Writing materials and writing tools

1. Papyrus

The most important writing material of antiquity until the first centuries of the Christian era was papyrus, which the Greeks had acquired from the Egyptians at a time unknown to us and which the Romans in turn took over from the Greeks. It is made from the vertically ribbed pith of the triangular papyrus stalk. Egypt possessed a virtual monopoly of its production. It was normally used in the form of rolls. To produce a roll pieces measuring on average 25 × 19 cm were made by laying strips of papyrus side-by-side. Across these strips a second layer was laid at right angles; the two layers were then pressed together. These nearly square pieces were pasted together end to end to form a roll in such a way that all ribs running in the same direction were on the same side. The first piece of a roll is called the ‘protocol’, the last the ‘eschatocol’.

The side with the horizontal ribs was chosen to receive the script because it was easier to write on; it is called the ‘recto’ side, and forms the inner side of the roll. Writers in antiquity attest to the fact that writing could be washed off papyrus. When the first text had lost its importance or meaning for the owner the verso of many rolls (or parts of rolls) received different texts, frequently in a different language; this is called an ‘epigraphist’. Rolls containing Latin

1 W. Schubart, Einführung in die Papyristik (Berlin 1918); Battelli, Lesigne 1, 28–29; Beneventi, Liscanico, 23–27; idem, Compendio, 34–7; Saniñálí, Reivígges, 25 ff.; H. Hunger, Geschichte der Textüberlieferung 1 (Zürich 1966) 35 ff., 41 ff.; T. C. Skeat in The Cambridge History of the Bible 2 (Cambridge 1990), 34–60; Seider, Latinische Papyri 1; J. Vezen, ‘La réalisation matérielle des manuscrits latins pendant le haut Moyen Âge’, Codicologia 2 [Literaria textus] (Leiden 1978) 17 ff. This description follows I. H. S. Hendrick’s reinterpretation of Pliny’s account, ‘Pliny, Historia Naturalis XII 74–82 and the manufacture of papyrus’, Z. F. Papyrologie u. Epigraphik 37 (1984) 121–36. The same results, supported by experiments, were arrived at by Adolf Grohmann, Arabische Paläographie 1. Österreichische Akademie der Wissenschaften, phil.-hist. Kl., Denkschriften 94, 1. Abt. (1967) 76 and 78 (ref. from Jean Vezen). The traditional view of how the two layers were produced from strips may also describe actual practice.

2 Cf. the Livy Epitome, s. III–IV, with a Greek text of Ep. ad Heb. on the verso, s. IV. CLA 11 208–209; Seider, Papyri 21; Nr. 34; GIL. A 304; Seider, Papyri 21, Nr. 11; it was used several times for sums and for school exercises in the second and third centuries. Cf. C.H. Roberts, ‘The codex’, Proc. Br. Acad. 40 (1954) 194.
literary texts have been preserved from Herculanenum — in a charred state — and from Egypt. As early as the second century AD, Egyptian Christians used papyrus in folded sheets for books.

By the fourth century, the use of parchment for books was so widespread in the West that we can speak of a general transition from papyrus to parchment in the book-making process. This was of decisive importance for the preservation of literature because only very few papyrus manuscripts from medieval libraries have survived, since the European climate is inimical to this material. Nonetheless, in the sixth century AD the law codes of Justinian I were distributed from Byzantium in papyrus as well as in parchment manuscripts. One of the latest western papyrus books preserved (c. sac. VII–VIII) is a Lusitan codex containing works of Augustine, in which interleaved parchment leaves protect the middle and the outside of the gatherings.

The use of papyrus for legal instruments, lengthy charters, and letters, which was very common in antiquity, continued in some western chanceries during the early middle ages. Until the second half of the seventh century charters were still written on papyrus in the chancery of the Merovingian kings. Ravenna and the papal chancery — the latter until the end of the eleventh century — retained the use of papyrus even longer for documents and chartularies. Its name lives on in our word 'paper', the second writing material to come out of the East.

2. Parchment

Parchment is normally prepared in the following way: 1) the skin of the animal is not tanned but soaked in caustic calcium lye. This loosens the hair and removes the fat. Then the skin is cleaned with a sickle-shaped scraping iron and

3 Giovanna Petronia Nicolai, 'Osservazioni sul canone della capitale', Miscellanea in memoria di Giorgio Conti (Turin 1939) 11 ff. and plates x–q. CLA 13 357–7; Seidler Papyrus 21, 2–4.
5 C.H. Roberts in Roberts—T.C. Skeat, The Birth of the Codex (Oxford 1963) 45 ff., 54 ff., inclines to the belief that the papyrus book had been invented in Jerusalem or Antioch already before the year 50–100.
7 Cf. Lowe, Palaeographical Papers 3, table following p. 470.
8 CLA V 34 (Seidler, Papyrus 25, Nr. 46; CLA IV 1470 and 1471. In many papyrus codices, therefore, the paper manuscripts, strips of parchment were inserted in the central fold of the quire to protect the sewing: see the remains of two MSS in CLA X 1470 and 1471; see also CLA Addenda, plate 168.
9 Buckner-Marchahl, CLA I 38 ff. In Jerome's time letters were still written on papyrus: E. Attes, La technique du livre d'après Saint Jérôme (Paris 1953) 27.

8

sometimes soaked a second time. It is then stretched on a frame to dry. Whether the parchment was further treated, and in what way, differed from country to country and from century to century, and seems to have depended mainly on the nature of the raw material, that is the type of skin used.

The parchment of Greek and Roman manuscripts from antiquity is often very fine; the oldest surviving remains of a Latin parchment manuscript is the Fragmentum de bellis Macedoniacis. Continental parchment of the carolingian period, usually made from the skin of sheep, is generally smooth. Italian parchment of the later middle ages, for which goatskins were also used, is more or less calcinated, that is it was treated with liquid chalk before drying. Through very careful treatment both sides can become equally white, but even then they are distinguished by their curvature: the flesh side is convex, while the less stretchable hair-side is concave, a fact which can be very helpful in the reconstruction of manuscripts that are preserved only in a very fragmentary state.

The writing material of Insular manuscripts, that is manuscripts written by the Irish or Anglo-Saxons, is as a rule different. They mainly used calfskins, which are stronger, and these they usually roughened on both sides with pumice stone, with the result that hair- and flesh-sides became indistinguishable from one another ('vellum'). For special manuscripts, it seems, sheep parchment too was used in England, as for instance in the Echternach Gospels and the Codex Amiatinus (intended for St Peter's in Rome). The Anglo-Saxon missionaries to the continent took with them their kind of parchment and their manner of preparing it, so that these and other characteristic features of their writing techniques are found also in the regions of their missionary activity and


CLA V 127, probably around 100. See below p. 66ff.


14 CLA V 578.

15 CLA III 299.
influence. Thus, for instance, 'Insular' parchment is the material of the carolinian manuscripts from Fulda and Mainz, and of the Munich 'Heliant', which originated at Corvey.

The slightly roughened surface of parchment prepared from calveskins was particularly suited to colour painting. As early as the ninth century such leaves bearing miniatures were inserted into manuscripts with shallow incisions. After the carolinian period the use of calf parchment became commonplace. A peculiarity of the later middle ages is the extremely thin 'virgin' or 'uterine' parchment, which was prepared from the skin of unborn lambs. The quality of the parchment and the care taken in its selection and preparation are a yardstick for the standards of a scriptorium.

However, the acquisition of parchment must be viewed also as an economic problem. For the production of the Codex Amiatinus alone - and it had two sister manuscripts - over 500 sheepskins were required at Wearmouth or Jarrow. In letters of the carolinian period (for example, Hrabanus Maurus, Ep. 26) we find instances in which parchment was sent along with a request that it be used for copies of texts. Entries in some manuscripts of the ninth century indicate the portions of parchment supplied by individual monks or canons. The scriptoria of houses in reduced circumstances sometimes had to use marginal pieces; the Codex Tolemanus of the Elmsley MS is an extreme case: for it pieces of parchment from the neck and shoulders of the animal skin, often irregularly shaped, had to be pressed into service.

Parchment had hardly reached equality with papyrus in general esteem as a writing material when the late antique love of splendour led to its being dyed a rich purple colour, for use in special books; such luxury was then transferred to biblical codices. A purple manuscript of the gospels is the Codex Argenteus, probably written for Theodoric the Great. Just as the use of purple parchment was cultivated by the Anglo-Saxons, so too fine biblical and liturgical manuscripts of this kind were produced under Charlemagne and his first successor at the court and in other scriptoria. The dark, precious material required luminous, bright colours and therefore only gold and silver were used for the script. Examples of complete purple manuscripts are, for instance, the Godescalc Evangelistary and the Coronation Gospels of the German emperors, now among the imperial treasures in Vienna; both date from the time of Charlemagne. In other manuscripts only single purple leaves were inserted.²² It is possible that all genuine purple parchment was imported from Byzantium. Purple leaves also appear in Ottonian and Salian manuscripts, but in these the parchment is not deep-dyed but only painted on the surface.²³ A late comparable example is the Sforza prayer-book on black parchment (Vienna, Nationalbibliothek Cod. 1869).²⁴

3. Palimpsests

As we have seen, it was possible with papyrus to efface one text and to use the material a second time; this procedure was also followed in the case of parchment manuscripts, with important consequences for the preservation of literary texts.²⁵ The writing was removed by washing or scraping and the parchment was then ready for re-use; this is called a palimpsest (Greek Palin psema, 'I smoothen over again').²⁶ In some cases this process was repeated, resulting in a 'double palimpsest'.²⁷ As a rule, manuscripts treated in this way were either incomplete or else the texts had become worthless, as was the case with manuscripts of the Vetus Latina, liturgical manuscripts (rendered out of date by liturgical reforms), or legal manuscripts (rendered void by prohibitions). In other cases texts were erased because they were written in a language that was no longer understood, as happened with Greek or Gothic works. A chance survivor of this kind is a seventh-century manuscript with some Hebrew texts.²⁸ Only rarely was the deliberate elimination of a text the primary motive for its effacement, such as might occur, for instance, with the destruction of heretical works.

