From sheep to shelf

An illustrated guide to Medieval Manuscripts for students

Content

Introduction

Intellectual Output Week 1 of the „Digital editing of medieval manuscripts"-project (DEMM) is a collection of instructions and materials as an outcome of working with medieval books. It contains easily understandable but nevertheless scientifical introductions to the most important fields of codicology. The texts were written by lecturers in the fields of codicology and they were designed for students and interested people to get a first impression of working with medieval manuscripts. Furthermore, the output contains special examples written by junior fellows to illustrate how codicological studies can be used for different questions. These examples are positioned according to the codicological issue they are concerning and draw the attention of the readers to topics dealing with medieval libraries and book culture.

The first DEMM training week focused on original medieval manuscripts. We were working in the monastic library of Klosterneuburg, which holds one of the largest medieval libraries in Central Europe preserved in situ – in a still active cloister. This library contains 1256 medieval manuscripts from the beginning of the ninth until the end of the 15th century. Most of the collection was written in the medieval scriptorium of Klosterneuburg, other manuscripts were bought from other European regions or collected by the canons. The canons were not only priests who used manuscripts in liturgy or needed texts for preaching. They were often highly educated scholars who collected texts on various topics such as theology, (canon) law, medicine and the natural sciences, and historiography. Both the environment and the abundance of resources made this library an ideal place to engage with European medieval book culture and get an overview of the different contemporary methods in the field of codicology – or archaeology – of books.

The DEMM students had various levels of experience with medieval manuscripts. Some of them had already been working on relevant manuscript projects or were finishing editions; others had been dealing with medieval texts but had not seen any original manuscripts. The main goal in Klosterneuburg was to familiarize the students with the essential methods and approaches of manuscript research in a very short time and thus develop the prerequisites for a better understanding of the sources for digital editions. For this, groups of five to seven students were formed and selected one non-catalogued manuscript each. Each group was supervised by a tutor, who was not only familiar with manuscript research, but also with the library and local repertories. They moderated the process of learning using a peer–to–peer approach and tried to balance the different levels of experience. The results were fully digitized manuscripts and a codicological description, which are available on the website http://manuscripta.at, the most elaborate manuscript portal for Central European medieval manuscripts.

The following materials, primarily collected by the tutors, are the summarized output of those weeks in Klosterneuburg. Each chapter introduces the topic and presents some examples, which explains the practical use of these manuscripts and deepens insight.

You will find the descriptions and the digital images of the manuscripts discussed during the DEMM training weeks in Klosterneuburg on http://manuscripta.at. The following list gives an overview.

CCl 696: Peter of Poitiers. Petrus Comestor
Parchment – I, 189 fol. – 355×245 mm – France, 13th C.
Description and digital manuscript: http://manuscripta.at/?ID-901

CCl 705: Vitae Sanctorum
Parchment – 159 fol. – 286×190 mm – 12th C.
Description and digital manuscript: http://manuscripta.at/?ID=912

CCl 714: Guilelmus de S. Theodorico. Visiones. Rupert of Deutz
Parchment – I, 177 fol. – 285×200 mm – Klosterneuburg, End of 12th C.
Description and digital manuscript: http://manuscripta.at/?ID=922

CCl 723: Paulus Orosius
Parchment - 107 fol., 310 x 210 mm - 12th C.
Description and digital manuscript: http://manuscripta.at/?ID=944

CCl 737: Aristoteles. Nicolaus of Damascus.
Parchment – I, 107 fol., I – 290 x 220 mm – France, 13th C.
Description and digital manuscript: http://manuscripta.at/?ID=950

CCl 741: Historiographic Texts
Parchment – 202 fol. – 290x210 mm – Klosterneuburg, End of 12th C.
Description and digital manuscript: http://manuscripta.at/?ID=957

CCl 798: Anselmus of Canterbury.
Parchment – 82 fol. – 246×180 – Austria/Bawaria, 12th C.
Description and digital manuscript: http://manuscripta.at/?ID=1025

Codicological approaches

Codicology enables researchers to study books as physical objects, especially manuscripts written on parchment or paper in codex form. Each medieval manuscript is an individual book and codicology allows researchers to discover information regarding the context, production and usage of the book. It also sheds light on historical traditions which are not necessarily found in the content. The codicological investigation of books requires various approaches from different disciplines and tries to answer questions such as:

- What was the manufacturing process? What materials and writing equipment were used?

- What is the structure of the book? Do we have a single book or did someone compile it from different pieces?

- Are there connections between other manuscripts or manuscript creators? What influences or networks are visible?

- Where was it written and to whom did it belong? Can we find former shelf marks and notes, which can help identify dispersed books what were formerly kept in the same library? If we have collections of manuscripts, are there any assumptions about the interests or even the economic resources of the communities that collected them?

- What local traditions in producing books can be found? Did they change over a long period of time?

- Who was involved in the process? Do we know the customers, scribes, or users and the context of use (e.g. liturgical, public reading, studying, …)?

- Are there annotations from readers, which give an impression of what people thought of these texts and how they were understood at certain times?

The following texts and examples should provide students and those interested in medieval manuscripts with a brief introduction to codicology. This introduction will describe the materials used to create manuscripts as well as manufacturing and writing processes. Additionally, it will explore the field of palaeography and give facts about manuscript provenance. The focal point is European codicology. The following examples refer to monastic collections in Austria, most of them in Klosterneuburg, highlighting certain special or rare codicological phenomena.

Writing support

Papyrus

Papyrus was one of the most heavily used writing materials in Antiquity. Papyrus originated in Egypt and was later adopted by Greeks and Romans. It was made from papyrus sedge. The core of the stem was sliced into thin layers and these layers were superimposed at a right–angle. It was then pressed to make it more stable. Papyrus was typically used in the form of scrolls (square pieces were conglutinated) only one side of which was usually written on.

Papyrus has two disadvantages: it is brittle and tends to break when folded, and it is extremely susceptible to changes in temperature and humidity. In the fourth century, with the gradual adoption of the codex in the West, parchment started to replace papyrus as the preferred writing surface. Some Western chanceries continued to use papyrus for letters and charters until the early eight century (with the papal chancery using papyrus as late as the mid-eleventh century).

Parchment

Parchment is made from animal skin, most commonly, calfskin, sheepskin or goatskin. It has been used as a writing surface since the second century BC. Until the introduction of paper in the twelfth century, parchment was the most important writing material in the western world.
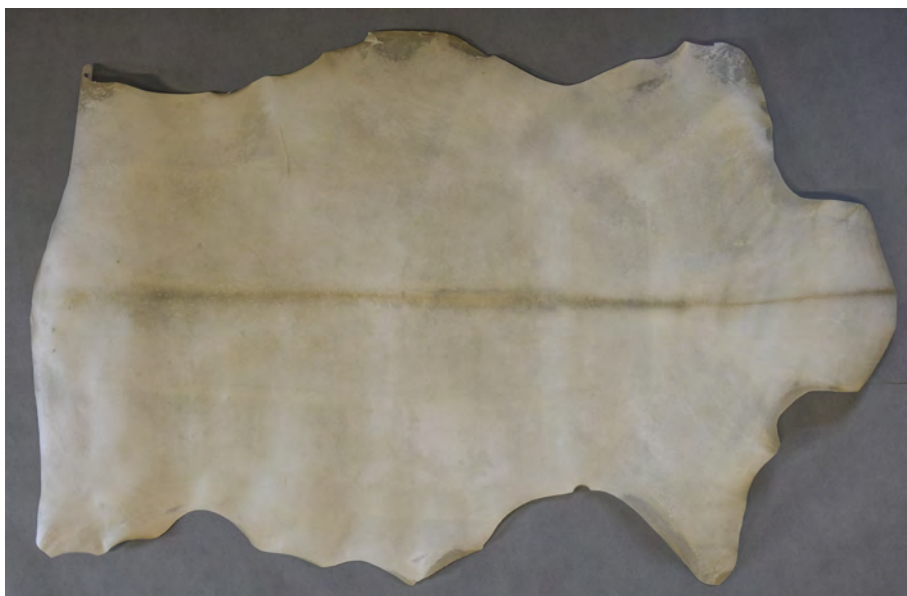

Figure 1: Parchment made from sheepskin.

Unlike leather, parchment is not tanned. Means of production varied in different areas and times (and based on the skin used), but generally the skin was first soaked in a de-hairing liquid. This removed fatty residue and loosened the hair, which was scraped away with a blunt knife (called *lunellum*). Afterwards, it was dried under tension, usually stretched on a wooden frame. After the drying process the surface was polished smooth with pumice.

It was not always possible to process the skin flawlessly. Sometimes ruptures emerged because of handling or pre-existing blemishes. Small holes were usually sewn with a simple thread. Sometimes seams were opened again and only the punctures around the holes survived.
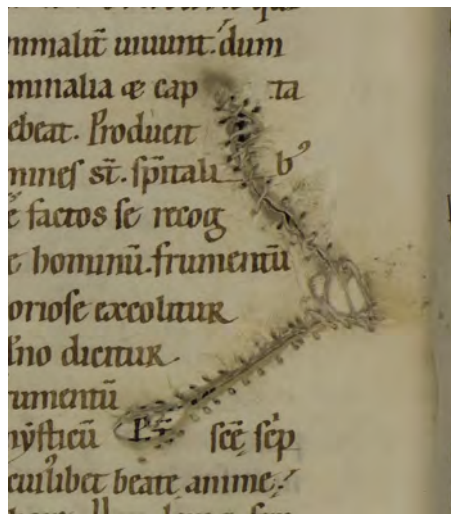
Figure 2: Rupture sewn with thread and partly cut open (Admont, Stiftsbibliothek, Cod. 58 fol. 44v).

Figure 3: Rupture sewn with coloured thread (Admont, Stiftsbibliothek, Cod. 16 pag. 119)

Despite parchmenters' best efforts, the flesh side of the skin (generally smoother) can usually be distinguished from the hair side. The hair side shows a rougher texture and the colour is often slightly darker. In Italy, Spain, and southern of France, the flesh side was treated more thoroughly than the hair side throughout the early Middle Ages, which made the difference between the two sides even more obvious. By the 13th century, smoother parchment became the norm for medium- and high-end production.

In the early Middle Ages parchment was often produced in monasteries. As demand increased, production slowly transferred to secular craftsmen. Sources about these craftsmen became more plentiful in the 13th century. At first these craftsmen sold their parchment mainly to urban chanceries. In the later Middle Ages more and more monasteries procured parchment from secular craftsmen.

Dyed parchment was employed for the most luxurious manuscripts in Late Antiquity. One of the oldest known and preserved examples is the *Codex Argenteus*[1] from the beginning of the sixth century. This manuscript of the four gospels in Gothic language is written with gold and silver ink on high quality parchment dyed purple.

Unlike paper, texts written on parchment could be erased and re-written. Texts no longer deemed necessary were scraped or scorched, enabling the parchment to be reused. Such "recycled" parchment is called *palimpsest*. Different techniques enable the recovery of some erased texts. In the past this was done through the application of acid, which proved detrimental for the manuscript. Nowadays multispectral imaging is one of the preferred means of retrieving hidden texts.

Paper and Watermarks

Paper was invented in China during in the second century AD. During the eighth century papermaking was introduced to the Islamic world. Its dissemination to Europe began in areas such as Iberia and Sicily, where Christian and Islamic cultures interacted. The first recorded European paper mill was situated in Spain, near Valencia, in the eleventh century. Papermaking gradually spread northwards and eastwards. It was established relatively early in Italy, which became the centre of western paper production in the high Middle Ages. In some places, such as England, papermaking only became established in the 17th-century.

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[1]Uppsala, University library, Cod. DG 1. Digital version of the 1927 facsimile by Davis Landau: http://app.ub.uu.se/arv/codex/faksimiledition/contents.html (20.12.2016)

Paper production took place on a different scale than parchment production and employed different materials and techniques. Linen rags (most commonly) were cleaned, soaked, and pounded. This pulp was then poured into a sieve or the sieve dipped into the mixture. Afterwards the pulp was pressed and dried, and finally treated with different substances to be prepared for the writing (or later the printing) process. In the second half of the 13ᵗʰ century in the Italian Marches around the village Fabriano water mills were modified for paper production. Hydropower was used for shredding the rags and enhanced methods of metal processing allowed the production of thinner wires for the sieves. The third innovation was bone glue as the firming substance for the paper so that the ink would not spread out. The Italians also invented watermarks as a form of trademark protection. This was created by inserting a shaped wire into the sieve. Its shape varied significantly and was commonly composed of letters, emblems, animals, or tools.

Figure 4: How the watermark comes into the paper.

The early reception of paper was hesitant. Some chanceries discouraged the use of paper for charters or important legal documents, reserving it for more transitionary documents such as court records. As paper became cheaper and more easily obtainable, it started to replace parchment in other areas. The ability to dampen paper made it extremely receptive to the printing process, influencing its overwhelming popularity in early modernity.

Modern scholars have utilised the appearance of watermarks for systematic analysis. Since the 18ᵗʰ century scholars collected, classified and analysed watermarks, which were provided in printed repertories. The works of Charles Briquet and Gerhard Piccard were most well-known and utilised until the web project *Bernstein – the memory of papers* (http://www.memoryofpaper.eu) brought together a large number of repertories and databases.

Watermark research is based on dated paper manuscripts. Paper was not stored very long and the sieves were usually used for around five years before they needed to be replaced due to material fatigue. If we have watermarks from dated manuscripts it can be assumed that an undated manuscript with the same watermark is from the same time.

Watermarks can be found using different methods. The most common is placing a light-sheet (a page–size thin source of light) underneath the paper. This enables the identification of the watermark more clearly and the mark can be rubbed onto a thin sheet of paper. Professional research projects use more complicated and expensive methods such as X-ray imaging, which is more precise. After measuring the dimensions the motif can be found in printed repertories (such as Briquet and Piccard) or in online databases.

Types and Motifs

Watermarks that are the same with regard to their motif, form, and size are considered ‚watermark types‘. The watermark type is identified in different repertories, e.g. Piccard or Briquet and gives information about groups of watermarks collected there. Undated watermarks can be dated by finding their type in the repertories.
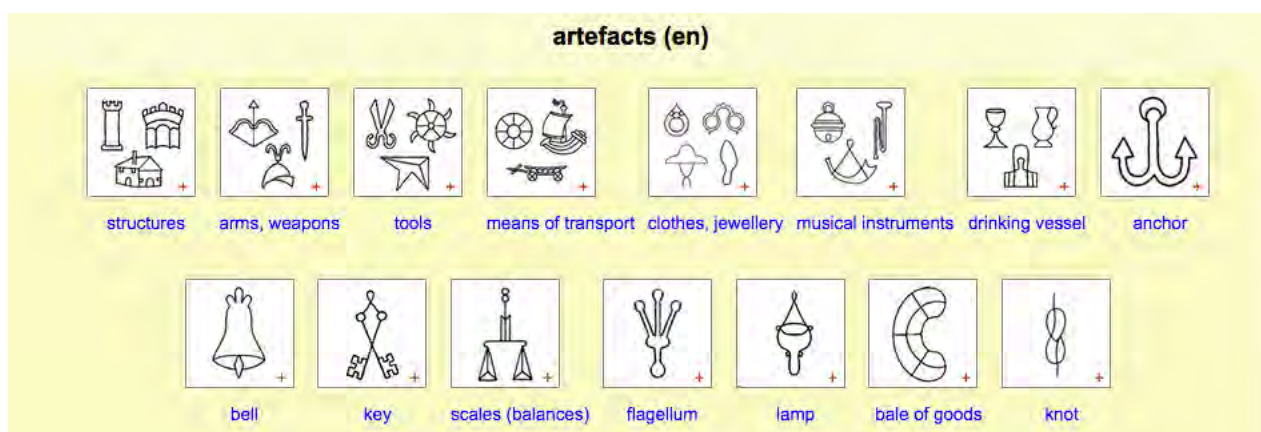

Figure 5: Icons of the motiv *artefacts* from the watermark database www.wzma.at (20.7.2017).

Pairs

Watermarks usually appear as pairs, indicating that during paper production two sieves were used at the same time. At first the *vatman* lifted the paper pulp from the vat and carefully shook the contents to spread the pulp evenly over the screen. Then the mould was given to the *couchman*, who laid a sheet of felt over the fibres in the mould, and couched the fibres on the screen onto a prepared piece of felt by turning the felt over. He then couched the very wet new paper leaf to a piece of felt. Using this method, it was possible to make up to five thousand sheets of paper during a twelve-hour workday. The two moulds had the same watermark motif, but there are slight deviations. This is because it is not possible, with wire on the grid, to produce exactly the same figure in both sieves.
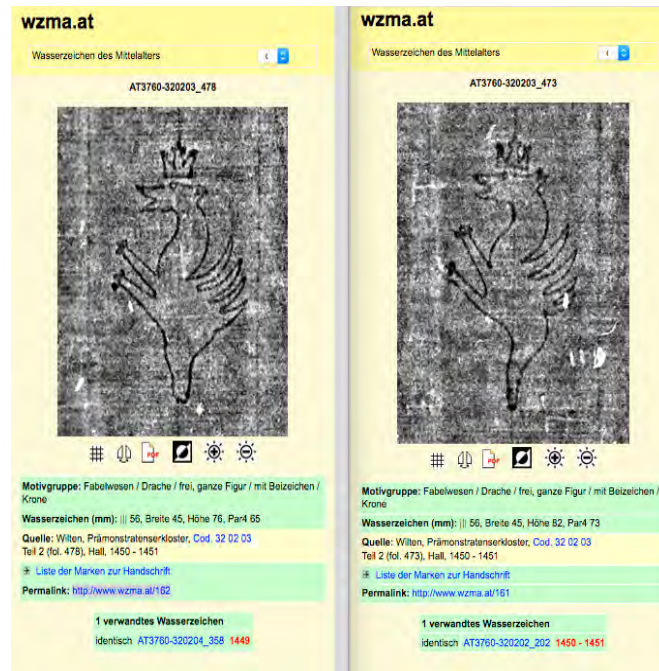
Figure 6: A pair of watermarks from the watermark database www.wzma.at (20.7.2017).

Identical watermarks

This term is only used for watermarks which are absolutely identical. Identical watermarks mean that the paper was produced with the same mould. If identical watermarks are found in two different manuscripts and only one is dated, it is possible to date the undated manuscript with great certainty, provided that it can be established, by codicological analysis, that the paper was not out of remaining stocks.

Figure 7: Identical watermarks in two different manuscripts (www.wzma.at 20.7.2017).

Variants

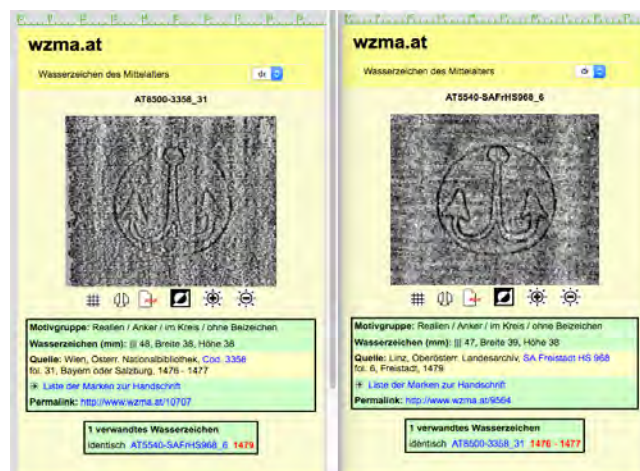Moulds with the paper sieves were used over several years and, due to mechanical pressure, the wires sometimes slightly moved or were repaired after damage. These changes of position on the screen are visible in watermarks and are called variants.
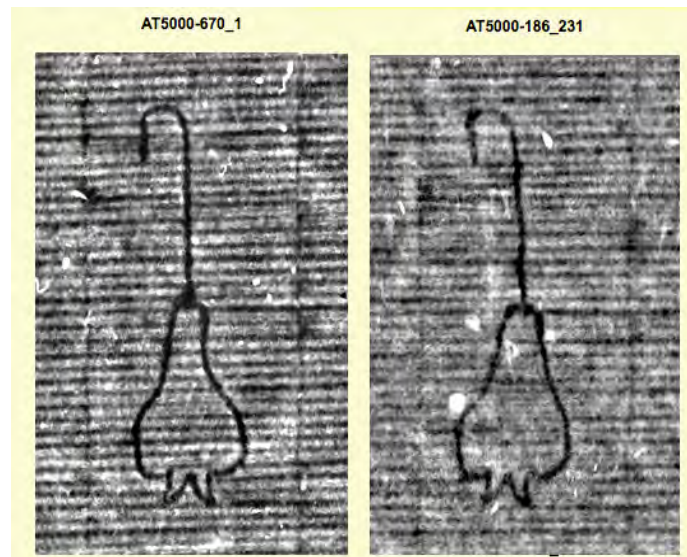

Figure 8: These two watermarks are variants and originate from the two different moulds, which were used from the papermakers at the vat (www.wzma.at 20.7.2017).

