Fragmentology

A Journal for the Study of Medieval Manuscript Fragments

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Reading Monastic History in Bookbinding Waste

Collecting, digitizing and interpreting fragments from Mondsee Abbey

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Abstract: Shortly after its foundation in 748, the Benedictine monastery of Mondsee became an important centre for book production in Upper Austria. The librarians renewed their holdings over several phases of increased activity. In the fifteenth century, old and outdated books fell into the hands of the monastic binders, who cut up and reused them as binding waste for new manuscripts, incunabula or archival materials. These fragments often offer the only clues we have for the existence of specific texts in the monastic library and should be regarded as important sources for the study of the liturgical, scholarly and everyday life of Mondsee. This paper summarises the challenges to gathering, identifying, describing, and digitizing the material, the approach taken to achieve these ends, and an initial evaluation of Mondsee fragments used as binding waste.

Keywords: Mondsee Abbey, in situ fragments, incunables, binding waste, digitization, library history

Introduction

The Austrian Academy of Sciences (Go!Digital 2.0) funded a two-year project to study the medieval fragments from the Abbey of Mondsee, and to publish them on *Fragmentarium*.[1] The project had the specific aim of studying the use of medieval fragments for bookbinding in a particular monastic centre over a period of time.

1 The project was hosted at the Austrian National Library in Vienna and ran in close collaboration with the State Library of Upper Austria, the State Archive of Upper Austria and the Institute of Austrian Historical Research. The team included Andreas Fingernagel (advisor), Katharina Kaska (project management), Ivana Dobcheva and Larissa Rasinger (researchers), and Veronika Wöber (photographer).

Some of the questions with which we started the project included: How many fragments, both detached and in situ, are to be found? How many original books did the Mondsee bookbinder(s) recycle? How did they use bits and pieces from one manuscript as binding waste and in how many host volumes did they re-use them? What were the reasons why certain books were deemed 'useless' for the monastic community and hence sent for recycling?

The Benedictine Abbey of Mondsee and its library presents itself as an excellent case study for several reasons. First, the monastery had a long-lasting scholarly activity starting in the late eighth century, producing hundreds of manuscripts, many of which survive. Second, there was a binding workshop within the monastery, where most of the manuscripts and incunabula were rebound, using (mostly) local binding waste. Third, almost all manuscripts, many incunables and part of the archive are kept today in three modern institutions in Vienna and Linz, a fact that significantly facilitates the access to and the virtual reunification of the fragments. Thanks to the good cooperation between the institutions it was possible to present the material in Open Access documents on the *Fragmentarium* web application, where researchers can examine and compare the fragments in one virtual collection and thus study the monastic book and fragment production in its entirety.

Many fragments are still in situ, pasted on the inner boards, over the spine or sewn in the middle of quires. The close cooperation between researchers, restorers and photographers made it possible to develop best practices for digitizing the fragments without causing damage to the binding and at the same time presenting the online user with easy-to-interpret and study images of the objects. The team paid particular attention to sewing guards, which are one of the most challenging fragments to work with. In the framework of the project, we tested a new method to photograph them without detaching them from the host volume, namely by using an acrylic prism.

The library of St. Michael in Mondsee (ca. 748-1791)

The Abbey of St. Michael in Mondsee was founded in the second quarter of the eighth century supposedly by the Duke of Bavaria Odilo from the house of the Agilofinger.[2] The family had control over the abbey until the deposition of the last Duke Tassilo III in 787. Mondsee then became an imperial abbey and in the following decades acquired extensive real estate holdings and established a busy scriptorium. In 831, however, King Louis the Pious placed the abbey under the control of the Bishop of Regensburg. This subordination, together with Hungarian raids, had a detrimental effect on scholarly activities at Mondsee. Book production started to thrive again in the second half of the eleventh and twelfth centuries when Mondsee implemented the Hirsau reform and needed new liturgical books. Fires and devastation marked the next two centuries, from which the abbey recovered only in the fifteenth century thanks to the reform movement initiated by the abbey of Melk, as well as the close connections with the University of Vienna. Due to this new monastic reform,[3] the old books containing the Hirsau liturgical texts went out of use. Many of them served as bookbinding waste

2 The year of foundation is not recorded, but the year 748 serves as the *terminus ante quem*, as it marked the death of the Duke Odilo, who donated lands to the monastery. For a detailed history of the abbey, see G. Heilingsetzer, "Mondsee", in *Germania Benedictina. Band III/2: Die benediktinischen Mönchs- und Nonnenklöster in Österreich und Südtirol*, ed. U. Faust O.S.B. and W. Krassnig, St. Ottilien 2001, 874–923; idem, "Das Mondseeland als historische Landschaft und seine Zentren Kloster und Markt", in *Mondseeland*, Linz 1981, 9–49; idem, *Mondsee. Die Geschichte des Klosters*, Linz 1998; M. Kaltenegger, *Die Frühgeschichte des Klosters Mondsee: historische Auswertungen zu den ältesten Baubefunden*, Ph.D. Dissertation, University of Graz, 1994; G. Rath and E. Reiter, *Das älteste Traditionsbuch des Klosters Mondsee*, Linz 1989; H. Wolfram, "Das frühmittelalterliche Kloster Mondsee in heutiger Sicht", *Jahrbuch des Oberösterreichischen Musealvereins* 134 (1989), 7–11.

3 For a detailed study on the renewal of the liturgy and music in accordance with the Melk reform, see, for example, J.F. Angerer, *Die liturgisch-musikalische Erneuerung der Melker Reform: Studien zur Erforschung der Musikpraxis in den Benediktinerklöstern des 15. Jahrhunderts*, Vienna 1974; R. Klugseder, "Die Auswirkung der Melker Reform auf die liturgische Praxis der Klöster", *Studien und Mitteilungen zur Geschichte des Benediktinerordens und seiner Zweige*

when Abbot Benedikt II Eck (1463–1499) decided to refurbish the library and rebind almost all Mondsee books, manuscripts as well as incunabula.[4]

For the thousandth anniversary of the abbey in 1748, Abbot Bernardus Lidl published the *Chronicon Lunaelacense*, which contains a catalogue of all the manuscripts from the ninth to the sixteenth century.[5] According to this list, the library possessed at the time 1013 manuscripts, 184 of which were written on parchment, 813 on paper and 9 mixed (for 7 there is no information about the material). One should have in mind, however, that some composite codices containing several codicological units could have been counted as separate manuscripts, so that the total number of physical books might have been somewhat smaller.

Identifying, describing and digitizing the material

The Austrian National Library (ÖNB)

After the dissolution of the abbey in the eighteenth century, the court library in Vienna (today the Austrian National Library, abbreviated ÖNB) demanded for its holdings not just a few selected books (as in the case of many other dissolved institutions) but almost all Mondsee manuscripts, totalling over 760.[6] At the time, the librarians listed the manuscripts in a handwritten inventory preserved today under the shelfmark Cod. Ser. n. 2162. The books are divided according to format (folio, quarto, octavo), so that each physical object received a shelfmark of the type 'lunael. f. 1', which marks their provenance. Today a query in the online catalogue of

123 (2012), 169–209; F.X. Bischof and M. Thurner, eds., *Die benediktinische Klosterreform im 15. Jahrhundert*, Berlin 2013.

4 The only surviving Carolingian binding is that of Cod. 1193, which had ivory plaques on both covers and probably gold or silver decoration, now missing.

5 B. Lidl, *Mantissa Chronici Lunae-Lacensis Bipartita*, Gastl 1749.

6 On the dissolution of the monastery with special focus on the monastic archive and books see I. Zibermayr, OÖLA, *Stiftsarchiv Mondsee*, Linz 1928.

