

Binding Waste as Book History

Patterns of Survival Among the Early Mainz Donatus Editions

Eric Marshall White

Princeton University Library, US

Abstract In this article the Author examines binding waste made from the earliest editions of Donatus' *Ars minor* (a Latin grammar printed in Mainz during the 1450s and '60s) to contextualize his earlier conclusions regarding at least 15 copies of the Gutenberg Bible known only from fragments, which bookbinders across Europe recycled for waste material during the later sixteenth century and throughout the seventeenth century. The binding contexts for the Donatus fragments, by contrast, date mainly to the fifteenth century. This testifies to the fact that the Bibles retained their usefulness much longer than the school-books did, and suggests that the functional life spans of various genres of books are measurable, and this can be better understood through similar studies of binding waste in context.

Keywords Donatus. *Ars minor*. Binding waste. Fragments. Printing. Incunabula. Book-binding. Mainz. Gutenberg Bible. Johann Gutenberg. Book history.

Summary 1 Introduction. – 2 Patterns of Survival Among the Gutenberg Bibles. – 3 Patterns of Survival Among the Early Mainz *Donatus* Editions. – 4 Binding Contexts for Mainz editions of Donatus, *Ars minor* (DK Types). – 5 Binding Contexts for Mainz editions of Donatus, *Ars minor* (B42 Types). – 6 Conclusion.



Dedicated to Stephen Ferguson,
who has brought so much book history
to Princeton University.

1 Introduction

Binding waste is the paper or vellum that bookbinders of past centuries recycled from obsolete books for use as the external coverings, internal linings, or sewing supports of newer books. Such recycling was the norm in Europe throughout the Middle Ages, and virtually no book, once it fell out of use, was immune to serving as raw material for the binding of another book. Numerous discoveries of cuttings from magnificent medieval manuscripts pasted within later bindings show that early modern binders saw these older books as little more than useful scrap parchment. Whereas the practice of repurposing older books as binding waste continued for three centuries into the period of the printing press, peaking in the seventeenth century, it began to be abandoned gradually during the eighteenth century in the wake of the emerging antiquarian interest in notable manuscript or typographic fragments as historical objects.

As this case study will demonstrate, the recycling of early printed fragments as waste material for subsequent bindings can provide important chronological and geographical evidence for the history of books – provided that the contexts in which the fragments were discovered are recorded for posterity. Just as an individual binding context can provide evidence for when and where a particular copy of a book was discarded as binding waste, so too a survey of multiple binding contexts, considered in their totality, can lead to broader conclusions regarding the dissemination, use, and demise of whole editions or genres of early books.

The principal goal of my book, *Editio princeps: A History of the Gutenberg Bible*, published in 2017, was to expand the current state of knowledge concerning the original distribution, early use, and subsequent survival of Europe's first substantial typographic publication.¹ Just as important documentary discoveries shed new light on the histories of the more or less intact copies, equally useful historical insights came from renewed scrutiny of the dozens of 'mere fragments' of Gutenberg Bibles, that is, the last remains of copies that had been recycled as binding waste.² Careful examination of the distinc-

1 White, *Editio princeps*. The present article is part of the Author's ongoing research on the survival and provenance of all specimens of early Mainz printing.

2 The first bibliographer to articulate the value of binding fragments as evidence for dating and localizing their host books was Cambridge University Librarian Henry Bradshaw (1831-1886); cf. his *List of the Founts of Type*, 7: "Many specimens of early printing have been recovered from the bindings of other books; and these sometimes afford

tive styles of rubrication shared by many of the fragments led to the definition of fifteen otherwise lost Bibles. These fragmentary copies attest to previously unrecorded points of distribution across Europe and offer datable evidence of the edition's decline in usefulness prior to its resurrection as an object of historical study.³

Every worthwhile bibliographical project should have a practical application, such as a hypothesis that can be tested or a methodology that can be utilised in research on similar topics. It is now possible to contextualize the Gutenberg Bible's afterlife as binding waste by means of a parallel investigation of binding fragments made from the Latin grammars by Aelius Donatus, known as the *Ars minor*, that were printed repeatedly in Mainz during the 1450s and '60s, either in the Gothic textura types of the 42-Line Bible or the similar but larger font known as the 'Donatus-und-Kalender' (DK) types. The latter typeface, probably the earliest of all, first appeared ca. 1452-53 in the fragmentary *Sibyllenbuch*, discovered in Mainz in 1892 in a binding context that regrettably was never recorded.⁴ When examined more closely, the heretofore under-utilised evidence of the survival contexts that have been recorded for the Donatus fragments reveals that the use, neglect, and destruction of early printed books, far from being haphazard, followed surprisingly consistent patterns. The differences between these patterns, corresponding to distinct functional genres, are highly instructive.⁵

2 Patterns of Survival Among the Gutenberg Bibles

About 100 copies of the Gutenberg Bible have disappeared without a trace. Although the Reformation and warfare presented serious perils, doubtless causing much destruction, most of the copies would have entered institutional libraries at an early date, and should have been relatively well protected, as well protected as any other book not specifically imperilled by ecclesiastical or temporal authorities. The main reason that they were *not* preserved was that the book's historical significance had been long forgotten; none of the copies would have been singled out for special protection. Moreover, although we have had no

a very valuable evidence as to their history. Such fragments in the binder's hands are either sheets of books which have been used up and thrown away, and may be called binder's waste; or else they are spoiled sheets or unused proofs from a printer's office, and may be called printer's waste".

³ Needham, "Fragments in Books", 85-110, remains an essential orientation to the study of binding waste as historical evidence.

⁴ De Ricci, *Catalogue raisonné des premières impressions de Mayence*, 1, no. 1, given to the Gutenberg-Museum in 1903.

⁵ A parallel study is Hellinga, "Fragments Found in Bindings", 204-29 and 467-75.

shortage of wars and disasters since the eighteenth century, none of the Gutenberg Bibles, discovered during or since that century, were lost all over again. Thus, the fatal factor in the loss of the 100 copies was the intervening time spent in a state of neglect.