The chances of recovering the original text vary greatly according to the kind of ink used and the nature of the deletion (which sometimes left only the prickings); they may also depend on whether chemicals were ever used in an attempt to recover the original writing. Chemical reagents can bring good results initially but they destroy the parchment and hamper the chances of success in using modern palimpsest photography, which does no harm to the parchment and which is usually the best means of decipherment.²⁹

²³ E. Trowler, Das schwarze Getreide (Vienna 1948).
²⁴ Fr. More, De libro palimpsestis tam latini quam graeci (Karlsruhe 1885); Wattenbach, Schriften, 308 f.; an important bibliography by A. Dold in Colligere, fragmenta, Festschrift für Hans Dold (Bonn 1952) 15-32.
²⁵ There is a detailed recipe which prescribed bleaching writing in milk in Wattenbach, Schriften, 305.
²⁶ Lowes, Palaeographical Papers 2, 377 Latin palimpsests in the East Arab.: CLA III 244 and 306; VIII 1136; Concil: II 205 f.; XI 16; Syrian: XI 166. Cf. also O. Cavalli, Una produzione di manoscritti greci in Occidente tra età tardoantica e alto medioevo, Scritture e Civiltà I (1977) 111-12 with plate. The Latin palimpsests prior to p. 80 are listed by Lowes, Palaeographical Papers 2, 360-359; further examples in CLA Addenda.
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The most valuable and important western palimpsest manuscripts, whose original scripts date from the fourth (or third?) century to the seventh, with secondary scripts from the seventh and eighth centuries, come from Bobbio, Luxeuil, Fleury, Corbie and St Gall. Amongst them are manuscripts of Cicero (De re publica and some orations), Plautus, Fronto, and also Ultias (U. Carolinus, in Wollenbuttel, which was discovered by F.A. Knittel around 1756, an epoch-making event in palimpsest research), and the Visigothic Codex Eびricus. The Irish often used scraped parchment, though its palimpsest character is frequently difficult to determine. From the Carolingian period on the use of palimpsests was relatively rare, and the deleted texts are mostly liturgical. But there are some surprising exceptions, such as the Old High German palimpsest from the beginning of the ninth century: it is an abbreviated version of the Abrogans from Weissens, now Prague NUB, Lobkowitz MS. 434.

4. Paper

From the thirteenth century on a new oriental writing material, paper ("carta papirii", "carta bambaicus", etc.) appears in the West along with parchment. It was a Chinese invention of the second century BC, but it was only in AD 751 that it came to be produced outside China, by Chinese prisoners of war at Samarkand, whence it spread slowly throughout the Muslim world. In the twelfth century the existence of a paper mill is attested in Xativa near Valencia, which was still under Arab rule. A century later paper production began in Christian Spain, at Fabriano in Italy (where it still flourishes), and around 1340 at Troyes in France. In Germany the first paper mill was founded in 1390 by Ulman Stromer, a Nürnberg patrician and merchant, with the help of Italian workers.

At first Arab paper was used in the West. Although mandates on paper emanating from the chancery of Frederick II have come down to us, in 1231 he prohibited the use of paper for notarial instruments. Its use in the chanceries was therefore mainly restricted to drafts, registers, minutes, etc. The earliest paper manuscript of German origin is the register of the dean of the cathedral in Passau, Albert Beham, dated 1264/47 (Cim 2574b). The earliest paper is

5. Wax Tablets

Wax tablets were used both in antiquity and in the middle ages. They were made by scraping out a shallow bed in a wood or ivory tablet; the bed was then covered with a layer of wax on which letters were scratched with a stylus, whose broad end could be used to remove them again. If two or more tablets were joined together we speak of a dipitych, triptych, or polyptych. In antiquity, tablets were probably the most commonly used material for writing on, and examples containing documents, letters and school exercises have been found at many sites dating from Roman times. Tablets are also often represented in sculptures and paintings. Best-known are those found in Pompei and in Transylvania, the latter from the second century BC, the former from the first. Writing with a stylus on wax changes the shapes of the letters considerably, therefore those diptyches are of special interest where we find on the outside of the sealed document, written with a reed pen, and often exactly by the same hand, a copy or summary of the text that is scratched on the wax inside.

Even bare wooden tablets, which could also be joined together to form diptychs, etc., were a common writing material in various regions. They have been found in the most remote corners of the Roman empire: tablets (made perhaps of limewood) bearing accounts and private letters (saec. I c.) from

31 Busecke, Lichtdrucke, 36 ff.
33 Christ, Monumenta 17, 7 and 8, 8.
37 Examples in E. Dicht, Inscriptio Lapisc (Bonn 1942) xxii–xxvi (from the years 18 and 19); Seider, Latinische Papier, 11, ii, Nr. 25 (from the year 128). C. G. Cenci, ‘Note paleografiche sulla scrittura dei papiri latini dal I al III secolo D.C.’, Academia delle Scienze dell’ Istituto di Bologna, Classe di scienze morali, Memorie, ser 5, 1 (1932) 6 f.
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Vindolanda, a settlement on Hadrian's Wall in England, another, a deposit of wooden tablets (cedar and oak) bearing agricultural contracts, from south-east Algeria dating from the period of Vandal rule, between AD 493 and AD 496. From the last centuries of antiquity come the ‘consular diphtychs’, which were presented as gifts by consuls at the beginning of their term of office; these were made of ivory and decorated with bas-reliefs. Such tablets were often used during the middle ages to record litanies or a list of church benefactors, and on some of them the writing can still be seen on the back. Other diphtychs were used as book covers for precious manuscripts. Objects similar in outward appearance to the diphtychs were also re-used in this way, such as the Christian ivory tablets from Ravenna, now in Berlin, and the Barberini ivory polyptych in the Louvre; the former bears an inscribed litany (sixth century) and the latter a long list of names (second half of the seventh century). During the middle ages wax tablets were in general use. Daily life cannot be imagined without them: students were supposed to carry a diphtych at their belt for easy use, while writers used them for rough notes. They were also employed in private correspondence. Above all, medieval accounts were kept to a large extent on wax tablets, and most of the surviving examples served this purpose; even books of wax tablets were formed. In some places the use of wax tablets for accounting continued up to the nineteenth century.

6. Other writing materials and other kinds of writing

Some other forms of writing and some other writing materials have to be mentioned, partly because they are of interest for the history of handwriting.

6.1 Other writing materials

(whose development they help to explain in periods where there are gaps in the transmission), partly also because they add to our knowledge of the practical aspects of writing.

Latin graffiti, that is incised inscriptions, have been found in large numbers on walls in Pompeii, close to the tombs of martyrs, and in many other places. The oldest ones date from the time of Sulla and therefore predate the oldest wax tablets and papyri. In Pompeii, excellent examples of capitalis dating from the last years before the destruction of the city can be seen painted with a brush on the walls of houses.

Writing on clay has been preserved both in the form of engraved writing, such as, for instance, the potters' accounts found in Gaul (first century), and also in the form of writing with ink on ostraca (first to fifth century).

Latin cursing tables made of lead, with cursive script (both the older and later forms) are preserved from the first century BC to the sixth century AD.

Where slate was available as a natural writing material it too was used. The oldest charters in Visigothic Spain were written in cursive on slate. Examples from both the early and late middle ages come from Ireland, another, a

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References:


40 Chr. Courtois et al., Tableaux Albertini, Actes prêts de l'expoqut vandal, text and plates (Paris 1973) for the script see ibid., 11-64 (Ch. Permis).

41 R. Delbrück, Die Königsdiphtychen und verwandte Denkmäler (Berlin 1949).

42 J. Vein, 'Une nouvelle lecture de la liste des noms copiée au Musée de l'Évèque Barbetin', Bull. Arch. du Comitè des trés. hist. et scientifiques, n.s. 7 (1921) 49-59, with plates.

43 The rectangular writing tablets from Springmount Bog, Ireland, with texts of the psalms in the earliest type of Irish script (CLA S 1684), may be dated around 600; cf. D. Wright, 'The tablets from Springmount Bog, a key to early Irish palaeography', Iml. J. Arch. 67 (1966) 219. On the find of a diphtych from St Maurille, Angers, which has a curved top (LX; script c. 1000) cf. J. Vein, Les scriptura d'Angers au Xe siècle (Paris 1974) 120 ff. Fourth-century writing tablets survive from the Jacobibach in Liebeck, see J. Warrick in Z. J. Grisch. d. Erzbisth. u. d. Universitäts 1 (1921) 277 ff. with plates. Medieval accounts, Foerster, Anf. 65.


Wattenbach, Schriftenw., 41ff (lead), 89ff (tile, wood, slate); Stronken, Paléographie, 147 (slate, lead).


46 Examples: Mallon, Marchal, Perrin, Exécuteur latine, plate 4; Steier, Latinesche Papyri 1, plates 4 (7) and 8 (13).


benediction, was found at the Cistercian monastery of Vauclerc near Laon (c. thirteenth century?).