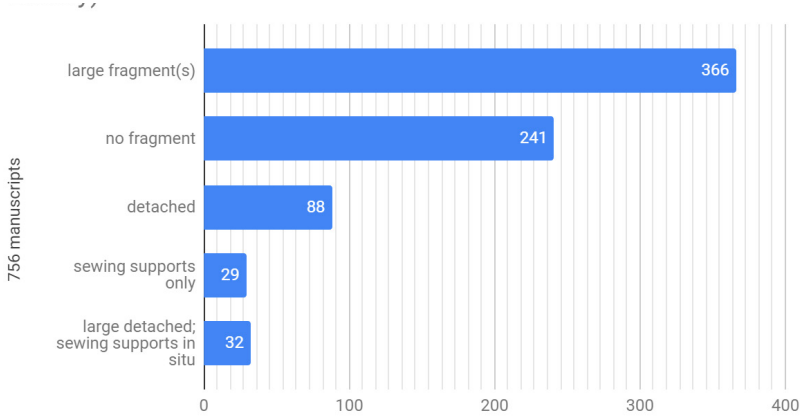

Table 1: Number of Mondsee-provenance MSS with in situ fragments (ÖNB)

the ÖNB brings 756 items with Mondsee provenance in the *Codices* collections.[7]

Our initial step was to go through the list and inspect all codices for in situ fragments and mark their exact position within the binding (Table 1). In nearly 70% of all codices (515 codices), there are either in situ fragments or traces of detached ones. One should keep in mind, however, that often, when a fragment was detached, new pastedowns were pasted over the offset, hiding all clues for the pre-existing binding waste. This would suggest that there are unaccounted offsets and the percentage of manuscript binding waste was originally higher. Furthermore, one often finds fragments from two or more original manuscripts within a single binding, so that the actual number of individual in situ fragments is over 620 items.

This process of detaching fragments began in the eighteenth and nineteenth centuries when the general appreciation for the historical value of binding waste started to grow.[8] Some of the first

7 The difference in the numbers is due probably on the one hand to the fact that the librarians did not list all books separately at the time, on the other hand that later composite codices were divided in separate physical items. *Tabulae codicum manuscriptorum praeter graecos et orientales in Bibliotheca Palatina Vindobonensi asservatorum (Cod. 1 - Cod. *19500)*, 10 vols., Vienna, 1864-1899 (reprint Graz, 1965).

8 F. Unterkircher, "Fragmenta felici fato servata in der Österreichischen Nationalbibliothek", in *Scire Litteras. Forschungen zum mittelalterlichen*

fragments to attract the attention of scholars were the so-called Mondsee Fragments, Old High German texts from the early ninth century. In 1833 Stephan Endlicher, a *scriptor* at the court library, began examining all Mondsee manuscripts in search of these old German fragments; he was later joined by August H. Hoffmann von Fallersleben. They detached the fragments from the bindings and managed thus to reconstruct 27 leaves from a single original manuscript, preserved today under shelfmark Cod. 3093*.[9]

Unfortunately, nineteenth century scholars were mainly interested in texts and not codicology. When detaching fragments, they rarely noted the host volume, thus depriving future generations of important information concerning the provenance of both binding and fragment. The same happened when bindings were restored or renewed and many fragments detached. This practice changed only since the 1930s when librarians started to record the host volume and the position of the fragments within the bindings more frequently.

Detached fragments that were deemed interesting enough to be catalogued were rebound in guard-books and received shelfmarks from the *Codices* collection and later from the *Codices Series Nova*.[10] Of fragments with Mondsee provenance, we know of five with a *Cod*. shelfmark and 29 with a *Cod. Ser. n*. shelfmark. Other detached fragments, which at the time were considered less important, remained uncatalogued. In the 1980s, the librarians began working on a handwritten inventory that lists 1709 items (as of April 2019) with shelfmarks *Fragm.* + *numerus currens*. Depending on the

Geistesleben, ed. S. Krämer and M. Bernhard, Munich 1988, 377–81; A. Fingernagel, "Die Fragmentensammlung der Österreichischen Nationalbibliothek, Sammlung von Handschriften und alten Drucken: Geschichte – Perspektiven", in *Fragmente. Der Umgang mit lückenhafter Quellenüberlieferung in der Mittelalterforschung*, ed. C. Gastgeber, Vienna 2010, 97–108; K. Kaska and F. Simader, *Vom Umgang großer Bibliotheken mit Fragmenten am Beispiel der Österreichischen Nationalbibliothek*, forthcoming.

9 See E. Krotz, *Auf den Spuren des althochdeutschen Isidor, Studien zur Pariser Handschrift, den Monseer Fragmenten und zum Codex Junius 25. Mit einer Neuedition des Glossars Jc*, Heidelberg 2002.

10 O. Mazal, F. Unterkircher, and R. Hilmar, *Katalog der abendländischen Handschriften der Österreichischen Nationalbibliothek: 'Series nova' (Neuerwerbungen)*, 5 vols., Vienna 1963.

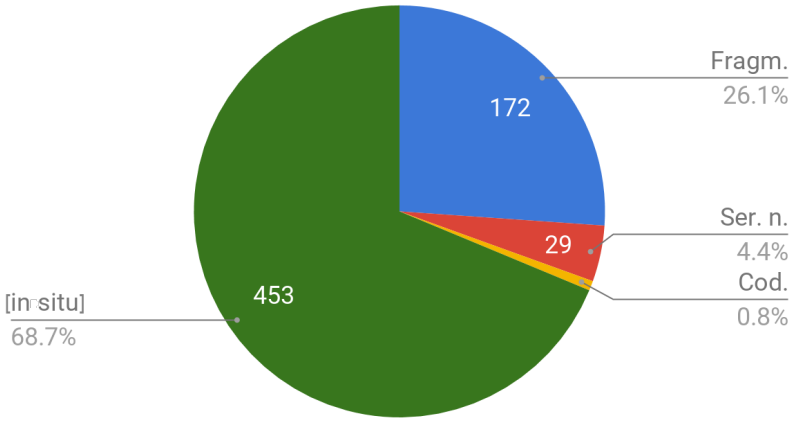

Table 2: Mondsee fragments in the ÖNB by collection

information recorded by the librarians at the time the fragment was detached, these entries include either only the shelfmark and the number of fragment pieces, or also the textual genre (breviary, antiphonary etc.), a rough dating and the shelfmark of the former host volume. Based on this information, we were able to establish a Mondsee provenance for 117 items within the collection of loose fragments. Since within one shelfmark there are often fragments from more than one original manuscript, we expanded the shelfmark by letters (e.g., Fragm. 1586a and 1586b), which increased the number of fragments to 172.

The fragments in the ÖNB collections altogether amount to 826 individual items; we identified sufficiently and described 659 fragments (in situ and detached), since the remaining 167 were too small or illegible for proper examination.