For books, the opposites of neglect are use and care. Signs of religious or scholarly use and care during the fifteenth and sixteenth centuries, such as illumination, annotation, marks for liturgical reading, and new bindings, appear in all of the surviving Gutenberg Bibles, but we see a striking lack of such marking, annotation, and rebinding from the seventeenth century (eighteenth-century and later additions always reflect antiquarian interest). The latest evidence of a Gutenberg Bible's use in worship is a pair of liturgical notes added to the copy at the University of Texas, apparently while it was being used at an unidentified Jesuit College in the Low Countries. Moreover, the Texas copy clearly was still considered well worth protecting when it received two new expensive calfskin bindings, one of which is dated '1600'.⁶ In contrast, during the 1590s and early 1600s choristers of the Church of Heilig Kreuz in Offenburg defaced the Gutenberg Bible now in the Württembergische Landesbibliothek in Stuttgart with their personal graffiti.⁷ This suggests that, by the end of the sixteenth century, the Bible remained within the church but had outlived its usefulness in worship.

The most telling evidence of the non-use of books is their destruction. At least fifteen copies of the Gutenberg Bible fell into inglorious servitude as wrappers, pastedowns, spine liners, or quire guards in bookbindings. The contexts in which such binding waste came to light suggests that copies of the Gutenberg Bible met their ultimate demise in the vicinities of Paderborn, Strasbourg, Vienna, and London, while their survivals in datable bindings include an incunable of 1497 found at Eichstätt; an imprint of 1559 bound at Zürich; a book bound ca. 1575 for the Benedictines of Murbach; a Psalter of 1581 first recorded in Cologne; an imprint of 1615 bound at Durlach near Karlsruhe; a Lutheran work of 1622 bound at Leipzig; a series of wrappers for documents, ending in 1626, preserved in the Swedish national archives, derived from a Bible used at Vadstena; a Hungarian church manual bound at Esztergom in the 1640s; a book of 1668 at Freiburg im Breisgau; and an archival document of 1712 discovered in Mainz.⁸ Several of these locations, most notably those in Sweden and Hungary, were not otherwise known to have been homes to Gutenberg Bibles.

A final lost copy is defined by the rubrication style of the beautifully illuminated vellum bifolium at the Museo Correr in Venice, purchased by Emmanuele Antonio Cicogna in 1859 from the bookseller

⁶ White, *Editio princeps*, 210-9.

⁷ White, *Editio princeps*, 170-5; cf. Needham, "The Late Use of Incunables", 46-8.

⁸ White, *Editio princeps*, 318-33, census V50-V64.

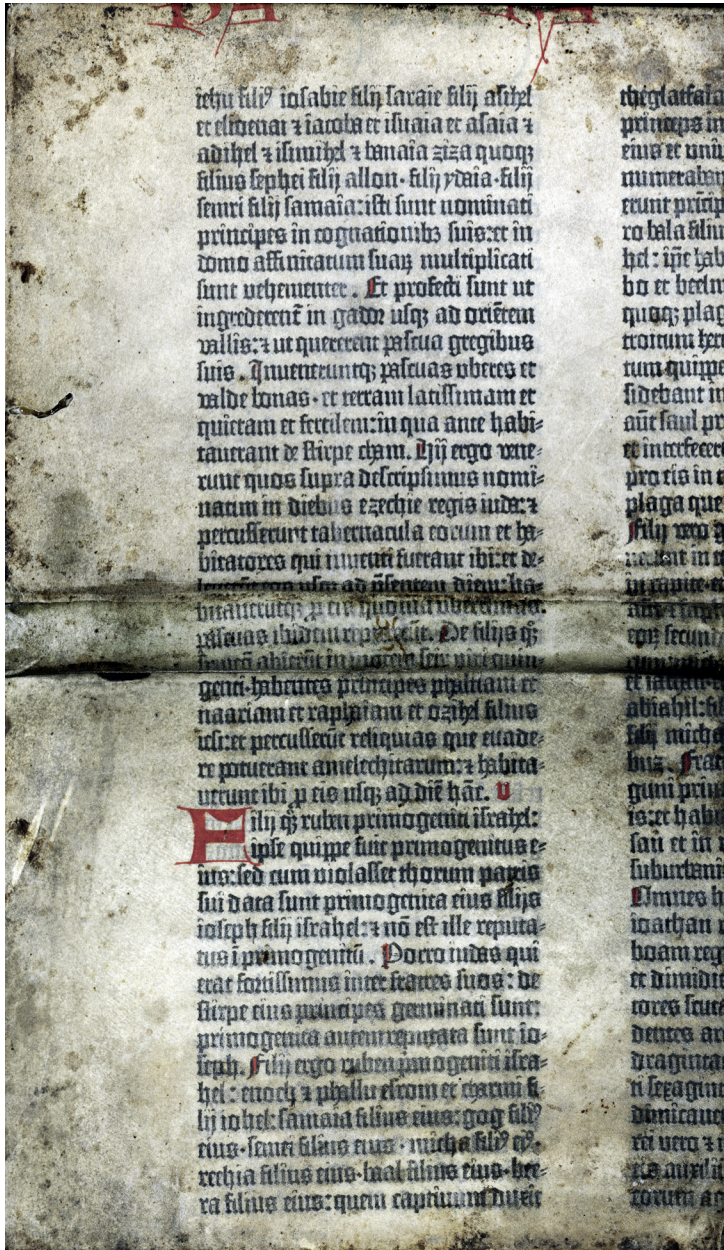


Figure 1 *Biblia latina*. 42 lines ('Gutenberg Bible'). [Mainz: Johann Gutenberg and Johann Fust, ca. 1455]. Vellum fragment of f. l:195 (I Chronicles 5), used as binding waste on a book printed in Cöthen in 1666. Princeton University Library, Special Collections

Theodor Oswald Weigel in Leipzig. In 1819, three additional leaves with identical, but less elaborate, rubrication had been discovered on two bindings in Dresden. Although its illumination style appears to be Lower Rhenish, this lost Bible almost certainly had travelled more than 500 km to the east by the mid-seventeenth century. Crucial context for its whereabouts at the time of its demise is provided by a fragment that came to light in 2016, now at Princeton University, which survives *in situ*, still serving as the cover of the *Erneuerte und verbesserte Landes- und Procesz-Ordnung* for Sachsen-Anhalt, a quarto manual for litigation printed at Cöthen in 1666 [fig. 1]. It was owned and inscribed by the noted jurist Adam Cortrejus, who earned his doctorate at Jena in 1666, long resided in Halle, and died at Magdeburg in 1706. The usefulness of this little book was limited to the region of Sachsen-Anhalt, which must have been the final location of the otherwise lost Gutenberg Bible that provided its binding.⁹

