

# FROM MANUSCRIPT TO MOVEABLE TYPE: THE INFORMATION SHIFT THAT BROUGHT ABOUT MODERN LEARNING

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Boston University College of General Studies



# INTRODUCTION

The advent of the printing press might well seem like an arcane topic. But in fact, the printing press, which first came into use in Europe in the 1450s, totally changed how knowledge and learning happened. Whereas medieval monastic scribes could spend years copying each text, printers could produce many copies of a single book from each type-setting. The result was an explosion of reading materials and an expansion of the university system. Spelling became increasingly standardized. Memorization and memorizing strategies were de-emphasized as the notion of an autodidact, someone who taught himself through reading, came into being. Correspondingly, there was a move from intensive reading, that long, slow study of a single book, to extensive and comparative reading, the study of many books, their interrelations, and their contradictions. These changes reinforced each other: as the university system grew, the community of scholars grew, and both groups—the universities and the scholars—were influenced by what the printers were printing. Moreover, printing challenged established class structures because printers, who climbed up the class ladder as the centuries progressed, forged alliances between rich merchant-backers (in many ways the first real venture capitalists since they would fund a nascent project to make a later profit on the sales) and learned scholars. For example, funded by wealthy investors, Aldus Manutius, a late fifteenth- and early sixteenth century Venetian printer, worked with Erasmus to produce many of the classical texts that we now have, including first editions of Euripides, Aristotle, and Aristophanes. Had printers like Manutius not found, translated, and printed these classical manuscripts, much learning from antiquity would now be lost. And the Renaissance could not have happened.

As one can see through the four objects in this exhibition, the *codex* (i.e. the form of the book) is an incredibly sophisticated technology that develops in conjunction with print technologies. In fact, medieval scribes wrote books without page numbers, indexes, tables of contents, and title pages!

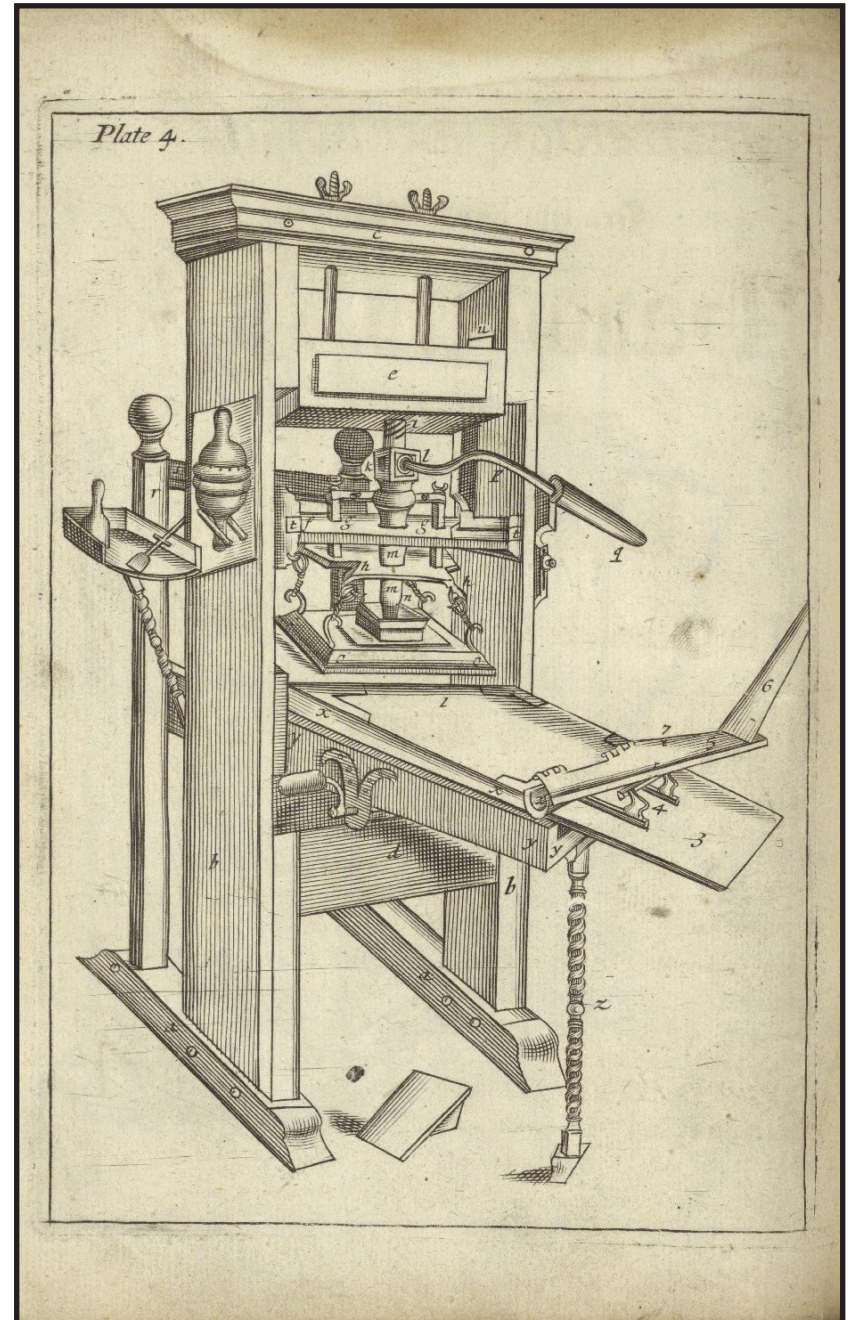
Exhibition Booklet authored by Lydia G. Fash, Ph.D.