In Västera (Sweden) as well as in Novgorod, birch bark was used as a writing material.53 It should be mentioned here in passing that two small, quadrangular wooden rods from Bergen (Norway) have been identified as the verses of two love-songs from the *Carmina Burana* copied in runes.54

7. Ink and colours

Already in antiquity different types of ink were known. Some were prepared from soot and gum, some with sepia or with gall nuts and iron vitriol.55 At a later date the latter type, reacting to a damper atmosphere, has eaten into or eaten through the fine parchment of late antiquity so that today we see 'little windows' instead of letters.56 The ink used in manuscripts of the fourth to sixth centuries appears often to have the consistency of lacquer and to have adhered less well to the flesh-side of the parchment than to the hair-side. Its colour varies between deep yellow and olive brown. By the sixth century a brown ink was already in use which was prepared from the branches of whitehorn or blackthorn with the addition of wine; the preparation of this ink was described in detail by Theophilus (about AD 1100).57 The ink could be made darker by adding iron vitriol or soot. From the seventh century onwards, dark brown ink predominated on the continent. During the eighth century ink sometimes has a greenish tinge. The ink of Italian manuscripts is frequently of a greyish or yellowish colour. On the other hand, Irish, Breton, and Anglo-Saxon scribes must have used a different recipe, because they generally use a black or black-brown ink, which they then brought with them to the continent, for instance to Lower Germany and other areas of Anglo-Saxon influence in Germany.

From the late middle ages there are again numerous recipes for ink using combinations of iron vitriol and oak galls mixed with wine, rain-water, or vinegar. The ink produced in this way was usually black or brown-black in colour, but pale inks too are often found in the later period.

In order to distinguish certain details in a text or manuscript the commonest practice was to write them with brick-red ink (minium, red lead). Already in the oldest western parchment manuscripts, as well as in the peculiar Codex Bezae,58

58 CLA 111 140.

7 Ink and colours
two or three initial lines of a book may be written in red. In explicit, and later in tites, red and black lines frequently alternate. During the early middle ages it is not uncommon to find manuscripts in which the main text is written in red, with the accompanying commentary in black.59 A unique case is the gospel-book, London, BL, Harl. MS 2799 (sec. IX), from northern France, which is written entirely in red. In some Carolingian scriptoria the red ink has a strong blue tinge.

Already in the Carolingian period other colours besides bright red were used for display purposes: blue-black in Tours, grey-blue in Lyons and Salzburg, brownish red in Freising. In twelfth-century France there is frequent alternation between red, blue, green, and yellow in titles and small initials, whereas in the thirteenth and fourteenth centuries the alternation between red and blue is very common.

From antiquity we have references to books written in gold, and the luxury of gold and silver writing on purple parchment was adopted by Christians in East and West for the production of gospels and psalters.60 Saint Jerome, however, sharply denounced this excess in his *Prologue to Job*. Several different recipes for ink made with gold, silver, or cheaper substitutes have come down to us.61 There is no evidence for the use of precious inks or purple parchment in Ireland or in Lombard Italy, nor in the Merovingian kingdoms, but the Anglo-Saxons used both (gold writing occurs already in the *Lindisfarne Gospels*).

The Carolingians liked brilliant writing on purple parchment as well as on ordinary parchment, either for complete manuscripts or for occasional display; but they confined its use almost entirely to liturgical manuscripts.62 Faced with a choice between the precious metals, the Carolingians almost always preferred gold or its substitutes. Otto the Great had magnificent copies of his donation to the Roman Church (AD 962) and of the so-called marriage contract of Theophano made in this extravagant style. The tradition of making de luxe manuscripts continued into Salian times. Gold writing is used particularly for the names of saints in calendars, litanies and legends. In later times, gold and silver writing becomes rare. John of Troppau, the master of the Golden Gospel of Albrecht III of Austria written in 1368 (Vienna, Nationalbibl., MS 1182) had

59 For red ink in quotations see Lowe, *Palaeographical Papers* 1, 273. Insular scribes, perhaps in order to empty their pens, often added a red stroke to the abbreviation symbol, e.g. C. L. A. 2 1, 213, 241, 270, 273-272, 298.
60 See Lowe, *ibid.* 2, 200. The text of these manuscripts is written in silver, and in C. L. A. 111 399, 418, 420 and 6 the Nomina Sacra are in gold, in iv 418 the opening page of each gospel and the Lord's Prayer are also in gold. The Codex Argenteus, in public, is written in silver, with the canon numbers in gold.
62 For the early middle ages see the list in Lowe, *Lives*, 13 ff. In Paris, I. N. Lat. 253, s. 11X, the words of Christ are regularly written in gold.
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amongst his mouths a display manuscript from the early middle ages. On the other hand, the decoration of initials with gold and silver, later with applied gold leaf, was common practice during the entire middle ages.

Materials and methods of book illumination are described in the collection of recipes of the *Mappae clavicula* (from late antiquity, expanded during the early middle ages); in the so-called *Hercules* (roughly eleventh-century); in the *Schedula diversarum artium* of the monk *Theophilus* (about AD 1100), and in others.

8. Writing instruments

For writing with ink, the normal instrument used in antiquity was the reed pen, the calamus. While the reed probably continued to be used in the Mediterranean world at least until the early middle ages, the medieval West otherwise wrote mostly with a quill pen (often still termed a calamus in the sources). Ever since Alkman’s time, the quill pen was the theme of Latin and Old English riddles amongst the Anglo-Saxons, and the Verona riddle (about AD 800) also refers to the pen. There are some late medieval instructions extant for the curving of the quill pen, its ‘tempering’.

For writing on wax tablets the stylus was used, but it was also frequently employed with parchment for notes of all kinds. Old High German glosses are entered almost undetectably in many manuscripts in this way. Red chalk and, in later times, styliuses of soft metal were also used for entering notes.

The equipment of the medieval scribe, who wrote on a sloping desk, consisted of chalk, two pumice stones, two ink horns (for black and red ink), a sharp knife, two razors ("novaculae sive rasoria duo") for erasing, a "punctuator", an awl,


84 Gold leaf was preserved in manuscripts; see the Cologne library catalogue of 1833 "Liberum S. Augustini, in quo iactetix perle aurem" (A. Dekker in *Festschrift der 45. Versammlung deutscher Philologen und Schulmäster* Bonn 1895) 248. 'Trace of it occur in several manuscripts (CLA iv 484, x 1490; also in Clm 4777, f. 177, 174 ff. 71 ff.)


87 Schlemin, *Palaeographie*, 159 ff.


90 Bosch, *Mittelalterliche Studien* 1, 82-92.

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lead, a straight edge, and a ruling stick. The ‘punctuator’ was an instrument for making little pricked markings on the parchment to serve as guides for ruling lines; it consisted of a pair of compasses, though in later times a small wheel with points was also used.

The importance of spectacles (invented about 1285) should not be overlooked, not only for reading, but also for writing.

71 In accordance with the statutes of the Carthusians, cf. Gumbert, *Utrechter Kartäuser*, 308 f.
72 The monk in the well-drawn initial of Berlin, Staatbibl. Preuss. Kulturbesitz, MS Thes. 1.1. fol. 270 (French, x. XII), f. 224' seems to be holding a more complicated instrument with the same function: a fully-opened compass from one of whose legs a third movable leg branches out at an acute angle; illustr. infra, plate 14. For literature on the ‘punctuator’ see p. 21-22.
73 In classical times enlarging lenses were already used. On the use of quarts ‘reading stones’ in the middle ages and the invention of spectacles see G. Eis, *Vom Werden abendländischer Dichtung* (Berlin 1965) 41 ff. Medieval evidence for writing with the aid of spectacles in Wattenbach, *Schriften*, 288 ff. On the important find of medieval spectacles under the oak floor of the choir of the monastery at Wienhausen see H. Appuhn, ‘Ein deskonfizierter Fund’; *Zeitschrift der Verfahren* (1956) 25, 1-4 with plates; idem, ‘Das private Andachtshilf im Mittelalter an Hand der Funde im Kloster Wienhausen’, *Das Leben in der Stadt des Spätmittelalters, Stadtmuseum Osterr. Akad. Wiss., phil.-hist. Kl. 3,33 (1977)* 26 f. and plates 104 f. Imprints of medieval spectacles have been found both on an early medieval fragment in the Münster University Library and on another in the Gerleve monastery library. On the inside of the front cover of Clm 12717 (psalms, x. XVI) a suitably shaped cavity has been fashioned to hold spectacles. (I owe this reference to Frau Dr. H. Spilling.)
The external characteristics of the written heritage

1. The codex

The usual form of book in late antiquity and in the middle ages was the codex, which consisted of simple sheets of papyrus or parchment folded once and sewn together to form quires or gatherings. In origin it was an imitation of wax tablet diptychs and it had a predecessor in the parchment notebook. Martial is the first writer to mention a parchment codex format for a literary work, but he himself clearly preferred the papyrus roll. The terms 'liber', 'volumen', and 'tomus', originally used to designate the papyrus roll, were transferred to the codex after it had become the almost exclusive form of book.

As early as the second century AD, Egyptian Christians were imitating the papyrus codex by making parchment codices, which allowed a more economical use of the writing material than the roll. The size of the writing varied widely in these first papyrus books, ranging from one bifolio to fifty or more leaves, so that a whole book (such as a gospel) might comprise one gathering. In the age of parchment, this arrangement was still imitated in Irish pocket-gospels of the eighth century, for example in the Codex Bonifatianus at Fulda.

In continental book production, from antiquity until the early middle ages, a regular pamphlet gathering normally consisted of four double leaves (quatermol). In contrast, the gatherings in most Irish and Anglo-Saxon manuscripts consist of five double leaves (quinio, Old Irish cin, Anglo-Saxon cinc). This practice may also have been in imitation of a Roman model, as it is found,

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1 Santillàre, Beiträge, 186 ff.; Concetti, Lineamenti, 38-42; Compendio, 10 ff.; G.S. Isy, in The English Library before 1200, ed. F. Wormald, C.E. Wright (London 1953) 38 ff.; J. Yezin, 'La réalisation matérielle des manuscrits latins pendant le haut Moyen Âge', Codicologia 2 [Litterae textuales] (Lened 1978) 23 ff. Cf. also the reproductions mentioned on p. 21 n. 11.