Just as the localisations of fragment groups offer important evidence for the edition's initial dissemination, the publication dates of their host volumes offer *termini post quem* for the Bible's use as binding waste. Although any particular book used as binding waste may well have been cut apart somewhat earlier, and obviously a book may be bound or rebound at any point long after its publication, the clustering of these datable bindings offers a clear indication of when the Gutenberg Bible's value finally reached its nadir. The *termini post quem* provided by the imprints bound within these fragments range from 1497 to 1712. In the case of the earliest outlier – the Valerius Maximus, *Facta et dicta memorabilia*, Venice: Bartholomaeus de Zanis, 22 March 1497, at the Stadtbibliothek in Augsburg, bound in a medieval manuscript leaf – the presence of the printed fragment is probably the result of a much later reinforcement of the contemporary binding. On the other hand, the 1712 *terminus*, on a document found in Mainz, is surprisingly late, but it requires no special explanation. The nine other known binding contexts are all datable between 1559 and 1668. Clearly, the latter half of the sixteenth century and the entirety of the seventeenth were the dark ages for the Gutenberg Bible. This aligns perfectly with the fortunes of the 48 integral copies, which exhibit a significant decline in use during the sixteenth century and nearly complete neglect during the seventeenth century.

As I will demonstrate in a forthcoming study, similar data result from a survey of binding fragments made from other Mainz imprints of the 1450s that clearly had been intended as enduring books. At least five fragments of the *Psalterium cum canticis*, published by Fust and Schoeffer in Mainz on 14 August 1457, have emerged from known binding contexts, each of which is datable from the end of the six-

⁹ White, *Editio princeps*, 220-3; 327-9, census V55.

teenth century to the beginning of the eighteenth. Two fragments of Fust and Schoeffer's *Canon missae* (ca. 1458) have known binding contexts, one used as a document wrapper from 1556 and another for documents dated 1575-1620. Four bindings incorporating fragments from copies of the *Psalterium Benedictinum* (29 August 1459) have datable contexts: an imprint dated 1581; accounts from 1557 to 1567; a manuscript dated 1666; and an edition recorded without further specification as Heinrich Bocer's *Disputationes*, probably printed no earlier than the end of the sixteenth century. Similarly, two vellum fragments of Fust and Schoeffer's edition of Guillelmus Duranti, *Rationale divinatorum officiorum* (6 October 1459) were found in late sixteenth- and early seventeenth-century binding contexts, respectively. Without exception, the binding contexts of fragments from these enduring folio editions run closely parallel to those of the Gutenberg Bible: the books they once belonged to were used for roughly a century before they fell into such disuse that no one cared whether or not their vellum was harvested by bookbinders.¹⁰

It must be noted that several apparent exceptions to this general pattern of survival among the early printing endeavours in Mainz actually belong to a different category of evidence. One example, as I discovered in 2014, is the so-called proof-sheet of the Gutenberg Bible at the University of Indiana's Lilly Library. It is actually an unfinished replacement sheet. This printed bifolium, never part of a functional Bible, was formerly bound at the end of the 1459 *Duranti* now at the Bavarian State Library in Munich, itself a copy made up mainly from paper proof sheets for that edition; it was almost certainly bound up in Mainz toward the end of 1459 at the behest of the printers themselves, the most likely suppliers of its printed endsheet.¹¹ A similar case is the British Library's pair of vellum specimens from the 1459 Psalter, each a cancelled proof of f. 51, omitting three lines of text, both found in the same binding of Fust and Schoeffer's edition of Clement V, *Constitutiones* (25 June 1460).¹² This is symptomatic of all specimens of printed waste from early Mainz editions discov-

10 Binding fragments of the 36-Line Bible, printed in Bamberg not after 1461, show a similar pattern of survival. In White, "The Bad Wildungen Fragments", 79-91, analysis of their rubrication styles and provenance evidence defined seven otherwise lost vellum copies that were recycled for bindings mainly during the later sixteenth century through the end of the seventeenth century.

11 White, *Editio princeps*, 55 and 341. Other books finished by the 'Durandus Binder' include Fust and Schoeffer's Bible of 1462, ex-Mainz Jesuits, now at the Gutenberg-Museum, which preserves an unused vellum leaf from the same Bible edition as a pastedown; and a copy of Fust and Schoeffer's 1465 edition of Boniface VIII, *Liber sextus decretalium*, preserved at the Episcopal Seminary Library in Trier, which was bound with two unused paper 'replacement' leaves of the 42-Line Bible.

12 De Ricci, *Catalogue raisonné*, 59, no. 55.15; an identical fragment is in Berlin, Staatsbibliothek Preußischer Kulturbesitz.

ered within fifteenth-century bindings: upon closer inspection they turn out not to be the last remains of prematurely discarded books, but rather the immediately dispensable proofs, damaged sheets, misprints, or odd lots from books that never were.

In terms of their shared fate as parts of bindings, examples of printer's waste behave in much the same way as true ephemera. A notable example of the latter category is the unique paper broadside known as the *Blood-Letting Calendar* for 1457, discovered in the municipal archives of Mainz in 1803, and now preserved at the Bibliothèque nationale de France in Paris. Printed with the DK types during the final weeks of 1456, this Latin text listed the astrologically propitious days for phlebotomies and purgatives throughout the coming year of 1457. Only the upper half of the sheet survives. This loss presumably occurred in 1458, when the now-obsolete calendar was repurposed as a wrapper for a register of receipts compiled by Johannes Kess, vicar of the church of St Gangolf in Mainz, which was inscribed with the date "1457-1458" on the verso of the fragment.¹³ This presumably contemporary inscription would make the *Blood-Letting Calendar* the earliest surviving instance of European typography used as binding waste within a recorded context.