Exhibition curated by Lydia G. Fash with help from Katherine Kominis and Ryan Hendrickson.

Many thanks to the Howard Gottlieb Archival Research Center, Center for Interdisciplinary Teaching & Learning, and the College of General Studies; and particularly to Katherine Kominis, Ryan Hendrickson, Megan Sullivan, and Rachel Swirsky for their assistance and support.

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*Mechanick Exercises* by Joseph Moxon (1683).  
Image from Folger Shakespeare Library.





# NINTH OR TENTH CENTURY MS. HYMNAL



Writing with a Quill, an engraving of John Rous (17th century). Image from the Folger Shakespeare Library.

This manuscript hymnal, which begins with the Lesson (Kings 17:8-16) for Tuesday, the second week of Lent, is from the ninth or tenth century and possibly from the Monastery of Metz, which is located on the border of modern France and Germany. It is the only one of the four pieces in this exhibition on *parchment*, which (though sometimes now used to mean paper) is specially prepared animal skin. The result is a thin and remarkably durable material with two distinct sides: one, a darker, spotted side (the “grain side” where the hair was), and a whiter convex side (the “flesh side”). Although rag-linen paper has spread to all parts of Europe by 1400, parchment continues to be used. The writing here is a formal style called a blackletter, and it comes about from the mechanics of writing with a quill. To get the ink to flow, the scribe had to hold the quill almost vertically with the tips of the middle finger, forefinger, and thumb. In contrast, we hold our pens at an angle—maybe 60° or 70°—with our forefinger and thumb; our pens rest on the side of the middle finger. The scribal style of holding a quill along with the quill’s flat nib allowed for the thick vertical lines and thinner horizontal lines you see on this hymnal. After the scribe was done writing the Latin, the *rubricator*, usually a separate artisan, would do his work in adding notable initials at section breaks. These larger letters, usually red (hence *rubricator*, which comes from the Latin *to color red*) and sometimes also blue, decorated the manuscript and added visual clues for navigation.