Literature

Bull's Head and Mermaid. The History of Paper and Watermarks from the Middle Ages to the Modern Period, Booklet and catalogue of the exhibition presented by the Landesarchiv Baden-Württemberg, Hauptstaatsarchiv Stuttgart and the Austrian Academy of Sciences, edited by Peter Rückert Sandra Hodecek and Emanuel Wenger, (Stuttgart–Vienna 2009). Online available at http://www.bernstein.oeaw.ac.at/twiki/pub/Main/ProjectExhibitions/bernstein_2009_book_en.pdf

The web project *Bernstein – The memory of papers* provides comprehensive knowledge on watermarks, paper history and research materials such as databases, digitized repertories, maps and bibliographies:
http://www.memoryofpaper.eu/BernsteinPortal/appl_start.disp
http://www.memoryofpaper.eu/products/watermark_terms_en.pdf

A List of online watermark databases is available at http://www.wzma.at/wzonlinekataloge.php

A collection of printed repertories is available at http://www.wzma.at/wzkataloge.php

Example: Dating with watermarks

Martin Haltrich

The medieval chancery of the county Tyrol under Meinhard II (1239-1295) is regarded as innovative and exemplary. During his reign, the county's administration was reorganized, and in the late 13th century it became the first country north of the Alps to adopt the use of paper. The Tyrolean counting books - *Raitbücher* - from this period are still preserved in the Austrian State Archive in Vienna, as well as the register of the Counts of Tyrol, dated 1309. On basis of the dated manuscripts, it is possible to discover out material for an investigation of the watermark.

The manuscript HHStA W 261 measures 320 x 225/230 mm and consists of a layer with originally 25 double sheets. The Chroust'sche quire formula thus yields (XXV-4 + 1)[47]. The old leather cover of the manuscript from the 16th century, which bears the inscription *Burggrafenambt 1310* on the back cover, was bound in the 19th century by a cardboard cover.

The inscription is divided into two columns by means of hand-drawn strokes, and the space between the individual entries in the older gothic cursory is left free for supplementary objects. On approximately half of the pages, there are datings from the years 1309 or 1310, while only fol. 4v, in another hand, bears the year 1314. The manuscript, therefore, was used for five years, beginning in 1309 and, with a few exceptions, continuing until 1314.

The codex contains a pair of watermarks, which are named *CICCO V* in majuscule and extend over the entire double leaf with a width of approximatly 300 mm. The letters, with a height of 27 mm, are in each case arranged between two web wires which are about 50 mm apart. Any estimate regarding the distance of the ground wires is not possible due to paper consistency.

Figure 9: The oldest watermark found in today's Austria *CICCO V* dated 1309 (www.wzma.at 20.7.2017).

The pair of watermarks *CICCO V* can be proved as a *type* in the repertories of Zonghi (no. 39-41, dated 1307-1310), Likhachev (no. 98-99, dated 1310) and Briquet (no. 12008, dated 1308). Briquet gives for the number 12008 a ‚variant similaire' with the provenance ‚Tyrol, 1309-1310'. By these six proofs in the most important repertories, the dates 1309 and 1310, which are recorded in the manuscript, are confirmed, so there is no doubt that the paper was created during these years. The watermarks are therefore one of the oldest known in modern-day Austria.

Literature

The watermark data available at the database WZMA – Watermarks from the Middle Ages hosted by the Austrian Academy of Sciences: http://www.wzma.at/10160.

Martin HALTRICH, Frühe Verwendung von Papier in der Tirolischen Kanzlei. Bestätigung der Datierungen von Kanzleibüchern des beginnenden 14. Jahrhunderts mittels Wasserzeichen. *Gazette du livre médiéval* 51 (2007) 53-56. Online at http://www.persee.fr/doc/galim_0753-5015_2007_num_51_1_1759

Charles M. BRIQUET, Les Filigranes. Dictionnaire historique des marques du papier dés leurs apparition vers jusqu'en 1600. 4 Bde. (Paris etc. 1907. 2. Aufl. Leipzig 1923. Neudruck Amsterdam 1968, N°12008). Online at http://www.ksbm.oeaw.ac.at/_scripts/php/BR.php

Likhachev's watermarks, ed. by J.S.G. SIMMONS, B. VAN GINNEKEN-VAN DE KASTEELE (Monumenta Chartae Papyraceae Historiam Illustrantia XV, Amsterdam 1994) 98-99. Online at http://memoryofpaper.oeaw.ac.at/likhachev/likhachev.php

Aurelio & Augusto ZONGHI, A. F. GASPARINETTI, Zonghi's watermarks (Monumenta chartae papyraceae historiam illustrantia III) 39-41.

Ink and tools

The process of manufacturing ink in different colours is well-documented in medieval sources. These ink recipes were either written on empty spaces in manuscripts, or specifically collected, especially in the 15th century. One example is the *liber illuministarum*[2] from the Bavarian monastery of Tegernsee.

In the Middle Ages, black or brown coloured ink was primarily used for the main text of a manuscript. Iron-gall ink (whose which has a colour range from light brown to black) was produced by mixing oak galls, metallic salts, and acacia gum with water or wine. Carbon ink (black colour) was manufactured by mixing water, wine or vinegar with acacia gum and charcoal. Red ink was used for headings (so called *rubrics* coming from the Latin word for red: *rubrum*), initials or more important passages. Purple, gold, and silver ink were reserved for luxurious manuscripts.

During Antiquity scribes wrote with reed pens (*calamus*), whereas the quill was the dominant writing tool throughout the Middle Ages. The feathers were taken from either either geese, ravens or swans and were sharpened with a small, very sharp knife. Steel nibs were not invented until the 18th century.

Figure 10: Feathers during different processing stages.

A scribe's equipment also sometimes included red chalk for highlighting special passages and a razor, which consisted of a sharp metal blade and a handle.

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[2] Munich, Bayerische Staatsbibliothek, Cgm 821.

Literature

Christine BEIER (Ed), Gotik. Geschichte der Buchkultur 5/1 (Graz 2016).

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Karl LÖFFLER, Wolfgang MILDE, Einführung in die Handschriftenkunde (Bibliothek des Buchwesens 11, Stuttgart 1997).

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C. H. ROBERTS, T. C. SKEAT, The birth of the codex (Oxford 1989).

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Peter F. TSCHUDIN, Grundzüge der Papiergeschichte (Bibliothek des Buchwesens 23, Stuttgart ²2012).

Assembling Manuscripts

The size of books was determined by both intended use and parchment size. Medieval manuscripts differed greatly in dimensions, with some types of books preferring a specific size. In the liturgy, for example, antiphonaries, which were read by a choir from a distance, tended to be extremely large, while personal breviaries were commonly *vademecums* (literally *go with me*) and hence befitted smaller formats.

The parchment skin was cut and folded to a double leaf, called a *bifolium*. Usually four or five bifolia were put together to create a quire, which is the smallest section of a medieval book.
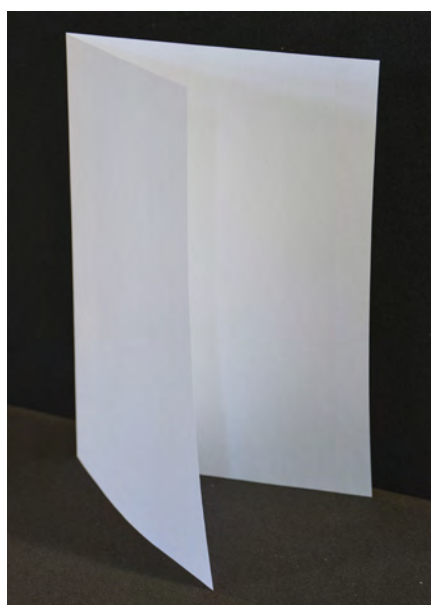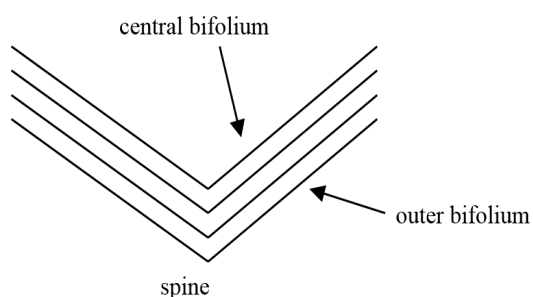

Figure 11: Sheet folded once, i.e. one bifolium.

Using four double leaves for a quire, creates eight leaves and 16 pages to write on. This form of quire is called a *quaternion*.

With the introduction of paper it was possible to put more bifolia together into one quire. Quires began to consist of five (*quinion*), six (*senion*), seven or even more bifolia.

quire name	bifolia	leafs	sides
single bifolium	1	2	4
binion	2	4	8
ternion	3	6	12
quaternion	4	8	16
quinion	5	10	20
senion	6	12	24
septernion	7	14	28

Page numbers were uncommon in the Middle Ages. Some manuscripts, however, were foliated. Rather than writing page numbers on each page, as is common today, medieval scribes and writers numbered every leaf, usually on the front side, leaving the back numberless. These numbers are still used to navigate manuscripts today. Researchers refer to the front side as *recto* (*right*, abbreviated as *r*) and the back side as *verso* (*left*, abbreviated as *v*). Pages are therefore identified as, for example, "fol. 1r" for the front side of the first leaf and "fol. 3v" for the back side of the third leaf.

As mentioned above, a manuscript consists of one or more quires. Quires might be very regular, meaning that each quire consists of the same number of bifolia, in a manuscript that was originally planned the way it is found today. A completely regular manuscript consisting of 15 quaternions is made of 60 bifolia - 120 leaves or 240 pages. However, if later collectors assembled unbound texts or re-assembled medieval books into new manuscripts, quires may be quite irregular, meaning that a manuscript might consist of quires with different numbers of bifolia.

Very often pages were cut out of manuscripts or inserted at a later date. It is very helpful to know if leaves were removed or were added. For instance, if a page has been removed, this could mean that parts of the text are also missing. Quire structure also assists in identifying the different parts of a compiled manuscript. If a manuscript starts with quaternions and changes to quinions after a few quires, it suggests that its quires were tied together later.

Counting the quires

The quire structure sheds light on the manuscript's compilation, history and usage. There are different methods of scientifically describing this structure, either through formulas or graphic illustrations of the quires.

A fictional manuscript with six quires in total exemplifies three common approaches of describing quire structures. The hypothetical manuscript consists of two parts – the first part is consists of four quaternions, the second of two quinions. The first quire of the manuscript is missing a page, but is foliated consecutively.

Graphic illustration
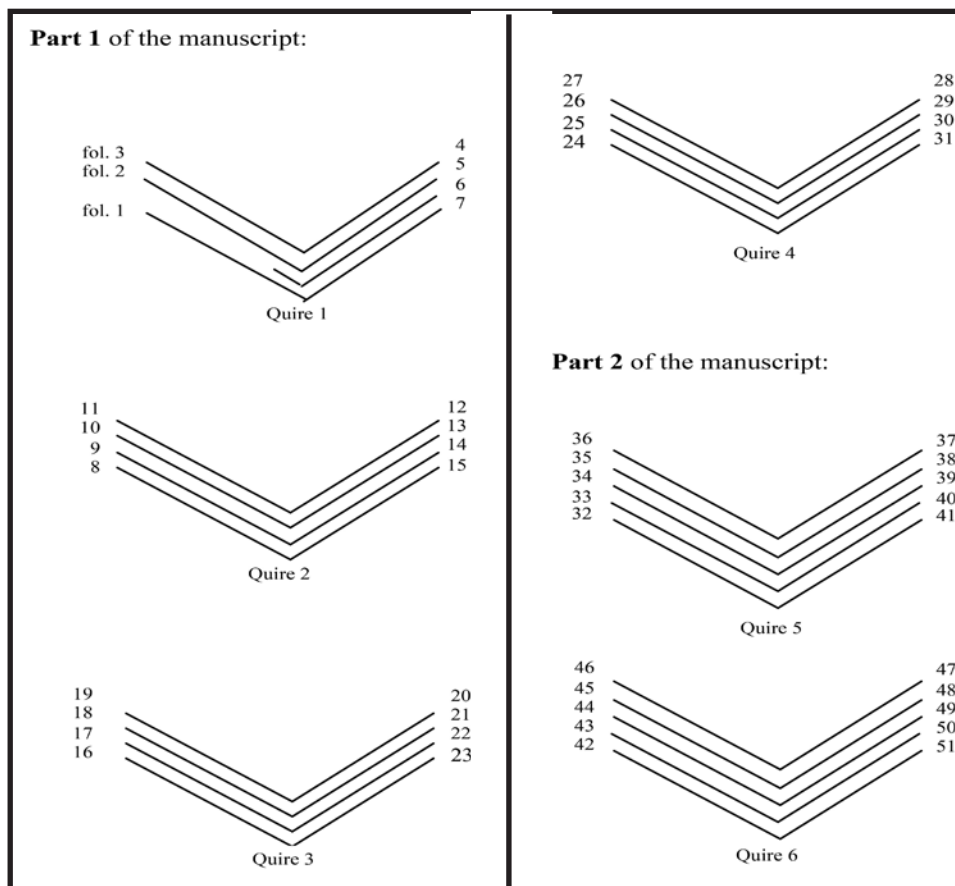
Each quire of the manuscript is represented in the illustration, thus its irregularities can easily be seen. The graphic illustration, however, requires a great deal of space, especially for lengthy manuscripts.

Chroust's formula

It is also possible to describe the structure of quires by way of a formula. In German-speaking countries this is referred to as "Chroust'sche Lagenformel" (formula of quires by Chroust), after the Austrian historian Anton Chroust, who deployed the formula to simplify working with quires in 1901.

At first sight, the formula seems quite complicated, but it has many advantages for those familiar with it. The formula for our manuscript is:

$$(IV-1)^7 + 3.IV^{31} + 2.V^{51}$$

The formula employs Roman numerals for the type of quire, standard Arabic numerals for the number of quires or missing pages, and superscript Arabic numerals for foliation. Thus, the first quire is a quaternion ("IV") with a missing page ("-1"). The superscripted number indicates the foliation of the last page of the quaternion ("^{7}") and therefore makes it possible for other researchers to easily locate the quires of the manuscript. This irregular quire is followed by three ("3.") regular quaternions ("IV"). Again the superscripted number ("^{31}") references the foliation of the real book. Finally, two regular quinions ("2.V") complete the manuscript, and therefore the manuscript itself, ending at the last and 51st leaf ("^{51}").

Note:

If a mistake was made in the foliation of the original manuscript (e. g. fol. 31 was accidently not numbered and therefore got the "new" number 30a), the formula will show this incorrect foliation number in its superscripted numbers $(IV-1)^7 + 3.IV^{30a} + 2.V^{50}$. This is important for reference, as prior researchers will have been quoting this page as fol. 30a. Any mistakes in the foliation and every irregularity must be explained in a short paragraph below the formula.

This formula is useful in referring to the original manuscript and its foliation. However, one cannot easily identify which page of an irregular quire is missing. While the formula shows that one page is missing, it cannot immediately be determined where this absent page was originally located. The location of the missing page needs to be pointed separately.

The 'English System'

The 'English System', another formula to describe quire structure, was first employed for describing incunabula and early printed books. The renowned manuscript scholar M.R. James began using this formula for manuscripts. The basis of the formula is the counting of quires. For our exemplar, the formula is:

$$1^8 \text{ (lacking 2), } 2\text{-}4^8, \text{ } 5\text{-}6^{10}$$

The Arabic numerals indicate the position of the quires in the codex, whereas the superscriptions illustrate the numbers of pages included in each quire. This number has to follow the common numbering of quires (2, 4, 6, 8, etc.), with missing or added folios indicated in brackets. The first quire was originally made of eight leaves, with the second leaf cut out. Quires two to four have eight leaves, quires five and six have ten leaves.

The advantage of this formula is that one can see the number of the quires at first glance. The disadvantage is the missing reference to the real manuscript. Without this reference it is not easy for researchers to know where exactly a leaf is missing or to combine contents and the quire formula, as there is no indication of the foliation or pagination of the manuscript.

Helpful symbols: Quire Signatures and Catchwords

The description of a manuscript depends on determining where one quire ends and the other begins. This can be done by looking at the thread in the middle of a quire and counting the leaves to the next thread (the middle of the following quire). By doing so, one can determine how many folios are in a quire. In some manuscripts gathering signs show the end of each quire. If this sign is a number, it is called a *quire signature*. A quire signature informed the medieval bookbinder of the correct order of quires for binding. The first quire will show a "1", "I", "primus" or a similar symbol. On the second quire there will be a "2", "II", "secundus" and so on.
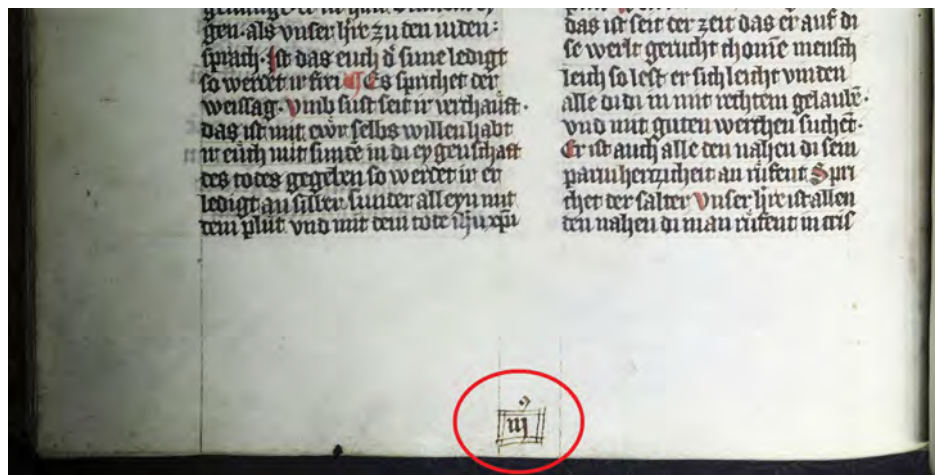

Figure 12: Quire signature at the end of the third quire (III⁹, which reads *tertius* or *third*).
Klosterneuburg, Stiftsbibliothek, CCl 4,fol. 29v.

Note:

If the quire signature starts again with "1" in the middle of a manuscript this indicates that the manuscript is made up of different parts and was not originally planned in the format of the present book.

Sometimes, the first word of the following quire is found at the end of the previous quire. This is called a *catchword* and also assisted the bookbinder in his work. Catchwords continued to be used after the introduction of print.
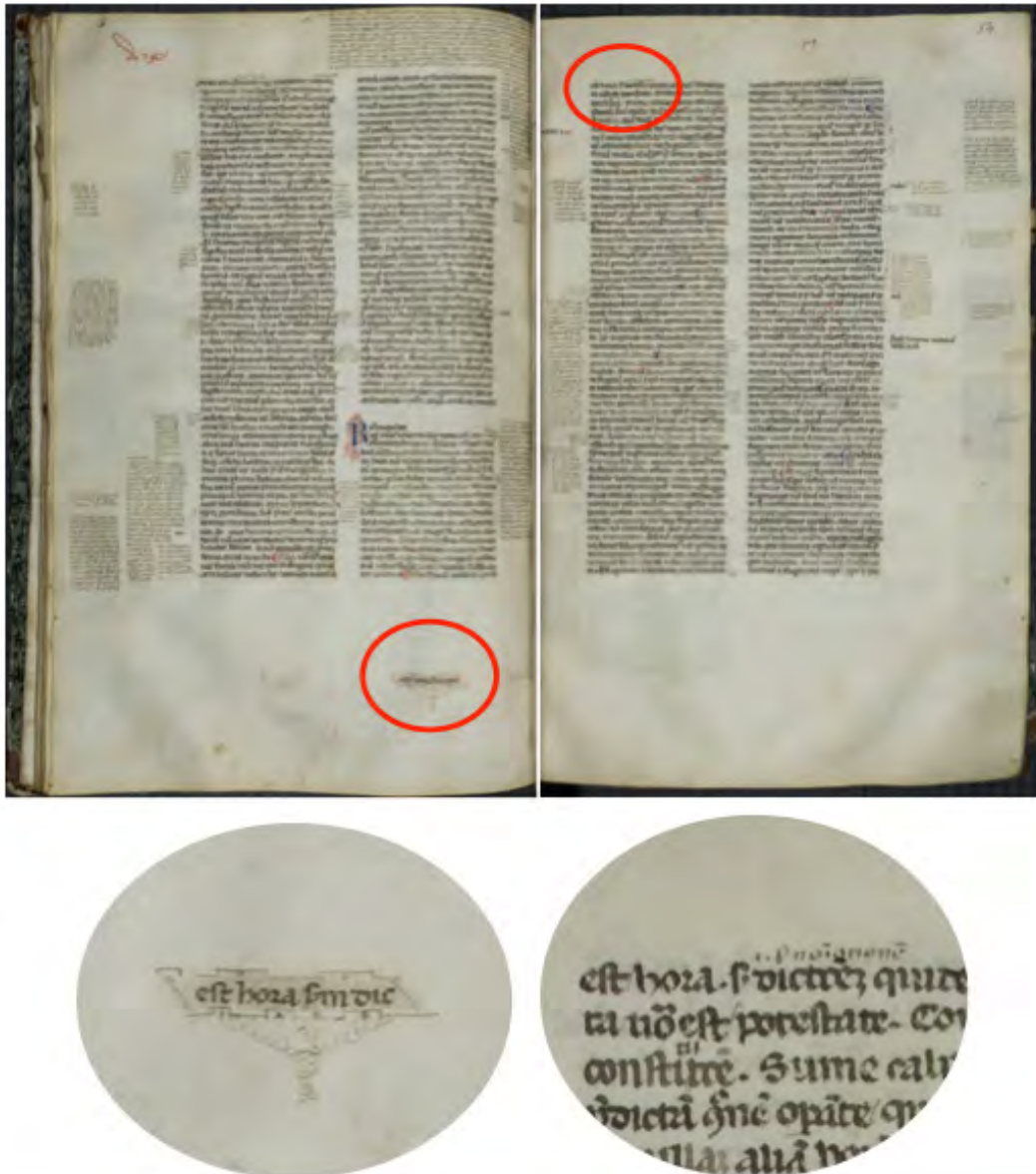

Figure 13: Catchword at the end of a quire (verso-page) and the beginning of the following quire (recto-page). Klosterneuburg, Stiftsbibliothek, CCl 126, fol. 53v-54r.