3 Patterns of Survival Among the Early Mainz Donatus Editions

The *Ars minor* of Aelius Donatus was the essential book for teaching introductory Latin grammar throughout much of medieval Europe. The territory that was host to its greatest fifteenth-century popularity coincided very closely with that of the Gutenberg Bible, with its heaviest concentration within the Holy Roman Empire, represented by modern-day Germany, Austria, Switzerland, and the Low Countries, but with far less currency in France, Italy, Spain, Scandinavia, England, or the rest of Central Europe.

Numerous editions of the Donatus were printed in Mainz during the 1450 and '60s, each consisting of roughly a dozen vellum leaves in Median or Chancery folio format.¹⁴ The prevailing analysis of the surviving fragments identifies 33 editions printed with the 42-Line

¹³ De Ricci, *Catalogue raisonné*, 11-12, no. 21.

¹⁴ ISTC, which mistakenly identifies the format of the folio Mainz Donatus editions as 'quarto', along with GW, assigns the anonymous DK-type editions to '[Mainz: Type of the 36-line Bible]', although the 36-Line Bible, according to the best evidence, was printed in Bamberg by Albrecht Pfister, not after 1461, with a recasting of the earlier DK typeface. These Donatus editions are reassigned here to the only available candidate who was printing in Mainz ca. 1452-58: '[Mainz: DK types (Johann Gutenberg)]'.



Figure 2 Aelius Donatus, *Ars minor* (33 lines). [Mainz: 42-Line Bible types (Johann Fust and Peter Schoeffer?), ca. 1466], f. 11, used as binding waste in Horace, *Opera*. Venice: Johannes de Gregoriis, de Forlivo, et Socii, 17 May 1483. Princeton University Library, Special Collections

Bible types and 28 editions printed with the larger DK types.¹⁵ It must be noted that not a single specimen has survived intact; everything we know about the early Mainz Donatus editions comes from binding waste. Thus, many writers have commented that the Donatus genre was ‘used to death’ or ‘read to pieces’, even though its material was the same durable vellum as that of the great Bibles, Psalters, and law books, which so often survive intact.¹⁶ The printed Donatuses almost certainly were intended to be sold in quantities to monastic or cathedral schools, that is, generally not to individuals. Given that the usefulness of a Donatus to an individual schoolboy was brief, copies presumably were retained by the schoolmasters and passed on to upcoming students over as many semesters as they could withstand the wear and tear. As will be demonstrated below, the available evidence suggests that by the end of the fifteenth century, most of the Mainz Donatuses were no longer in use. Moreover, as these old, used schoolbooks were of no interest to libraries, their only residual value was as waste material for bookbindings.

When early printed binding waste is discovered, it is often removed from its context so that its typographic features can be studied more thoroughly. Too often, the fragment’s original binding context is compromised, ruined, or even, as with the *Sibyllenbuch*, left unrecorded. In fact, only one of the several dozens of specimens of a Donatus printed in Mainz has been preserved within its host binding [fig. 2]. Discovered in August 2017 and acquired by Princeton University Library, it underwent minor conservation but was left *in situ* for posterity. Fortunately, thanks mainly to the consistently scientific approach applied by Paul Schwenke, Director of Berlin’s Royal Library from 1899 until his death in 1921, roughly datable binding contexts were recorded for 32 of the Mainz Donatus specimens, representing just over half of the identified editions printed before the end of the 1460s. However, to date, no one has analysed this evidence as a whole. Thus, the following list summarises the recorded survival contexts for 16 Donatuses printed with the DK types and 16 editions printed with the B42 types.

15 *Die Datenbank der Gesamtkatalog der Wiegendrucke* (cited here as ‘GW’), nos. 08674-08722, with 12 interpolated entries (in April 2019), available online at <https://gesamtkatalogderwiegendrucke.de/>. A helpful overview of the tentative chronology of early Mainz printing is Geldner, “Die Ersten typographischen Drucke”, 148-84, esp. 155-68.

16 An early observer of this phenomenon was William Beloe, who wrote in *Anecdotes of Literature and Scarce Books*, 367, that no copy of the Mainz Donatus ever “escaped the war of thumbs and the wreck of time”.

4 Binding Contexts for Mainz editions of Donatus, *Ars minor* (DK Types)

GW 8676 (27 lines). [Mainz: DK types (Johann Gutenberg), ca. 1454], ff. 6, 9

Location Darmstadt, Universitäts- und Landesbibliothek.

Binding Petrus Lombardus, *Super primo libro Sententiarum*. Basel: Nicolaus Kesler, 29 Nov. 1489.

Provenance Philippus Fürst of Miltenburg (?); Kloster Seligenstadt.¹⁷

GW 8677 (27 lines). [Mainz: DK types (Johann Gutenberg), ca. 1455-57], f. 5

Location Berlin, Staatsbibliothek Preußischer Kulturbesitz.

Binding Johannes Herolt, *Sermones Discipuli de tempore et de sanctis*. Strasbourg: [Printer of the 1483 'Vitas Patrum'], 1487.

Provenance Strasbourg (?) binding.¹⁸

GW 8678 (27 lines). [Mainz: DK types (Johann Gutenberg), ca. 1453-54], ff. 5, 10

Location Paris, Bibliothèque nationale de France.

Binding Manuscript account book, dated 1492.

Provenance "Heyderszheim" [Hattersheim am Main], inscription.¹⁹

GW 8679 (27 lines). [Mainz: DK types (Johann Gutenberg), ca. 1454], ff. 4+9, 5+8

Location Berlin, Staatsbibliothek Preußischer Kulturbesitz.

Binding Johannes Herolt, *Sermones Discipuli de tempore et de sanctis*. Strasbourg: [Martin Flach], 1488.

Provenance Ludwig (?) Hahn, pastor in Lengendorf; Heiligenstadt.²⁰

GW 8680 (27 lines). [Mainz: DK types (Johann Gutenberg), ca. 1455-57], ff. 1, 14

Location Munich, Bayerische Staatsbibliothek.

Binding Guillelmus Alvernus, *De fide et legibus* [Augsburg: Günther Zainer, n. a. 1476].

Provenance Augsburg binding (Kyriss 76).²¹

GW 8682 (27 lines). [Mainz: DK types (Johann Gutenberg), ca. 1455-57], f. 4

Location London, private collection.