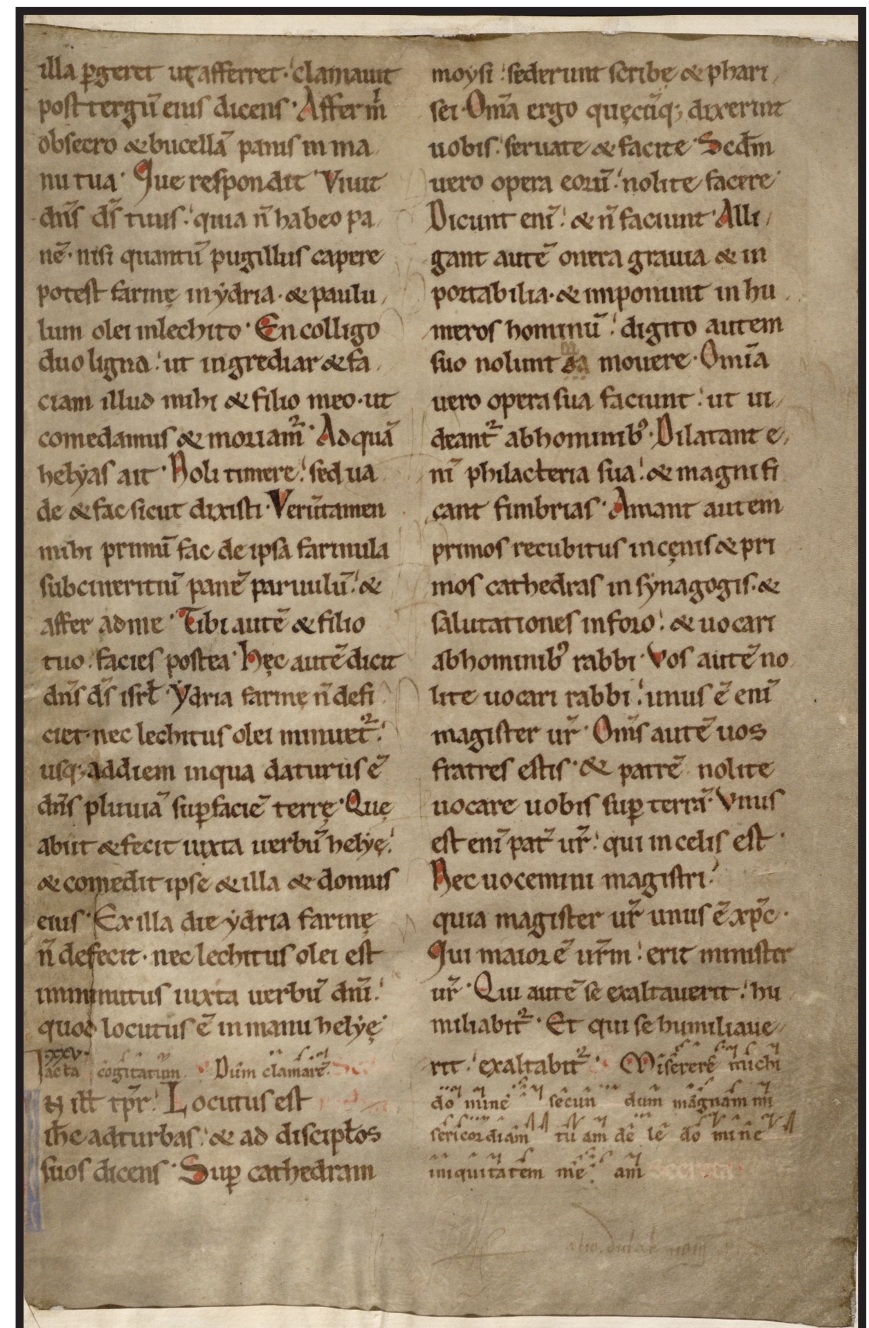
Possibly the most interesting feature of this manuscript is the musical notation, which is here done by hand. Even after the printing press was perfected, music remained resistant to the technology. By the early sixteenth century, fonts with musical notes were available, but the sheer volume of types needed made the practice of typesetting music economical only for very large runs. The most common form of printing music (after crude wood cuts and blocks fell out of favor) was a form of copper plate *intaglio* (cutting into), a creation method that lasted until the twentieth century when it was mixed with lithographic production techniques. (Lithography, a way of printing off of treated stones, was also useful for printing stationery, forms, banknotes, tickets, timetables, catalogs, and postage—part of the exploding print culture of the nineteenth century.)

## WHAT DO YOU SEE?

1. Is this the skin or the flesh side of the parchment?
2. How might have the scribes written such straight lines of text? Are there any visual hints as to how they might have done so?
3. Are the music and the words are written by the same scribe? Why or why not?

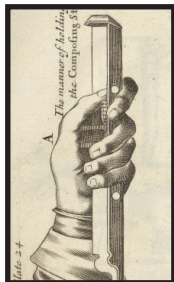
9th or 10th Century Hymnal Leaf.

