey’s introduction to, Cassiodorus, \textit{Institutions of Divine and Secular Learning and On the Soul}, trans. James W. Halporn (Liverpool: Liverpool UP, 2004), 4–6; and James J. O’Donnell, Cassiodorus (Berkeley, Calif.: University of California Press, 1979), 239ff..


\textsuperscript{51} In general, see Michael T. Clanchy, \textit{From Memory to Written Record: England, 1066–1307}, 3\textsuperscript{rd} ed. (Chichester, UK: Wiley-Blackwell, 2013); Patrick J. Gceary, \textit{Phantoms of Remembrance: Memory and Oblivion at the End of the First Millennium} (Princeton: Princeton UP, 1994); Rosamond McKitterick, \textit{The Carolingians and the
the legibility of the word on the page for diversifying audiences had significant consequences for the manuscript. According to Camille, “the physical materiality of writing” came to be perceived as “a system of visual signs.” Moreover, “once the letter had to be recognizable as a part of a scanned system of visual units, possibilities for its deformation and play became limited.” Imagery was no longer to be incorporated as part of the letter-form itself, but instead carefully inserted into the free-standing initial or “exiled” from the centre of the page into the margins. Because readers were more likely to engage the word with the eye, designers began to cultivate increasingly complicated architectures on the page that would eventually come to define how information is visualized and how knowledge should be expressed.

The visual design of the page witnessed significant developments through the twelfth century, when different kinds of readers began to make more specific demands of their texts. New schools and universities in urban settings attracted a diverse body of students who intended to pursue professions in civil and canon law, medicine, and theology. These students were drawn from linguistically varied backgrounds, and sought to familiarize themselves quickly with the Latin texts of the scholastic tradition. Depending on their curriculum, students might be required to navigate multiple texts and their commentaries; to have such materials cross-referenced and at hand for consultation could expedite study. Moreover, the ability to locate relevant passages efficiently became advantageous as the students prepared for their daily drill sessions and exercises in debate. There was little time for the leisurely tasting and chewing that characterized the meditative reading of monastic life. In this environment, aids for the swift acquisition of knowledge, navigation of text, and the rapid identification of relevant materials emerged as priorities. Authoritative sources were brought together by compilers and rearranged in a way that would be optimally useful for their readers. Indeed, Peter Lombard emphasizes his contribution to easy searching, having organized his Sentences, a twelfth-century compilation of biblical texts, so that readers could find relevant passages “without effort.” Texts began to be organized systematically with devices such as commentary, subject indexes, chapter titles, running headlines, paragraph marks, and foliation or page numbers. Other developments included the use of alternating blue and red initials at the beginning of lines, as well as an enhanced hierarchy of larger and smaller letters, both graphic techniques serving to facilitate navigation. As Illich has suggested, the calculated layout of letter-sizes in the manuscripts of the mid-twelfth century “reflects the new pleasure of projecting mentally organized and quantified patterns of ‘knowledge’ onto the empty space of the page.” But there were important implications of this shift for the transmission of knowledge, for “this visual architecture .

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makes it increasingly necessary, when reading, to have the book under one’s eyes.”

It is thus in the manuscripts of the twelfth century that much of the foundation was laid for an understanding of knowledge that would be predominately visual in nature, and, moreover, that the acquisition of knowledge might be achieved through a close engagement with the page.

An illustrative example of the sophisticated layout of the page comes from the glossed books of the twelfth century. Legal and biblical texts could be understood in various ways, and readers often sought their interpretation from authoritative sources. In the early medieval period, individual words or passages might be glossed—or explained—with notes inserted between the lines or in the margins. These commentaries began to grow in length and complexity; they were collected in the twelfth century, regularized, and arranged together in an order that reflected the order of the main text. The gloss soon became a canonical text in its own right, and was mandatory reading for any scholar. But the layout of a glossed text required significant planning, for each page should transmit two separate texts that must remain distinct, and “run in parallel from page to page without one becoming out of step with the other.” Lines were ruled on the page to mark out separate columns for the main text and the gloss to be inserted. In the case of biblical material, the convention was to rule three columns so that the gloss surrounded the main text on both sides. Complications arose when the gloss was too short or too long in comparison to the main text, and failed to fit neatly in its column. To solve the visual imbalance caused by a gloss that was too short, scribes might stretch out the last lines to fill the width of a column, much like the modern use of “justification” that aligns both the left and right ends of each line of text. In the case of a gloss that was too long for the allotted space, scribes could inscribe the commentary in an L-shape around the main text, or subdivide the commentary itself into narrower parallel columns that could still be placed in the correct position in relation to the main text. These subdivided columns offered opportunity for aesthetic variation; unconventional shapes could be used to fill out the width of the gloss column while also enabling the commentary to remain in step with the main text.