Layout and Writing

In the Middle Ages, the majority of writing took place in monasteries. In most cases the scribe and the author of a text were not the same person. While monks or canons usually copied texts they needed for the monastic life – for studying, or for liturgical reasons – they also copied books for external purchasers. As more and more books were needed (e.g. for students), professional secular writers came into the picture. Sometimes, these people even built their own workshops to produce books. These secular workshops were sometimes located in prospering cities and their number and importance increased throughout the late Middle Ages.

Texts were either dictated by one person with one or more scribes writing down the text, or simply copied from another manuscript. To facilitate this, monasteries often exchanged manuscripts, borrowing and lending manuscripts between monastic libraries in order for copies to be made. Another possibility was that the books were copied in their native monastery and then the finished duplicates were exchanged.

Before starting a book, scribes had to carefully consider its layout, how many quires would be required, and how individual pages would be organized. To enable a precise arrangement of the text, a scribe first had to prepare the quires and rule the pages, which was often done by pricking at the edge of each page. Small stitches, for creating the lines, were made with a knife or another sharp object along the longer edges of one or more leaves. Quite often, scribes drew a frame first for orientation during the pricking process. Some researchers suggest that pricking wheels (wheels with prickles at certain intervals) were employed, but that has yet to be proven conclusively. During the binding process, the pricks were often cut off, and therefore are not always present in extant manuscripts.
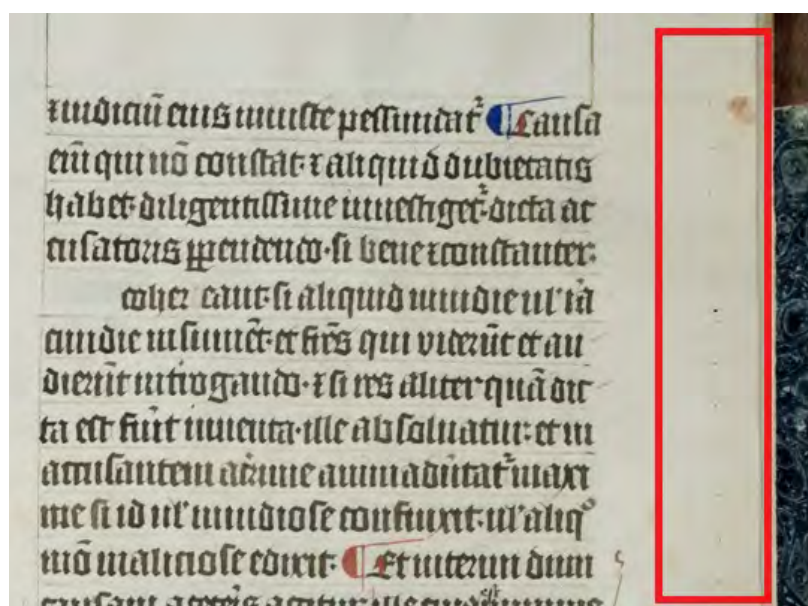

Figure 14: Pricksmarks the height of a line for ruling the page. Klosterneuburg, Stiftsbibliothek, CCl 58, fol. 31r.

There were different techniques for ruling a page. Scribes either used a stylus or hard-point for so called *blind ruling*, or drew lines with the equivalent of a modern pencil or with ink.

In medieval manuscripts a text is usually laid out in one or two columns. More than two columns are uncommon, except for texts containing vocabularies or indices. Exegetical or legal texts often included different layers of commentaries, which had special layouts. The main text is written in larger letters in the center of the page while the commentary surrounds the main text in slightly smaller letters. This form is used, for example, in glossed books, and is called *textus inclusus*.

Figure 15: A so called *textus inclusus* in a legal manuscript of the early 14th century.
Klosterneuburg, Stiftsbibliothek, CCl 99, fol. 119r.

Scribes sometimes modified the text they were copying, changing details of the content or the orthography (especially if the text was in the vernacular). Medieval texts rarely name their authors or scribes but, in some lucky cases, scribes integrated short sections, called colophons, which identified their names and some details of the writing process, such as dates, location or even how long it took the scribe to copy the text.
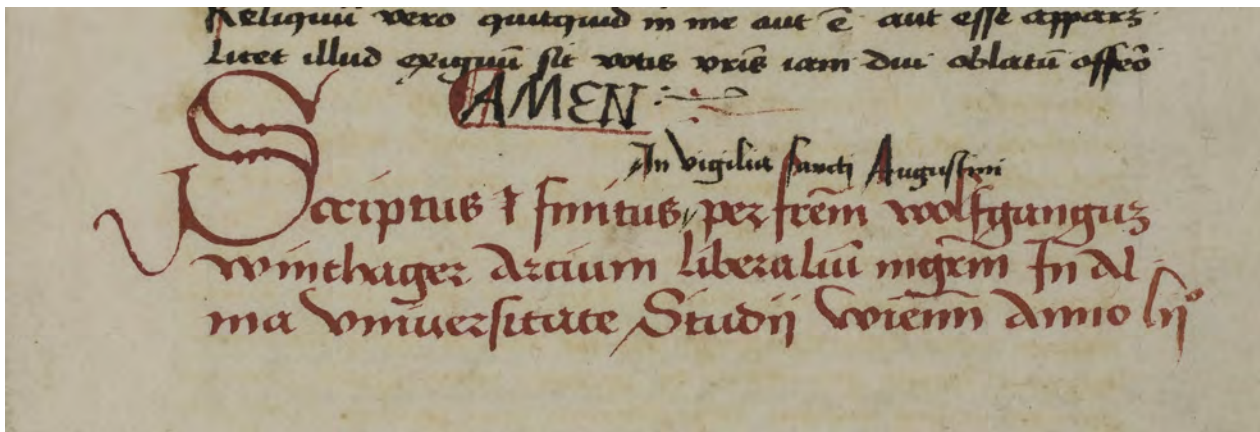
Figure 16: Colophon of the canon Wolfgang Winthager in the monastic library of Klosterneuburg.
Klosterneuburg, Stiftsbibliothek, CCl 743, 290r.

The colophon above indicates that Wolfgang Winthager, a canon of the monastery Klosterneu-burg and *magister artium* of the University of Vienna, wrote and finished the text in the year 1452: *Scriptus et finitus (in vigilia sacti Augustini) per fratrem Wolfgangus Winthager arcium liberalium magistrum in alma vniuersitate studii Wiennensis anno lii⁰.*

How did the writing process take place? The scribe had to calculate each page carefully. A me-dieval scribe began by writing the black part of a text (that is, the main text). He therefore had to identify the location of capitals, colourful initials, or decorative elements before commencing his writing, as these would require that he leave blank spaces on the page for their later insertion. The time a scribe took to write a single page depended on the size of the manuscript, the script he was using, his experience, and the nature of the commission. A trained scribe could write approximately three to four leaves per day.

Some elements of the manuscript were written in red by another scribe, known as a *rubricator*. Rarely, manuscripts still preserve the minute instructions left for the rubricator by the original scribe. In some manuscripts blank spaces at the beginning of a text or chapter can also be iden-tified. These spaces were originally left blank for initial letters that never materialised.
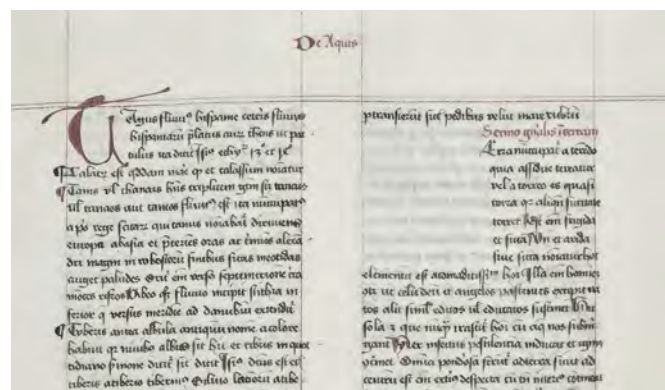

Figure 17: Free space for the initial letter *T*. Klosterneuburg, Stiftsbibliothek CCl 125, fol. 25r.

For some manuscripts, artists were employed to illuminate the books with initial letters, miniatures or other decorations. The following image demonstrates the stage of production for a coat of arms. The colour to be used was clearly noted (*plab* stands for 'blue' in old German dialect, *gelb* is 'yellow') even though the illustration was never finished.

v

Figure 18: Unfinished coat of arms in a manuscript of the 15th century.
Klosterneuburg, Stiftsbibliothek, CCl 1253 fol. 126v.

The illumination of books does not belong to the field of codicology, but is rather a part of art history. Nevertheless the two research fields are connected and a cooperation between them is inevitable for both art historians and codicologists. The following example shows an art historian's view on a masterpiece of medieval book-art, which gives an impression of the topics and approaches in this research field.

Example: Initials in the Great Antiphonary of Klosterneuburg

Michael Grall

A four–volume parchment antiphonary (CCl 65-68), which contains the chanted parts of the Divine Office, is extant in the library of Klosterneuburg. Due to its large format (545x390 cm) it is known as the Great Antiphonary (*Großes Klosterneuburger Antiphonar*). Its size enabled several canons to simultaneously chant from the same antiphonary. It was commissioned between 1420 and 1424, the apogee of economic and cultural activity at the monastery of Klosterneuburg. Originally, it consisted of two books but was rebound in 1450 into four books, adding 141 folios.

The antiphonary with musical notation was ruled in red ink and written in black ink in a fine regular Gothic Textura. The volumes contain 275 decorated initials and 16 historiated initials (the latter containing a narrative scene).

The decoration of the antiphonaries is typical for 15th century Bohemia. The Hussite Wars resulted in the relocation of over 80 manuscripts from the Cistercians in Sedlec near Kutna Hora to Klosterneuburg, which impacted local Viennese traditions of book illumination. Payments made to the Antiphonary's illuminators were documented in the counting books of Klosterneuburg, preserving with their names: Master Michael and Master Nicholas. The antiphonary was a collaboration between several scribes and illuminators. Besides Master Michael and Master Nicholas, researchers suggest that another illuminator, dubbed 'Master of the Kremnitzer-Stadtbuch', participated in the creation of the antiphonary. This illuminator is also known as 'Master Veit'. Figure 19, showing Epiphany in an historiated initial *M* in CCl 65 on fol. 157v, illustrates *M*(agi) *videntes stellam* ['The Mages, seeing the star']. On the left, Mary and Child are sheltered in a canopy-shaped structure. Christ is standing on his mother's knees and reaches out for a gift, which is presented to him by a kneeling magus. Another mage points at the star of Bethlehem. A delicate pastel–coloured, six-petalled acanthus,

Figure 19: Epiphany in initial *M*. Klosterneuburg, Stiftsbibliothek, CCl 65, fol. 157v.

and ornate leaves that spring from the historiated initial as extenders, are typical for Master Michael's decorations, and are often accompanied by small, golden spheres and spirals at the end of the acanthus.
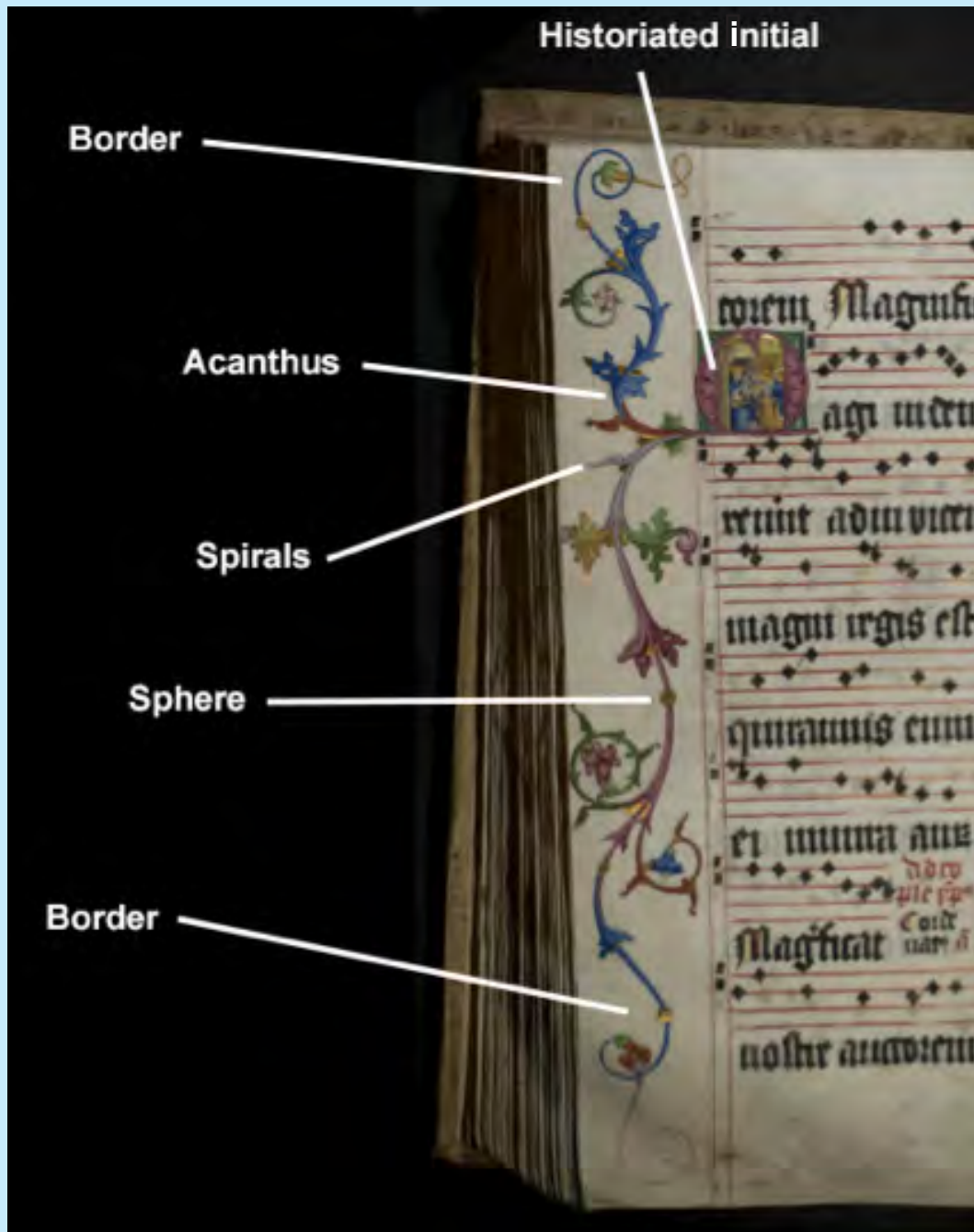
Figure 20: Visualization of art-historical phenomena.
Klosterneuburg, Stiftsbibliothek, CCl 65, fol. 157v.

The antiphonary offers a unique opportunity to witness the development of a single illuminator. Master Michael was active from the 1420s, when the manuscript was created, until 1450, when the added leaves were made. His professional career thus spans the creation of the manuscript. Master Michael's historiated initial *E* in CCl 65 fol. 302r (Evangelist Symbols; figure 21) is part of an added leaf, reflecting the final stages of his work, which can be described as simplified and repetitive. It is also characterized by the overall lack of variation in the composition and its dark palette.

Figure 21: Evangelists in initial *E*, Klosterneuburg, Stiftsbibliothek, CCl 65, fol. 302r.

Stylistically, Master Nicholas likely influenced Master Michael, which is demonstrated by comparing Master Michael's Epiphany-Madonna (figure 19) with Master Nicholas' Annunciation–Madonna (CCl 66, f. 327v; figure 22). Master Nicholas's illustrations surpassed those of Master Michael in their elegance and attention to detail.

Figure 22: Annunciation in initial *S*. Klosterneuburg, Stiftsbibliothek, CCl 66, fol. 327v.

This antiphonary bears witness to the great influence of Bohemian-Moravian decoration on local Viennese book illumination traditions and illustrates the ambition in the production of manuscripts at Klosterneuburg in the first half of the 15ᵗʰ century.

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Binding

Book bindings protect the body of the book and serve a decorative function. After the scribes, rubricators and illuminators had finished their work, all the quires were brought to the bookbinder. Where present, catchwords and quire signatures eased the work of the bookbinder. However, sometimes books were bound in the wrong order.

At the beginning of the binding process the bookbinder sewed each quire to leather thongs, which combined the quires. A ‚sewing press‘ was sometimes used for this. Today, the strings used to sew the quires together can often be seen in the middle of the quire. Paper was an inherently weaker writing material and was sometimes supported by inserting pieces of recycled parchment to stabilize the quire (called *guards*).
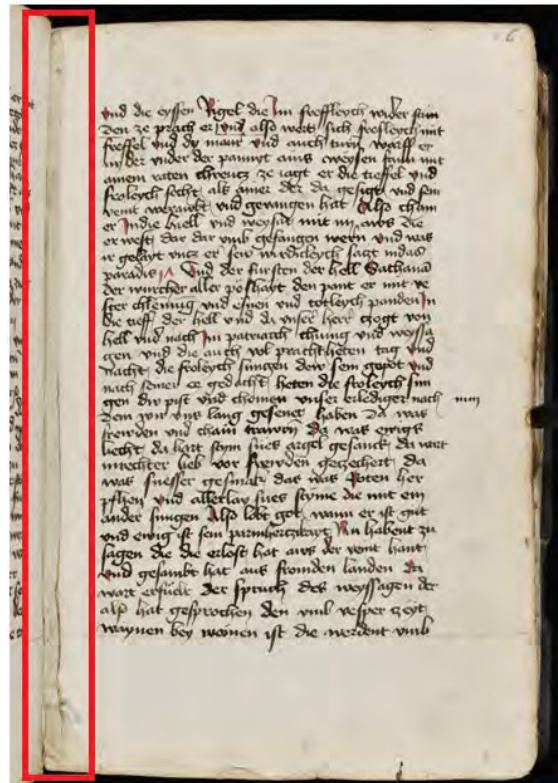

Figure 23: Guard made of parchment inside a paper manuscript. Klosterneuburg, Stiftsbibliothek, CCl 1253, fol. 6r.

After sewing all of the quires to the leather thongs, the quires were fixed to the upper and lower boards which were usually made out of wood. The binder glued some recycled parchment leaves (*pastedowns*) to the boards to cover the binding, and sometimes to the spine to strengthen the binding. These recycled pieces of parchment, whose texts were irrelevant for the medieval or early modern binder, are a treasure-trove for the modern scholar.

In many cases the bookbinder covered the boards and spine with leather, sometimes with additional decorative elements. Gothic bindings often display a pattern of lines and figures impressed (or tooled) on the leather. For impressing the lines and figures, the binderies used slate knives as well as blind stamps and rolls. Bindings could also feature specific symbols only used by their specific bindery, as figure 24 shows.

Figure 24: Coat of arms of the canonry Klosterneuburg in Austria on a late medieval binding.
Klosterneuburg, Stiftsbibliothek, CCl 831, lower board.

Researchers can use these stamps to identify the bookbindery. Databases provide information on such binding tools. The British Library provides a database of book bindings[3] and a German example is the *Einbanddatenbank*,[4] a database funded by the Deutsche Forschungsgemeinschaft (DFG) which enables researchers to search for different stamps of book bindings held in German libraries.