The State Library of Upper Austria (OÖLB)

While the manuscripts found their new home in the ÖNB, many incunabula and rare books from Mondsee remained in Linz and are today kept the State Library of Upper Austria (OÖLB). During the dissolution of the monasteries, manuscripts and prints from many different monastic houses and church institutions found their way to Linz, where their provenance was of no importance to the

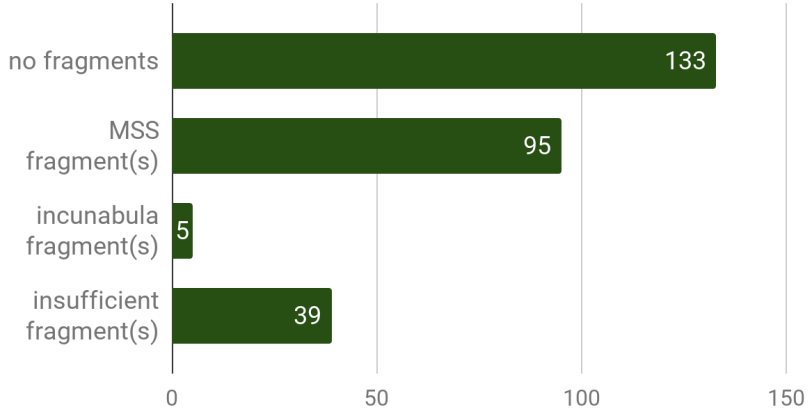

Table 3: Mondsee incunabula in the OÖLB

librarians and was thus not noted in the library catalogues. Despite this, it is still possible to establish a Mondsee provenance for about 270 incunabula thanks to specific features such as spine labels, red and black shelfmarks and owners' inscriptions. In half of them, we found in situ fragments, of which we examined and described 95 manuscript and 5 early printed fragments. In 39 incunabula, the waste hidden within the binding was not visually accessible, and therefore could not be sufficiently described or digitized.

Significantly less binding waste was removed from the incunabula at the OÖLB in comparison to the ÖNB. Thanks to the information supplied by Konrad Schiffmann we know of 13 fragments which were detached from Mondsee books.[11] Schiffmann, who was the head-librarian and later director in the early twentieth century, was interested in early Carolingian pieces (such as the homiliaries Hs.-595 [F-8380], Hs.-596 [F-bq06], Hs.-834 [F-f8n7]) and historical notes and letters he regarded important for monastic and regional history.

One could also single out Mondsee-provenance rare books from the common collection of the OÖLB again based on their bindings.

11 Konrad Schiffmann, *Die Handschriften der öffentlichen Studienbibliothek in Linz*, Linz 1971, usually provides only a brief note concerning provenance; some fragments are also accompanied by notes in Schiffmann's hand stating the exact host volume and date when the binding waste was detached.

Due to the time limit of the project and the number of fragments to be described, we decided not to perform a thorough search of the collection. Exceptions were rare books with limp bindings, coverings (with paper linings or over *cartonnage*) or wrappers made from binding waste. Together with the staff of the OÖLB, we managed to sort 22 such items, so that the number of Mondsee fragments within the OÖLB increased to 174, 135 of which we could sufficiently identify and describe.

The State Archive of Upper Austria (OÖLA)

Only a small part of the Mondsee archive survived the dissolution and is today kept in the State Archive of Upper Austria (OÖLA) in Linz. It includes 323 charters, 515 archival folders, 289 archival manuscripts, and 9 maps and plans.[12]

Among the archival manuscripts, 36 still contain manuscript binding waste. In seven volumes we found fragments from several original manuscripts, which raised the number of in situ fragments to 43. In the second half of the twentieth century, many manuscript fragments were detached during rebinding initiatives. Today, they are kept as a collection of loose fragments called 'Buchdeckelfunde'. Among these, 44 pre-sixteenth-century fragments come from the Mondsee archives. Of the 87 fragments in total, the team provided descriptions of 80, while the remaining seven were either to small or illegible to be correctly identified.

Apart from the fragments in Vienna and Linz, we know of at least 21 predominantly Carolingian fragments kept in institutions around Europe and North America, which owing to the paleographical studies of scholars such as Bernhard Bischoff and Karl Forstner, can be attributed to the Mondsee scriptorium.[13] The fragments were

12 See the summary description in I. Zibermayr, *OÖLA, Stiftsarchiv Mondsee*, 2–7, including a succinct overview of the history of the archive after the dissolution of the monastery. Comparing the current repository at the OÖLA and an archival list made by Abbott Bernhard in 1792, Zibermayr accounted for significant losses. See also Georg Heilingsetzer, "Mondsee" (*supra*, n. 2), 919–920.

13 B. Bischoff, *Die südostdeutschen Schreibschulen und Bibliotheken in der Karolingerzeit. 2: Die vorwiegend österreichischen Diözesen*, Wiesbaden 1980; K. Forstner, "Neue Funde und Erkenntnisse zum karolingischen Schriftwesen

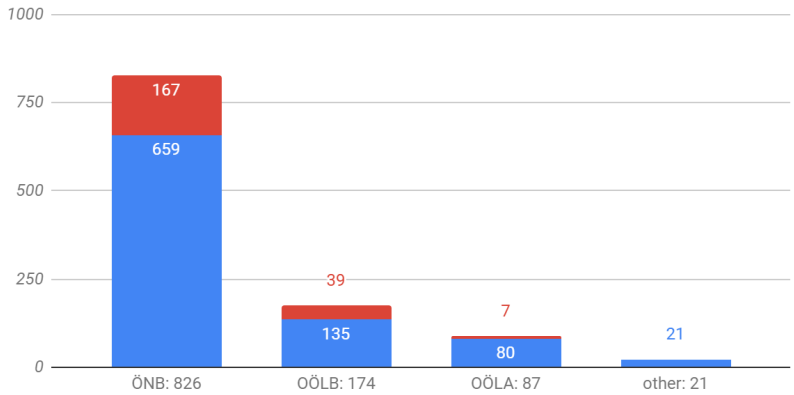

Table 4: The 1108 known Mondsee fragments, by repository. Blue = fully described fragments. Red = insufficient remains for a full description.

used as binding waste but left the monastery probably much earlier together with the host volumes. By collaborating with some of the institutions, we hope to be able to publish the fragments on *Fragmentarium*.

The total number of fragments with Mondsee provenance in all Austrian repositories and the known fragments in other Austrian and foreign libraries can be estimated to at least 1108, for 895 of which the team was able to provide complete codicological descriptions and identify the text or at least the genre.

von Salzburg und Mattsee", *Scriptorium* 52 (1998), 255–277. The fragments in alphabetical order are: Admont, Benediktinerstift, Fragm. B 38; Berlin, Staatsbibliothek Preussischer Kulturebesitz, Cod. germ. fol. 751, Heft 7; Budapest, Egyetemi Könyvtár, U.Fr.l.m.3; Cambridge, MA, Harvard University, Houghton Library, MS Typ 694 [F-rod4]; Hannover, Niedersächsische Landesbibliothek, Ms. I 20; Kremsmünster, Stiftsbibliothek, Fragm. I/4, Fragm. I/8; München, Bayerische Staatsbibliothek, Clm 18704 (in-situ pastedown), Clm 27270; New York, Pierpont Morgan Library, M. 564; Nürnberg, Germanisches Museum, Ms. 27932; Nürnberg, Stadtbibliothek, Fragm. Lat. 1; Passau, Staatliche Bibliothek, Fragm. I.8*, Salzburg, Archiv der Erzdiözese, Fragm. 55 (AT-AES 7.1.H1.55) and Fragm. 103 (AT-AES 7.1.H1.103); Salzburg, Landesarchiv, RP 117, RP 118, RP 119 and RP 120; Salzburg, Bibliothek der Erzabtei St. Peter, Fragm. 4; St. Florian, Augustiner-Chorherrenstift, Cod. III 222 A (endleaf); Wien, Universitätsbibliothek, II 261085 (offset).

Digitization

One of the project's main goals was to develop guidelines for digitizing in situ fragments. Researchers and photographers worked in close collaboration, assuring the best possible non-intrusive way to document objects that are only partly visible and would have remained undocumented using only standard photographic methods.