5 See below p. 86.

6 Cf. CLA 11, p. vi i. 7 Cf. CLA vii, p. xvii. An exception: CLA vii 766.


external characteristics of the heritage

manuscripts from late antiquity in which only the frame for the writing space was drawn. In antiquity, and in most countries in the middle ages up to the twelfth century, the unfolded sheets (double leaf, bifolium) were prickcd and ruled, either individually or in groups of two, or even the whole gathering together. In this way, each individual leaf (folio, half-sheet) shows only one vertical series of prickings (or small slits). In manuscripts up to the sixth century the prickings were frequently inside the writing area; later, they normally appear at the edge of the writing area or at the outer margin. Not infrequently, double tram-lines were drawn to guide the writing of calligraphic initials.

At the beginning of the ninth century, an especially careful antique method of ruling was rediscovered and used in some of the best carolingian schools, such as Tours. This method involved placing one double leaf on top of another with the flesh-sides facing up, rolling them together, and then turning one over so that in the same gathering only homogenous pages with identical dry-point ruling faced each other, furrows on the flesh-side, ridges on the hair-side.

The Irish and the Anglo-Saxons had their own method: they folded the gatherings of sheets first, then prick each leaf or half-sheet left and right, that is in both margins. When double leaves were ruled before folding, the top and bottom lines of both pages were often drawn in one continuous line. From the twelfth century on, lead was frequently used for ruling; from the thirteenth century onwards, ink comes into use.

The economical use of a page of writing, and the impression it makes on the reader, are directly related to the space between the lines, the size of the letters, and the length of the ascenders and descenders. Between the twelfth and the thirteenth centuries, there is a change in so far as the top line was no longer written on but was left blank, in order to serve as a frame. From the thirteenth century on, the sequence of the double leaves in a gathering is frequently indicated by marks. In some very old manuscripts the first and last pages of a gathering are left blank.

Gatherings were numbered. In Latin manuscripts from the Byzantine East, numbers were placed in the bottom left-hand corner of the first page of each gathering, following Greek usage whereas in the oldest Latin usage the numbers appear in the bottom right-hand corner of the last page. From the fifth century on, the letters A, B, etc. were also used, often preceded by Q (quat.). In later times the numbers were moved to the centre of the lower margin and were frequently framed. The practice of signing with AX, BU, CT, etc., which is found in two manuscripts from Corbie, following after A-Z, recalls an antique elementary-school exercise.

Other methods of marking the sequence of quires are to use the letters in a name, or a number of points, or even more exotic systems. A further aid for the bookbinder are the catchwords (Reklamanten) written on the last line or word of a gathering, indicating the first word or syllable with which the first page in the next gathering began. This usage is found already in Spain in the tenth century, in France and Italy in the eleventh, and is later found everywhere. After sporadic earlier occurrences, foliation appears relatively often from the twelfth century on, and from the thirteenth onwards we also encounter pagination or even a continuous counting of columns in both liturgical and other manuscripts. In addition to foliation and pagination, another practice — more obviously intended to serve the purpose of citation — is the numbering of the four columns of an open book in manuscripts with two columns to the page. Even lines were numbered in some scholarly works, but this custom seems to have been restricted to England, and more particularly to Oxford, from the mid thirteenth to the early fourteenth century. Readers as well as copyists used as bookmarks little wheels of parchment with the numbers I to IV (representing the columns); the wheels could be rotated and moved along a thread. Quite a

21 CLA 174, 114 and perhaps vi 833.
22 So in the Venosa Gospel and in other MSS of eastern origin; cf. Lowe, Palaeographical Papers 2, table following p. 410. 23 Lowe, Palaeographical Papers 1, 203 and 271 f.
25 CLA 111, 154, 26. In de la Reuse MS Tours 22, s. IX.
27 An Italian scribe who copied Var. Lat. 1358 in France the eleventh century numbered the quires with the arabic numerals and their names, which Gerbert had introduced to the West.
number of these have been found dating from the thirteenth to the fifteenth
centuries.20

2. Format

The size of the codex depended not only on the extent of the work(s) which it contained but was related also to the nature of its contents and the purpose of the book, for example, whether it was intended as a de luxe copy, a portable missal, or for refractory reading. The size in turn decisively influenced the type of the script, although there were special traditions for some types of book.21 What precise format parchment manuscripts took depended on the size of the rectangular area that was available for use after the prepared animal skin had been folded; (in antiquity, and for the most part in the middle ages, this meant sheepskins). The parchment could be folded once or twice or three times, but this natural sequence might be disturbed if wider or narrower proportions, or square books, were preferred. However, later trimming of books often makes it difficult to determine their original formats.22

The largest extant Latin book from this period, the gospel of St John in Paris, BN, MS Lat. 10,459 (sacc. V–VI), 71 x 51 mm (45 x 34 mm, 11 lines) was perhaps worn as an amulet.23 In the large formats, Bibles in volume predominated24 from the

21 See also p. 130.
22 The forms of Roman and early Christian codices are listed by Lowe, Palaeographical Papers, 1, 184-45 (writing space) and 233-97.
23 Verg. Augusseus (CLA 11 124: 425 x 335 mm (c. 270 x 265 mm, 20 lines); Verg. Romanus (1 110: 332 x 332 mm (240 x 230 mm, 18); Verg. Sangallensis (11 97): 325 x 330 mm (213 x 255 mm, 16); Lucan palimpsest in Naples (11 125) ca. 305 x 390 mm (230 x 180 mm, 15); Digesta (11 205) 365 x 320 mm (255 x 225 mm, 204 of 45); Verg. manuscript with only eight lines per page (with wide margins, perhaps for scholars) may have existed. This would explain the enlarged capital letter which regularly begins every eighth line in the Carolingian manuscript Paris, BN, Lat. 7929 (Plate: Chatelin, Pal. class. inc., plate LXVIII).
24 CL 6 600: cf. Bischoff, Mittelalterliche Studien 2, 488. An illustrated life of St Margaret 83 x 61 mm, XIV, a text considered to have magical properties in relieving labour pains, has a roughly similar format (E. F. de Goldschmidt, London, Catal. 39, No. 1143).
25 A Spanish scribalium c. 100 produced bibles and collections of various texts in a very large format (up to 215 x 361 mm) and in three columns. CL 11 105 (and IX, p. 17; XI 163, XI 1654. For Tours Bibles see p. 208.

24

seventh century on, that is after the León palimpsest25 and the Codex Amiatinus26 (for which the Codex Grandior of Cassiodorus serves as a model). On the whole though, the medium folio format is the commonest in early medieval libraries. Amongst the smaller formats are Irish pocket-gospel books,27 manuscripts of monastic rules and laws such as the Benedictine rule from Tegernsee,28 and the manuscript of the Lex Baiuwariorum from Ingolstadt29 (probably a count's copy), learned notebooks and glossaries such as the palimpsest MS 912 from St Gall30 and the Vocabulary Sancti Galli,31 and also devotional books.32 Among later manuscripts the enormous 'Codex Gigas' stands out; it was written in the early thirteenth century by a single scribe in the Bohemian monastery of Poděbrady. It contains the Bible plus other extensive works by Josephus, Isidore, and others, on 309 leaves in a format of 89.3 x 40 cm (two columns, each of 105-6 lines), it is now in Stockholm.33

Towards the later middle ages a more economical way of writing became possible with the use of smaller and narrower letters and less space between the lines, and by increasing the number of lines and the number of abbreviations. In this way the contents of a book could be considerably enlarged while keeping to the same format, and the use of thinner parchment also helped to reduce the thickness of a volume.34

A new type of extremely small manuscript was developed for the most important book of all, the bible, which up to this time was normally copied in large folio volumes or (with the inclusion of the commentary) in quarto, divided up into individual books. The 'pocket bibles' which were produced during the thirteenth century in innumerable copies, above all in Paris but also in English and French monasteries, generally have a format of c. 14.5 x 10 cm, with a writing area of c. 9.5–10.5 x 6.5 cm, in two columns of 44–53 lines each. Because only the finest virgin parchment was used, they did not look too bulky, in spite of having four hundred to five hundred leaves.47

One of the most monumental German books of the middle ages is the Jena

40 CLA 11 122.
41 Colloquy facsimile ed. by K. Beyefule (Munich, 1926); cf. Bischoff, Schriftenbund 1, 249 f.; Külpfershtr. Nr. 16. 42 CLA 11 1077; 43 CLA 11 1076.
44 Bischoff, Schriftenbund 1, 245 f. (CN 6.3 and 6.4, both with Isidore, Synonyma).
45 A. Friedl, Codex Gigas (Prague 1936).
46 N. Ker demonstrated this change with reference to the longest work of Latin patristic literature, in 'The English Manuscripts of the Monulph of Gregory the Great', in Kunsthistorische Forschungen des Otto Pächt zu seinem 70. Geburtstag (Salzburg 1972) 77–84.
47 Reprod.: New Pal. Soc. 2, 2, plate 217; Crona-Kirchner, Schriftenbund, no. 9; Mosai, Gcik, reprod. 4.

25
study of formats is of interest not only for the history of book-making; it can also tell us something about the function of a book in its time. It was only the age of paper that brought about a greater regularity of formats and proportions.

There are also playful forms of codices, such as, for instance, a twelfth-century circular prayer book from the diocese of Passau, whose German prayers may indicate a woman as its first owner; and the heart-shaped chansonnier of Jean de Montcheru (c. 1460–76). A French prayer book that was written and illuminated for Philip the Good of Burgundy in about 1430 was embedded in the lower half of a binding in the form of a diptych, whose rounded upper parts have devotional pictures on the inside, so that the open book resembles a little house-altar.