For example the Austrian Benedictine abbey of Göttweig holds a manuscript which came to the monastery in the 18th century. Its binding shows a small dragon in an intent. A comparison of the dragon with images in the database *Einbanddatenbank*, reveals a similar (or near–similar) dragon in a manuscript located at Munich. The latter manuscript originated in the monastery St Niklas near Passau[5] . Hence, the origin of the binding of the manuscript held in Göttweig can now be ascribed to the bookbindery of the monastery St Niklas.

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[3] https://www.bl.uk/catalogues/bookbindings/ (21.12.2016).

[4] http://www.hist-einband.de/ (21.12.2016).

[5] http://www.hist-einband.de/recherche/ebwerkz.php?rwz=b&id=125003m (21.12.2016).

Figure 25: Dragon stamp on a 15th century manuscript of the abbey of Göttweig. Göttweig, Stiftsbibliothek, Cod. 365 (rot), lower board.
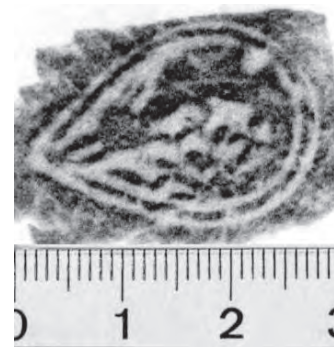
Figure 26: EBDB s027656: http://www.hist-einband.de/recherche/ebwerkz.php?rwz=b&id=125003m (21.12.2016)

Another method of binding decoration is the cutting or carving of pictures into the binding.

Figure 27: A dragon cut into the leather of a manuscript. Klosterneuburg, Stiftsbibliothek, CCl 580.

Binders often integrated metal elements into the leather binding. In the Middle Ages books were commonly stored flat, unlike the vertical storage of books on shelves today. Metal bosses protected the binding, restricting the points of contact with these metal bosses. In some libraries, manuscripts were chained to their repository to prevent the theft and disorganisation of books. Manuscripts were also closed by metal clasps, which prevented the parchment from curling.

Figure 28 and 29: Upper and lower board of a chained manuscript with a gothic binding, metal bosses and clasps. Klosernueburg, Stiftsbibliothek, CCl 759.

The metal parts of bindings were often removed in later periods, enabling manuscripts to easily fit storage on modern bookshelves. Bindings were also replaced altogether. Even in these cases, researchers can still draw conclusions about the original binding by noting the location of the thongs or identifying stains of rust included in the first or last pages, indicating that there were some metallic elements on the original binding.
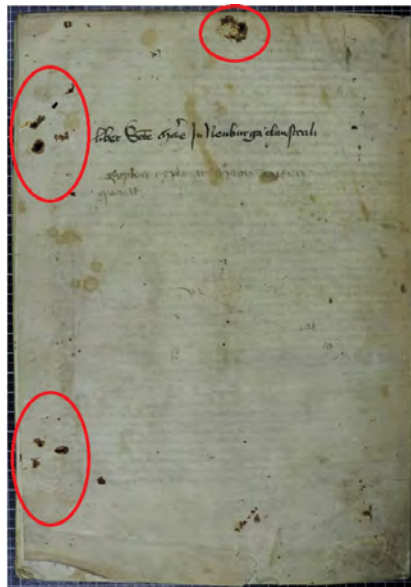

Figure 30: Stains of rust from a chain and two book clasps on the last page of a manuscript. Klosterneuburg, Stiftsbibliothek, CCl 813, fol. 153v.

Some other forms of binding existed which in the Middle Ages. Girdle books, for example, are small-format manuscripts with a peculiar leather binding. The leather from the cover extends significantly beyond the boards of the binding (see figure 32), which could be knotted and affixed to a girdle. The book hung upside-down from the girdle, and enabled quick consultation. Girdle books were produced between the 13th and 16th centuries, and most commonly contain religious texts.

Some luxury manuscripts boasted lavish bindings of silver, gold, or ivory. Gems and relics were also incorporated into these bindings. These books often contained the Gospels, perhaps for some kind of talismanic purpose. Some of these manuscripts were affixed with their precious bindings centuries after their creation, and others were stripped of their lavish bindings at a later date.

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Figure 31: A precious binding with gemstones of the seventeenth century.
Klosterneuburg,Stiftsbibliothek, CCl 1252.

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Example: The Girdle Book of the Vienna Schottenstift

Larissa Rasinger

As already discussed, many different forms of medieval bookbinding survive, and one in particular was the so-called girdle book. The main purpose was to carry a book – for example a prayer book to church – easily and safely by hanging it from a girdle. Another method was to hold the girdle book in the fist like a bag, as most of the people depicted in artistic representations do. There are hundreds of such artistic representations of girdle books known today, however only 24 extant originals having been recorded so far. In 1995 Ursula Bruckner described 23 girdle books, not including the one from the Vienna Schottenstift (Schotten Abbey) as it was only discovered in 2015. The Viennese example (Vienna, Schottenstift, Library, 17.i.53) contains a *Diurnale monasticum*, printed on paper from Venice in 1515.

As demonstrated on fol. 336r, the print was ordered by the Schottenstift from the Viennese booksellers and publishers Leonhard and Lukas Alantsee (also Alansee, Alance). The Alantsees acted as agents to Italy, where the Diurnale was printed by the Venetian printer Lucantonio Giunta (also Lucas Antonius; Junta, Zunta). Besides Aldus Manutius, Lucantonio and his descendants where the most important family of Italian printers and publishers in the 15th and 16th centuries. Lucantonio Giunta's famous signet, a fleur-de-lis with the letters *L. A.*, can be seen on fol. 336r. Therefore, this printed *Diurnale monasticum* fits into the stock of the other extant girdle books.

The girdle book of the Schottenstift measures 112 x 75 x 30 mm with the elongated leather binding measuring a further 148 mm. The small format and the elongated leather, which is at least as long as one length of the book, is characteristic. Moreover, the leather pouch is attached as a secondary covering, applied over a seemingly–complete primary red covering, similar to nine other extant girdle books. This construction might indicate that it was not originally meant to be a girdle book and that the secondary covering was added later. It features fine decorations, such as gilt edging and book fittings. Of the former two book clasps one is still preserved, although this seems to be a later reparation, as the leather differs. The elongated ends in a woven leather knot, similar to a an extant girdle book at the Benedictine abbey of Kremsmünster in Upper Austria. Via this knot, the book can be carried in the fist or tucked onto the girdle, other examples provide a ring or the pouch with a loose end.

Girdle books usually contained prayer books, legal or economic texts and were thus used in everyday life. Thus, it can be surmised that people were accustomed to seeing girdle books both in the street and in pictures, and therefore such books were perfect for representing (whatever it is you mean by ‚representation‘). In paintings and sculptures they were used as attributes for biblical figures, apostles, wvangelists and saints, symbolising learning, intellectual curiosity and scholarship as well as wealth. Given this, carrying a girdle book in real life was a visible statement of all these virtues. Therefore it's not surprising that the Schottenstift – a Benedictine abbey influenced by humanism – wanted to possess a good example of a girdle book. Moreover, no later than 1464, the abbey also incorporated a girdle book into its emblem. With regards to humanistic influences, it is worth mentioning the Nuremberg humanist Benedictus Chelidonius, a guest at the Schottenstift from 1514 onwards. Benedictus was involved in conceiving the content of the *Diurnale monasticum*. Chelidonius also worked with Albrecht Dürer and even acted as abbot of the Schottenstift from 1518 until 1521.

The girdle book of the Schottenstift shows that this particular form of medieval bookbinding was very common in the late Middle Ages and early modern period due to its convenience, while simultaneously representing the virtues of its owner.

Figure 32: The girdle–book of the Benedictine Abbey of the Scots in Vienna.
Vienna, Schottenstift, Bibliothek, 17.i.53.

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Fragments

Many different techniques were required to produce a medieval book, and the bookbinders carefully selected materials in order to work as efficiently and sustainably as possible. Parchment is one of the most durable materials and, thanks to its longevity, European culture has many texts preserved on vellum pages. This animal product was because of the tensile strength interesting for the bookbinders as well and due to its high price workshops reused parchment from disused manuscripts.

Especially during times of liturgical reform, changes in fashion, or shifting language competencies a great many manuscripts were disassembled by bookbinders. Monastic book binderies cut up old missals, choir books or other pieces, tore out the pages and used them, for example, to strengthen the fold in the middle of the quire, for flyleaves or for back reinforcements for new covers. But they also bought books and spoilages from others or sold their own books to secular book binders.

These fragments are interesting for medievalists, because they might preserve hitherto-unknown texts. Additionally, they sometimes provide information about the earlier medieval period, about which we know less. Large numbers of fragments were transmitted, and the development of these sources is still largely unknown. For example, there are 1250 medieval manuscripts in the monastic library of Klosterneuburg, and about 1400 fragments. Most of them are not adequately described.

One of the earliest online projects in this field is the page www.hebraica.at. All Hebrew fragments in Austrian libraries were digitized and identified for a web database with codicological and scholarly descriptions. The Slovak Early Music Database (http://www.cantus.sk) collectsed all the medieval musical fragments in Slovakian libraries and archives and is now more or less complete.

Each fragment had previously existed in a different context and can provide information about historical events, political or religious activities and social developments. Or they can simply tell a story from the life of the monastery, as in the following example.

Example:
Finding contexts for fragments

Sarah Hutterer

The very term *fragment* conveys the difficulty it poses to the modern scholar. Stemming from the Latin word *frangere* (to break), *fragmentum* is only a piece of a whole thing, something that is, in its very essence, incomplete. Fragments are not only incomplete, but also stripped of their original textual and historical context, complicating their study and analysis. Parchment has always been a very valuable material. Unused or unwanted scraps of parchment were therefore employed for different purposes. If a text was no longer needed (e.g. an outdated liturgical text) it would not be discarded, but rather cut up and used in another setting. Parchment, as a robust and durable material, could serve as a flyleaf between the book cover and the first sheet of a text, to protect the text from getting rubbed off due to contact with the cover; a pastedown combined into the binding; stitched into a codex as a guard, to keep the thongs in the middle of a quire from ripping the paper; or used as a cover for another codex.

Fragments were removed from their original textual context and used for their materiality rather than textual applicability. As the original manuscript may be lost, decoding the contents and original context of the fragment requires considerable effort. Such difficulties can be overcome by way of a close analysis of the fragment and comparing it to similar manuscripts, especially ones that feature a larger portion of the same or a similar text. The fragment F259 of the monastic library of Klosterneuburg is a loose sheet of paper that was not ripped out of a codex but seems to have been cut to its present size before someone filled it with text. It appears that the sheet has been planned as such, which can be seen by looking at the ink ruling of the paper. Nothing has been cut away and the space between the edges of the sheet and the writing itself is identical on both its left and right side. Also, the ruling is well-proportioned and in even lines.

Turning to the rubrication, the parts that were coloured with red ink, and the layout, it is clear that the text of the fragment consists of three different parts. The *quattuor peccata clamancia* (four sins that cry to heaven), *peccata in spiritum sanctum* (six eternal sins; blasphemy against the Holy Spirit) and *novem aliena peccata* (nine sins that cause others to sin as well, such as advising or helping them to sin) are underlined with red ink and thus marked as unique blocks of the text. These are followed by lists of the named sins; the second block even counts the six eternal sins with numerals on the left side.

The last line, which is also underlined with red and black ink, is not a superscription for the following text, but nevertheless a point of interest. This is a dedication and reads *suo praelato vel plebano* (to his prelate and/or priest), proving that the sheet was intended to be used by a cleric. However, nothing can be said about the scribe who wrote the text of the fragment.

In terms of the text's structure, the named sins are always listed in Latin below the superscriptions. Thus, the fragment contains three different catalogues of sins. Each list of sins includes a Latin term, separated from the translation into (or explanation in) German by a ,double solidus.
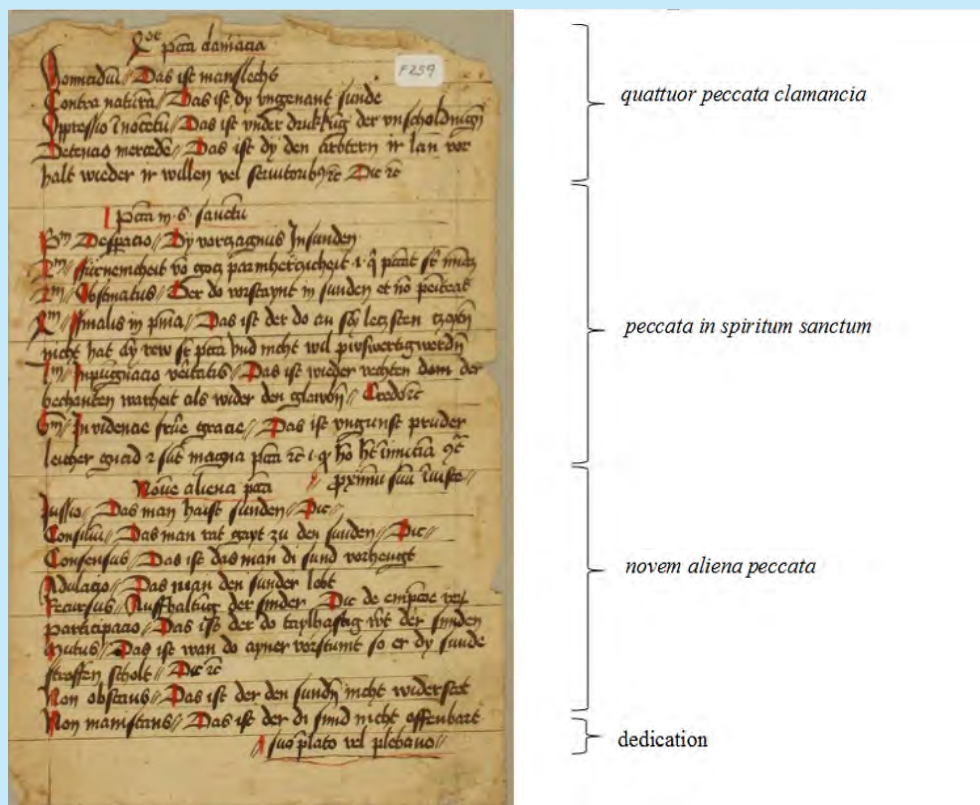

Figure 33: Three catalogues of sins. Klosterneuburg, Stiftsbibliothek, F259r.

At times the German explanation is also completed in Latin; e. g. *Secundum// Obstinatus// Der do vorstaynt in sunden et non peniteat* (2nd / Obstinatus/ he, who becomes stuck in his own sins and does not regret). The fragment also contains Latin words and phrases that were embedded throughout the German text and that have nothing to do with the explanations of the Latin terms for the sins. They are usually located after the German translations and read *Dic et cetera* (say etc.), *Credo et cetera* (profession of faith etc.), *Dic* (say); the latter can be found more often than the others. All of them are instructions for – referring to the dedication – a priest who has to say specific things related to the catalogue of sins.

This can be demonstrated by the fifth of the six eternal sins: *quintum // Inpugnatio veritatis // Das ist wieder vechten der bechanten warheit als wider den glawben // Credo et cetera* (5th // Inpugnatio veritatis// that is to oppose the well-known truth as if against faith // profession of faith etc.). In this part, the sin is followed by the compensation of the sin.

The cataloguing or listing of sins has a long tradition, which can be seen in other manuscripts of the monastic library of Klosterneuburg. For example CCl 147 contains *septem peccata in spiritum sanctum* (variation in the number of sins is normal), the CCl 1225 explains these same sins in prose instead of just listing them, CCl 57 lists the *novem aliena peccata* (and so does CCl 147). The main difference between the listings in these manuscripts and the lists on the fragment is the latter's practical component; due to the imperative the scribe used, this text may have been used by priests during confession.

In conclusion, it was possible to identify a probable context for this fragment by closely examining its structure and contents. Comparing it to similar texts showed that this single piece of paper is part of a long tradition of the cataloguing of sins in the monastic libraries of the Middle Ages.

Palaeography

The French Benedictine monk Jean Mabillon (1632-1707) began the systematic, scientific examination of Latin paleography. In 1681 he presented his work *De re diplomatica* with a classification of the Latin script for the first time. The system developed by Mabillon is still the basis for paleographical classification.
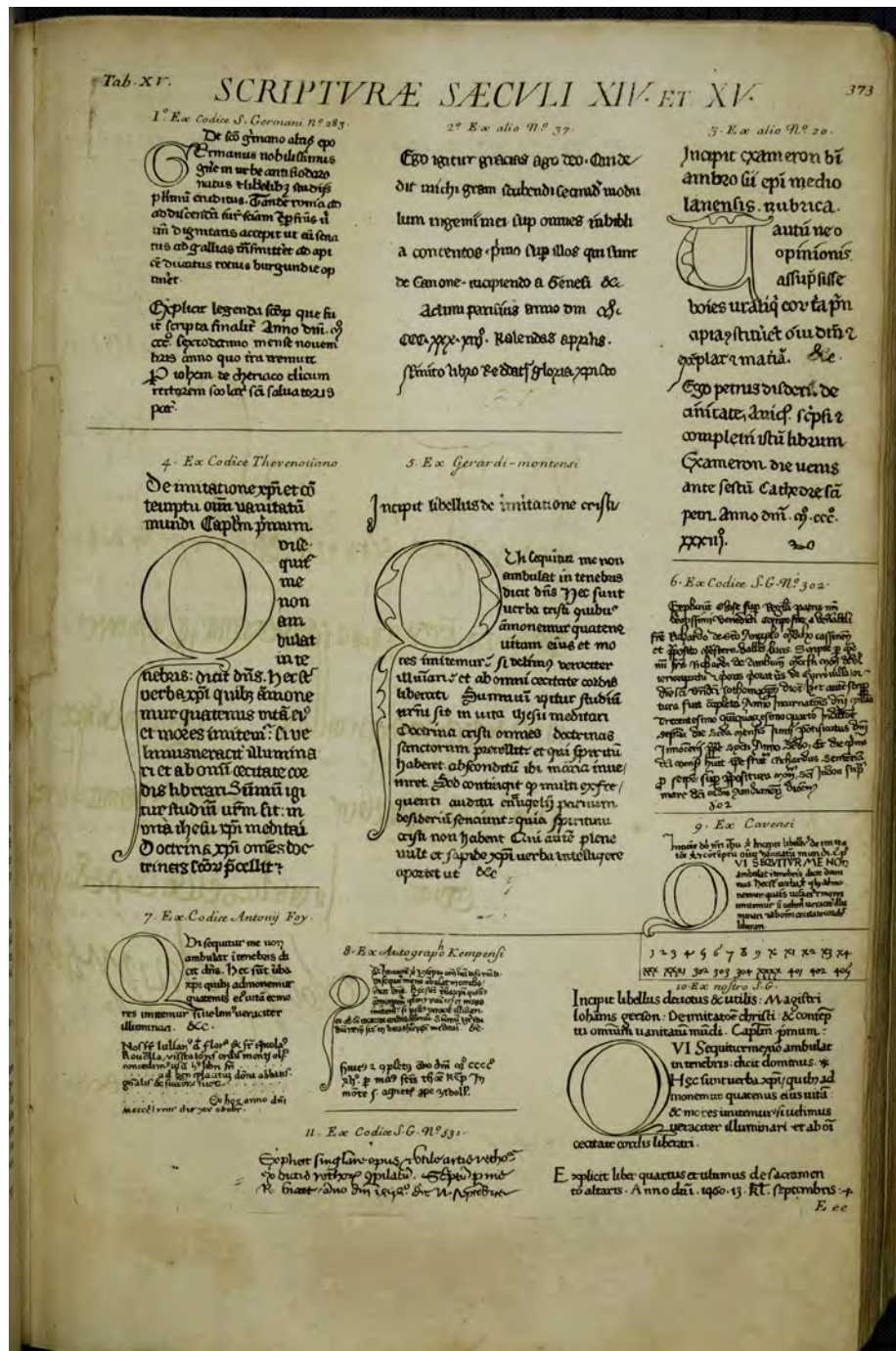

Figure 34: Jean Mabillion was the first scholar to assemble Latin scripts chronologically and regionally. This page shows scripts form the 14th and 15th centuries (De re diplomatica, Paris 1681, p. 373).

Paleography works mainly by comparison. On the basis of Mabillon's depictions, large collections with writing examples were created in the 19th and early 20th centuries. Using these compilations the latest modern reproduction technologies such as collotype, were used to provide true–to–scaled pictures from scribes of various regions of Western Europe. The most important are:

Theodor VON SICKEL, Monumenta graphica medii aevi, 10 Fasz. (Vienna 1859). https://books.google.de/books?id=OpkNAAAAQAAJ&hl=de

The Palaeographical Society. Facsimiles of Manuscrips and Inscriptions, Ser. I-II, ed. by E.A. Bond et al. (London 1873-1894).

The New Palaeographical Society. Facsimiles of Ancient Manuscrips, Ser. I-II, ed. by E.M. Thompson et al. (London 1903-1904).