Pastedowns and flyleaves are usually easy to digitize and are included in the general workflow for digitizing manuscripts in the ÖNB. The common practice is to digitize the binding element as visible on the inner face of the boards. Already on the first inspection of the Mondsee manuscripts, we noticed that the binders followed the common technique of hooking the pastedowns around the outermost gathering and sewing them to it, thus strengthening the connection between the book block and the boards. For our project it was important that, even if these hooks are blank (pertaining, for instance, to the margin of the original leaf), they be nevertheless digitized so that no information about the codicological features of the original manuscript (such as original size of the leaf or existing pricking in the margin) gets lost. To make sure online users understand these features when looking at the digital facsimile, we included all codicological details in the description and explained the exact position of the fragment in the binding. In the *Fragmentarium* web application, users can view the digital facsimile and at the same time read the description in a toggle sidebar, as seen in Cod. 1118 [F-6lhe].

Sewing guards (also referred to as centre strips) are one of the most challenging fragments to describe. These narrow strips of parchment, sometimes only a centimetre wide, were used to strengthen the fold in paper quires. Over 190 Mondsee manuscripts include such strips, which were often cut from several different manuscripts. In the past, the usual practice was to detach such fragments by making tiny cuts on the level of the sewing stations to release the guard from the sewing thread (see for instance Fragm. 4a [F-reao]). Such invasive practice often lead, however, to serious damages when the strips were cut through and thus torn to several pieces. Nowadays librarians, restoration experts and scholars in general do not

Figure 1: Acrylic prism for digitizing sewing guards

want to separate two objects (host volume and fragment) that share a common history. Manfred Mayer, an engineer and conservator at the University Library Graz in Austria, offered a solution to this problem: a specially devised acrylic prism, with which it is possible to take images of the in situ strips without damaging the host volume.

The photographer positions the prism at the opening of the sewing guard to take one picture of the inner part. For photographing the outer side of the fragment, the prism needs to be repositioned

a b c

Figure 2: Sewing guards in Cod. 3820 a) as seen during in-situ observation, b) as digitized with a prism, c) reconstructed to form a single leaf

between the quire fold and the recto and verso of the sewing guard respectively.

Rigid or fragile bindings that cannot be opened up to 90 degrees pose a particular challenge for the photographer, who has to proceed with extra care. Most important in these cases is to avoid any damage to the medieval bindings, even at the cost of losing some information. If the prism does not reach the bottom of the fold, a small part of the middle of each sewing guard is not visible in the picture, as shown below: the letter "e" in the topmost line is visible in the in situ observation, but is cut off in the scanned image (Figures 2a, 2b).

The processing that includes taking the images, renaming, rotating and mirroring them, as well as joining the two outer images is extremely time-consuming, but makes it possible to reconstruct full pages of the original manuscript (Figure 2c).

Due to time limitations, it was impossible to digitize all sewing guards within the duration of the project. Carolingian and Romanesque manuscripts were given priority, while for the rest a compromise was necessary. At least one image per group of strips that belonged to one original manuscript was taken, while in the description we included information about the number and position

of all strips and (when possible) gave the exact content. In this way, scholars interested in the fragments can have at least one visual example and perhaps order further images or consult the fragments in situ. The fully digitized sets were used as case studies for fragmentation practices.

Another issue the team dealt with concerned the digital reconstruction of fragments on the digital platform. Our aim was to enable users online to have an experience as close as possible to examining the physical object and to get a precise idea of how much text is hidden or missing in the images showing parts of fragments in different places within the binding. This is particularly the case with transverse spine linings visible on the inner face of the boards (when there are no pastedowns) but hidden by the intact spine of the book. Two vertical strips in Cod. 3585 [F-xa56], for instance, belonged to one single leaf. To illustrate the gap between the visible parts, the photographer combined the images of the left and right board, where the fragments are pasted, placing the image of the fore-edge in the middle.

Significantly smaller and more challenging to digitize are what Nicholas Pickwoad has called comb guards.[14] Comb guards are a feature observed exclusively in south German bindings. If the pastedowns are intact, such fragments are visible only as small slips cut at the height of the supports and hooked around the outermost gathering or endleaf. Sometimes the slips are glued onto the pastedowns so that the text is visible only from one side, as for instance in Cod. 1592 [F-38a2]. In most cases, however, the pieces could be digitized on both sides, so the photographer used a glass plate to hold all the pieces flat, as seen in Cod. 4073 [F-kiwq].

Description

Considering the high number of fragments that had to be described within the two-year period, it was necessary to choose a

14 N. Pickwoad, "The Use of Fragments of Medieval Manuscripts in the Construction and Covering of Bindings on Printed Books", in *Interpreting and Collecting Fragments of Medieval Books: Proceedings of the Seminar in the History of the Book to 1500*, Oxford 1998, ed. L.L. Brownrigg and M.M. Smith, Los Altos Hills 2000, 1–20, at 18.

suitable, time-efficient description pattern, which still guaranteed that the material would become known and accessible to the scientific community. This issue had already been addressed by a previous *Fragmentarium* case study conducted at the Manuscript Centre in Leipzig. Its main aim was to test how time-consuming the work on detached fragments is and how detailed the description ought to be. For the content and the codicological and palaeographical characteristics we largely followed the guidelines established by the Leipzig case study.[15] Since we envisaged from the very start to incorporate our material into the *Fragmentarium* database, we kept our data consistent with *Fragmentarium*'s data structure.

While the majority of the fragments had not been studied before and were thus unknown to the public, early medieval and musical fragments had been the object of previous studies. This significantly facilitated our work, since we could build upon the information supplied, for instance, by Bernhard Bischoff in his examination of early Carolingian manuscripts produced in Mondsee, by Carl Pfaff's study of the scriptorium in the High Middle Ages, or Robert Klugseder's works on musical notation in the monastery.[16] Even in the cases where there was a detailed description of the content, it was nevertheless necessary to examine closely the objects in order to add codicological information or investigate the provenance history by bringing together fragments with their host volumes. The team also added extensive transcriptions of fragments that we could not interpret and contextualise properly due to limited time and human resources. In need of further specialized study are for instance two

15 I. Dobcheva and C. Mackert, "Manuscript Fragments in the University Library, Leipzig: Types and Cataloguing Patterns", *Fragmentology* 1 (2018), 83–110, esp. 98–99.

16 B. Bischoff, "Die Mondseer Schreibschule des VIII. und IX. Jahrhunderts", in *Die südostdeutschen Schreibschulen* 2, 9–26; C. Pfaff, *Scriptorium und Bibliothek des Klosters Mondsee im hohen Mittelalter*, Wien 1967; R. Klugseder, *Quellen zur mittelalterlichen Musik- und Liturgiegeschichte des Klosters Mondsee* (Codices Manuscripti, Zeitschrift für Handschriftenkunde, Supplementum 7), Purkersdorf 2012; id., "Ergänzungen zu Supplementum 7 (2012) der Codices Manuscripti: Quellen zur mittelalterlichen Musik- und Liturgiegeschichte des Klosters Mondsee", *Codices manuscripti & impressi* 91/92 (2013), 45–56; see also his database *Cantus Planus*.

fragments – today serving as pastedowns in Cod. 4989 [F-osfa] and Cod. 4993 [F-jvr1] – from a document pertaining to the rites and statutes of a double monastery. The full-text searches supported by *Fragmentarium* (indexed also by web engines) will, hopefully, draw the attention of specialists and shed more light on the origin and history of such fragments.