Binding *Breviarium Eystettense*. Basel: Michael Furter, 1497 (purchased by the British Library in 1933; the pastedown fragment had been removed by 1920).

Provenance Dinkelsbühl Capuchins, inscription.²²

¹⁷ Schwenke, "Neue Donatfragmente", 261-2.

¹⁸ Schwenke, "Neue Donatstücke", 70-5.

¹⁹ De Ricci, *Catalogue raisonné*, 3, no. 4.

²⁰ Schwenke, "Neue Donatstücke", 70-5.

²¹ Schwenke, "Weitere Donatbruchstücke", 270.

²² Bosanquet, "A New Donatus Fragment", 5. I thank the current owner for providing additional information.

GW 0868220N (27 lines). [Mainz: DK types (Johann Gutenberg), ca. 1455-57], f. 2

Location Mainz, Gutenberg-Museum/Stadtbibliothek.

Binding: Georg Rollenhagen, *Froschmäuseler*. Magdeburg: Emeran Kirchner, 1618.

Provenance Mainz (?).²³

GW 8683 (27 lines). [Mainz: DK types (Johann Gutenberg), ca. 1455-57], f. 3

Location Munich, Bayerische Staatsbibliothek.

Binding CLM 24 510 (manuscript, sixteenth century).

Provenance Scheyern, Benedictines.²⁴

GW 8684 (27 lines). [Mainz: DK types (Johann Gutenberg), ca. 1455-57], f. 5

Location Karlsruhe, Landesbibliothek.

Binding Aeneas Sylvius Piccolomini, *Epistolae familiares*. Nuremberg: Anton Koberger, 16 Sept. 1481.

Provenance Karlsruhe region (?).²⁵

GW 8685 (27 lines). [Mainz: DK types (Johann Gutenberg), ca. 1455-57], f. 6

Location Berlin, Staatsbibliothek Preußischer Kulturbesitz.

Binding An unidentified large-format incunable from Erfurt.

Provenance Erfurt.²⁶

GW 8688 (28 lines). [Mainz: DK types (Johann Gutenberg), ca. 1456-58], ff. 4+9

Location Munich, Bayerische Staatsbibliothek.

Binding Paulus Venetus, *Expositio librorum naturalium Aristotelis*. Milan: Christophorus Valdarfer, 17 July 1476.

Provenance Salzburg binding; Salzburg, Hofbibliothek.²⁷

GW 8690 (28 lines). [Mainz: DK types (Johann Gutenberg), ca. 1457-58;

or [Bamberg: Printer of the 36-Line Bible (Albrecht Pfister?), ca. 1459-63], f. 10

Location Augsburg, Staats- und Stadtbibliothek.

Binding Sammelband of works ca. 1486-1504, including the unique Donatus, *Rudimenta grammatices*. Venice: Reynaldus de Novimagio, 30 May 1492.

Provenance Augsburg, Sankt-Anna Kollegium, but written outside of the city (?).²⁸

GW 0869010N (29 lines). [Mainz: DK types (Johann Gutenberg), ca. 1454-56], ff. 2+11

Location Freiburg im Breisgau, Universitätsbibliothek.

Binding Otto von Passau, *Die vierundzwanzig Alten*. [Strasbourg: Johann Prüss, ca. 1483]; binding by Ambrosius Keller of Augsburg.

²³ Presser, "Weitere Donatfragmente", 54, no. 2.

²⁴ Schwenke, *Die Donat- und Kalender-Type*, 19, no. 8.

²⁵ Schwenke, "Donatstudien III. Karlsruher Bruchstücke", 112-3.

²⁶ Schwenke, "Neue Denkmäler", 62-3.

²⁷ Schwenke, "Weitere Donatstudien", 452-4.

²⁸ Schwenke, "Neue Donatfragmente", 262.

Provenance Augsburg; Heinrich Meiger, Offenburg (fifteenth century), inscription.²⁹

GW 8692 (30 lines). [Mainz: DK types (Johann Gutenberg), ca. 1456-58], ff. 1, 2, 4, 5, 8, 9, 11, 12

Location Karlsruhe, Landesbibliothek.

Binding Rainerius de Pisis, *Pantheologia, sive Summa universae theologiae* [Basel: Berthold Ruppel, not after 1476].

Provenance Freiburg im Breisgau, Sankt Agnes-Kloster (Dominican nuns).³⁰

GW 8694 (30 lines). [Mainz: DK types (Johann Gutenberg), ca. 1456-58], ff. 3+10

Location Prague, Augustinians of St. Thomas.

Binding *Breviarium Pataviense*. Passau: [Benedictus Mayr], 6 Aug. 1481.

Provenance Diocese of Passau (?); Prague, Augustinians of St Thomas.³¹

GW 8697 (30 lines). [Mainz: DK types (Johann Gutenberg), ca. 1456-58], ff. 1+14

Location Berlin, Staatsbibliothek Preußischer Kulturbesitz.

Binding “De la couture de deux cahiers d’un incunable de la Gymnasialbibliothek de Heiligenstadt, relié à Erfurt” (De Ricci).

Provenance Bound in Erfurt.³²

5 Binding Contexts for Mainz editions of Donatus, *Ars minor* (B42 Types)

GW 8699 (26 lines, Psalter initials). [Mainz: Johann Fust and Peter Schoeffer? (42-Line Bible types), not before 1457], ff. 1-2)

Location Lund, Universitetsbiblioteket.

Binding Sammelband with Baldus de Ubaldis, *Margarita*. Venice: Bernardinus Stagninus, de Tridino, 11 May 1499.

Provenance Donated by Johan Joakim Sjöcrona, 1873.³³

GW 8700 (26 lines, initials unknown). [Mainz: Johann Fust and Peter Schoeffer? (42-Line Bible types), ca. 1457], f. 4

Location Mainz Gutenberg-Museum.

Binding Sammelband of Cologne imprints up to 1502.

Provenance Cologne (?); obtained from a private collection in Munich, 1905.³⁴

GW 8703 (26 lines, Psalter initials). [Mainz: 42-Line Bible types (Johann Fust and Peter Schoeffer?), not before 1457], ff. 15+16

Location St Petersburg, Academy Library.

²⁹ Sack, “Unbekannte Donate”, coll. 1472-93.