Archivio Palaeografico Italiono, ed. by Ernesto MONACI et al. (Rome 1882).

Franz STEFFENS, Lateinische Paläographie (Trier 1909); German/French http://www.paleography.unifr.ch/schrifttafeln.htm

Anton CHROUST: Monumenta palaeographica. Denkmäler der Schreibkunst des Mittelalters. (Munich 1902-1940); German/French.

Figure 35: The Monumenta palaeographica, edited by Anton Chroust is one of the most important palaeographical reference books for Central European manuscripts.

In the 20th century comprehensive palaeographical initiatives started. The catalogue *Codices Latini Antiquiores* (CLA), with eleven volumes printed in Oxford between 1934 and 1971, was edited by E.A. Lowe and focused on early medieval manuscripts. The *Chartae Latinae Antiquiores*, edited by Albert Bruckner, Robert Marichal et al. and printed in Olten–Lausanne from 1954 onwards, also catalogued early medieval charters.

The Comité international de paléographie latine (C.I.P.L.) hosted, among others, the project 'Catalogues of dated and datable manuscripts' (CMD), which included pictures and descriptions of dated manuscripts from Austria, Belgium, France, Germany, Great Britain, Italy, The Netherlands, Sweden and the Vatican. A list of all volumes is available at http://www.palaeographia.org/cipl/cmd.htm.

The digital age offers numerous new possibilities, above all much more favourable methods for the reproduction and provision of manuscripts through digital photography and the internet. A research group in Cologne published a volume Codicology and Palaeography in the Digital Age, ed. by Malte Rehbein, Torsten Schaßan, and Patrick Sahle (Norderstedt 2009), in which new scientific issues are collected. There is a free download at http://kups.ub.uni-koeln.de/2939/.

A short overview of the development of Latin script

Categories

The system of Latin script is divided into two main categories: majuscule and minuscule. Letters written in majuscule fit between two lines, they do not display characters with upper and lower case characters. It takes much longer to write in majuscule, because each pen stroke has to be newly placed and the letters are not connected.
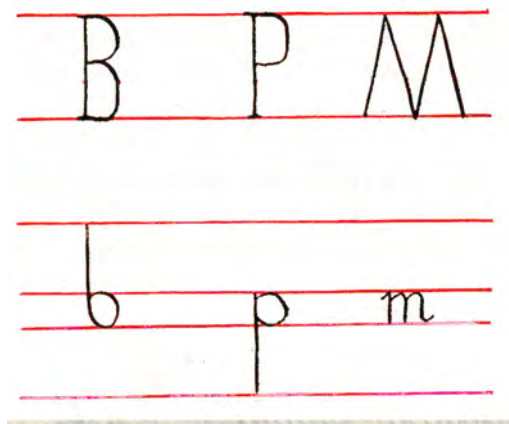

Figure 36: Letters in two and four lines scheme.

The second category consists of minuscule script, which needs a four-line scheme. The letters have upper and lower lengths and are often connected with bows. Ligations, when two letters share an element, are very common. These scripts can be written more quickly, because the pen does not have to be lifted so often. Minuscule scripts were used for less prestigious texts, such as correspondence and administration.

A few exceptions is uncial, which was used from the fourth to the eighth centuries It does not fit into these categorizations as it is majuscule with upper and lower lengths.

The development of Latin script is quite complex and this is not the place to explore different scripts throughout the centuries. The following illustration gives an overview about the methods and terminology of Latin palaeography.

Literature

A basic textbook on paleography comes from Munich palaeographer Bernhard Bischoff (1906-1991) is available in four languages:

Bernhard BISCHOFF, Paläographie des römischen Altertums und des abendländischen Mittelalters (Berlin ⁴2009).

> --- Latin Palaeography: Antiquity and the Middle Ages. Translation by Dáibhí Ó CRÓINÍN and David GANZ (Cambridge 1989).

> --- Paléographie de l'Antiquité romaine et du Moyen âge occidental. Traduit par Hartmut ATSMA et Jean VEZIN (Paris 1985, réimp. 1993).

> --- Paleografia latina. Edizione italiana a cura di Gilda P. MANTOVANI e Stefano ZAMPONI (Medioevo e umanesimo 81, Padova 1992).

E.M. THOMPSON, An introduction to Greek and Latin Palaeography (Oxford 1912). Online: https://archive.org/details/greeklatinoothomuoft

Lexicon abbreviaturarum : dizionario di abbreviature latine ed italiane usate nelle carte e codici .... Per cura di Adriano CAPPELLI. 7. ed., ampliata e rinnovata da Mario GEYMONAT, Fabio TRONCARELLI (Milano 2011). Online: http://www.hist.msu.ru/Departments/Medieval/Cappelli/
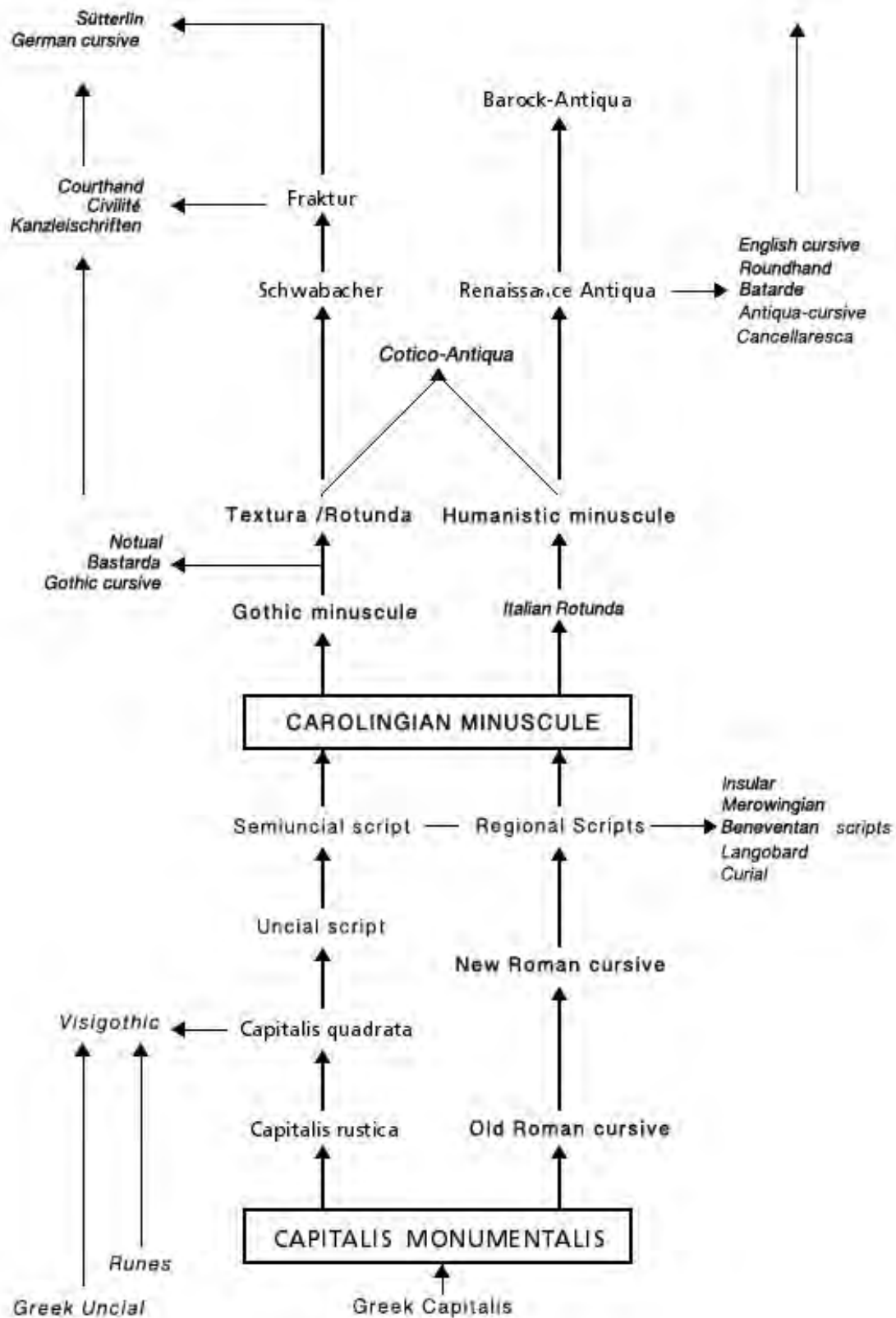
Sütterlin
German cursive

Barock-Antiqua

Courthand
Civilité
Kanzleischriften

Fraktur

English cursive
Roundhand
Batarde
Antiqua-cursive
Cancellaresca

Schwabacher

Renaissance Antiqua

Cotico-Antiqua

Textura /Rotunda

Humanistic minuscule

Notual
Bastarda
Gothic cursive

Gothic minuscule

Italian Rotunda

CAROLINGIAN MINUSCULE

Insular
Merowingian
Beneventan   scripts
Langobard
Curial

Semiuncial script ——— Regional Scripts

Uncial script

New Roman cursive

Visigothic

Capitalis quadrata

Capitalis rustica

Old Roman cursive

CAPITALIS MONUMENTALIS

Runes

Greek Uncial

Greek Capitalis

Figure 37: Latin scriptures.

48

Describing scripts

The description of writing is a qualitative science which has been widely discussed in scholarship. In the following section, a relatively clear method is outlined which allows the quick description of fonts of the same category. Therefore, it is possible to make distinctions between scribes or regional customs. Three different points of view are analysed, which give a differentiated and comprehensible picture of writing.

Layout and overall impression

The overall analysis begins with the material and ends with writing' could be a better way to phrase this first sentence. If a text is written on parchment, despite paper already circulating, this indicates a greater importance of the codex, and one can also assume an intended higher level of writing. The „frame" of the writing plays a role. For example, the care taken in creating lines, the breadth and height of the page margin give information about calligraphic requirements, as well as line guidance, writing density, or use of script hierarchies.

Ductus and level of calligraphy

„Ductus" and „structure" are problematic notions in paleographical terminology. Following Bernhard Bischoff *ductus* can be described as as the characteristics of individual writing style, while *structure* relates to the sequence of the strokes of the quill. Ductus is therefor the manner of writing. Is the inclination of the letters uniformly to the left or right, or to and fro, and how strong is the angle of inclination? How are the shafts of the middle band treated? Are they broken or thickened dot-shaped, like the upper and lower lengths, and how are they related to each other? How strong do single letters stand out and how much space is left between each word? These are all questions which provide information about the degree of calligraphy and calligraphic requirements, which can also be used for the distinction of scribes.

Structure and morphology of the letters

This part of the analysis focuses on individual letters and how they were written. Whereas letters with only few elements like *i*, *o* or *c* do not have many individual characteristics, the composition or morphology of more complicated letters give more space for personal features. The basic shape of letters can be changed up to the limit of legibility. The more elements a letter needs, the more morphological differences it can have and the more individual expressions are possible. Capitals, for example, are less suitable for comparison. The minuscule letter *g* is appropriate for comparison, because the scribe has to change the direction of the quill up to five times. But other letters, such as *z*, may also have special properties because of their complicated composition. An important aspect of individual forms are abbreviation marks, which are sometimes formed individually. Abbreviation marks also often have an effect on overall impression. For example, if the horizontal upstroke is used more frequently, the overall impression is wider.

The criteria discussed above can be used to distinguish between different writers in a single manuscript, or a more detailed description of a scriptorium. It is first useful to determine the font type and to classify it both chronologically and regionally. Cursive fonts are better suited for such suggestions, because they are less standardized than calligraphic spellings. After examining the suitability of the written objects, the individual distinctive features are worked out in a second step. In view of the mass of material, especially in the late Middle Ages, having a concrete question is important. The following example from the late medieval Kartause in Gaming will illustrate the procedure.

Literature

Methoden der Schriftbeschreibung, hg. von Peter RÜCK (Historische Hilfswissenschaften Bd. 4, Stuttgart 1999).

Gudrun BROMM, Neue Vorschläge zur paläografischen Schriftbeschreibung, in: Methoden der Schriftbeschreibung, hg. von Peter RÜCK (Historische Hilfswissenschaften 4, Stuttgart 1999) 21–42.

Example: The distinction of scribes

Martin Haltrich

Two cartularies on parchment dating from the middle of the 14th century from the charterhouse in Gaming, founded in 1332 by duke Albrecht II in the duchy of Austria, are preserved in the Austrian State Archive (HHStA, Hs. W 32/1 and W 32/2). Cartularies are archival instruments and have different functions: they provide full text copies of charters and other instruments of rights and provide a backup. They are directories of the archive and facilitate the use of documents for administration. Cartularies were often compiled after changes of leadership or ownership or when the monastic foundation was finished. This was the case in Gaming, where Duke Albrecht II concluded his donations for the monastery in 1351.

Why are there two copies and do they differ from one another? The production of manuscripts with 251 or rather 216 sheets was labour-intensive and expensive and it is surprising that a second book was produced immediately after the completion of the first. It is clearly visible that in both books several writers were copying charters. A palaeographical analysis might provide new insights into the motivation of writers and practices in the archive of the 14th century charterhouse.

The manuscripts were written in the middle of the 14th century when the *Ältere gotische Kursive* (an older form of Gothic cursive) was used in Central and Western Europe. The characteristics of this script in the four-line scheme are the long form of *s* and *f* have descenders, the letter *a* is two-storied, and the *r* is split.
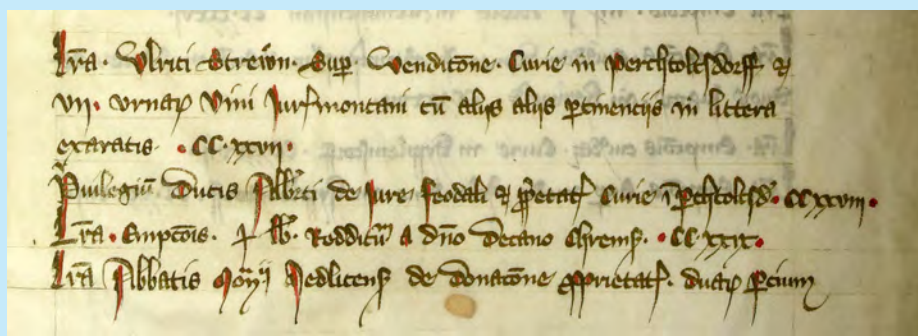

Figure 38: *Ältere gotische Kursive* in the first cartulary of Gaming from 1352. Vienna, HHStA, Hs. W 32/1, fol 249r.

The development of the two-storied *a*, which rose in the middle of the 14th century over the middle band and then declined again, is interesting. In the more recent form of this script, the *a* is again one-storied, the *g* becomes more complicated but the *r*, remains split. This form can be found on the last line of figure 38 [in the first two words *l(itte) ra abbatis]*.

The entire manuscript will now be analysed by means of the three criteria mentioned above layout, ductus and morphology. The example used here is one of the scribes from manuscript W 32/1, one of the two main scribes (Scribe C).
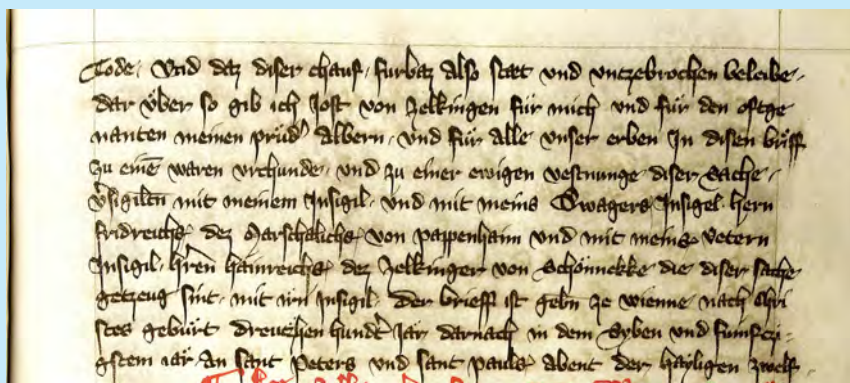

Figure 39: Sample from Scribe C in the first cartulary. Vienna, HHStA, Hs. W 32/, fol. 235r.

This scribe's writing is horizontally and vertically compact. Although the single letters are not significantly more broken in comparison to the other hands in the manuscript, the very pointed shafts of the middle band, especially in *i, m, n,* and *u*, and the vertical alignment of the upper and lower lengths, give a very broken impression. The scribe somewhat tips the lower limbs of letters, but usually pulls them into the mid-band of the next line. The shafts of *f* and long-*s* are also thickened above and run dagger-like, but not as high, which reinforces the impression of a somewhat untrained hand.

In terms of layout, it should be noted that scribe C does not need lines and has a solid, simple line for limiting the page, using a slightly darker ink than the other scribes. It is noticeable that in areas which scribe C has written in, the script is sometimes quite smeared, as if the black / grey ink has not adhered properly in parts.

However, some of the lower-case letters are remarkable, the capital letters hardly differ in structure from those of the other scribes. A significant individual feature is the letter *g*. It is very atypically composed of two strokes. The head of the *g* is first written with a small hook, which is then closed with an ellipsoidal sling. This sling is interesting: it is narrow, round at the bottom and is pulled back upwards. The *g* is thus neither stunted nor 8-shaped. In the whole manuscript, only this scribe writes *g* in this way. It is the characteristic most striking in the morphology of the lower–case letters. If this *g* is an indication of a more cursive style, then the *a* and *h* are the opposite, because they are written in a particularly complicated way. To write these letters, the scribe had to put the pen on the paper or parchment twice; for the two-storied *a*, the belly was written first with a hook, then the back was added in the style of a slightly higher I, and finally the middle line, which was sometimes ligated.

The sling of the *h* usually strikes towards the right in the direction of the middle band, with the bow pulled vertically downwards from the sling. The space of the *h*-arc is often closed with its own line at the bottom.
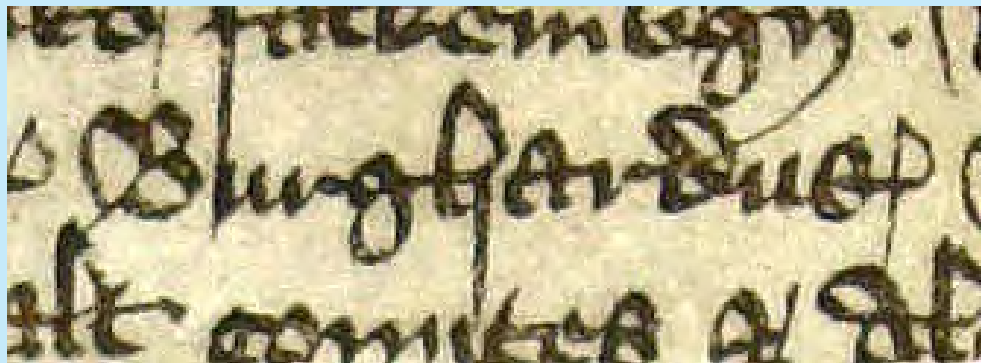

Figure 40: In the word *Burghardus* the three mentioned letters *g*, *h* and *a* strengthen the palaeographic analyses. Vienna, HHStA, Hs. W 32/,fol. 59v.

This is just one way to describe the distinctive stylistic elements in the examples above. After a detailed palaeographical analysis of these two mutually dependent manuscripts, the writing process and their use becomes perfectly clear: the first copy of the book (Hs. W 23/1) was written by one hand after completion of the donation by the founder. 130 documents drawn up for the Charterhouse until 1352 are arranged hierarchically, chronologically, and according to the property rights, and copied from one hand into the book. Between the different content-related sections, this first scribe left space for later additions. This space has been more or less filled by eleven other scribes up to the year 1378.