3. The layout of the page

The traditional rules of book-making extended also to the layout of the page and the balanced distribution of writing area and margins. In this regard, the striking division of the writing area in a codex into separate columns, which was already frequent in the oldest manuscripts surviving from the fourth century but became the type for the codex, is probably in its origin a legacy of the papyrus page. The division of the text into four narrow columns is found in the fourth (fourth/fifth) century, but only rarely; more frequent is the three-column page. This type of arrangement is found several times in the fifth century (or the fourth and fifth centuries) for classical as well as biblical and patristic texts, but the majority of older codices show a preference for two columns. Writing in long lines is a less common practice in the early period.

It was normal in these earliest manuscripts to engrave the first letter of every page or of every column, even if they stand in the middle of a word. Hence, an enlarged letter did not necessarily indicate the beginning of a section, as was the case later with initials.

48 Die neue Leidenschrift (Facsimile ed. by K.K. Müller, Jens (R66)).
49 Ibid. p. 34. Further in Low, secn. 32. For a bibliography of a Caesarean speech in uncial, probably once in shape, a V, ca. 145 × (c. 130 mm) (80 × 88 mm), 17 lines: CLA vii 1453; Seiler, Patr. 2/1, Nr. 35.
52 Chovats, Monumenta n 23, plate 2.
53 E.g. Chatelin, Pal. cilians, lat. plate 162, Statius, s. XI; plate 92, Ovid, s. XII.
54 H. the Titer ‘Theophilos’ 24 x 10.5 cm.
55 Cf. G.S. (y), in English Library before 1700, on ‘Heleter Books’.
56 Two Carolingian anthologies that have this format are Bremen b 24 and St Gallen 273, c. 128 x 148 mm, and Varaz. Lat. 10,818, 120 × 175 mm; also CLA vii 833, Sedillot, 148 x 166 mm.

26
The relationship of writing area to page is, of course, dependent on the format. If the format is square, so is the writing area. It may be taken as a rule of thumb that in the majority of early medieval manuscripts of a tall, rectangular format the height of the writing corresponds to the width of the leaf. A set of instructions about the layout of a page with two columns, preserved from the ninth century, shows that more exact rules were sometimes followed, at least in good scriptoria.

Throughout the middle ages the layout of a page either in long lines or in two columns was predominant. An increase in the number of manuscripts with three columns during the Carolingian period is restricted to specific texts: the Liber Glossarum, and also bibles. Visigothic codices may have provided the models for both. On the other hand, the Utrecht Psalter, written in three columns in capitals, probably follows an antique model.

Manuscripts which contain a text and, in a different writing area, a commentary, required a special layout of the page. The early medieval method was to write them in two columns side-by-side; the column used for the commentary might have a different width and more lines for a different grade of script. Already in Carolingian times manuscripts with one column each for text and commentary respectively are found, but there are also glossed psalters with columns of commentary to the left and right of the text and with double the number of commentary lines to text lines. William of Ebersberg (sec. XI) used this design for his Song of Solomon, with a Latin metrical paraphrase in one column and a German translation in the other. In the twelfth-century Lambach Manuscript this complicated system of parallel columns gave way to the simpler method of having the commentary follow the text. From the twelfth century on the tendency is to unify text and commentary in one solid block of writing, but differentiated by scripts of different sizes. After

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3 The layout of the page

various experiments, this goal was achieved to perfection in the two-column university manuscripts of Roman and canon law, in which the commentary encloses the text symmetrically (perhaps following the example of Greek manuscripts with text and commentary). This type of layout was eventually taken over into early printed books ("cum textu inclusu").

The writing of rhetorical units per cola et commata is found in early biblical manuscripts and in the Old High German Tatian. Metrical forms too were preserved in writing, unless it happened that they were no longer understood (as was the case with Plautus and Terence). Otfried and the anonymous author of the Ludwigslied imitated these metrical forms by writing the verses on separate lines. Otherwise, alliterative and rhyming German poems were, as a rule, written like prose prior to the thirteenth century, and verses were indicated only by punctuation marks, if at all.

From the late-eleventh century on, manuscripts of Latin rhymed poetry occasionally set out the verses on separate lines, and in this the courtly poetry of France probably preceded German poetry, where we encounter it only in the thirteenth century. The attractive three-column layout of a page, relatively frequent in manuscripts of Middle High German and Middle Dutch epic poetry (sec. XIII and XIV), probably follows the example of thirteenth-century manuscripts of French epic poetry as Rudolf of Ems, for instance, must have known them. In three-columned manuscripts of this kind were transmitted the works of Wolfram of Eschenbach, Gottfried of Strasbourg, Rudolf of Ems, Ulrich of Türheim, Henry of Hesler, Henry of Munich, and biblical epics of the Teutonic Order, the Passional, and "Garin le Loherain. The layout of these beautiful manuscripts of Middle High German poetry provided the inspiration for the imperial secretary Johannes Ried when he wrote the Ambraser Heldenbuch for Maximilian I.

75 Depending on the extent of text and commentary, short passages of text are often set within the commentary at various points on the page. See, e.g., Chroust, Monumenta i 11, plate 8 (Petras Lomb. in ps., 1317-20).
76 This symmetrical layout, spread over two pages of an opening, is already found in a twelfth-century glossed Italian psalter, Florence, Bibli. Laur., S. Croce Pal. v. dextr. 6.
77 See below p. 109.
78 G. Baetstcke, Der deutsche Abschriften und die Herkunft des deutschen Schriftums (Halle 1910) plate 8; Fischer, Schrifttracht, plate 9.
79 H. van Thiel, Mittelalterliche Trachten (Göttingen 1937) Nr. 10, 22, 23.
80 Cf. e.g., Recueil des facsimiles a l usage de l'École des Chartes, plate 7; Nouv. cit., plate 201. An English example: Oxford, Bod., Eng. poet. a. 1 (S. C. 593-93).
81 Reprodu.: Wolfram von Eschenbach, Parzival, Titurel, Titurelgesang, Cgm. 10, facsimile, transcription: H. Engels, Fr. de Vrmel, plate 33; Deutsche Schrifttracht, plate 44 (Garin le Loherain); Deutsche Texte des Mittelalters 19 (Judith, Daniel, etc.) 39 (Ulrich von Türheim); P. Guchel, Die Welschbrücke Heiratsbuch von München in der Rolle vor der Handschrift (München 1935) Bd. III. To the list given by me in Palaeographia, pp. 112 add: Rudolf of Ems, Welthemer, Berlin, Ms. germ. fol. 1148 and Graiz, Landesarchiv (fragm.), Heinrich von Hesler: Marburg, Uff (fragm. 3); Passional: Berlin, Ms. germ. qu. 1722 and Graiz, LA (fragm.).
82 Fr. Unterkircher (Introdit.), Ambraser Heldenbuch, complete facsimile ed. Codices selecti 41 (Graz 1937).
28
4 Bindings

A normal accessory of a finished book is the binding, which protects the text. The majority of medieval manuscripts do not have their original binding but have been rebound once or even several times. Cassiodorus in his day had devised a model book binding, and five coloured patterns of interlace and braiding in a remarkable single leaf in a Paris manuscript probably served the same purpose. The history of medieval bindings has become known in its essential outlines through the discovery of many early medieval bindings. In all periods three main types of bindings existed simultaneously: de luxe bindings, wooden boards with leather covers, and simple parchment or leather wrappers.

The earliest surviving example of a de luxe binding is the cover of a gospel book in Monza, which was a gift of the Lombard queen Theodolinda. Comparably bindings were made exclusively for the most important liturgical books, using the most precious materials for their decoration: gold, silver, jewels, pearls, antique gems and cameos, ivory carvings, designs of beaten or molten gold or silver, champlevé enamelled work, and engraved or incised silver plaques. The commonest form of binding comprised a pair of wooden boards covered with leather, frequently reinforced at the corners or in the middle with metal bosses. "Libri catenati" have a chain fastened to the binding with which the book was attached to its stand. At various times, many workshops decorated the leather covers with characteristic blind tooling stamps: in the ninth and tenth centuries, and in the twelfth and thirteenth, and then again, in new fashions, in the late middle ages, especially in the fifteenth century. These stamps can provide reliable evidence about the history of manuscripts, and the science of book-binding in general has become an important auxiliary discipline in the study of manuscripts.

The art of leather carvings is late medieval. Practical book pouches were also designed during this period ("pouch-books," "libri caudati"). These were bindings for small prayer-books with leather hanging down at the bottom which could be drawn up for carrying them or fastening them to the belt.

The simplest way of protecting a book was to place it in a leather or parchment wrapper. Moderately early medieval covers of this kind have been preserved from Fulda - one of them with the title of the book in runes - and from Reichenau. These were often used for cartulary, account books, etc. Particularities in the stitching on the back, often protected by stamped leather or horn plates, gave rise to the terms chain-stitching or whip-stitching. Their late medieval designation "ligature me studiumt" points to another area where these limp bindings were commonly used.