The possibility to work with the object in situ and with the digitized images at the same time proved especially advantageous for the description of sewing guards. For the bookbinders, it made no difference if they cut the pages horizontally or vertically, as long as the strips had the needed length. For someone trying to identify the text on the pieces, however, the difference is enormous. In the case of horizontal strips, one can usually read complete phrases of at least two or three words so that one can identify the text using databases or at least recognizing the genre. Furthermore, layout features such as column width or paleographical characteristics often help the researcher not only to identify the content but also to assign the fragment to an already defined group. This was the case for example for three sewing guards in Cod. 3839 [F-lik8], written in an early Carolingian script, in two column with wide line spacing – all features found in a group of fragments of the Pauline epistles [F-mjod]. This task is significantly harder for vertical strips, where only a couple of letters from each line are preserved. In this case, the work with digitized images turned out to be indispensable. By placing the images next to each other and trying several combinations, it was possible, for example, to identify a leaf of Statius, *Thebais* (Cod. 3628 [F-14t7]). This process, however, can be extremely time-consuming depending on the number of strips.

For each entry in the database, we made an effort to collect existing information about the host volume, and whenever possible to enrich it with our own observations, since, as argued above, fragment and host volume complement each other's history. A guiding principle in the project was that the material would be of interest to a wide range of scholars, including binding historians, who pay particular attention to glue residue, stains, rust and other pieces of evidence from the techniques used in the original binding. To facilitate the examination of the objects online, it was imperative to

provide the digitization of the entire binding: left and right cover, pastedowns, spine, head, tail and fore-edge. Additionally, the textual descriptions offer further information about elements of the bookbinding that could not be digitized sufficiently (e.g., endbands) or are hardly recognisable on a two-dimensional image (stamps). When it comes to detached fragments, the *Fragmentarium* web application offers the possibility to publish images of the host volume and the offset as additional images, as for instance in Fragm. 813 [F-ts3a].

Reconstructing fragmented manuscripts: some examples

Apart from providing individual descriptions of fragments, we tried to group together fragments belonging to one original manuscript and to make virtual reconstructions. In this way, it will be easier for future scholars to view all the surviving leaves and pieces from a given manuscript, placed within a content sequence in the *Fragmentarium* web application. The largest reconstruction encompasses 211 fragment items of an early Carolingian copy of Paul's Epistles [F-mjod], which are now reconstructed to 92 leaves collated in at least 16 quires.[17] In most cases, we could build upon and add to previous scholarship. So, for instance, to a group of 19 antiphonary fragments listed as group NNA1 by Robert Klugseder, we were able to add further fragments: two detached spine linings under the shelfmark Fragm. 1494 [F-1en8], 18 in situ sewing guards in Cod. 3671 [F-ke4l], 23 in Cod. 3691 [F-81si], and another 17 in Cod. 3745 [F-tt6a], thus filling some gaps in the virtually reconstructed antiphonary [F-w4m4]. In the case of twelfth-century graduale fragments with partially surviving foliation it was even possible to recreate partially the quire structure of the original book and thus to visualize the amount of lost material [F-hejg].

Another example is the group of hagiographical fragments of the *Vitas Patrum* written in the early ninth century and including Rufinus Aquileiensis' *Historia monachorum*, Hieronymus' *Vita Pauli*,

17 See Larissa Rasinger's article in this volume.

and Athanasius Alexandrinus' *Vita Antonii*. These fragments have long attracted the attention of librarians at the ÖNB, who salvaged over two dozen fragments from Mondsee bindings.[18] Thanks to Otto Mazal's catalogue and Bernhard Bischoff's study, modern editors of the texts were aware of the existence of the sources, but their fragmented state hindered their use for the new editions of the texts.[19] In the scope of the project, we were able to find unrecorded in situ fragments in four Mondsee manuscripts and five detached ones in the fragment collection.[20] Part of them show for the first time that the former Mondsee manuscript included also Hieronymus' *Vita Hilarionis* – preserved as a single sewing guard in Cod. 3776 [F-oed8], and the *Vita Malchi* – attested by one spine lining with shelfmarks Fragm. 248-14 to 248-16 [F-ixl7], detached from Cod. 3776. That these fragments belonged to the original manuscript is confirmed by the comparison of the codicological and palaegraphical features.

The same grouping of texts – *Historia monachorum*, *Vita Hilarionis*, *Vita Malchi*, *Vita Pauli* and *Vita Antonii* – is attested in the three South-German manuscripts that are part of the manuscript family δ, a fact that supports the hypothesis that the former Mondsee

18 The fragments were initially bound in three booklets: four leaves in Ser. n. 2070, and 22 leaves in Ser. n. 2069 and Ser. n. 3763. In 1965, when they were recognized as belonging together, the latter two were combined into a single shelfmark, Ser. n. 3763.

19 O. Mazal, F. Unterkircher, and R. Hilmar, *Katalog der abendländischen Handschriften der Österreichischen Nationalbibliothek: 'Series nova' (Neuerwerbungen)* (*supra*, n. 10); B. Bischoff, "Die Mondseer Schreibschule des VIII. und IX. Jahrhunderts", 24; E. Schulz-Flügel, *Tyrannius Rufinus, Historia monachorum sive de Vita Sanctorum Patrum (Editio critica)*, Berlin 1990 (Reprinted 2011); P. Bertrand, *Die Evagriusübersetzung der Vita Antonii. Rezeption-Überlieferung-Edition. Unter besonderer Berücksichtigung der Vitas patrum-Tradition*, Ph.D. Dissertation, University of Utrecht, 2006; Sophronius Eusebius Hieronymus, *Trois vies de moines. Paul, Malchus, Hilarion* (Sources chrétiennes 508), ed. E.M. Morales et al., Paris 2007.

20 The ones in situ include a pastedown in Cod. 1754 [F-wd4j], 5 sewing guards in Cod. 3776 [F-oed8], an endleaf guard in Cod. 3847 [F-oiif], and an offset in Cod. 3895 [F-3rnx]; the detached fragments represent further 10 partial leaves: 5 physically reconstructed leaves from long strips in Fragm. 782d [F-i7qc]; 2 leaves made of 7 strips in Fragm. 1562 [F-vdtb]; 2 leaves preserved only in the form of 2 strips in Fragm. 1575 [F-pyhj]; 1 leaf reconstructed from 6 strips in Fragm. 1579 [F-rl3q].

manuscript also belonged to this group.[21] Moreover, another newly identified fragment (Fragm. 1579 [F-rl3q]) transmits the end of *Vita Pauli* and the opening of *Vita Antonii*, thus confirming that the Mondsee collection had these two texts in this order.

A comparison between the mistakes typical for family δ and the readings in our fragments further supports the close connection between the manuscripts. Several instances show that the Mondsee scribe(s) either had a better exemplar or corrected their text against another witness. Here are just two examples from the *Historia monachorum*:

IX, 7,1 ergo] autem δ, ergo Mondsee fragments
X, 8,9 derelinques] derelinqueres δ, derelinques *corr*. Mondsee fragments

For the virtual reconstruction published in *Fragmentarium* [F-02pm] we were able to put together 41 trimmed and partial leaves. A tentative estimation of the amount of text missing (based on the layout and words pro leaf as observed on the preserved fragments) suggests that the surviving leaves represent probably not more than a third of the original manuscript, which would have in that case consisted of about 110 leaves.

The examples presented here demonstrate that the Mondsee binder had several manuscripts – products of the scriptorium – to use as binding waste. The sheer number of fragments with mostly liturgical content makes it, however, difficult to establish such groups of matching fragments for the whole material. Even if the paleographical and codicological features match, one cannot be sure if, for instance, the fragments from a collection of hymns [F-dc32, F-lccm], a Psalter [F-xiju, F-2fx3, F-i5u6] and fragments from an antiphonary [F-p11a, F-aw7i, F-f72y] were part of one huge breviary or belonged to two or three separate books. It is hence for the moment impossible to figure out how many original manuscripts

21 The three manuscripts are München, Bayerische Staatsbibliothek, Clm 6393 (Freising, end of the eight century/beginning of the ninth century), Bruxelles, Bibliothèque Royale, 8216-18 (St. Florian, 819) and Salzburg, Bibliothek der Erzabtei St. Peter, Cod. A VIII 25 (Southern Germany, tenth century). For short descriptions of the manuscripts and analysis of the family δ see Schulz-Flügel, *Tyrannius Rufinus*, 123–126, 162–163 and 224.

were recycled at the Mondsee workshop. Furthermore, as discussed below some of the fragments have foreign origin and were probably cut to binding waste already before their arrival at the monastery.