³⁰ Kattermann, “Neue Karlsruher Bruchstücke”, 69-78.

³¹ Collijn, “Fragmente eines 30-zeiligen Donats”, 62-8. The host binding, the 1481 *Breviarium Pataviense*, appears no longer to be in Prague.

³² Schwenke, “Weitere Donatbruchstücke”, 272-3. Cf. De Ricci, *Catalogue raisonné*, 5, no. 9.

³³ Collijn, “Nyfunnet Fragment af en 26-radig Donat”, 185-90.

³⁴ Schwenke, “Neue Donatfunde. 1”, 531.

Binding Formerly Mainz, Stadtbibliothek, Hs. I 635, *Tractatus varii Concilii contra schismaticos*, a fifteenth-century paper quarto manuscript that also preserved two narrow strips of f. 17; the binding was ‘conserved’ in 1969 with the result that the ink offset of the Donatus fragment in St Petersburg is no longer preserved.

Provenance Mainz, Benedictines of Sankt Jakob.³⁵

GW 8703 (26 lines, Psalter initials). [Mainz: 42-Line Bible types (Johann Fust and Peter Schoeffer?), not before 1457], ff. 14v+17r

Location unknown.

Binding Formerly Mainz, Stadtbibliothek, St Bonaventura, *Opuscula*. [Strasbourg: Printer of the Jordanus de Quedlinburg (Georg Husner)], 1495 (2 vols.); with ink offset in both volumes from ff. 14v+17r and 15v+16r (part of the bifolium in St Petersburg).

Provenance Mainz, Jesuit College.³⁶

GW 8704 (26 lines, initial space, not rubricated). [Mainz: 42-Line Bible types (Johann Fust and Peter Schoeffer?), ca. 1457], f. 13

Location Chicago, Newberry Library.

Binding Adam Reisner, *Jerusalem, die alte Hauptstat der Jüden*. Frankfurt am Main: [Georg Raben, Sigmund Feyrabend, and Weygand Hanen’s heirs], 1563, in a sixteenth-century blind-stamped pigskin binding with a roll stamped “NP 1550” (not the copy now at the Newberry Library).

Provenance Frankfurt am Main (?).³⁷

GW 870430N (35 [not 33] lines, no initials). [Mainz: 42-Line Bible types, 1st state (Johann Gutenberg?), ca. 1453-54], ff. 5+6

Location Kraków, Jagiellonian University Library.

Binding MS 1944, a Sammelband of eight manuscripts, ca. 1470-73.

Provenance Written at the University of Leipzig by Jacobus Tham of Stockhayn, who signed the colophon of the *Proverbia Senecae* in 1472; others are dated 1473.³⁸

GW 8705 (33 lines, no initials). [Mainz: 42-Line Bible types (Johann Fust and Peter Schoeffer?), ca. 1455-56], ff. 1+12, 2+11

Location Mainz, Gutenberg-Museum.

Binding *Catholische Bibell, Das ist, Alle bücher der H. Schriftt*. Johann Dietenberger, ed. Cologne: Heirs of Johann Quentell, 1564.

³⁵ Presser, “Neue Donatfragmente”, 47-62. Cf. De Ricci, *Catalogue raisonné*, 41, no. 45 (Count Razoumovsky); I thank Annelen Ottermann for providing clarification.

³⁶ Staub, Wiebelt, “Neue Funde eines 26zeiligen Donats”, 106-12.

³⁷ Zedler, “Ein neu aufgefundenener [...] Donat”, 72; Zedler’s date “1583” for the imprint is incorrect; cf. Maggs Bros, *Bibliotheca Incunabulorum*, no. 1, which described Reisner’s *Jerusalem* (1563) bearing a “contemporary German binding of wooden boards covered with pigskin, the sides decorated with roll-stamped borders including one of allegorical figures (Fides-Spes-Charitas-Justicia-Fortitudo-Paciencia) signed ‘NP 1550’”.

³⁸ Lewicka-Kamińska, “Nowo odnaleziony w Bibliotece Jagiellońskiej fragment Donata”, 5-8. I thank Paul Needham for confirming my suggestion that this edition (which we inspected together in March 2015) must have had 35 lines per page, not 33 (as calculated by Lewicka-Kamińska).

Provenance Daniel Brendel von Homburg, Archbishop-Elector of Mainz (1522-1582).³⁹

GW 8707 (33 lines, initials unknown). [Mainz: 42-Line Bible types (Johann Fust and Peter Schoeffer?), ca. 1455-56], ff. 4+9

Location Augsburg, Staats- und Stadtbibliothek.

Binding *Biblia latina*. Ulm: Johann Zainer, 29 Jan. 1480.

Provenance Contemporary Ulm binding, from the Benediktinerkloster in Irsee.⁴⁰

GW 8709 (33 lines, initials unknown). [Mainz: 42-Line Bible types (Johann Fust and Peter Schoeffer?), ca. 1466], f. 11 (fragment 1)

Location Giessen, Universitätsbibliothek.

Binding Nicolaus de Blony. *De sacramentis*. [Strasbourg: Johann Prüss], 21 Oct. 1486.

Provenance Butzbach, Sankt Marcus.⁴¹

GW 8709 (33 lines, initials unknown). [Mainz: 42-Line Bible types (Johann Fust and Peter Schoeffer?), ca. 1466], f. 11 (fragment 2)

Location Giessen, Universitätsbibliothek.

Binding *Summa rudium*. Reutlingen: Johann Otmar, 1487.

Provenance Butzbach, Sankt Marcus.⁴²

GW 8713 (33 lines, no initials). [Mainz: 42-Line Bible types, 1st state (Johann Gutenberg?), ca. 1453-54], ff. 4+7

Location Princeton, Scheide Library.

Binding St Augustinus, *De civitate Dei*. Basel: Michael Wenssler [and Bernhard Richel], 25 Mar. 1479, 'Spruchband' binding, sold by Maggs Bros. London, 1933; now Stuttgart, Württembergische Landesbibliothek.

Provenance Seitenstetten (Austria), Benedictines.⁴³

GW 8714 (33 lines, Psalter initials). [Mainz: 42-Line Bible types (Johann Fust and Peter Schoeffer?), not before 1457], ff. 1+12

Location Berlin, Staatsbibliothek Preußischer Kulturbesitz.