83 CLA viii 1192; Lowe, English Uncial, plate 16. 84 CLA vi 968.
85 Lowe, Palaeographical Papers, 11, 310.
86 Lehmann, Erfahrung 4, 56-6 and plate. This practice was especially popular at Tegernsee in the eleventh century: Christine Elisabeth Edler, Die Schale des Klarer Tegernsee im fräher Mittelalter im Spiegel der Tegernser Handschriften, Studi Mittel O.S.B. 83 (1922) = Münchener Beiträge, Reihe, 67-9. Decorative layouts are found in the incipital exposition on the Song of Songs by Wilhelm von Weyarn (Clav 17,777 and 6428, x. XIV), Blaschott, Kalligraphie, 38 and Nr. 88.
87 H. Lohrler, Der Buchenband von einem Anfang bis zum Ende des 15. Jahrhunderts (Leipzig 1966), H. Schreiber, Einführung in die Einbandkunde (Leipzig 1952); in Reallexikon zur deutschen Kunstdschichte 2, col. 130-84. Some collections of plates: F. Kübler, Buchenbände aus elf Jahrhunderten (Munich 1858); O. Marso, Europäische Einbandkunst aus Mittelalter und Neuzzeit (Graz 1971); idem, "Der mittelalterliche Buchenband", in Liber liubron, 2001, Jülicher Buchdrucker (Genava 1973) 322-70; idem, Reimäß 307-314 and illustr. 85-7; idem, "Einband des 15. Jahrhunderts", in F. Ph. Godeffroy, Greek and Renaissance Bookbinding (London 1928); L. Gillman, La reliure occidentale antérieure à 1200 d'après les manuscrits de la Bibliothèque Royale Albert 1er à Bruxelles (Tournai 1983).
88 Inscriptores i 30.
89 Zimmermann, Vorkarl. . , plate 113; C. Nordenfalk, "Corbie and Caenodorus, A pattern page bearing on the early history of bookbinding", Pandex 32 (1924) 221-27 (with colour reprod.).
90 Franzs Svenbock, Die kirchliche Bucheinband im frühen Mittelalter (Berlin 1965).
It is important to look at the reinforcement of the binding and, in the case of paper manuscripts, at the parchment guard strips used to protect the stitching. Quite frequently, discarded manuscript fragments were used.\(^{59}\)

5. Rotuli and folded books

Medieval rotuli\(^{100}\) made of parchment are differentiated from the book 'volumes' of antiquity by the direction of the writing. This was no longer laid out in columns parallel to the long sides; the lines now followed the short sides (as, for instance, in the papyrus documents from Ravena). Rotuli were used quite extensively in the liturgy; they are attested in episcopal ordines from Rheims, Benevento, York, and Milan.\(^{101}\) A liturgical parchment roll of the seventh century has been preserved from Ravena,\(^{102}\) and the Lorsch litany dates from the time of Louis the German.\(^{103}\) The Exulter rolls in Beneventan script are remarkable for their pictures, which were shown to the congregation while the deacon was singing the liturgy of Easter eve from a pulpit.\(^{104}\) The decrees of the Aachen synod of 816 were sent to a monastery on a rotulus (the 'Murbach statutes' in Colmar, Arch. dep., 10 C Actes Généraux ladula 12 no. 4).\(^{105}\) Rotuli were found to be particularly suitable for compendia of biblical history, world and national chronicles, and extended genealogies (in the form of a family tree), which were very common. The roll ('role') has given us the word for the part played by an actor in the theatre. Examples of this type are for the roll of the Easter play of Muri (sac. XIII),\(^{106}\) the Frankfort director-roll (sac. XIV), and the roll of the fourth guardian of the sepulchre from the south-Italian Easter play (sac. XIV, and Sulmona, Arch. Capit.).\(^{107}\) In Germany they rhymed verse-love.


\(^{100}\) Wattenbach, Schriftenwerke, 157-174; Sattelhoffer, Beiträge, 153-162.

\(^{101}\) N.K. Rammussen, Unité et diversité des pontifices latins aux VIIe, IXe et Xe siècles, Litterae et effigies particulaires et litterae de Grady universelle (Rome 1979) 49-50.

\(^{102}\) CLA 1157 (on which see CLA 8 513); now in Milan, Bibli. Ambros., S.P. cassaf. 1.

\(^{103}\) B. Bischof, Lorsch im Spiegel seiner Handschriften (Munchen 1974); 45, Datschier, js., plate 1.


\(^{105}\) The Goethe library catalogue appears to list this in the same way, e.g. G. Morin in Rev. Bénéd. 24 (1959) 16, line 196 f. A similar item dated ca 813 which is comparable to the 'Annostrat capitolinum symonadium' (MGH Leges 112 1, 2, 301 f.) is the Munich fragment Clm 22555.)

\(^{106}\) Das Osterreich von Mark Faksimiliebuch der Fragmenten mit Rekonstruktion der pergamenen Rolle (Basel 1989).

\(^{107}\) See K. Young, 'The Drama of the Medieval Church' (Oxford 1933) 704-8; The context has been clarified by the subsequent discovery of the play: M. Lizan, Un dramma della pasqua del secolo XII. Miscellaneous Censusse: 18 (1930).

letter in Munich survives as an example of the rolls of lyrical poetry such as are seen so often in the hands of the poets depicted in Minnesong manuscripts.\(^{108}\) An example of this type is the poetic dispute 'Ganymede and Helena', which was copied on to a roll measuring 37 cm in length and 6.4 cm in width (sac. XII).\(^{109}\) Surveying all the other categories of texts that were written on rolls, it seems that pilgrims and other travellers liked to use this handy form, for there are rotuli of the Mirabilia Romanae,\(^{110}\) and the Peregri natio terrae sanctae,\(^{111}\) as well as medical and alchemical rolls,\(^{112}\) armorial rolls for use by heralds,\(^{113}\) and guild rolls.

The following items listed in the Nachlaß of Honorius Augustodunensis are probably illustrative materials to be used in school or as models for illustrations: 'Rodale, in quo VII liberales artes depictae. Item rodale, in quo Troianum bellum depictum ... Item rodale, in quo varia pictura',\(^{114}\) Typical also are the mortuary rolls of the monastic orders: they were sent from one house to another and preserved a record — sometimes extending over several centuries — of deaths and of the names of the monasteries visited, and also their obituary poems.\(^{115}\) Rolls were also used for records of deeds and as inventories of property. In the later middle ages paper rolls were glued together for accounts and dossiers.\(^{116}\) Also worth mentioning for their uncommon formats are folded amulets, calendars,\(^{117}\) and sheets of prayers.\(^{118}\)
6. Tabulae

The terms 'tabulae' or 'paginae' originally denoted large pieces of parchment (sometimes several sheets sewn together) stretched on a frame or fastened to a wooden tablet. To judge from medieval inventories, they must have been used in the schools for many purposes: elementary instruction in reading, and in the trivium of arithmetic, geometry, and music. From the frequent references to the ABC 'table', we can probably deduce that the school primer of the later middle ages, which had the customary book shape, was also called a 'tabula'. The post-medieval successor to this was the so-called 'horn-book'.

The most important world maps depicted on tabulae are the Hereford map and the Elbstorf map (now destroyed). Many a chronicle of monasteries, monastic orders, or world chronicles also took this form. Religious illustrative material too was contained on such tabulae, as for instance in the schema for the path of salvation entitled De quinque sectentis, and in the tabula with symmetrically arranged pen-and-ink drawings of the Apocalypse from St Peter's in Salzburg, which originally measured 63.5 x 63.5 cm (both texts are from the twelfth century). Finally, it may be noted also that in many medieval libraries catalogues inscribed on such tabulae hung on the wall.

7. Charters and letters

In no other area of writing do we find so many peculiar traditions as in that of medieval charters, which had developed from Roman forms of documentation and certification. The papyri charters from Ravenna occupy a special position as direct descendants of Roman types of charters. In early medieval

119 Cf. e.g., the Gorice library catalogus, s. XI, (in Morini)line 192 ff. and that of Saint-Amand, s. XII, in G. Becker, Catalogus bibliothecarum antiquae (Bern 1885) Nr. 124, 125 ff. Arithmetic. A. Feldhahn, 'Fraction tables of Hermannus Contractus', Speculum 3 (1928) 240 ff. Geometry. A page with ca. 150 figures, s. XII, in Vercelli, Bibli. Capit.
120 Bischoff, Mittelalterliche Studien 1, 72 f.
126 I have already mentioned was dipTychs WHERE the text on the outside is not visible because the tablet was sealed, and copies of the text were written on the inside.
127 Tjader, Nicholas, lat. Pap.

charters, however, not only the formulae but also the external features of antique charters were retained, even when they were now being issued by German officials. A reflection of this was the employment of papyrus in the chanceries of the popes and the Merovingian kings, the use of elongated or enlarged script for emphasis - which was continued, under special circumstances, until the end of the middle ages - as well as the survival of antique types of certification, such as the addition of salutations or a signature written by the issuer's own hand.

The papal chancery retained the use of papyrus until the eleventh century, and sealed its documents with leaden bullae. In the twelfth century, having given up the old script (the curials, which had been derived from the cursive) in favour of minuscule, the chancery developed a hierarchy of script types and external forms, related to the content of each document: if it was a solemn privilege it was provided with a rota containing signatures and a 'Bene Valet' monogram. If it belonged to one of the two classes of simpler documents to which bullae were usually attached, then it was provided with a seal affixed either with a silk cord ('cum filio serico') or with a hemp cord ('cum filo canapis'). The script of the papal chancery documents provided a model also for the secular chanceries.

The chancery of the Merovingian kings used papyrus up to the seventh century, when it was replaced by parchment. The Merovingians were still able to write their own signatures, but by Pippin's time there was substituted for this the simpler practice of completing a cross or adding the final stroke in the monogram of the king's name. Already by this time Merovingian royal documents were being provided with an additional means of certification by the impression of a wax seal.