Image from the Howard Gottlieb Archival Research Center.





# THE GUTENBERG BIBLE



Holding a Composing stick, from *Mechanick Exercises* by Joseph Moxon (1683). Image from the Folger Shakespeare Library.

This second item, printed by the goldsmith-turned-printer Johannes Gutenberg, is arguably the single most important and famous printed book. Though many will say that he did, Gutenberg did not invent the printing press. In fact, he modified a wine press and, using his smithing skills, formed tiny little backwards letters that could be arranged into words. So with his Bible, Gutenberg invented moveable type for Europeans and set off a printing revolution that changed the nature of Western life and learning. (Note as well that as early as 1239, Koreans were producing books with moveable type in the East.) Gutenberg's process was incredibly experimental. In fact, he first started printing the Bible with 40 lines in each column. Concerned with the cost of paper and parchment, he reorganized his pages to 42 line columns. Most think that Gutenberg printed around 200 copies of his Bible, some on parchment and some on paper. Only 49 remain, of which only 21 are complete. This *leaf* (a single piece of paper that includes a front and a back to make two pages) is part of an incomplete copy dismembered and sold under the title *A Noble Fragment*. Archivists call it "the ignoble fragment."

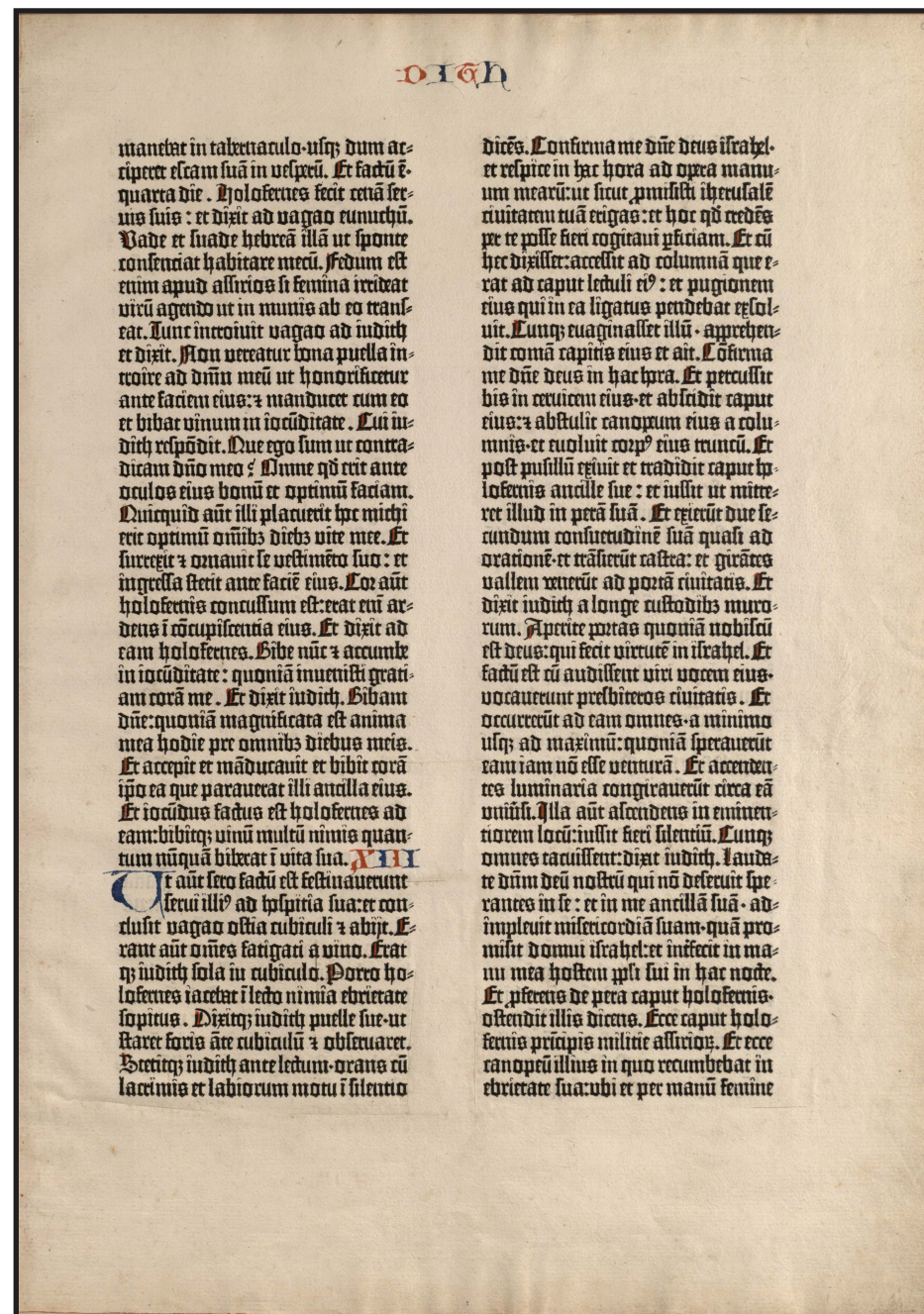
Despite the monumental nature of Gutenberg's discovery, his Bible is a conservative object. Indeed Gutenberg tried to make his Bible feel like a manuscript, even finishing the book with hand-rubrication. Because of this aesthetic, Gutenberg's contemporaries initially thought the Bible was written by hand. When they discovered that all of the copies ended each column with the same word, some thought Gutenberg had worked with the Devil; others thought the book (and the printing press) were divine.