Around the year 1355, Scribe C produced a copy of the chartuary, in which there was no more space left between the documents, but new records were entered at the end by subsequent scribes. The following figures give an overview of the distribution of the hands in both manuscripts.
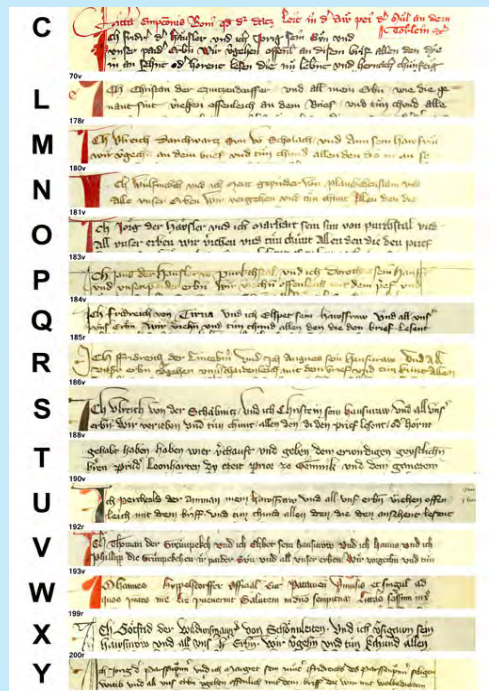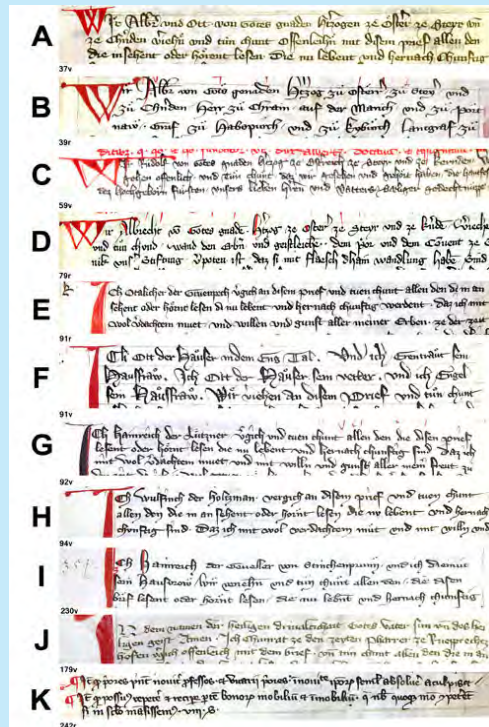

Figure 41 and 42: The distribution of scribes in the two cartularies of the Charterhous Gaming. Vienna, HHStA, Hs. W 32/1 and W 32/2.

Summarizing the results, we have some new answers. The first cartulary was created by a single writer (Scribe A) in 1351/52. He copied the texts from the charters in the archive into the book and left empty spaces between the chapters. After his retirement the new documents were added by various writers. Around 1357 the very active Scribe C took over the task and added new documents up until 1369. Then he began to copy the entire cartulary, which was finished in 1371 at the latest. He then retired and others added new charters at the end of the book until 1398.

Yet, do we know the reason for producing the second cartulary? Not from the paleographic analysis, but from an entry on the last page of Hs. W 32/1. The first cartulary had been taken to Vienna, where the Carthusians of Gaming had a trading house, and they needed the documents for the administration there.

Literature

M. HALTRICH, gut pucher und ander dinge. Untersuchungen von Schriftlichkeit, Administration und Buchproduktion in der spätmittelalterlichen Verwaltung der Kartause Gaming (phil.-Diss., Univ. Wien 2010).

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B. RESL, Vom Nutzen des ‚Abschreibens‘. Überlegungen zu mittelalterlichen Chartularen, in: Walter POHL –Paul HEROLD (Hg.), Vom Nutzen des Schreibens. Soziales Gedächtnis, Herrschaft und Besitz (Forschungen zur Geschichte desMittelalters 5, Wien 2002) 205–222.

Le cartulaire de l‘abbaye bénédictine de Saint-Pierre-de-Préaux (1034 - 1227), éd. par Dominique ROUET (Collection de documents inédits sur l‘histoire de France: Série in-8; 34, Paris 2005).

Cartulaire du chapitre cathédral de Langres, présenté et éd. par Hubert FLAMMARION (Atelier de recherche sur les textes médiévaux 7, Turnhout 2004).

Example: Finding one scribe on different pages

Sarah Hutterer

Palaeography can help to identify and compare different scribes, as well as to date texts that do not contain a colophon. One such manuscript is Klosterneuburg CCl 251. This manuscript consists of six different parts that were bound together at a later date. Nevertheless, the *terminus post quem* for the entire manuscript is the year 1376; this can be determined from the watermarks on its leaves. A few folia in the manuscript, such as f. 69v-72v and f. 192r, which today contain appendices, have initially been left blank and were only later filled with text. By comparing both parts (in particular f. 72v and f. 192r) and taking a close palaeographic look at the shapes of letters and the script, it is possible to date the manuscript and prove that both sections were written by the same hand.

Concerning the aspect (i.e. overall–look of the script) one can say that the script is not just irregular in itself, but also does not align with the ruling. The written lines are mostly crooked. For example, on f. 192r most of the letters are larger in the beginning of the line and become smaller and denser towards the edges of the page. The ink is, particularly on f. 192r, blurred and smudged, which is why many words are crossed out and rewritten with a clearer stroke.

All in all, the scribe leaves ample space in between the words in both texts. Occasionally, this space is filled with horizontal lines that initially belong to consonants like *t* and *g,* but were drawn out far to the right (as can be seen in line 2 of the following table). The abbreviations in both parts are limited to the use of the abbreviation stroke for *m* or *n*, the *er*–abbreviation and the one for the *nomen sacrum* Christus. On f. 192r far more abbreviations can be found than on f. 72v, as 192r contains a quotation from the Bible in Latin. In general, German texts tend to be less abbreviated than Latin. In both parts, the abbreviation strokes for *m* and *n* are not just drawn above the letter that would normally proceed the abbreviation, but above the entire word. In most cases, they form an even line, at times arching slightly higher in the middle.

Another similarity between the two pages are the ligations and conjunctions between letters, e.g. with *ch*, where the upper part of the *c* is always drawn right into the loop of the *h* in one stroke.

Other examples can be seen in words in which *m*, *i*, *n* or *u* follow each other; the fact that they do not consist of individual strokes, but are drawn without lifting the pen off the paper, makes words like *minnen* (love) difficult to read.
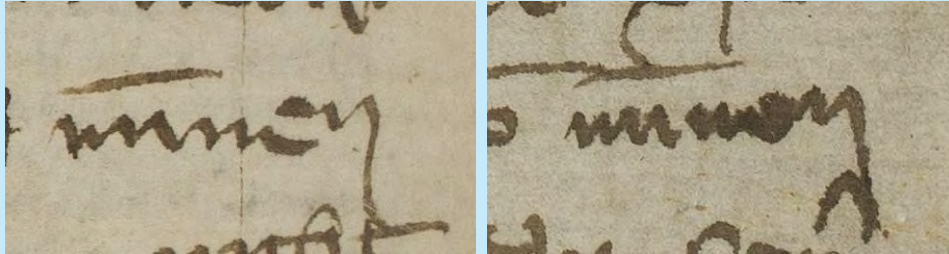

Figure 43 and 44: The word *minnen*. Klosterneuburg, Stiftsbibliothek, CCl 251, fol. 72v and fol. 192r.

Another ligature can be found with the long *s*, the ascender of which is often drawn downwards to form a *t* (as can be seen in line 3). Apart from *t*, the long *s* is not connected to the letters which it proceeds. Conjunctions are also formed starting from *d*, the loop of which often leads into the lower part of *e* (as can be seen in line 4). This is at times also the case when it is followed by *i* and *r*.

While the ascenders are kept fairly close to the body or middle-zone of the script, the sweeping descenders are far longer, and take up approximately as much space as the ascenders and body together. The upper ends of the ascenders are mostly looped, though in some cases the loop is left open or is only closed with a light stroke.

The shafts of *s* and *f* are doubled in both parts, because they are drawn starting with a vertical line downwards, which leads up again and is then bent to end in a horizontal terminal. (See figure 45.)
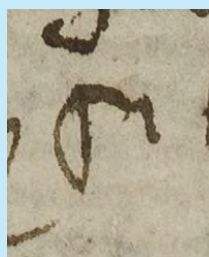

Figure 45: The word *si*. Klosterneuburg,
Stiftsbibliothek, CCl 251, fol. 72v.

However, a second, more simplified version that only consists of a single vertical stroke exists as well. The subsequent table shows words that can be found on f. 72v as well as on f. 192r. With its help, the similarities noted above can be compared visually to show that both parts have indeed been written by the same hand.
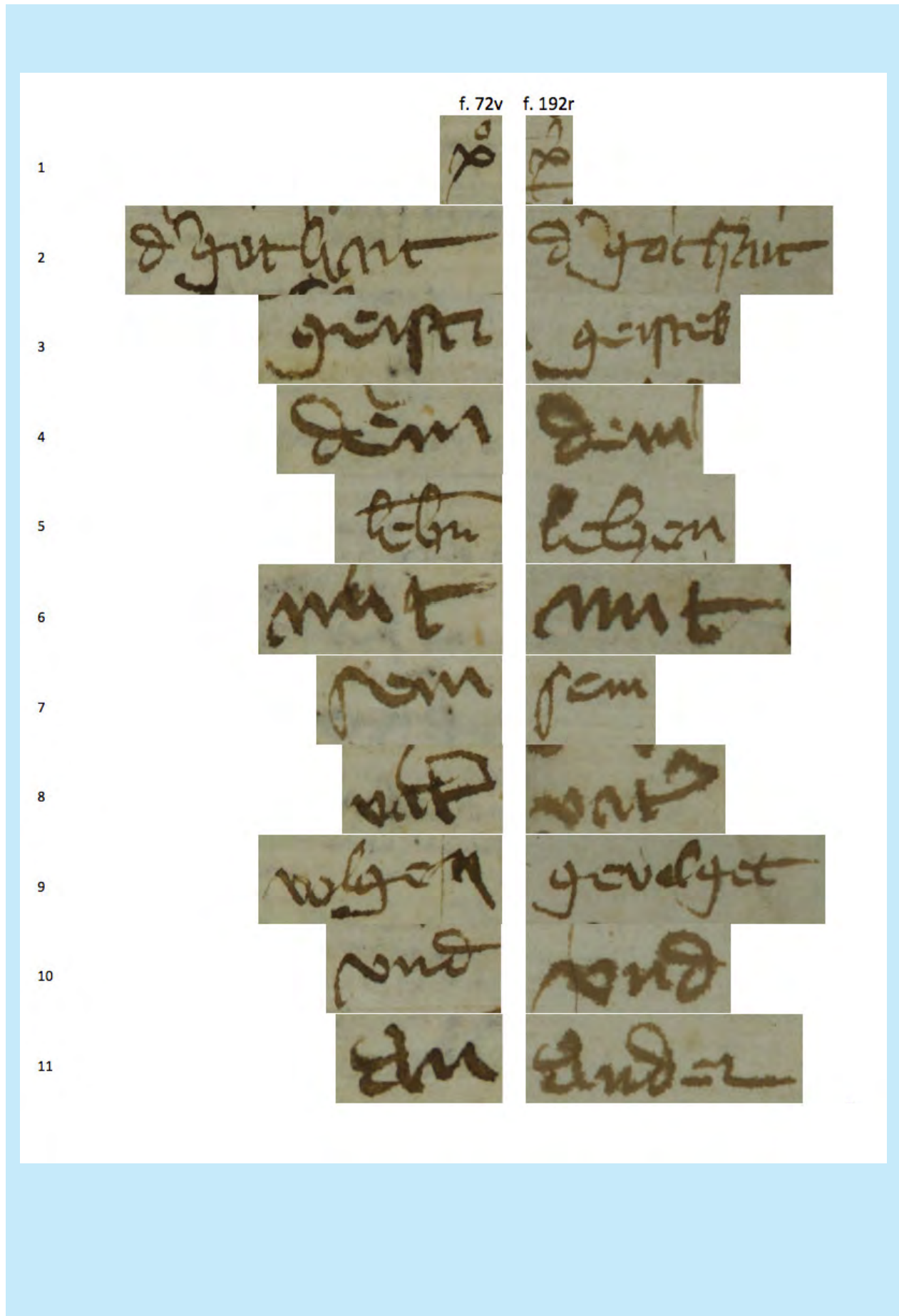
Both sheets share the same characteristics: The letter *X* is drawn in one stroke, looking like a mirrored alpha (1). The letter *d* is written with the upper loop closely connected to the bowl, thus resembling an ampersand (2, 4, 10). The letter *h* also has a specific form, with its first part looking like, and the second resembling, a *j*. This strengthens the theory of one scribe writing both parts, as usually the first part of the letter *h* is a straight line, whereas the second stroke is rounded. However, in both examples the curve and the pointed end seem to be switched (2). The *e* consists of a curved lower stroke (often connected to other letters; 5) and a shoulder, often realized as a disconnected dot or a very short stroke (3-5, 7, 9). For most letters, the scribe used one continuous stroke, without lifting the quill from the paper. One of the few letters that, in some cases, consists of individually drawn strokes is *v* (8). In initial positions, *v*, *w*, and *m* tend to start with long approach strokes (6, 10).

As the shafts of *s* and *f* have the above mentioned descenders, the script is clearly neither a Textura nor a Textualis. Furthermore, with its *l* and joined–together letters, it is marked as a cursive script. It can be said that the script shows (predominantly) characteristics of the Jüngere Gotische Kursive, and therefore can be classified as such. In this hand the letter *g* is simple, and its descending arch is left open and drawn out far to the left (2, 3, 9), whereas in the Ältere Gotische Kursive, the letter *g* would be a complicated shape, consisting of many individual strokes. Furthermore, the sweeping descenders of *h*, *z*, *m* and *n* are – not consistently but frequently – bent to the right below the baseline. By looking at the shape of *a*, one can find two different versions of the letter: In most cases, the scribe used the simple form, which is typical for the Jüngere Gotische Kursive (2, 8) of the late 14th century. However, the more complicated double version used in the Ältere Gotische Kursive can be found especially in initial position (11). This form of the letter was very common in German-speaking regions during the mid 14th century.

Altogether, taking the observations above into account, one can say that the same scribe wrote both f. 72v and f. 192r and that, because the script can be identified as a Jüngere Gotische Kursive, the script can be dated from the last third of the 14th century and approximately 1410/15.

Provenance – Collecting and using manuscripts

Most medieval manuscripts have moved considerable distances in the course of their existence. A small minority have never left their place of origin, typically those extant in religious, royal or noble establishments that have weathered reform and revolution. Some manuscripts in the library of the monastery of Klosteneuburg, for example, were both written and bound there, and are still held there today. In other cases, researchers must take a closer look at the manuscript itself to try to identify marks of provenance and subsequent use.

Shelf Marks

If manuscripts originated or were used in a larger libraries, they were often affixed with a shelf mark, which could become obsolete when a book left the library or the system was changed. Such institutional marks are a remnant of an old classification system, which can sometimes be tied to surviving catalogues.
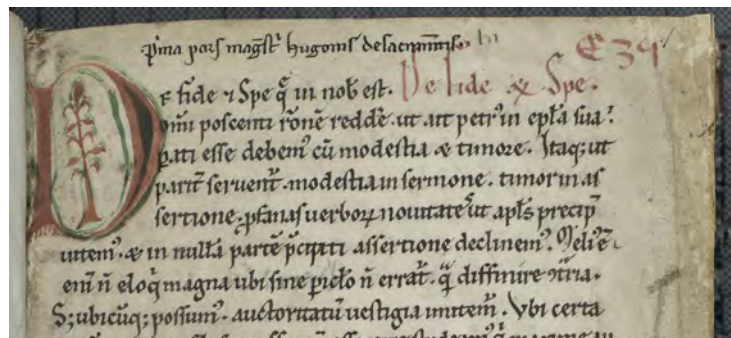

Figure 46: An old shelf mark of the monastic library of Klosterneuburg. Today the book's shelf mark is CCl 312. The old 15th century shelf is a combination of one letter and a number: E 35. Klosterneuburg, Stiftsbibliothek, CCl 312, fol. 1r.

Often it is not possible to ascertain where a manuscript was previously held. One particular Klosterneuburg manuscript has, for example, two old shelf marks: a black "27" and a red "5". Scholars have failed to identify where the manuscript was previously held from these shelf marks, and the manuscript does not include names or any other information about its provenance.
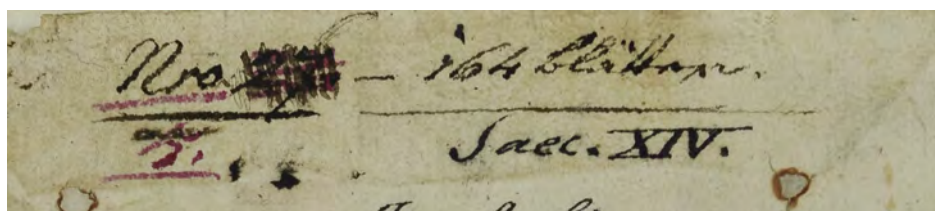

Figure 47: Old shelf marks (19th century?) in the left upper corner: 27 (crossed out) and 5 (red). Klosterneuburg, Stiftsbibliothek, CCl 1253, VSv.

Written notes of provenance

In some manuscripts the names of former owners have survived, sometimes on paste-downs or on the first or last page. Such an example can be found in a manuscript kept in the library of the Austrian Benedictine monastery in Göttweig, which contains different legal texts written in German. The binding was made in the bookbindery of the monastery of St Nikola near Passau. As a result, researchers had assumed that the manuscript was written in Bavaria. It has been kept in the monastery of Gottweig, about 200 km away from its origin, since about 1756.

The first owner of the manuscript was one of its scribes. He wrote at the end of the book: *Herr erparm dich vber all gelaubig sell. Hanns Rottaller ist das puoch, vnd den merer tail geschriben im 1461 jar* ("Lord, have mercy with all faithful souls. This is the book of Hanns Rottaller and he has written the biggest part of it in the year 1461").
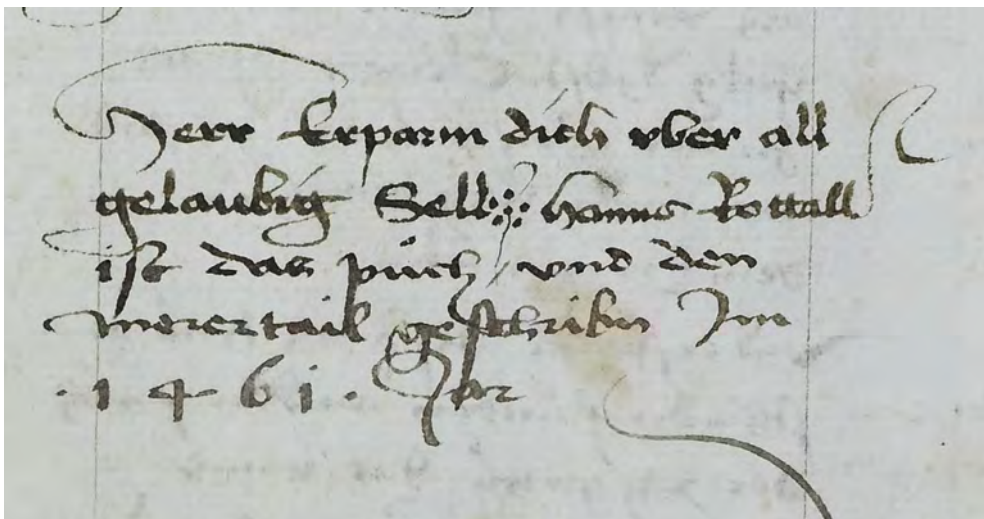

Figure 48: Dated note of the writer and owner Hanns Rottaller (1461).
Göttweig, Stiftsbibliothek, Cod. 365 (rot), 245r.

Because of this colophon/ownership mark both the book's first owner, Hans Rottaller, and its date of origin, are known. Rottaller's name alludes to a region in Bavaria (Rottal/Inn), adjacent to the region where the book was bound.

What happened to the manuscript later on? On the same page there is another note: *Das puech ist Jacob(e)m Eysmar vnd gegeb(e)n durch Mertten Ham(m)ersmid zu Helffenberg [...] anno im dritten jar* [...]. ("The book was given to Jacob Eysmar by Mertten Hammersmid, who sat at Helffenberg [...] in the third year [...].")
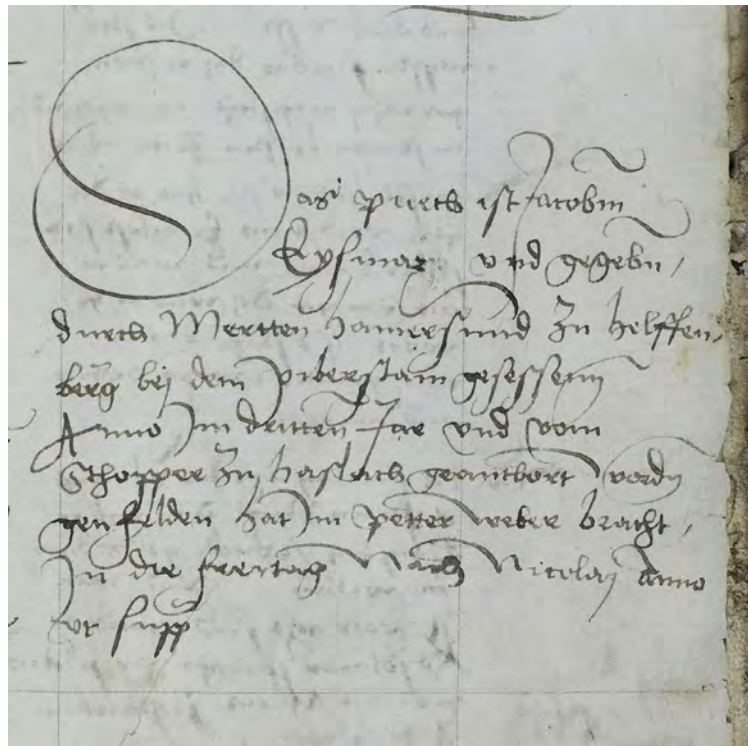
Figure 49: Provenance note of Jacob Eysmar, who recieved the book in the year 1503.
Göttweig, Stiftsbibliothek, Cod. 365 (rot), 245r.