The external appearance of charters throughout the middle ages was that of a single sheet with writing on only one side. In addition, for those documents which were written in chancery cursive or diplomatic minuscule respectively, the royal chanceries employed simpler forms, derived from letters and private documents, for general correspondence and for legal dispositions. This simplification included even the abandonment of elongated writing. From the Hohenstaufen period on, the make-up of diplomas was graded and two classes of royal letters in particular appear: letters patent ('litterae patentes') and letters close ('litterae clausae'). Very few original private documents have survived from the early medieval period. Only the archives of St Gall, whose original documents begin in AD 744, are a valuable exception. Otherwise the transmission of early medieval private documents is primarily dependent on copies collected in cartularies. These valuable collections were put together from the ninth century on by churches.

129 See above p. 8.
A.II. External characteristics of the heritage

and monasteries in order to document and protect their property rights, and they were kept continuously up to date, especially during the era of so-called illiteracy (tenth and eleventh centuries). During these years, when the evidence of witnesses was all important, a 'notitia' (a record of individual acts) or simply an entry in such a collection, or even in a gospel book, was deemed sufficient in place of a formal document.

New forms of the authenticated and certified documents were the chartography and the private sealed document. In the former, the text of the document was written twice or three times on one page, and between each copy the word CHIROGRAPHUM (or some other word). The parchment was then divided at this point through the word by making either a straight or an indented cut through the word.\textsuperscript{108} The chartography is of Insular origin,\textsuperscript{111} (the oldest examples are from England) and its use extended to the continent from the tenth century on. Similar forms of certification were retained down to modern times.

The practice of certifying a document by the addition of a seal, customary for royal documents, can be traced in non-royal documents from the tenth century on, but it is commonest in the twelfth. Under Frederick I the imperial chancery introduced the practice of appending the wax seal with a parchment strip, instead of pressing it onto the document, which had been the normal method for metal seals (bulls) since they were first introduced for diplomas in the ninth century.

In the late middle ages, the notarial instrument is the dominant form alongside the private sealed document. It developed under the influence of Roman and canon law. The document is certified by a notary with his signature and mark (notarial sign), and in Germany a seal is often attached. In comparison with Anglo-Saxon and Provencal, German makes a relatively late appearance, from the thirteenth century, as the language of documents.\textsuperscript{122} The oldest private document in German (Wilhelm Nr. 5c) dates from 1238; the oldest royal document in German (Wilhelm Nr. 7) from 1240. However, as late as 1275 the use of the vernacular was still permitted by Conrad von Mure in certain cases.\textsuperscript{133}

Very few original medieval private letters have survived from before the twelfth century.\textsuperscript{134} In outward appearance they can scarcely be distinguished

\textsuperscript{108} Cf. Arndt-Tang, 'Schriftzeichen, 87.
\textsuperscript{111} Bischoff, Meisteräckter Studien 3, 118 ff.
\textsuperscript{122} Fr. Wilhelm, Corpus der abendländischen Originalurkunden bis zum Jahre 1070 (Leipzig 1932) ff., 11.
\textsuperscript{123} Hirsch in Mittel. Inst. Oesr. Geschichtsforsch. 52 (1938) 237 ff.

7 Charters and letters

from imperial letters of the Salian period.\textsuperscript{135} The earliest examples we have are a papyrus letter of abbot Magarius of Saint-Denis from 788,\textsuperscript{136} a letter on parchment from bishop Wolfsbier of London dated 704/5,\textsuperscript{137} a letter of bishop Hildigran of Halberstadt from 876/7, and a letter (perhaps by a student) from the tenth century.\textsuperscript{138}

Letters on parchment were folded and tied,\textsuperscript{139} in a later period they might be closed with a thread pulled through them, or with a parchment strip. If the writer possessed a seal, that too could be used. Towards the end of the middle ages paper was more commonly used than parchment.

\textsuperscript{135} C. Erdmann, 'Untersuchungen zu den Briefen Heinrichs IV.', Archiv f. Gesch. 16 (1919) 186 ff.
\textsuperscript{136} For the alleged letter in Chla 1174 see H. Z. 387 (1959) 376.
\textsuperscript{137} Chla 1173.
\textsuperscript{139} This is how the propagandising text by Gunther of Cologne addressed to Hincmar was sent; cf. H. Fuhrmann in Archiv f. Dipl. 4 (1928) 1 ff.

36
Writing and copying

The literary sources have next to nothing to say about the technique of writing. In antiquity, scribes seem to have rested the material usually on the knee, in the middle ages by contrast on a sloping desk. Numerous pictures of scribes portraits of the evangelists in particular show the position of the hand for calligraphic writing. The quill is held with three extended or slightly curved fingers ('tres digiti scribant') and two tucked in, while the hand rests only on the little finger, without any support from the arm. This method of supporting the writing hand - so fundamentally different from modern practice - remained unchanged until the time of the sixteenth century writing masters. The position of the arm, changes in the manipulation of the quill, and besides that the material of the instrument itself (whether reed or feather) and the cut of the quill, all these charged with time and from one to another of the script regions, as the physiological analysis of the script shows. Hence it is difficult to get a clear picture of the interplay of the various factors, and the inferences about the mechanics of writing that can be drawn from the external appearance seem to have only relative validity.

1 For what follows see Wattenbach, Schriften, 280-99, 3 scite, Livres, 376 ff., Christ-Kern in Milaus, Leyb., Handbuch, 371, 265 ff.
2 Skoat Camb. Hist. Biblia 2, 58; Br. M. Metzger Historical and Literary Studies, Pagan, Jewish, Christian (Leiden 1948) 123-37, dates the general shift to writing at a desk to the eighth and ninth century, which is probably too late for the West. A scribe with a writing board with two levels (Ⅰ) on his knees is shown in an eleventh-century French illustration reproduced in J. Veinin, 'La réalisation matérielle des manuscrits léons pendant le haut Moyen Âge', Codicologia 2 (Lettres textuelles) (Leiden 1978) plate 1.
4 Fischersius, Menoch et Schrift, 98 ff., 166 and note.
5 Late-medieval rules for cutting the pen are devised for writing texts: Wattenbach, Schriften, 330 ff.
6 Obbl. di S. Enermann, as one of the finest calligraphers of the eleventh century, taught himself to write, but he had an incorrect way of holding the pen ('inrectum') which he retained all his life (MPL 149, 290).7 Fischersius is most comprehensive in his treatment of scripts, Menoch and Schrift 57 ff. and 75 ff. O. Hurnn, Schriften und Schreibwesen (Vienna 1928).

Much can be gleaned from 'probationes penne' about the methodical procedure of elementary writing instruction in the early middle ages (in which classical practices apparently survive). Once the pupil had learned the entire alphabet, beginning with simple strokes, this was then drilled by copying of mnemonic verses. Not before the later middle ages, however, do we get more detailed information about these didactic methods. Schoolmasters of this period - Master Hugo Spechtshart of Reutlingen and various other anonymous ones - have left detailed descriptions, in verse and in prose, of the common, everyday script; in part they proceed from the breakdown of the letters into various strokes, (Zersetzung), which are practised one by one. In fact, the mastery both of cursive and textura was widespread. Writing masters used advertisements to attract pupils to their lessons, and these were extended by instruction in alphabets of initial letters, and the commonest abbreviations. Elementary introductions to the construction and use of abbreviations have survived, the most detailed of which derive perhaps from the circles of the

8 Bichoff, Mittelalterliche Studien 1, 75-97. On the relationship between minuscule without ligatures and cursive script as stages in teaching writing in the pre-caroline period cf. A. Pottendorf, 'Libro, scrittura e scuola', in La scuola nell'occidente latino dell'alto medievo, Sessantino 19 (Spoleto 1972) 1, 327 ff.
10 Bichoff, Mittelalterliche Studien 2, 79 ff. Instances of classroom terminology which was used in teaching Tironian notes, but probably also for other purposes, in Steffen, Latomus Palaeographica, xxxii.
11 On St. Haplin's thesis, that the universities played an important role in the teaching of writing, cf. below p. 138.
13 As can be recognised in the script of titles and opening lines.
14 Very instructive writing exercises in texture are preserved in Laurence Mac. Pat. 25 in fol. (foll. 18-20), 325 350 (offset in the back cover), Wolfenbüttel 404 8 (26 Novi (with enlarged initials).
Writing and copying

Some authors dictated, so that the word 'dictate', which otherwise means 'compose' in the middle ages, also has its present meaning 'dictate'. We are best informed of all about Thomas Aquinas. He had several secretaries available, to whom he could dictate from his written drafts (in 'littera intelligibilis'), and in later years perhaps only from notes and outlines.

In the last few centuries digitizing archives has made it possible to recover the original drafts of written music, and to bring the music back to life. The 'musical manuscripts' were written in the hands of different scribes, who had different styles and techniques. The scribes would often repeat the same motif or phrase, and their handwriting would vary from one page to the next. The scribes would also sometimes add notes or corrections to the original manuscript.

By the eighteenth century, the process of copying and disseminating written music had become more standardized. The music was often copied by hand, and the scribes would work from the original manuscript to produce a new copy. This process could take several years, and the scribes would often work together to complete the task. The scribes would also sometimes add their own notes or corrections to the original manuscript, which could then be added to the new copy.

The task of copying a book was not infrequently delegated to several scribes by the supervisor of the scriptorium. These either alternated without any regularity or could copy separate gatherings or groups of gatherings.


22. In the St Gall ideal plan of c. 820 the scriptorium is on the ground floor of a building adjoining the church and one of the transepts of the abbey church, under the library; H. Reinhardt, *De St. Gallen Klosterplan* (St Gallen 1952) 81.

23. On scribes and ascriptions see Fichter, *Mémoire et Scriptions*, 155 ff. See also the verses of Peter Phenix on writing (below p. 228).


25. St Gall MS 8 (Libri Tobiné, s. X) seems to have been copied on parchment as a trial piece by several hands which were not very practised.