This leaf is not a particularly beautiful one, but it is a sensational one. Indeed, the Latin here comes from the Book of Judith—the moment when Judith decapitates Holofernes. (Count down 11 lines from the top in the right side column; the passage—*Et percussit bis in cervicem ejus, et abscidit caput ejus*—is where Judith cuts off the head.) The chapter numbers are marked, but the fifteenth century Bible did not yet have regularized verse numbers.

## WHAT DO YOU SEE?

1. What similarities exist between the first manuscript and the Gutenberg leaf? What differences?
2. What differences can be seen between this paper and the parchment? How has each aged?
3. Look closely to find the razor marks on this leaf. Why might they be there?

Leaf from the Gutenberg Bible (c. 1454).  
Image from the Howard Gottlieb Archival Research Center.





# FIFTEENTH OR SIXTEENTH CENTURY BOOK OF HOURS



Illuminated Manuscript Book of Hours, Paris (c.1533). Image from the Folger Shakespeare Library.

We know little about why Boston University has only a single page of this manuscript, but it is fair to guess that this leaf was part of a Book of Hours, a devotional manual used by laypeople roughly from the thirteenth century to the sixteenth century. A Book of Hours usually followed a set structure which gave a liturgical calendar, Gospels excerpts, psalms, and prayers. Following the given calendar and using an included rubric, a reader could figure out which prayers were to be said in which order on which days of the year and at which points during those days. The leaf that we have here has on the *recto* (i.e. the front-side) Psalm 101 as well as a Tract used in place of the Alleluia during some church services. On the *verso* (i.e. the back-side) is Psalm 142. These Psalms are two of the seven so-called penitential psalms habitually included towards the end of a Book of Hours. The text is written by hand in a Latin filled with abbreviations such as *dne* (see below), which means *domine* (God) or *Glia* (see below), which means *Gloria* and would have been understood to stand for *Gloria Patri, et Filio: et Spiritui sancto. Sicut erat in principio, et nunc, et semper: et in saecula saeculorum. Amen.*

What is most interesting about this sixteenth century manuscript is that it is partially written and partially printed, a fact that shows how manuscript culture continued to exist even after the definite benefits of the printing press were recognized. Even though the text is written by hand, the border is a printed *woodcut*, a relief carving made by cutting into a block of wood and leaving raised areas that receive and print ink. In the late medieval period, Books of Hours had become lavish displays of conspicuous consumption: they were filled with *illumination* (hand-painted images that contained gold and silver leaf [i.e., very thinly hammer metal that is glued onto the picture]), *historiated* initials (large section-beginning letters that are heavily decorated with figures and patterns), and borders (often with fancy vines and flowers). This elaborate decoration indicated the wealth and status of the commissioning patron. In contrast, this Book of Hours is relatively sparsely adorned, and yet because it is not fully printed (as many were in the sixteenth century), it is not mass market.