Binding Trier, Stadtbibliothek, *Gemma vocabulorum* [Strasbourg: Johann Prüss, ca. 1493]. Bound with: Johannes de Garlandia, *Composita verborum*. Strasbourg: [Johann Prüss], 1490; with offset of the Donatus, f. 12v, on the front inner board.

Provenance Wolfgang Maylborgh; Johann Kleren of Neumagen; Trier, Benedictines of Sankt-Maximin.⁴⁴

³⁹ Presser, "Neue Donatfragmente", 47-62.

⁴⁰ Zedler, "Die sogenannten Gutenbergbibel", 111, Tafel 8. For the binding, cf. Augsburg, Staats- und Stadtbibliothek. *Gold und Bucher lieb ich sehr*, 180, no. 60 (by Helmut Zäh).

⁴¹ Schwenke, "Neue Donatfunde", 532; the Giessen fragments are typographically very similar to the Princeton fragment (GW 0871750N), which has a 'Psalter' initial, and may date to the 1460s.

⁴² Schwenke, "Neue Donatfunde", 532.

⁴³ Zedler, "Ein neuer [...] Donat", 26-30; for the binding, cf. Holter, "Mit Spruchbändern verzierte Bucheinbände", 263.

⁴⁴ Schwenke, "Neue Denkmäler", 65-9.

GW 8715 (33 lines, Psalter initials). [Mainz: 42-Line Bible types (Johann Fust and Peter Schoeffer?), not before 1457], f. 1

Location Berlin, Staatsbibliothek Preußischer Kulturbesitz.

Binding Sammelband of Pforzheim, Speyer, and Cologne imprints up to 1508.

Provenance Ochsenhausen Abbey.⁴⁵

GW 0871750N (33 lines, Psalter initials). [Mainz: 42-Line Bible types (Johann Fust and Peter Schoeffer?), ca. 1466], f. 11

Location Princeton University Library.

Binding Horace, *Opera*, with commentary by Cristoforo Landino. Venice: Johannes de Gregoriis, de Forlivio, et Socii, 17 May 1483 (the fragments remain *in situ*).

Provenance Johann Ogier Faust von Aschaffenburg (1577-1631), Frankfurt am Main.⁴⁶

GW 8718 (35 lines, Psalter initials). Mainz: Peter Schoeffer, [not before 1467], f. 5

Location Cambridge, University Library.

Binding Trier, Stadtbibliothek, St Ambrosius, *De Officiis* [Cologne: Ulrich Zel, ca. 1470-72], with ink offset of this leaf; Trier's recorded specimen of f. 4 is missing.

Provenance Trier, Carthusians of St. Alban.⁴⁷

GW 8721 (35 lines, Psalter initials). [Mainz: Peter Schoeffer, after 1466], f. 8

Location Berlin, Staatsbibliothek Preußischer Kulturbesitz; destroyed.

Binding *Sermones Thesauri Novi de temporibus* (sometimes attributed to Petrus de Palude), Strasbourg: [Printer of the 1483 'Vitas Patrum'], 1483.

Provenance Unknown; copy destroyed in World War II.⁴⁸

⁴⁵ Schwenke, "Neue Donatfunde", 530-1.

⁴⁶ The misprint "audiuntur" (for *audiuntor*) in line 24 matches that in the fragment of GW 8718 in Paris, which bears Peter Schoeffer's colophon, datable after Johann Fust's death in 1466; cf. White, "Princeton Acquires Hidden Gutenbergian Donatus Leaf", at <https://blogs.princeton.edu/notabilia/>.

⁴⁷ De Ricci, *Catalogue raisonné*, 40, no. 43.4, identified as the Cambridge leaf in 1927.

⁴⁸ Schwenke, "Neue Donatfragmente", 263.

Of the 32 Donatus fragments from recorded binding contexts listed above, assuming no unusually long delays before the host volumes were bound, 25 were found in bindings of the fifteenth century.⁴⁹ Among the seven later binding contexts, three fall before 1508, while one host manuscript was described simply as ‘sixteenth century’ (it is entered as ‘1550’ on our timeline, [fig. 3]); thus, as many as 29 of the 32 decisions to recycle a Mainz Donatus as binding waste may have preceded the Reformation. Only three of the contexts must be substantially later: two of the fragments survive on imprints from 1563 and 1564, respectively, leaving only one true outlier from 1618. This is compelling new evidence that whereas the Gutenberg Bibles, on average, were used for a century and a half before they were forgotten or discarded (appearing in bindings mainly from 1559 to 1668), the Donatuses were able to last on average only about 40 years. We might have guessed that this was true, but now we have good evidence that it is true.

To answer the question of ‘why’ the Donatus and Bible editions printed in Mainz fell into obscurity at such different times is not necessarily straightforward, and may require more than one approach to the evidence. In the case of the Gutenberg Bibles, it appears that the physical volumes, especially the vellum ones, were sufficiently durable to serve their intended purposes over long periods, and so the decline in their use during the sixteenth and seventeenth centuries must be understood as a direct outcome of external historical factors, such as, but not limited to, the widespread abandonment of the Latin scriptures during the Reformation. By contrast, in the case of the Donatus, external historical factors are hardly ever considered: it is taken for granted that the vellum schoolbooks simply could not hold up to the handling they received. Indeed, those copies that perished were quickly replaced: during the four decades in which so many of the specimens from Mainz were falling victim to the binder’s knife, presses in more than thirty other towns were printing at least 350 new editions. Only during the sixteenth century did the popularity of the Donatus begin to wane.

⁴⁹ Hellinga, “Fragments Found in Bindings”, 467-75 (appendix), derives similar results from her survey of 46 binding contexts for Dutch schoolbook fragments. The predominance of fifteenth-century *termini* within both the Dutch and Mainz Donatus fragment samples is highly suggestive. Although it is possible that certain host-incunables were already centuries old when they were bound in centuries-old Donatus leaves, there is no reason to suppose that such delays in use were common. Nor would this explain the fact that many fewer incunables were bound in fragments from large fifteenth-century church books, or why seventeenth-century *termini* are so common among the bindings that utilise such fragments. Clearly, whereas the publication date of a single bound book cannot be used to identify the moment at which a particular specimen of binding waste was utilised, the consistency of the larger body of evidence provides reliable insights.