Fragments as binding waste

On the basis of the examined material, both host volumes and fragments, we tried to gather as much information as possible about the working practices in the Mondsee bookbinding workshop and particularly about the use of manuscript waste as binding elements. The collected data, such as type and position of binding elements, will serve bookbinding historians who could interpret it and thus elucidate the binding techniques used at the monastery. Following are some initial observations the team made 1) in respect to the most common types of waste found; 2) about the practice of cutting and preparing the manuscript leaves; and 3) about the use of binding waste from one or several original manuscripts within one host volume.

It appears that the Mondsee binders preferred one type of endleaf construction, by which the fragmented leaves were cut slightly wider than the wooden cover so that the extra width could be folded around the first and last gathering of manuscripts.[22] Analysis of the binding waste found in incunabula showed that the practice did not continue after the end of the fifteenth century, when the binders used either blank paper endleaves to cover the turn-ins or left bare the boards of half leather. Manuscript waste was used for pastedowns in less than 10% of incunabula. The use of comb guards – a typical regional feature mentioned above – is still attested in the sixteenth century, especially in half leather bindings of manuscripts and incunabula, as for instance in Cod. 2016 [F-mpqn] and in Linz, OÖLB, Ink. 9 [F-7ksi].

The analysis of the Mondsee manuscripts showed that the use of sewing guards had its peak in the fifteenth century, when over 33% (195 out of 519 MSS) were strengthened with sewing guards,

22 For the different types of endleaf construction see J.A. Szirmai, *The Archaeology of Medieval Bookbinding*, Ashgate 1999, 178–179 (the type most often found in Mondsee bindings corresponds to his [c] in Figure 9.2).

while in the previous century this was the case with only 23% (17 out of 73), and the sixteenth century with 3% (4 out of 95). From the roughly 270 incunabula, only 13% have sewing guards. Finally, there are no seventeenth-century manuscripts with sewing guards. For the statistical evaluation, we also took into account manuscripts and incunabula from which the sewing guards were removed, but had left unmistakable traces in the host volume, such as loose sewing or a groove along the gutter left by the strip pressing against the underlying sheet.

Aside from the common use of manuscript waste as bookbinding material, Mondsee scribes sometimes used discarded parchment leaves as palimpsests. To judge by the surviving material, this practice was relatively rare. This is due perhaps to the fact that at the time of the thriving book production in Mondsee in the fifteenth century, there was a cheaper and easier way to procure writing material, namely to buy paper. There is only one book entirely made of palimpsest leaves: Cod. 1992, a collection of psalms and hymns for the daytime prayers written in 1478. As already observed by Klugseder, the text block leaves are a palimpsest of a twelfth-century antiphonary [F-owye], which were washed from the ink, cut horizontally in two and folded in the middle to form double leaves.[23]

The intensive cataloguing of in situ fragments offered also a unique possibility to investigate the actual process of cutting up manuscripts and using the pieces within a binding characteristic for the monastic workshop. Based on the type and number of fragments within one host volume, we tried to see if the binders prepared the waste beforehand or if they were cutting the leaves in respect to what binding element was needed at the moment. The second proposition confirmed, first by looking at the use of in situ sewing guards in several host volumes. The virtual reconstruction of the fragments showed that in many cases the binders were cutting the needed material on the spot, and placing the strips from one single leaf in the quires of one book, as is the case with horizontal sewing guards in Cod. 2968 [F-12yy] or the vertical ones in Cod. 3820 [F-f72y]. Fragm. 15 [F-8a0c] – 21 strips detached from Cod. 3792 – is

23 R. Klugseder, *Quellen* (*supra*, n. 16).

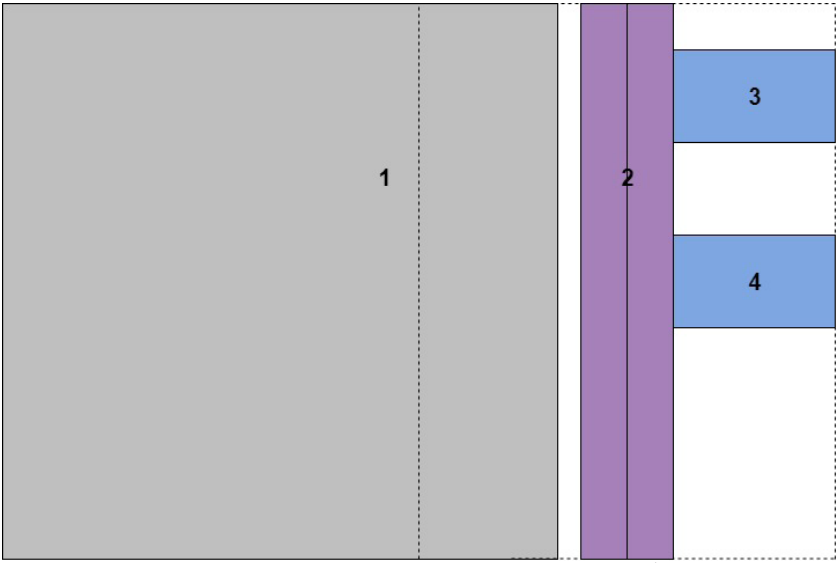

Figure 3: Scheme of a bifolium used as: [1] a pastedown (Cod. Ser. n. 3763, ff. 21-22), [2] two sewing guards (Fragm. 782d); [3] and [4] two spine linings (Fragm. 248-17 and 248-18), reconstructed as part of F-02pm

an excellent example of how the binder tried to get the most from the parchment leaf by cutting it both horizontally and vertically to maximise the use of the material and thus getting as many sewing guards as possible.

One notices the same economic practice by the reconstruction of the *Vitas Patrum* [F-02pm]. A large part of the first bifolium in the reconstructed quire G was used as a pastedown in Cod. 3776 (now detached in Cod. Ser. n. 3763, ff. 21–22). From the rest of the leaf were cut two spine linings (now Fragm. 248-17 and 248-18 [F-ixl7], detached from the same host volume Cod. 3776) and two sewing guards (now Fragm. 782d [F-i7qc], detached from an unknown host volume). See Figure 3.