According to the note, Jacob Eysmar received the book from Mertten Hammersmid in the third year. As the writing of the annotation itself can be dated around 1500, the phrase 'third year' probably indicates the year 1503. Therefore, it is possible to identify the next two owners of the manuscript, as Helfenberg in Upper Austria was either where Mertten Hammersmid lived, or where the book changed owners.[6]

After the book came into the possession of Jacob Eysmar, it may have stayed in his family for some time, as on another page there is an annotation from a probable relative, Kristoff Eysmair, accompanied by the date 1520.

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[6] Upper Austria and all subsequent placenames refer to modern rather than medieval locations.
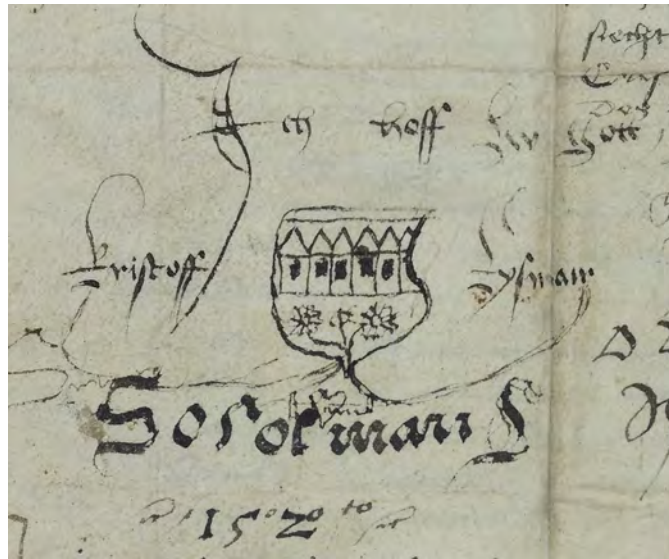
Figure 50: Note of Kristoff Eysmair with the year 1520. Göttweig, Stiftsbibliothek, Cod. 365 (rot), 246v.

Another provenance note can be seen on the inner upper board: *Hans pretmaister de Lintz esti libellum*.
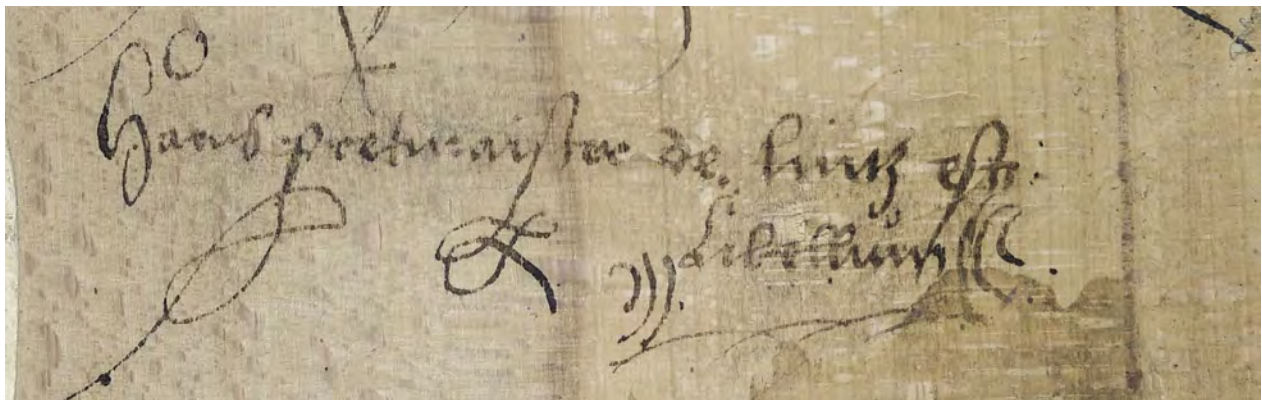

Figure 51: Provenance note of Hans Pretmaister. Göttweig, Stiftsbibliothek, Cod. 365 (rot), inner upper board.

Unfortunately, this note is not dated, but the style of writing suggests that Hans Pretmaister from Linz owned the book in the second half of the 16th century. Today Linz (*Lintz)* is the capital of Upper Austria and not far away from Helfenberg.

The location of the book after Hans Pretmaister's period of ownership are unknown, but it was catalogued in the library of the monastery in Gottweig, Austria, in 1756.

Other Signs of Provenance

Armorial bearings or miniatures from the Middle Ages also give information about people who donated, purchased, or owned manuscripts. One example comes from the beginning of Codex 53 in Klosterneuburg, where four different coats of arms are incorporated into two scenes (figure 52). In the upper part of the illustration the founders of the monastery donate the church to virgin Mary and Jesus. The left coat of arms is from 'Old Austria', which belongs to Margrave Leopold III, and the right one represents the German empire, because his wife Agnes of Waiblingen was a member of the imperial family. The historic initial in the scene below shows the Church father Augustine preaching his rules to the canonesses and canons with the coat of arms of the monastery and the city of Klosterneuburg, and a third one, which has been painted over. The reason for this occlusion is unknown, but it is possible that it had been the private coat of arms of the provost, and was covered over after his death in order to make the manuscript timeless.
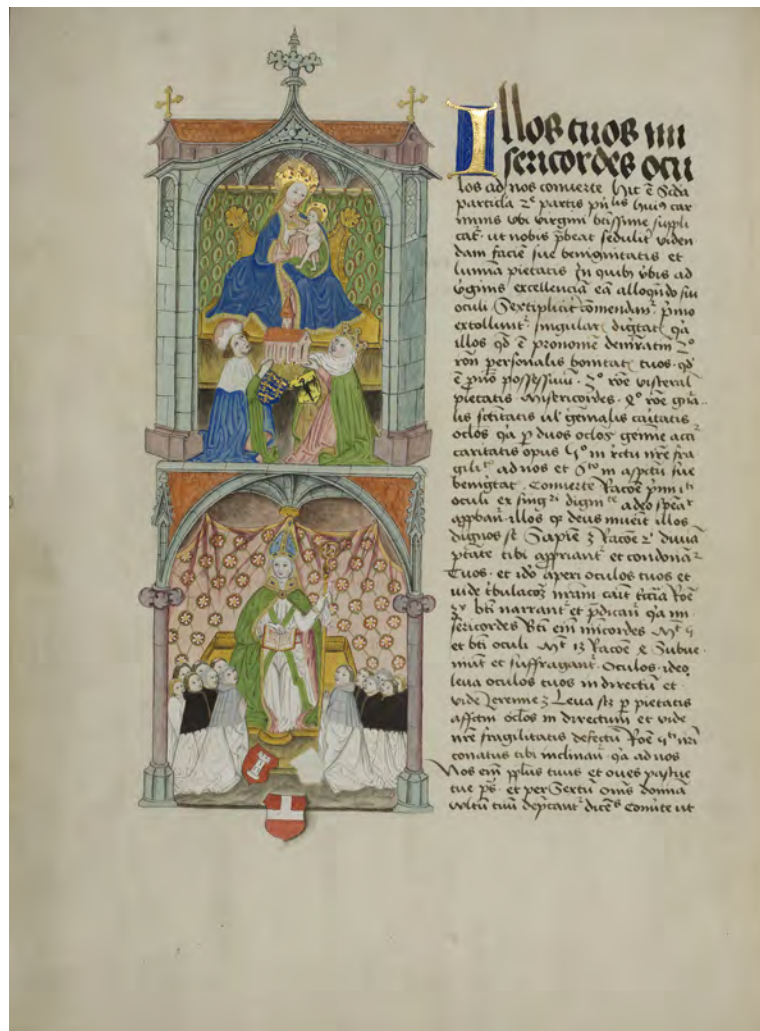

Figure 52: Leopold and Agnes, the founders of Stift Klosterneuburg, with Mary and Jesus above and St. Augustine preaching in front of canonesses and canons. Illustrations with coat of arms in Klosterneuburg, Stiftsbibliothek CCl 53, fol. 1v.

Marks of Use

When reading books today, many people make notes for themselves in the margin of the pages. Some also mark or highlight passages in the text. The situation was similar in the Middle Ages and often thoughts or comments from readers are notated marginally and important parts are highlighted. These marks and annotations provide researchers with information about the early reception of the text. Sometimes a drawing of a finger (or *manicule*) is pointing to an important passage of the text …

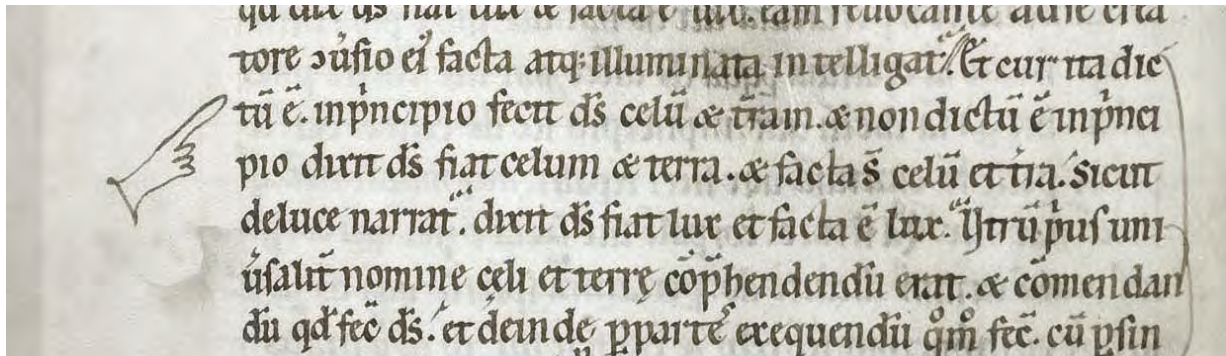Figure 53: Pointing Finger (or *manicule*) in the margins. Klosterneuburg, Stiftsbibliothek, CCl 218, fol. 2v.

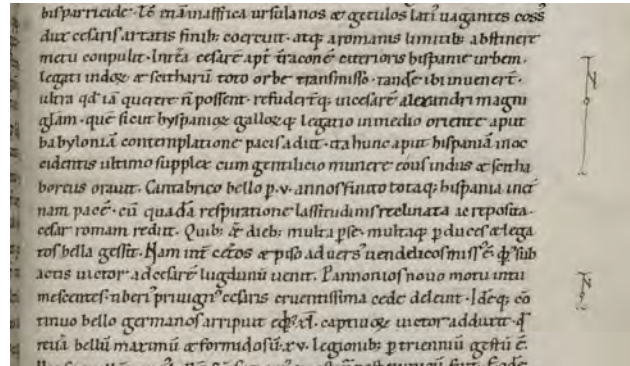… or lines are marked with a *nota bene* sign, which means: note!

Figure 54: The sign for *nota* ('note') in the margin. Klosterneuburg, Stiftsbibliothek, CCl 732, fol. 83r.

In the late medieval period when humanists began to work with texts from antiquity the number of annotations increased.
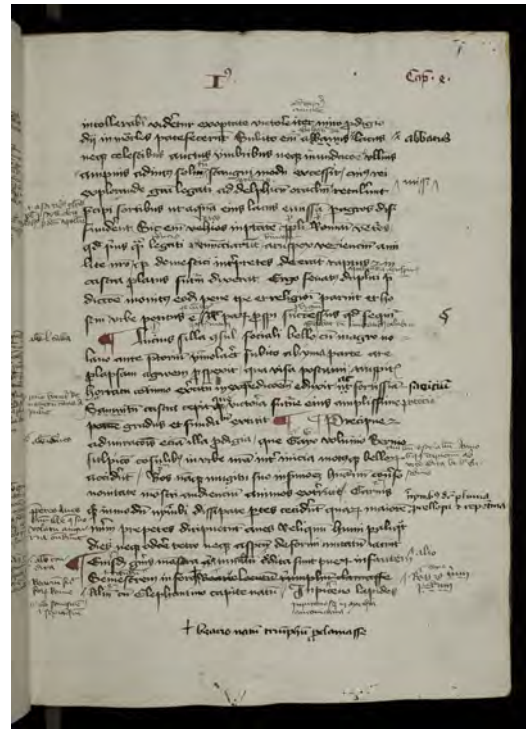
Figure 55: Annotations can show what readers in other periods thought of the text. In this picture there are many annotations in the margins and interlinear glosses from different humanist hands. Klosterneuburg, Stiftsbibliothek, CCl 740, fol. 8r.

Protecting a book

As previously mentioned, books were valuable goods in the Middle Ages. They were expensive to produce, and not easily replaceable because of their uniqueness. Most libraries chained their books to desks, though in some libraries it was possible to borrow even chained manuscripts. In Klosterneuburg, for example, well-preserved library rules state that cannons who wanted to borrow a book had to pledge a collateral against it.

Another means of warding off potential book thieves was writing curses in books. Every thief who tried to steal the book was cursed, as shown in the following example:
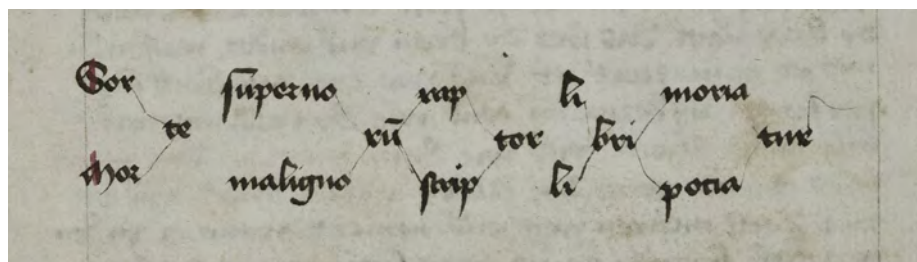

Figure 56: Malediction. Klosterneuburg, Stiftsbibliothek, CCl 1253, fol. 163v.

This mid 15th century malediction was written on the last page of Cod. 1253. A very common curse, which can be found in many medieval manuscripts was used. In the correct order it reads:

Sorte supernorum scriptor libri potiatur, morte malignorum raptor libri moriatur.

'The writer of the book will gain the fortune of heaven, the thief of the book has to die the death of the evils.'

Collecting Books

Today only a few institutions have book collections which were not destroyed or dispersed over the centuries. In Austria, for example, monasteries have existed since the Middle Ages and were not abandoned during secularization. Therefore, their book collections could grow with little interference. Some of these old monasteries have medieval catalogues, which reflect the state of their book collection at various times. Although it is often quite difficult to identify the exact texts or books listed, these medieval catalogues still give an overview of the library's inventory at specific points in time.

In early–modern catalogues it is possible to search for books with the help of extant book numbers. Medieval catalogues transmit very few shelf marks, but may aid researchers in narrowing down the time at which a book was incorporated into a library. The first mention of a book in a catalogue is the *terminus ante quem*, as the book must have been bought before the preparation of the catalogue. With the *terminus post quem* we are able to consider either the date of origin of the book itself or, if extant, an earlier catalogue which does not mention the book. Therefore, researchers can determine a specific interval when a book was added to a library.

Literature

Alois HAIDINGER, Verborgene Schönheit. Die Buchkunst im Stift Klosterneuburg. Katalog zur Sonderausstellung 1998 des Stiftsmuseums Klosterneuburg (Klosterneuburg/Wien 1998).

Alois HAIDINGER, Katalog der Handschriften des Augustiner Chorherrenstiftes Klosterneuburg. Teil 1: Cod. 1-100. Wien: Verlag der Österreichischen Akademie der Wissenschaften 1983. (Österreichische Akademie der Wissenschaften, phil.-hist. Klasse, Denkschriften 168 = Veröffentlichungen der Kommission für Schrift- und Buchwesen des Mittelalters II,2,1).

Edith KAPELLER, Codex 1253 der Stiftsbibliothek Klosterneuburg und Cod. 365 (rot) der Stiftsbibliothek Göttweig. Zwei „Belial"-Handschriften des 15. Jahrhunderts und ihr Bezug zum Weltende (unpublished MA-Thesis, Univ. Vienna 2015).

Lawrence S THOMPSON, A Cursory Survey of Maledictions. In: Bulletin of the New York Public Library 56/2 (1952) 55–75.

Example: Medieval catalogues in the Klosterneuburg monastery

Julia Anna Schön

The monastery of Klosterneuburg was founded in 1114 by Leopold III, Margrave of Austria. Thanks to charters, it is known that he donated some manuscripts to the monastic library as well. The oldest catalogue of this library dates to the end of the twelfth century. It was written on the last page of CCl 838, which immediately follows the main text of the manuscript. The catalogue itself is a short list of 17 texts which were simply listed one after another, making it hard to determine where one title ends and the next one begins. The list begins with three volumes of the Bible. These specific manuscripts were donated by Leopold III and today only one of the remains in the monastic library.
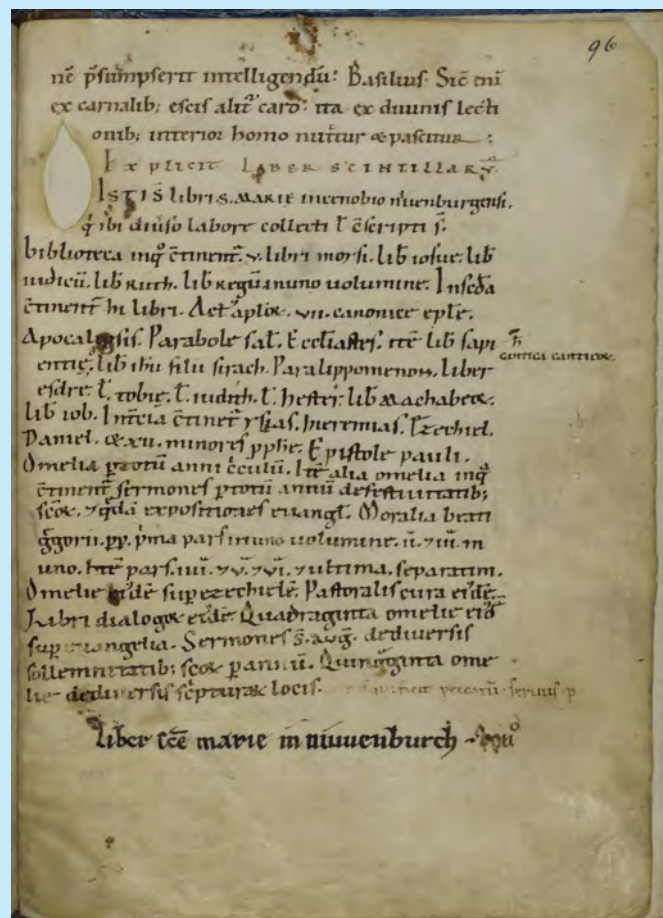

Figure 57: Oldest catalogue in Klosterneuburg. Klosterneuburg, Stiftsbibliothek, CCl 838, fol. 96r.

It can be very difficult for contemporary researchers to distinguish whether the writer of a medieval catalogue listed the manuscripts or the single texts stored in the library, because manuscripts could consist of more than one text. Manuscripts usually did not have official titles, especially not in the Middle Ages, and there were no rules on how to name them. Thus, almost all those who created such a book catalogue could use their own system. The method by which these manuscripts or texts were displayed in early catalogues also makes it difficult for researchers today to answer all of their questions regarding this topic. The manuscripts or texts were often listed in one long line and with very few accentuations. All of this changed as more and more books were produced in the late Middle Ages and the early modern period. Because of this, certain rules regarding the naming of books, and therefore how to display them in catalogues, became necessary.

The medieval catalogues of Klosterneuburg are no exception. The second catalogue in the monastic library was written around the year 1200 (CCl 1243, fol. 76r) and it lists all of the manuscripts/texts that were used for teaching.

Two more detailed catalogues were created in the first half of the 13th century. One of them was written on the last page of CCl 252 (fol. 215v) and has supplements from two different hands. The other list on fol. 177v–188r of CCl 161 looks slightly different than the previously mentioned catalogue. The manuscripts/texts were still arranged consecutively, but most of them were also arranged in groups with empty lines between them. These groups feature, for example, texts of church fathers, Beda Venerabilis or Bibles. Later additions can be found in the margin as well as between these groups on the empty lines.