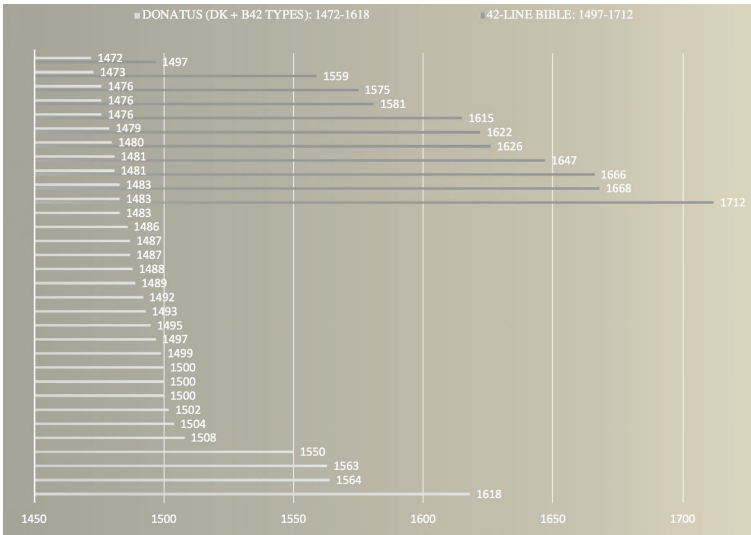


Figure 3 Timeline of *termini post-quem* for binding waste utilising fragments of the Gutenberg Bible and early Mainz Donatus editions

Figure 4 Earliest known locations of fragments from early Mainz Donatus editions

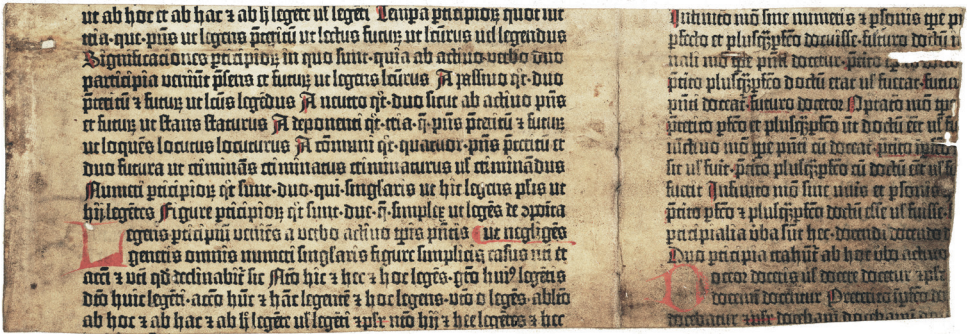


Figure 5 Aelius Donatus, *Ars minor* (33 lines). [Mainz: 42-Line Bible types, 1st state (Johann Gutenberg?), ca. 1453-54], ff. 4+7. Scheide Library, Special Collections. Princeton University Library

The 32 datable Donatus bindings also provide valuable evidence of their geographical dissemination. Their early locations are impressively far-flung (fig. 4), ranging from the Rhine River valley eastward across Germany as far north as Leipzig, and into Austria as far as Seitenstetten, some 600 km to the southeast. The latter context is attested by the binding that preserved the important fragment in the Scheide Library (fig. 5), printed ca. 1453-54 with the earliest state of the 42-Line Bible types. Aside from two fragments discovered in Trier, none was found very far to the west of the Rhine, and the absence of examples from France, which only later produced a few Donatus editions, and the Low Countries, a region that was busy printing its own schoolbooks, is striking.⁵⁰ We can see a similar eastward trajectory among the survivals of the Gutenberg Bible, as represented both by the bound volumes and the localised binding waste.⁵¹

⁵⁰ Hellinga, “Fragments Found in Bindings”, 227, defines a similar geographic ‘corridor’ for the printing of later fifteenth-century editions of the Donatus, *Ars minor*.

⁵¹ Ink offset from another Donatus fragment, possibly printed with either the DK types or the B42 types, survives in the fifteenth-century Hs. 115a at the Stadtbibliothek in Mainz, a Sammelband of theological works that includes manuscripts completed by Marcellus Geist (d. 1469), later held by the library of the Carthusians of Mainz; cf. List, Powitz, *Die Handschriften der Stadtbibliothek Mainz*, 1: 198-200.

6 Conclusion

Although the survival of early printed materials as binding waste does not follow predictable rules, it is not entirely up to chance. While some universally admired works, including many editions of St. Augustine's *De civitate Dei*, seem to have entirely avoided such a fate, others were prone to such use, because their subjects or functions rendered them dispensable. Before a printed book or broadside could serve its secondary purpose in a binding, it had to be considered all but useless, and it had to be available in a certain place at a given time. As a growing body of data now indicates, truly ephemeral printing was apt to show up within bindings almost immediately, often in or near the place of printing. Books intended to provide enduring reading material have longer lives that are measurable not only by their internal signs of continued use, but also by their eventual fall from utility as books, as documented by their use as binding waste. Similarly, their wider geographical dissemination is charted not only by localised evidence of ownership, but also by the contexts in which they were converted into binding waste. Finally, the intermediate functionality of the *Donatus* placed it in a special category: it was neither truly ephemeral, having been printed on expensive, durable vellum, sometimes with ornamental initials; nor was it a truly enduring book, as few literate adults would need it again in later life, which is why not a single copy has been preserved intact in a library. Ultimately, the evidence of binding waste shows, consistently, that the typical life-span of such books likewise was of intermediate duration, neither ephemeral nor enduring - no longer, in the end, than the waning tenure of the *Ars minor* itself.

Given the evidentiary value of the Gutenberg Bible and Mainz *Donatus* fragments that Princeton University acquired in 2017, both of which are still preserved as integral parts of their host bindings, a pairing that is unique in the world, this article must conclude with the urgent plea that any very early printed binding waste that comes to light in the future likewise will be left *in situ*, that its context will be recorded in detail, and that the specimen will be incorporated not only into the study of typography, but also into broader studies of reading, binding, librarianship, and collecting: book history as human history.

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