The presence of fragments from one original manuscript (and especially from the same leaf, or from consecutive leaves) in two or several bindings can furthermore help to place bindings in a chronological framework. One can deduce that Cod. 3247 and Cod. 3776 were not only bound in the same workshop but probably in a very short period. The evidence comes from the binding waste, one

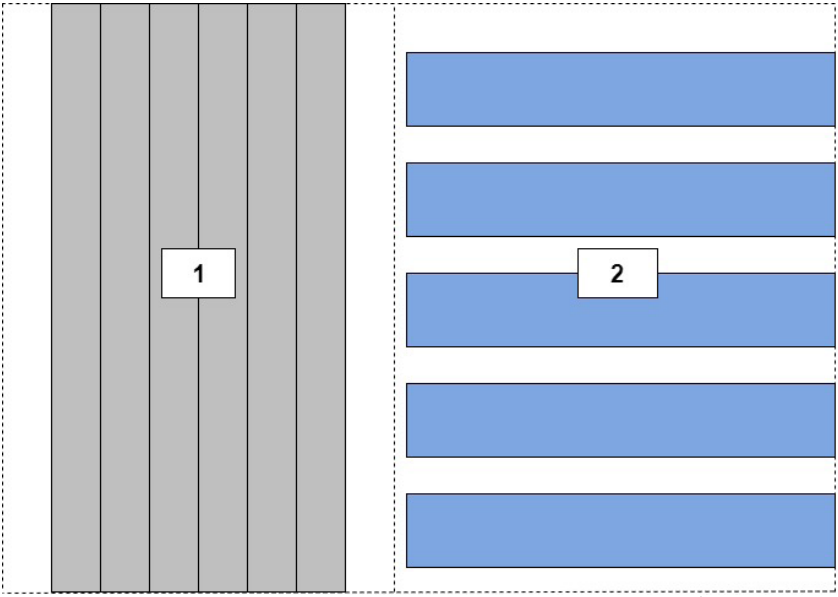

Figure 4: Scheme of a bifolium used as: [1] 6 sewing guards (Fragm. 1579, detached from Cod. 3247) and [2] 5 transverse spine linings (Fragm. 248-1 through 248-13, detached from Cod. 3776)

bifolium of the *Vitas Patrum* used in both bindings: six thin vertical strips served as sewing guards in Cod. 3247, while five wider horizontal strips for spine linings in Cod. 3776 (Figure 4). Cod. 3247 – a manuscript written 1452 in Melk by the hand of the Mondsee monk Jacobus Keser, who brought the unbound codex to Mondsee – offers a clear *terminus post quem* for the binding of both codices.

Again, based on the binding waste one can group several mainly half leather bindings now preserved in the ÖNB under shelfmarks Cod. 1592 [F-38a2], Cod. 3558 [F-k4gb], Cod. 3653 [F-pz2g], Cod. 3836 [F-6t62], Cod. 3852 [F-6k21], Cod. 3856 [F-odj6], Cod. 3858 [F-q2wr], Cod. 4068 [F-sy2k]. As endleaf guards and comb guards were used fragments from the same breviary, written at the end of the thirteenth or the first half of the fourteenth century. Thanks to stamps decorating some of the bindings, it is certain that the bindings were all products of the Mondsee workshop.

Coming back to the binding waste in Cod. 3247, this host volume is also a good example for the practice of binders using different

original manuscripts for different binding components. As already mentioned, they used six sewing guards cut from a leaf of *Vitas Patrum* (now Fragm. 1579 [F-rl3q]), side-by-side with two leaves from a manuscript of Paul's Epistles (now Cod. Ser. n. 2065, ff. 69–70) for the pastedowns as well as two sewing guards (still in situ between ff. 147–148 and ff. 159–160, [F-qh63]). To give another example, the offsets left from the binding waste in Cod. 3895 reveal that the binders used two Carolingian manuscripts: a single leaf from Gregorius Magnus' *Homiliae in evangelia* [F-jo4h] and a single leaf from the *Vitas Patrum* [F-3rnx] for the pastedowns. This suggests that binders had at their disposal a stock of dismembered early Carolingian Mondsee manuscripts (given for recycling presumably owing to their outdated script) at some point in the mid-fifteenth century.[24]

Although the Mondsee monastery bound its books locally, the library also grew thanks to donations, purchases of new books and the personal collections of educated monks who joined the monastery.[25] This explains the presence of foreign binding waste in books, which only later in their history became part of the Mondsee library. Ink. 586 from the collection of the OÖLB, for instance, was published 1475 in Rome but received its binding in Vienna in the workshop of Blasius Coniugatus. As endleaf guards connecting the covers and the text block are used fragments from two Italian charters – one of them a papal bull dated 1470 – which, as already noted by Katharina Hranitzky, indicates that the quires were sewn together probably already in Rome.[26] The import of ready bound

24 There were probably many other instances where fragments from different early Carolingian manuscripts were used as binding waste within one and the same host volume. As mentioned above, however, in most cases the previous librarians removed the fragments without marking the host volume. Tracing detached fragments back to their host volumes is usually impeded by blank paper endleaves pasted over the offsets on the inner covers, as for instance in Cod. 3895 [F-3rnx].

25 On the rapid growth of the library, particularly in the fifteenth century, see L. Glückert O.S.B., "Hieronymus von Mondsee. Ein Beitrag zur Geschichte des Einflusses der Wiener Universität im 15. Jahrhundert", *Studien und Mitteilungen zur Geschichte des Benediktinerordens und seiner Zweige* 48 (1930), 99–201, esp. 126–133.

26 See K. Hranitzky et al., *Die illuminierten Handschriften, Inkunabeln und Frühdrucke der Oberösterreichischen Landesbibliothek in Linz: Handschriften und*

books explains also why one finds not only foreign Latin but also Hebrew fragments in Mondsee bindings.[27] The bindings of both Cod. 3866 and Cod. 4784, for instance, are products of a workshop in Vienna where the binders used Hebrew fragments for the pastedowns and sewing guards (Fragm. hebr. B 43 [F-kphc]), and for the endleaf guard (Fragm. hebr. B 10 [F-sks2]) respectively.[28]

The codicological structure and binding of other Mondsee manuscripts reveal that in many cases it was not bound books but separate booklets that came as imports and gifts to Mondsee. As unbound fascicles, they had only temporary wrappers to protect them, as was probably the case with Cod. 2996. This manuscript was written around 1425 by Nicolaus Walber, a student in Vienna, changed several times its owners before it was brought by novices or bought by Mondsee monks who studied in Vienna. The blind-tooled binding including a simple framed saltire is not sufficient to indicate a particular workshop. In the middle of three of its quires, however, one finds as sewing guards vertical strips from the Carolingian manuscript of Paul's Epistles written in Mondsee [F-mf8a], which is a definite evidence that the codex received its solid binding at the monastic workshop. The Hebrew fragment, which was later used as its pastedown and as sewing guards (Fragm. hebr. B 28 Han [F-1313]), might have served previously as a wrapper to the unbound book.

Frühe Drucke 1140-1540. Österreich, Passau, Italien, vol. 1, Vienna 2018, 10–11.

27 For the use of Hebrew manuscripts as binding waste, see for instance A. Lehnardt, "Hebräische und aramäische Einbandfragmente in Mainz und Trier Zwischenbericht eines Forschungsprojekts (2008)", in *Rekonstruktion und Erschließung mittelalterlicher Bibliotheken: neue Formen der Handschriftenpräsentation* (Beiträge zu den Historischen Kulturwissenschaften 1), ed. A. Rapp and M. Embach, 45–64. For the study of Hebrew fragments in Austria see C. Glassner and J. Oesch, eds., *Fragmenta Hebraica Austriaca*, Vienna 2009; A.Z. Schwarz, *Die hebräischen Handschriften der Nationalbibliothek in Wien*, Leipzig 1925; A.Z. Schwarz, D.S. Loewinger, and E. Roth, *Die hebräischen Handschriften in Österreich außerhalb der Nationalbibliothek in Wien*, 2 vols., Leipzig 1931.

28 See stamps A.4 and C.6 in K. Holter, *Verzierte Wiener Bucheinbände der Spätgotik und Frührenaissance. Werkgruppen und Stempeltabellen* (Codices manuscripti. Sonderheft), Vienna 1977; reprinted in idem, *Buchkunst – Handschriften – Bibliotheken; Beiträge zur mitteleuropäischen Buchkultur vom Frühmittelalter bis zur Renaissance*, ed. G. Heilingsetzer and W. Stelzer, 2 vols., Linz 1996, v. 1, 420–490.