The most detailed, and at the same time the last medieval catalogue in the monastic library, was compiled in the year 1330 by the librarian *magister Martin*. In comparison to the other catalogues, this list was designed as an individual manuscript (CCl 1251) and consists of twelve pages. In it there are more than 300 texts listed, illustrating the monastery's medieval book collection quite well. Nearly all of the texts were written on their own line and there are thin lines across the whole page indicating which texts belong together and form one manuscript.
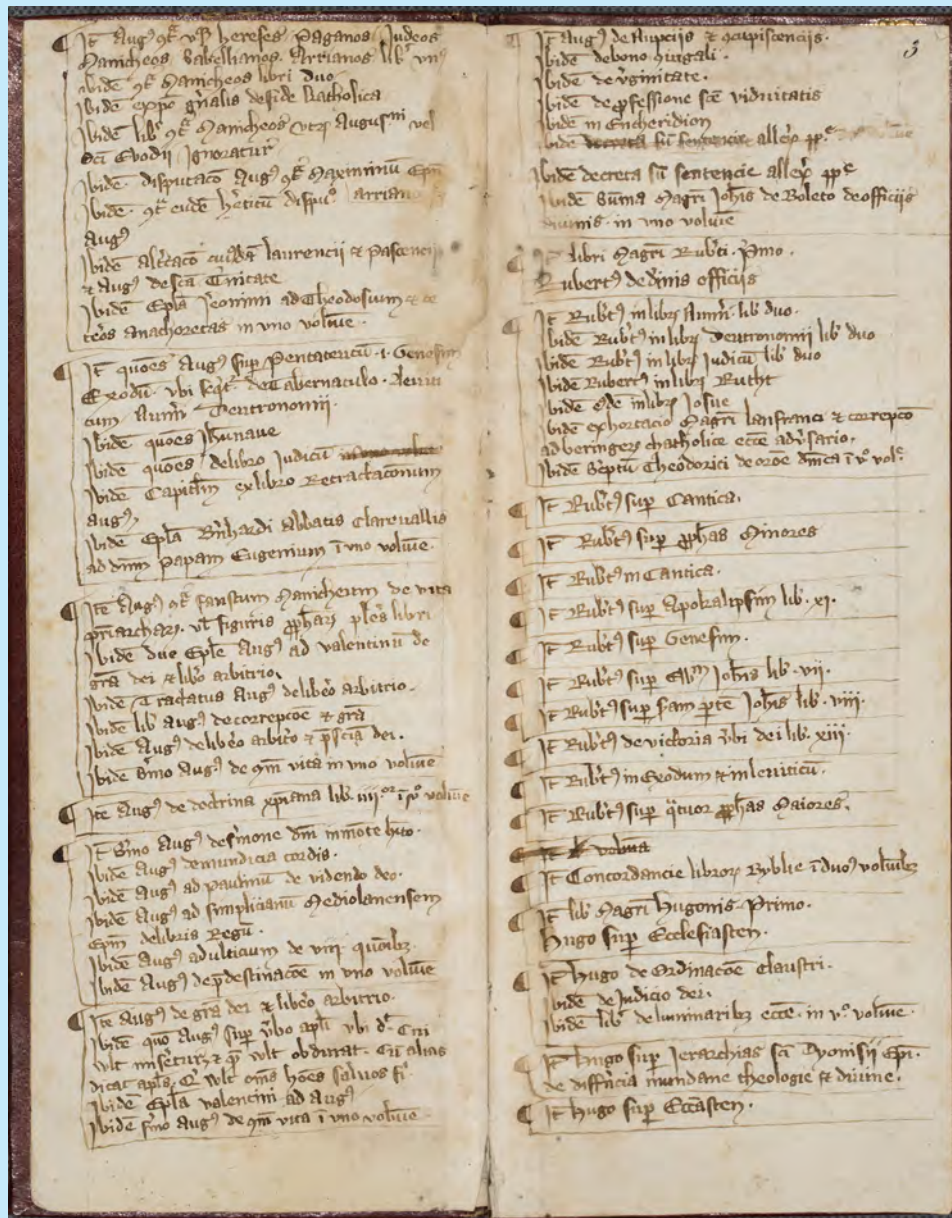
Figure 58: The catalogue of magister Martin written in the year 1330.
Klosterneuburg, Stiftbibliothek, CCl 1251, fol. 2v, fol. 3r.

These catalogues all show researchers that the medieval collection of the monastic library of Klosterneuburg consisted of many different texts. Most of them were historical, hagiographical and classical texts, while others concerned the church fathers and the law. They also make it possible to observe the growth of the library, as the monastery was able to increase the number of their manuscripts dramatically within less than 200 years. Nevertheless, one should never forget that a medieval book catalogue often does not list all of the books belonging to the library, instead naming only the most important ones. This means that researchers will never know exactly how many books a monastery truly owned in the medieval period.

Literature

Theodor GOTTLIEB, Klosterneuburg. In: Mittelalterliche Bibliothekskataloge Österreichs. 1. Band Niederösterreich (Neudruck der Ausgabe Wien 1915, Aalen 1974) S. 83-120.

Vinzenz Oskar LUDWIG, Klosterneuburg. Kulturgeschichte eines österreichischen Stiftes (Beiträge zur Geschichte, Kultur- und Kunstgeschichte der Stadt Wien, Wien 1951).

Alois HAIDINGER, Verborgene Schönheit. Die Buchkunst im Stift Klosterneuburg. KatalogzurSonderausstellung 1998 des Stiftsmuseums Klosterneuburg (Klosterneuburg/Wien 1998).

Example: The library of the Vienna Schottenstift in the 15th century

Larissa Rasinger

A history of the library of the Vienna Schottenstift (Schotten Abbey), must start with a history of the monastery itself. The Schottenstift was founded in 1155 by Margrave Henry II Jasomirgott, who became the first duke of Austria in the following year. Needing a monastery to provide religious and administrative infrastructure for his new seat in Vienna, he brought Iro-Scottish monks from Regensburg (*Ratisbon*) in Bavaria to the city. In the foundation charter, Henry granted exclusive inhabitation rights of the monastery to the Iro–Scottish monks (*solos elegimus Scottos*). However, a few hundred years later, in 1418, Duke Albert V seized the monastery during the Melker Reform, attempting to revive the original ideals of Benedictine monasticism and instructing the monks to admit other monks to the cloister. The Iro-Scots refused this and instead left the monastery, which was immediately repopulated by German Benedictine monks, who continued to be known as the "Schotten" ("Scots").

This change over is important for the history of the library, because the Iro-Scottish monks took their books with them back to Regensburg in 1418, presumably leaving only a few old liturgical books behind. This first "library" of the Schottenstift is thererfore lost. Some of the manuscripts the Scots left behind have survived in fragments in the monastery's fragment collection For example, numerous pages of an antiphonary from the 12th century have survived. On one page of this antiphonary, featuring chants in honour of St Patrick (Fragm. liturg. 20), the neumes are already written on four red lines, which was unusual for Benedictines in Germany in the 12th century.

The Benedictines had to build up a new stock of books upon their arrival in 1418, as they need them for their daily life in the cloister, for prayer and liturgical reasons, and also for education - especially as there had always been a strong connection between the monastery and the nearby university. Therefore, it is hardly surprising that most of the more than 400 medieval manuscripts in the library are from the 15th century. Although no medieval catalogue is preserved today, we can conclude from owner entries in the manuscripts and incunabula of the 15th century that these books must have already been in the Schottenstift by that time and were not purchased later. For example, an entry from the 15th century on fol. 1r in a manuscript containing texts of Augustine of Hippo [Cod. 24 (Hübl 24)], quotes: *Iste liber est monasterii beate virgine alias Scotorum Wyenne ordinis s. Benedicti.*

Sometimes these notes can reveal which abbot bought a particular book for the library or who donated it to the monastery. For example, the abbot Johannes of Ochsenhausen (1428-1446) bought eleven manuscripts to the cloister. These included a composite manuscript with theological texts, containing texts of Anselm of Canterbury [Cod. 142 (Hübl 63)]. Afterwords Abbot Martin of Leibitz (1446-1461) purchased four books for the library. At least 24 manuscripts where copied by the monks themselves for the library, although little information about a scriptorium in the monastery at that time-survives.

The first incunable of the Schottenstift, a Catholicon (a Latin dictionary) printed in 1469 in Augsburg, was bought by Abbot Matthias Fink in 1470. Especially because of its connection to the University of Vienna, different people donated books to the Schottenstift, such as Nikolaus of Dinkelsbühl (rector 1405–06) or the famous Urban of Melk (rector 1427–1435), an autograph of whom is preserved in the library. Most important is the contribution of Johannes Poltzmacher (rector 1438), who donated 82 manuscripts to the monastery. His last will, issued on eleventh June 1453, in which he bequeathed his books to the Schottenstift, includes an instruction to lend his books to students of the faculty of law. Besides these, there were of course other donations in the 15th century from people of different ranks and professions.

Other sources to the early history of the library of the Benedictine Schottenstift are old signatures on manuscripts and incunabula, sometimes written directly on the front cover of the books. However, no medieval catalogue of the library is preserved, with the oldest catalogue dating to the middle of the 18th century. As can be seen in the various examples above, however, the books themselves reveal a part of their own history.
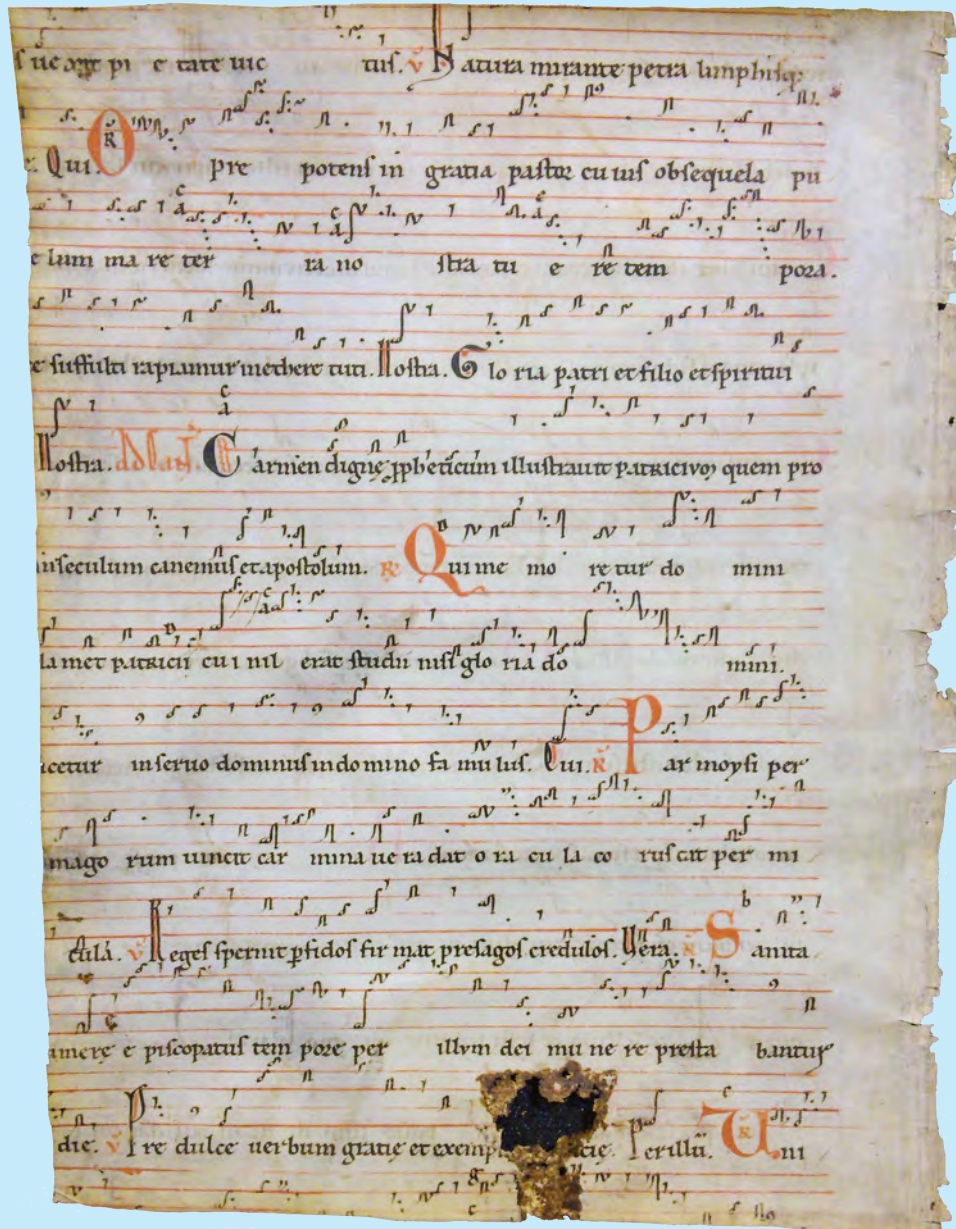

Figure 59: Chants in honour of St Patrick. Vienna, Schottenstift, Bibliothek, Fragm. liturg. 20.

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Literature

Albertus HÜBL, Catalogus codicum manuscriptorum qui in Bibliotheca Monasterii B.M.V. ad Scotos Vindobonae servantur (Vindobonae–Lipsiae 1899).

Albert HÜBL, Die Inkunabeln der Bibliothek des Stiftes Schotten in Wien (Wien–Leipzig 1904).

Mittelalterliche Bibliothekskataloge Österreichs. Bd. 1: Niederösterreich, hg. von der Kaiserl. Akademie der Wissenschaften in Wien, bearb. von Theodor GOTTLIEB (Wien 1915), hier 431–443.

CölestinRAPF, Die Bibliothek der Benediktinerabtei Unserer Lieben Frau zu den Schotten in Wien, in: TranslatioStudii. Manuscript and Library Studies honoring Oliver L. Kapsner, O.S.B., hg. von Julian G. PLANTE (Collegeville/Minnesota 1973) 4–36.

Gerhard SCHLASS, Wien 82: Bibliothek des Schottenstifts, in: Handbuch der historischen Buchbestände in Österreich II/2, hg. von der Österreichischen Nationalbibliothek (Hildesheim–Zürich–New York 1995) 218–224.

Maximilian Alexander TROFAIER, Nebeneinander und Miteinander. Die Beziehung der Universität Wien zu den Klöstern, in: Wien 1365. Eine Universität entsteht. Katalog zur Ausstellung in der Österreichischen Nationalbibliothek, 6. März 2015 bis 3. Mai 2015, hg. von Heidrun ROSENBERG–Michael Viktor SCHWARZ (Wien 2015) 78–89, hier passim.

The Transition from Manuscript to Print

In the middle of the 15th century Johannes Gutenberg, a smith from Mainz in modern-day Germany, invented mechanical movable type printing. This marked the beginning of the mass production of books. Moveable single letters allowed pressmen to use one metal letter again and again. A book printed before the year 1500 is called *incunabulum* or *incunable*. The first book which Gutenberg printed in the year 1454 was a Bible with 42 lines. This print is particularly interesting because it was designed to look like a manuscript. Printers tried to imitate the traditional layout of books by imitating the writing and using the same ornaments as in manuscripts.

This was a clever strategy, especially for particularly important works like the Bible, liturgical books or rules, and also for secular texts such as Canon law. Thus these new books were taken more seriously, and potential buyers felt they could trust the new medium. As the following example shows, sometimes books were even printed on parchment.

The new technology spread very quickly, and by 1480 there were printing houses in more than 130 European cities. From 1450 to 1500 – the time of incunables – about 9 million books were printed. By the 16th century researchers estimate that somewhere between 140 to 200 million books were printed.

Literature

Roderick CAVE, Sara AYAD, Die Geschichte des Buches in 100 Büchern. 5000 Jahre Wissbegier der Menschheit (Hildesheim 2015).

Erdmann WEYRAUCH, Buchdruck. In: Enzyklopädie der Neuzeit 2 (2005) Sp. 490-493.

Otto MAZAL, Paläographie und Paläotypie. Zur Geschichte der Schrift im Zeitalter der Inkunabeln (= Bibliothek des Buchwissens 8, Stuttgart 1984).

Example: Books of law

Edith Kapeller

This example from Klosterneuburg shows us the transition from manuscript to printed book. In incunables, special decorations like rubrications or colourful initial letters were initially not printed, instead being added later by hand. Sometimes incunables were even more expensive thas manuscripts and it is not always easy to distinguish incunables from manuscripts at first sight.

Figure 60: Manuscript,
written around 1300 in Bologna.
Klosterneuburg, Stiftsbibliothek, CCl 99, fol. 001v.

Figure 61: Incunabulum,
printed in 1472 in Mainz.
Klosterneuburg, Stiftsbibliothek, C.t. 17, fol. 001r.

The two books show just how similar manuscripts and incunabula could look. The text was commissioned by Pope Gregorius IX in the 12th century, written by Raimund de Peñafort and equipped with the *glossa ordinaria* by Bernhardus Parmensis. In both cases the material is parchment; both have precious golden decorations and both contain canon law. The book on the left is a manuscript written in Bologna around the year 1300 and contains the text *Liber Extra*, which is still part of the Corpus Iuris Canonici. The book on the right side is an incunable. The picture shows the beginning of the *Decretum Gratiani*. The incunable shown here was printed in Mainz in 1472.

These books illustrate the ways in which incunables were designed to imitate manuscripts. These methods can be compared with the modern design of e-books, which imitate printed books. Digital media offers other, more appropriate ways to display texts. But web-based pdf-files and applications are still often designed to closely imitate print, in order to make them appear as book–like as possible.

Example: Printed speech on Saint Leopold

Michael Grall

In 1485, Margrave Leopold III of Austria was canonized by Pope Innocentius VIII. Giovanni Francesco Pavini, who was a highly respected papal judge, was particularly interested in this canonization. In fact, his efforts to support the margrave's canonization played a crucial role in its realization. His momentous speech (*Relatio de beato Leopoldo*), which was held in front of the Curia, was printed around 1483 by Eucharius Silber in Rome. The intention of this printing was to dedicate the copies to honourable people or institutions that were involved in the canonization of Leopold III. To date, 15 of these incunabula have survived. One of the five lavishly decorated copies was intended for the Klosterneuburg Monastery (Klosterneuburg, Stiftsbibliothek, Cod. typ. 814, figure 62).

Figure 62: First page of the Klosterneuburg Example of Pavini's speech.
Klosterneuburg, Stiftsbibliothek, C.t. 814, fol. 1r.

After printing, its title page was decorated by an illuminator. The title vignette depicts the elderly Saint Leopold, who is wearing armour and is crowned by the archducal hat. In his hands he holds both a banner and the model of the Klosterneuburg collegiate church, showing the church as it was at the time the codex was illuminated. In the background, several buildings of the city of Vienna can be seen, indicating that the illuminator was probably familiar with the area surrounding Vienna and Klosterneuburg. The white veil, which is entangled in the tree next to Leopold III, hints at the legend of the monastery's founding by the margrave. According to the legend, the veil got lost at the wedding of Leopold III and Agnes of Waiblingen but was found by Leopold several years later. As he had discovered the veil tangled in an elderberry bush, completely unscathed, Leopold decided to choose that very location to found Klosterneuburg.

The printed text is surrounded by a foliate border depicting fruits, flowers, and conventional acanthus, primarily in blue, rose, and gold. The scribe left additional space for the decorated six-line initial *E*. The page also shows several coats of arms in the top and bottom corners. The top left image is the coat of arms of Pope Sixtus IV, the reigning Pope at the time the incunabulum was printed. The top right image shows the coat of arms of the Sacrum Imperium Romanum (Holy Roman Empire).

The coat of arms of the Klosterneuburg Monastery and the city of Klosterneuburg are situated at the bottom left and right corners, respectively. The identity of the illuminator is unknown; however, similar illuminations can be found in a gradual once in the possession of Matthias Corvinus (Buda, National Széchényi Library, Cod. Lat. 424). Therefore, it is possible that the illuminator worked in Buda or Klosterneuburg-Vienna.

By comparing the decorations of the title pages, it is possible to draw conclusions about the dedication of the copies and their origin. The decoration of the incunabulum that was dedicated to Emperor Frederick III (Vienna, ÖNB, Ink 26.E.18)[7] , for example, indicates the work of an illuminator who most likely worked for the Curia in Rome.

The title vignette resembles the miniature described above (figure 62) but differs in some peculiar ways. In an unusual iconographical manner, Saint Leopold is depicted as a young ruler and the landscape and buildings in the background are not recognizable. It has been suggested that Thomas List, dean of Klosterneuburg Monastery, who was in Rome during the time of the decoration of the incunabulum, possibly provided the illuminator with details concerning the attributes of the saint.

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[7] Available online: http://www.corvina.oszk.hu/corvinas-html/graduale.html

Figure 63: A later print of Pavini's speech.
Klosterneuburg, Stiftsbibliothek, C.t. 1350, fol. 1v.

It is also remarkable that another print of Pavini's speech (HC 12536), which was pro-
duced in small-format by Johann Petri in Passau around 1491, contains a woodcut
(Klosterneuburg Stiftsbibliothek, Cod. typ. 1350; figure 63) depicting Saint Leopold as a
young ruler as well. Additionally, Saint Leopold is titled *dux austriae*, which is also qui-
te unusual given the fact that he was never Duke, but was rather Margrave of Austria
(Beatus Leopoldus Austrie Marchio, cf. the lower medallion on the title page of *Relatio
de beato Leopoldo*; figure 62).

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