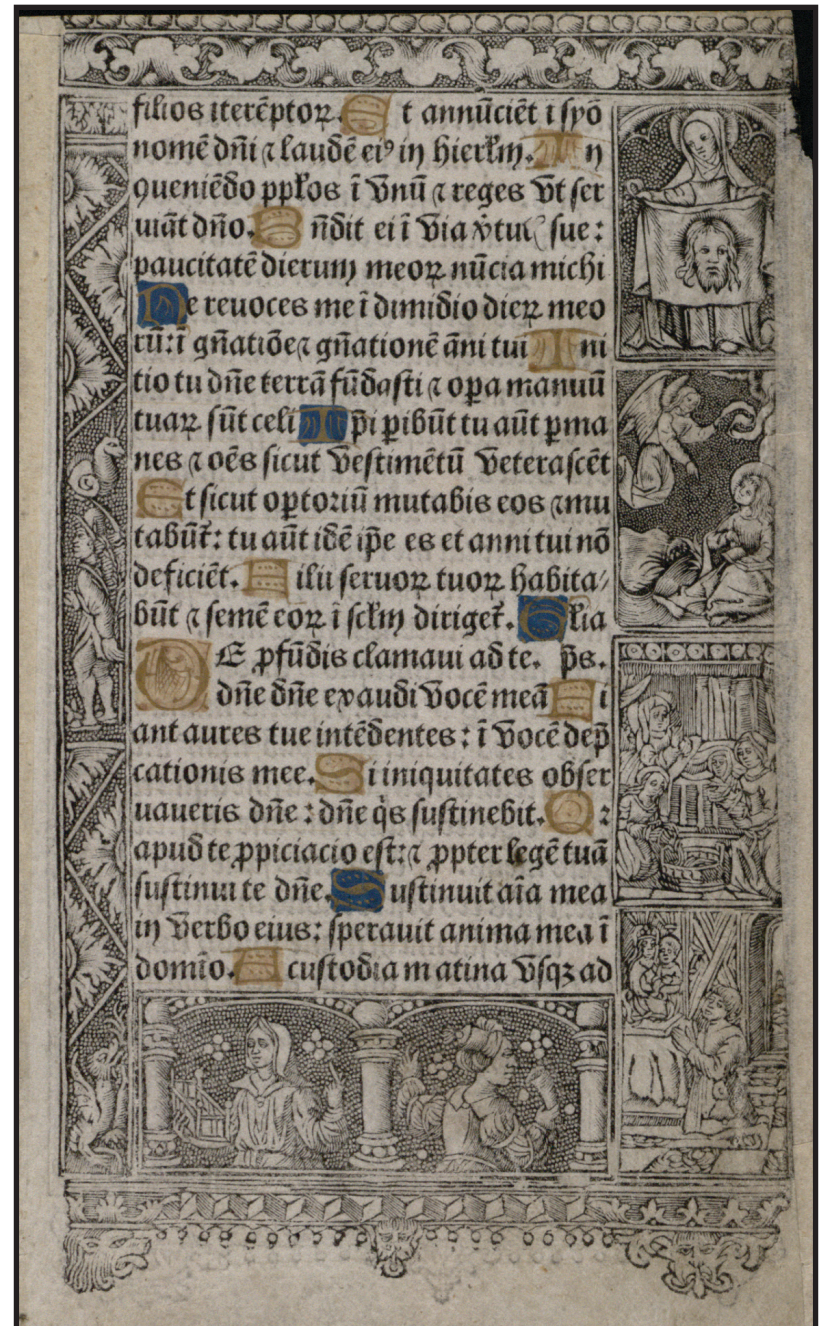
Abbreviations *dne*, meaning *domine* or God, and *Glia*, meaning *Gloria*. Both enlarged from the facing page.



## WHAT DO YOU SEE?

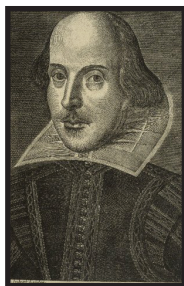
1. What sort of iconography is in the woodblocks? Would subsequent leaves have the same or different images? Are the images keyed to the exact words on this page?
2. Which side of this leaf is the outside edge of this book? How can one tell?
3. The manuscript is Latin, but contains characters (i.e., letters or letter-like marks) that are less recognizable. What ones are on this leaf? (Search "paleography" and "abbreviations" online to learn more.)