More challenging to interpret is the binding waste in composite manuscripts such as Cod. 3839, a small paper manuscript (150 × 110 mm) made up of five codicological units. In all five, we find manuscript waste being used as sewing guards.

Cod. unit (ff.)	Quire	Strip between ff.	Fragment
1. (1–99)	1	5/6	blank
	2	17/18	blank
	3	28/29	illegible (15th c.)
	4	39/40	*Excidium Troiae*
	5	51/52	blank
	6	63/64	illegible
	7	74/75	*Excidium Troiae*
	8	84/85	*Epistulae Pauli*
	9	94/95	Missal (14th / 15th c.)
2. (100–109)	10	104/105	*Excidium Troiae*
3. (110–146)	11	115/116	*Excidium Troiae*
	12	127/128	*Excidium Troiae*
	13	139/140	*Epistulae Pauli*
4. (147–170)	14	152/153	charter
	15	164/165	charter
5. (171–181)	16	176/177	*Epistulae Pauli*

Table 5: sewing guards in Cod. 3839

The blind tooling on its covers matches that of a group of Mondsee manuscripts and therefore testifies that the codex received its binding in the monastic workshop. Further evidence for its origin comes from the fragments of Paul's Epistles [F-lik8] found in three of the codicological units. Nevertheless, it is uncertain if the fragments from the other three original manuscripts were local binding waste taken from the library or foreign imports. There are no other matching fragments from the *Excidium Troiae* to support the existence of an original manuscript with Mondsee provenance. The five horizontal strips constitute just one partial bifolium [F-gw18], which could very well have been previously used as a wrapper for one of the fascicles. The rather undistinctive Northern Textualis

of the missal fragment and the short text snippets of the charter fragments offer few clues for their history. Until further fragments from these manuscripts are discovered, it is an open question how the fragments landed in the hands of the Mondsee binders.

Conclusions

By the project's end, in August 2019, the team had inspected all known Mondsee manuscripts, incunabula and archival material for manuscript fragments, and provided descriptions and digital images of most of the 1108 known Mondsee fragments. This previously undocumented material is now freely available, with high-resolution images and scholarly descriptions published on the *Fragmentarium* platform. As of November 2019, 469 fragments are already published on *Fragmentarium*, while another 180 await final corrections. It is our hope that the practices developed in the framework of the project and discussed above could be used by other institutions and projects as an example of how to digitize, describe and publish large fragment holding in other libraries as well.

In this way, both manuscript specialists as well as the general public can get to know these historical objects, some of which are of such a fragile state that they cannot be consulted in-situ. The importance of the fragments lays not only in their nature as evidence of a prior manuscript and the transmission of text, but also, as in the case of the Mondsee, in their constituting an essential source for tracing the growth of the medieval library and the development of scribal and literary activities, especially in the Early and High Middle Ages, a period from which only a small number of manuscripts survive intact.

Some of the fragments offer a unique insight into local monastic history and everyday life. The fragment of an anti-Hussite poem attests, for example, to how far-reaching the movement was (Fragm. 221b [F-rpdo]). Remnants from grammatical textbooks suggest which texts were used in the monastic school (Cod. 3594, [F-hogp]). Writing exercises show the practice of ruling the leaf, including waistlines to help the scribes write letters of equal height (Fragm. 308 [F-2pfn]). Lists of monks appointed as *Lectores* and

Cantatores (Fragm. 351b [F-mhe2]) or an inventory of items used in the church (Fragm. 822 [F-hw57]) allow us a glimpse in the organisation of the liturgical ceremonies. Although the latter examples are not fragments in the proper sense of the term, they are intriguing ephemeral documents, which rarely survive unless, as in these cases, they were recycled and preserved within the bindings of other books.

The comprehensive analysis of this material helped to improve our understanding of the use of fragments for bookbinding in Mondsee. Because most bindings can only be dated to within a half-century, it remains unclear how long binders used a single original manuscript for binding waste. It is, however, possible to visualize the methods of dismembering the books and cutting the leaves. By the study and comparison of groups of fragments and their host volumes, the team was also able to document new blind tooling stamps, which can be used in the future as evidence for assigning bindings to the Mondsee workshop.

Finally, the comprehensive examination of all Mondsee fragments allowed us to see which books were deemed 'inutiles' and sent to the binder's workshop.[29] Not surprisingly, the lion's share of fragments consists of liturgical texts. In contrast to most areas in modern Germany, where the Reformation was the main reason why so many books were discarded, in Austria and particularly in Mondsee this happened because of the Melk Observance introduced in the monastery 1435 from Regensburg. The close connections with Melk, with which Mondsee established a confraternity in 1447, stimulated further the production and acquisition of new books and hence the discarding of older ones.[30]

29 On the reasons for discarding manuscripts, see for instance E. Pellegrin, "Fragments et membra disiecta", in *Codicologica 3: Essais Typologiques*, ed. A. Gruys and J.P. Gumbert, Leiden 1980, 70–95; G. Powitz, "Libri inutiles in mittelalterlichen Bibliotheken. Bemerkungen über Alienatio, Palimpsestierung und Makulierung", in idem, *Handschriften und frühe Drucke. Ausgewählte Aufsätze zur mittelalterlichen Buch- und Bibliotheksgeschichte*, Frankfurt am Main 2005, 82–112.

30 B. Lidl, *Mantissa Chronici Lunae-Lacensis Bipartita* (*supra*, n. 5), 219 and 225. Mondsee received some manuscripts as gifts (such as Cod. 4790, given by the Abbot of Melk, Ludwig Schanzler (1474-1480), while others were written

Questions remain, however, concerning the use of late medieval liturgical manuscripts as binding waste. Take the case with eighteen trimmed or partial leaves from a breviary, kept today in the State Archive of Upper Austria (OÖLA) under shelfmarks Buchdeckelfunde III, Mappe 3h/3 [F-6eld], 5e [F-co1w], 5k/1 [F-3rhv] and 10e/5 [F-umrb]. According to the colophon, the Mondsee monk Jacobus Keser produced the manuscript in the year 1476.[31] Just a century later the leaves were used to cover the bindings of archival manuscripts, the earliest of which is Linz, OÖLA, Stiftsarchiv Mondsee, Hs 136, containing documents from the years 1571-1572. A provisional examination of the liturgy in the fragments revealed that it follows the newly established observance as presented in the *Ordo breviarii* of Haymo of Faversham.[32] The reason why the breviary was sent to the bookbinder must await further research by liturgical specialists, who can examine the texts in detail and compare them with such used in Melk.

in Melk by Mondsee monks, who were probably sent there with the specific task to copy important texts. On the impact of the Melk Reform in respect to the liturgical practice and book collection, see K. Holter, "Der Einfluss der Melker Reform auf das klösterliche Buchwesen in Österreich", in *Buchkunst – Handschriften – Bibliotheken*, 763–84, and R. Klugseder, "Die Auswirkung der Melker Reform" (*supra*, n. 3).

31 The colophon is preserved on the second leaf of Mappe 3h/3 and reads: "Hunc librum horarum comparauit reuerendus in christo pater ac dominus dominus Benedictus abbas huius monasterii lunelacensis, quem anno ab incarnatione domini milesimo quadringentesimo septingesimo sexto finiuit frater Jacobus de wratislauia professus eiusdem monasterii in die sancte Brigide uirginis" (February 1, 1476). Within the manuscript collection in the ÖNB survive several liturgical book written by the hand of Keser, including a similarly-arranged missal dated 1472 (Cod. 1797) and the aforementioned Cod. 3776.

32 S.J.P. van Dijk, *Sources of the Modern Roman Liturgy: The Ordinals by Haymo of Faversham and Related Documents (1243–1307)*, 2 vols., Leiden 1963.