27. If the different hands in this sort of manuscript are particularly disparate it is probably safe to infer that it was copied in a school to which pupils had come from various different regions, examples: Berlin, Staatsbibl. Pruss. Kulturbesitz, Lat. 4° 690 (apparently from Mainz), Sainz-Oroz 91.
distributed singly according to a plan; this was particularly the case with long works, or if a speedy production was desired. Scribes often signed their sections. Occasionally the appearance of names, particularly at the opening of a gathering, indicates not the scribe of the manuscript itself but the copyist to whom the respective part was assigned for transcription.

In some manuscripts the scribes has clearly written some lines as a model for the pupils. Work on a manuscript is divided between the scribes and the rubricator (who can also, naturally, be a scribe); he, however, did not always complete his part of the task. If a manuscript has a colophon often only one scribe names himself, even where it is obvious that several scribes have participated in the work. Some manuscripts give indications about the speed of writing — which naturally fluctuates a great deal — by reference either to the time required or to the progress of the work.

In the later middle ages, in which the command of writing increases dramatically, there are many classes of scribes: monks and nuns, new ecclesiastical communities that devote themselves especially to book production, secular clerics, notaries, professional scribes both ecclesiastical and lay, workshops, teachers, students, and pupils all took part in the production of manuscripts.

In the thirteenth and fourteenth centuries the great established universities of Paris, Bologna, Oxford and Naples, and some others, made special provision for the organised and controlled copying of text-books for students through the institution of the 'pecia.' The university had a corrected standard copy of a text prepared, which was then deposited with a stationarius it employed, from whom in turn the work could be borrowed in parts (‘peciae’) for the purpose of recopying. The 'pecia' comprised (with certain local exceptions) two twin-columned double leaves in-folio (c. 31 x 21 cm). The recopying was carried out normally by professional scribes whose work was remunerated according to the number of ‘pecia’ at a standard rate of pay. The copies would then be checked by the university. The 'exemplars' of texts that were much in demand had to be replaced from time to time. Lists of texts in stock, with details of ‘peciae’ and prices, have come down to us from Paris, Bologna, Padua, and Florence. In the copies the change of 'peciae' is often noted in the margin. Legal and canonistic texts, and the explanatory apparatus with which they were combined, were copied from different ‘peciae’ exemplars.

In the fifteenth century the institution went into decline. The oldest German universities also adopted the office of the stationary in their statutes; with them, however, it did not have the significance that it had had in Bologna and elsewhere. Instead, in the later middle ages, the university literature was written predominantly by the students themselves, in part from the dictation of the masters.

The transcribed codex required correction and many late-antique subscriptions are concerned with this process, like 'contul' — remarks they have been retained in the manuscript transmission. Only rarely is the process explicitly mentioned in the early middle ages; all the more remarkable for that reason is the usage in St Martin's at Tours where, from the mid eighth century, the iotiron symbol for ‘requidem (us) est’ is placed at the end of gatherings in many manuscripts.

Many scholars have, in the course of transmission, taken on formulaic accessories which can be informative about the transmission itself. Expression is given to the activities of a scribe or redactor in the presentation of the text by additional entries (for example, subscriptions or dedications which are taken over from exemplars into copies). The contents of a book are indicated by a phrase like 'In hoc codice/corpore continentur . . .'; the title often begins with one of innumerable variations of the invocation 'In nomine . . .'; for example, 'In


32. See below p. 185-4.

33. The oldest example: CLA vi. 786. On Lupus of Ferrières see corrector cf. Elisabeth Polkırkin, 'Les manuscrits de Lupus de Ferrières', Biblioth. Chret. 115 (1952) 20. Doubtful passages are most often indicated by the use of 7 or 9 ('vaquer') in the margin.

34. See below p. 185.
nomine Dei summit' was especially favoured by the Irish. For the invocation the form 'Christe fave' (XP) occurs, and the group xhq ('Christe benedic', with the same meaning) is frequent in Irish manuscripts. A cross is also used, and many Insular scribes begin every gathering or leaf with one. 'INICIPIT' opens a superscription, just as the word 'FINIT' or the ungrammatical 'EXPLICIT' opens a subscription; 'FINIT' is the older of the two and was seemingly preferred by Insular scribes. These formulae were used especially by Insular scribes in arithmetic and bizarre variations (Inc.: occipit, inchoat, etc.; Expl.: explicit, explicitit, etc.). The word 'FELICITER', or something similar, was often added to these.

The term for the table(s) of chapters varies ('capitulatio' being especially common in Spain and Ireland, instead of 'capitula'). Already from early times there is a great variety in the scribe's good wishes for the reader ('Lege cum pace', 'utere c. p.', etc.) and for himself ('Scriptor vitai', 'Ora pro scriptore' — often set in a cross-shape, amongst other patterns), and there is a similar variety of expressions of thanks to God for the completion of the work and the closing words of the scribe.

The use of Greek often indicates an Insular path of transmission. Breton formulae contain 'Hisperic' words. Many an Irishman has recorded his mood in marginal comments. In the later middle ages scribes often amused themselves by writing various verses and postscripts.

Only a small number of scribal hands that have come down to us are immediately identifiable from their subscriptions; none the less, certain well-known names are found, from Victor of Capua (p34–54) and the Irishman Sedulius (sac. IX med.) up to Thomas à Kempis and Nicholas of Casa; the traditional identification of 'Bittera inintelligibilis' with the hand of Thomas Aquinas has been vindicated. Comparison of manuscripts may lead to the identifying and interpreting of unnamed individual scripts as historical witnesses — one of the most fascinating and delicate tasks of palaeography. The decisive establishment of the identity of medieval scripts in more than one

41 Cf. CLA xi p. 1V; W.M. Lindsey in Palaeographia Latina 2 (1921) 25 f.
42 Lindsey, ibid. 2 (1923) 5 b. 4 (1925) 83 f.
46 Those are being collated: Benedikt von Bury, Colophons de manuscipta evidentes des origines au XIe siècle (Freiburg/Schweitz 1968 fS). 47 Cf. n. 22.

and E. O'Murchu in Scriptorium 20 (1975) 178–80 are even further removed from concrete objects. Attempts to apply the results of palaeographical experience to eleventh-century caroline minuscule are made by W. Schlegl, Die Überlieferung deutscher Könige von der Karolingerzeit bis zum Intervall durch Kürze und Unterschrift (Kalmius 1959) 215 ff.
49 On the problem see Yde, Die Schule des Klosters Tegernsee, 13 f.
50 An example is offered by Waldfried Strabo's hand: Bischof, Mittelalterliche Studien 2, 34–51 with plate 1 f. In addition cf. n. 11 and the other instances noted in vol. 2, 30 n. 15. On the same problem in a late medieval hand, that of the Wittingen Augustinian Convent of Tethi (9th c. 1493), see P. Spanar, 'Voyoja autografa Odilicha Klina Tëdë, Livy filologjikë (81, 1959) 220 ff. with regard.
51 B. Bischof, 'Die Rolle von Einleuten in der Schriftgeschichte', in Palaeographia (1981) 93–103 and plates 3–10. For another example see one of the hands responsible for the inscriptions on the St Gall monumental page, Mittelalterliche Studien 1, 41–9 with plate 3 f.
52 This can be seen in the annal entries by the Regensburg canon Hugo of Lorsch (c. 1198–1216) and in the many dated notices of the librarian Bernard Iser of St Martin (c. XII–
54 See below p. 84.
55 See below p. 84.
56 Bischof, Mittelalterliche Studien 3, 12 ff. and plate I.
57 It is the script of the three rhythmic poems, transmitted only in Gothic Mh 1. 25, 221–224, which Wilhelm Meyer established as works 'from Alcuin's circle' in Nied. Kgl. Ges. Wiss. Göttingen, phil.-hist. Kl. 9 (1916), with, and which K. Strockower showed to be Alcuin's own work (47, MGH Pust. 469 ff); place cf. CLA viii 1206.
APPENDIX

Forgeries

A peripheral problem in palaeography is recognising forgeries and texts that have been falsified. The forging of manuscripts of allegedly antique or medieval origin is relatively rare in comparison with the forgeries of charters, but comes under various guises. There are two motives predominant behind their production: to offer forged texts and promote their authenticity, or to put something on the commercial market. Some forgeries betray themselves by the poor quality of their scripts, others through blunders; often old parchment is used.

In the eighteenth century Chrystostom Hanthaler, a Cistercian of Lichtenfels, fabricated and penned annals of the monastery allegedly from the thirteenth century. Romantic chauvinism was the motivation around 1820 for Wenzel Hanka in forging the Königshof and Grünberg manuscripts from which he published his Old Czech songs. The ambition to discover something called forth the forgeries by the many-sided Georg Zappert, his Old High German "lullaby" with Hebrew vocalization) and the "Conversion-book" of Maximilian, amongst others.

The alleged specimen of handwriting from a "lost" work of Cornelius Nepos in an uncial palmleaf manuscript was exposed by Ludwig Traube by reference to the inexpertly used facsimile. Uncial fragments of Plautus and Catullus were also produced, the former on purple parchment allegedly of the fourth century, the latter a palimpsest under a Middle

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57 We deal here only with forged manuscripts which actually exist or whose alleged script has been made available in some form. Material in Warenheim, Schriftwesen, above W. Speyer, Die literarische Fälschung im hebräisch- und christlichen Alterston (Munich 1971), esp. 315 ff.


59 Reprod.: V. Vortík, Rokuťová královédětská a slezská, Dokumentární fotografie (Prague 1930). The same is the Višňová, Die Handschriften von Grünberg und Königshof, data by the Višňová, Deutsche Buchhandl. (Frankfort am Main 1956).

60 O. Králové, "Romanische Handschriftenfälschungen", Arch. f. Kulturgesch. 54 (1927) 69-73.