15th or 16th Century Book of Hours Leaf.  
Image from the Howard Gotlieb Archival Research Center.





# SHAKESPEARE'S FIRST FOLIO



Shakespeare, frontispiece from the First Folio (1623). Image from the Folger Shakespeare Library.

We end with William Shakespeare's all-important First Folio (1623). Published seven years after Shakespeare's death, the First Folio was the first full collection of Shakespeare's plays, and to it we owe our possession of 18 plays not published in quartos during Shakespeare's life, including *The Comedy of Errors*. Both the terms *quarto* and *folio* refer to the way a piece of paper is folded. To make a quarto, the printer prints a sheet of paper with eight pages of text, four on each side. The sheet is then folded and cut to make four *leaves* (i.e., pages with the front and back printed). In contrast, a folio is a printed sheet with just four pages of text, two on the front and two on the back. The printer folds the folio a single time—no edges need be cut. Of the 750 First Folios that were printed, 233 survive. Each is different because printers *proofed* (i.e. found and corrected mistakes) as they printed the copies. In fact, we can tell that this play is from a later state of the First Folio because some mistakes have been corrected.

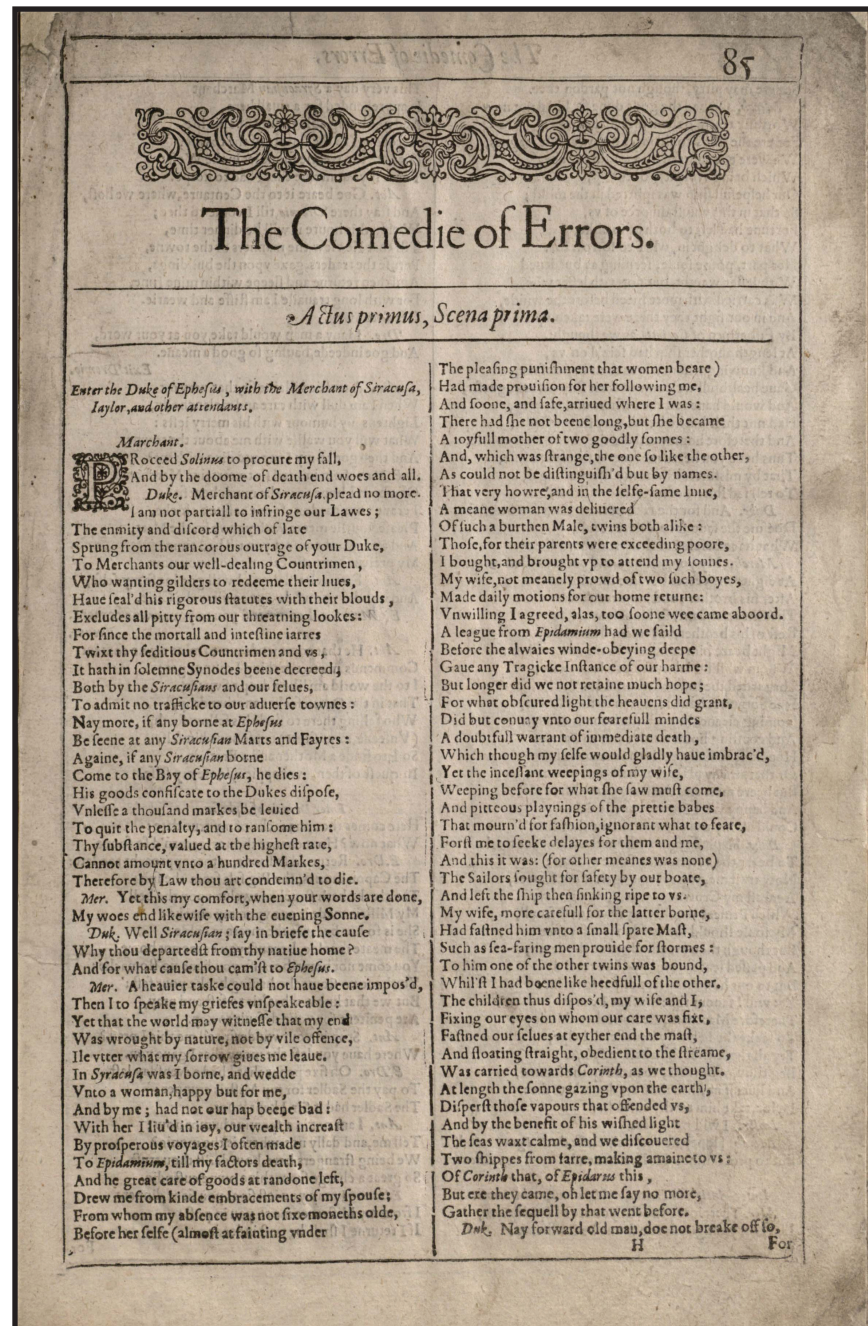
Because Shakespeare's friends helped, the First Folio has a certain editorial authority. Still, the differences between it and other early editions have led to questions about what exactly makes up each play. One easy example is Hamlet's famous "to be or not to be" speech, which has different words in the First Quarto and the First Folio. The First Quarto is earlier, but the First Folio is more formally assembled. So which is right? When you read a modern version of a Shakespearean play, you are reading a text formed by many editorial decisions, from the addition of stage directions to the modernization of spelling and even the exclusion, inclusion, or alteration of certain lines.