In addition to the alignment of the commentary with the main text, explicit visual cues aided the performance of indexing. For example, scribes used red ink to underline the lemmata, the verbal call-outs repeating the terms from the main text that were being explicated in the gloss. This visual link permitted readers to move between the two texts without losing their place, and worked in tandem with the careful placement of the commentary in relation to the main text. Quotations were marked off graphically, and the names of the sources were written with red ink in the margin. The citational relationship was furthermore emphasized with matching symbols that helped to link the names of the sources with their respective quotations, an obvious antecedent of


56 de Hamel, *Glossed Books*, 16.
the modern footnote. As the example of the glossed books of the twelfth century
suggests, the elaborate layout of text points to—and is a product of—contemporary
practices of knowledge that increasingly relied on an engagement with the page for the
transmission of information. Such complex architectures would furthermore begin to
foreclose on other modes of knowledge-exchange.

The shift towards a methodical and regular arrangement of information on the
page was also bolstered by institutional and commercial interests. By the thirteenth
century, the Catholic Church had begun to recognize the value of sermons as way to
maintain the faith. Ordinary parish priests were newly enjoined to preach, and some
religious orders had begun to send their members beyond the walls on the monastery to
conduct their work in diverse communities. Away from the infrastructure of the Church,
these preachers might only have their key texts on which to rely for teaching and
ministry. A compilation of materials that was organized for consultation, and arranged in
a concise and portable format, was an asset for the purposes of composing a sermon on a
particular topic. The Church was concerned about ensuring quality and maintaining a
consistent message in such practices; it was felt that the preaching of correct doctrine
should be executed by competent and well-trained representatives. For this reason,
efforts were made to regularize the training of preachers, preaching tools, and the
instructional programs that were to be carried out on parishioners. One of the ways to
control the activities related to preaching was to control the content and form of the page.

The standardization of material was also favoured by the expanding commercial
market for manuscripts. Parkes observed that by the thirteenth century, an organized book
trade catering to academic readers in Paris and elsewhere “consciously strove to achieve
uniformity in matters of format and features of layout.” At some universities, students
would rent parts of an unbound text from booksellers or stationers to copy or have
copied. Separate portions of an authorized text—checked and controlled by university
officials—were divided into pieces, called peciae. Each pecia was a sheet of parchment,
usually folded twice to make a gathering of four folia or eight pages. The peciae of a key
text could be doled out to different scribes or rented by different students to expedite
reproduction and thereby increase profit. As in the scrip torium, this arrangement
capitalized on the format of the quire. With a standardized text divided into materially
standardized peciae, sections could be copied out of order. Blank space could be left in
the copy to be returned to when the corresponding pecia was available, and scribes would

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57 Richard H. Rouse and Mary A. Rouse, Preachers, Florilegia, and Sermons: Studies on the Manipulus
florum of Thomas of Ireland (Toronto: PIMS, 1979), 50; also, 57–59.
58 M.B. Parkes, “The Influence of the Concepts of Ordinatio and Compilatio on the Development of the
Book,” in Medieval Learning and Literature: Essays presented to Richard William Hunt, ed. J.J.G. Alexander and
59 In general, Mary A. Rouse and Richard H. Rouse, “The Book Trade at the University of Paris, ca. 1250–
ca. 1350,” in Authentic Witness: Approaches to Medieval Texts and Manuscripts (Notre Dame, Ind.: University of
Scribes, Manuscripts & Libraries: Essays Presented to N.R. Ker, edited by M.B. Parkes and Andrew G. Watson,
145–161 (London: Scolar Press, 1978); and Jean Destrez, La pecia dans les manuscrits universitaires du XIIIe et du
be able to estimate how much space to leave blank. If one exemplar could be used to serve multiple customers, profit could be maximized with minimal effort and investment. Then as today, reproducibility was an advantage for those involved in the commercial production of books.

As the foregoing examples have made evident, the manuscript is a responsive device for the graphic presentation of information. It has enabled the transmission of ideas for centuries, and in so doing has also laid the foundation for how those ideas should be visualized—whether certain texts ought to be organized in columns; whether images or numerical data are appropriate, where, and in what configuration. The act of visualizing information in the manuscript has served to conjoin certain kinds of materials, and furthermore, associate them with particular forms and aesthetics. Over time, these identities have been codified into the different genres that now constitute our documentary and literary traditions. Attentiveness to the materiality of the manuscript offers us a longer view of these traditions and the circumstances of their construction. Thus equipped, we may begin to understand that the manuscript is itself shaped by contemporary perspectives—then and now—with respect to how knowledge has come to look and be transmitted.

Handwork and handiwork are rewritten as each technological age grapples with establishing its own infrastructures of difference. It is consequently not only the artefact of the manuscript that shapes literary tradition and knowledge practice, but also the remediations, refractions, and reconsiderations of handwork. Indeed, the manuscript yields indications of desires through time; a digitized medieval manuscript of today cannot be read simply as a product of the Middle Ages, for it also carries traces of the intervening years and reveals the urges of the twenty-first century. In this way, the manuscript is always a palimpsest—if not of text or image, then of readerly or writerly projections of the past, present, and future.