If you look carefully at the bottom margin, you will see a small "H." Called a *signature mark*, that letter tells how to assemble the book. The "H" is followed on the next recto (the next odd page) by an "H2," and so on until the *gathering* (a group of pages folded together, one inside the other) is complete. Gatherings are then stacked on top of each other and stitched together to make a book. The First Folio also has a *catch word*, a word (here "for") which, placed beneath the final line on the page, repeats the first word on the next page so as to produce seamless reading.

## WHAT DO YOU SEE?

1. Where is the page dirtiest and why?
2. What is the difference between the fancy "P" that starts this play and the fancy letters in the Gutenberg Bible? How has the convention of rubrication changed and why?
3. Which font is Roman rather than Gothic? Which letters are unfamiliar and why? Two letters that are connected together in a single piece of type (like *ct* and *st*) are called ligatures. Where and why are they being used?

Shakespeare's First Folio (1623).  
Image from the Howard Gotlieb Archival Research Center.







## FURTHER READING

***Scribes and Illuminators* by Christopher de Hamel**

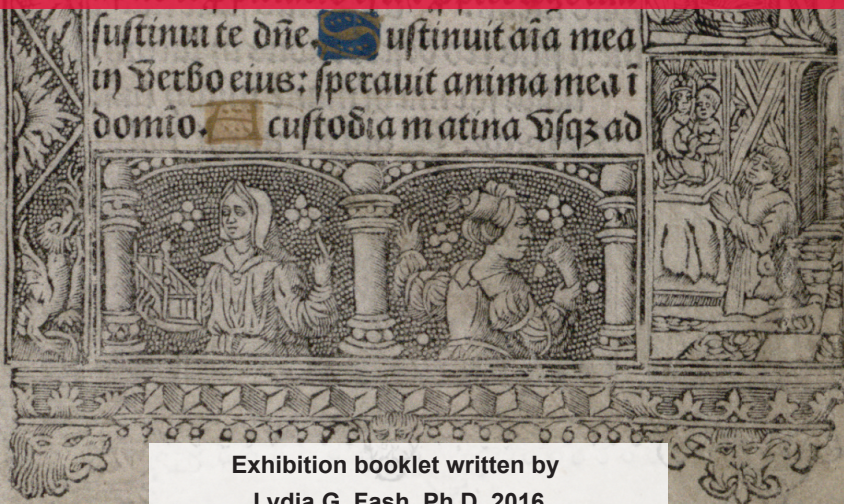
***The Printing Press as an Agent of Change* by Elizabeth L. Eisenstein**

***A Short History of the Printed Word* by Warren Chappell and Robert Bringhurst**

***The British Library Guide to Printing: History and Techniques* by Michael Tyman**

***Books as History* by David Pearson**

The works featured here, and many other wondrous objects, are available in the Howard Gottlieb Archival Research Center located in the Mugar Memorial Library.



Exhibition booklet written by  
Lydia G. Fash, Ph.D. 2016