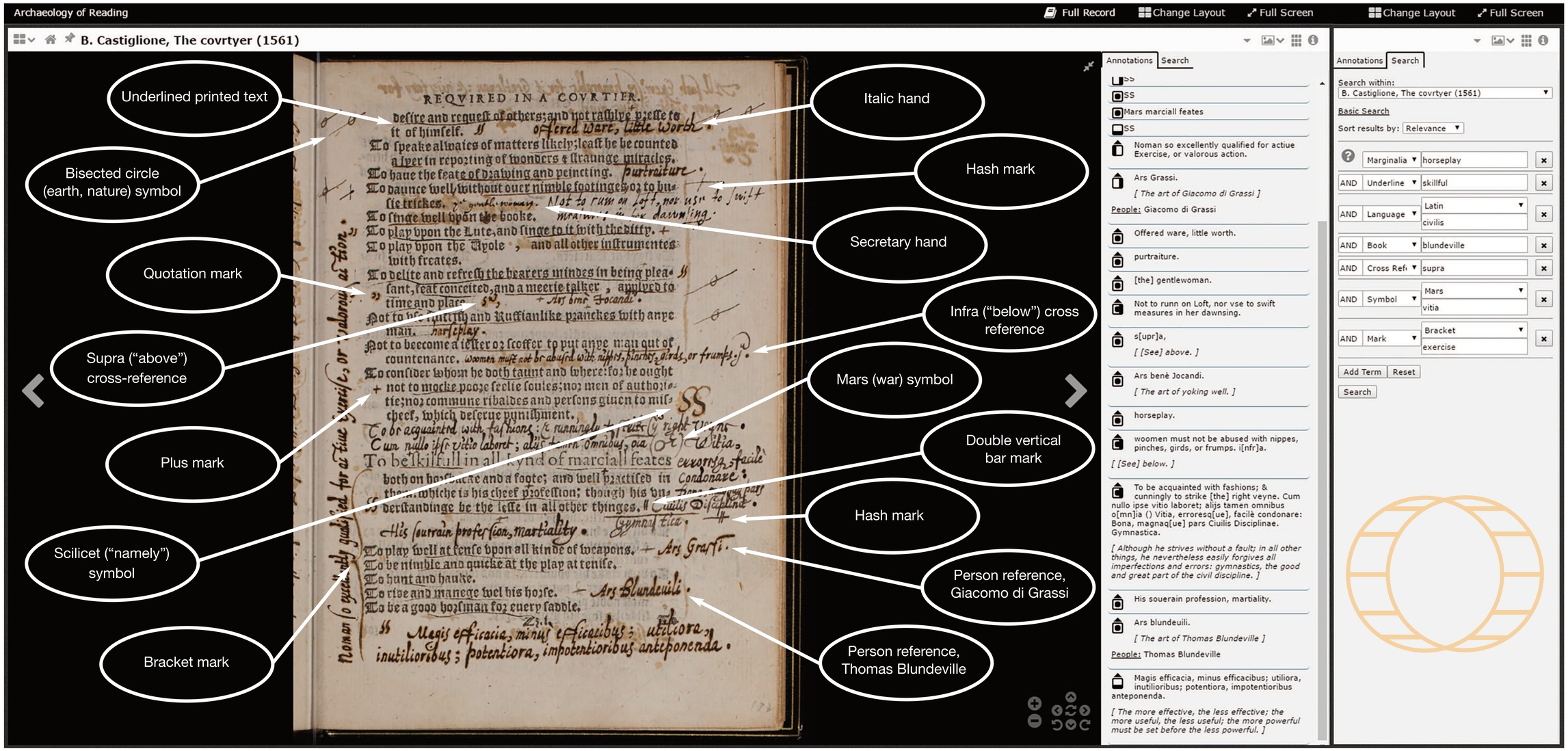
THE ARCHEOLOGY OF READING



The *Archaeology of Reading in Early Modern Europe* (AOR) is a Digital Humanities initiative that examines how people read books centuries ago through the notes they left behind in the margins of their books. Complete, free digital images of heavily annotated Renaissance books appear alongside viewable and searchable transcriptions and translations of their manuscript marginalia. The AOR interface allows you to “look over the shoulder” of a Renaissance reader as he or she first engaged with information during the Printing Revolution more than 400 years ago. www.bookwheel.org

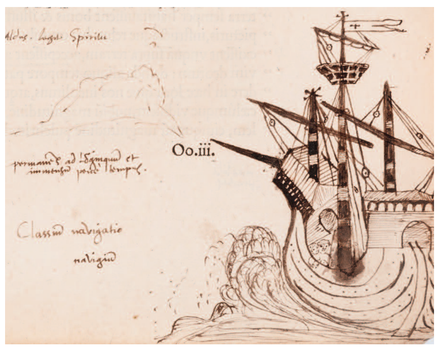
What is the "Archaeology of Reading" (AOR)?

Scholars often find it physically impossible to penetrate the full array of information preserved in annotated printed books for the systematic analysis of historical reading practices, particularly during the early modern period (ca. 1450–1600).

This is true in part because of the ubiquity of manuscript marginalia in early printed books whose presence is rarely, if at all, acknowledged in library catalogue records. In certain cases, the sheer density of manuscript notes can engulf the printed pages upon which they comment. Many of these books present "too much to know" in their analogue, physical forms, which are also scattered across many different research libraries throughout the world.

The Archaeology of Reading (AOR) allows the traditionally subjective study of reading to occur in more objective, comparative, and systematic ways. It harnesses the power of technology to penetrate large bodies of marginalia to achieve findings in a digital research environment that are impossible to achieve solely through work with physical books.

AOR provides high-resolution images from a select corpus of heavily annotated early imprints, as well as comprehensive, searchable transcriptions of all marginalia within those books through a highly interactive online viewer.



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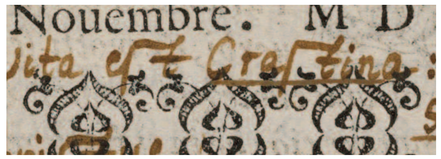


Who were the annotators?

AOR presents a focused but rich corpus of three dozen printed books containing hundreds of thousands of dense, manuscript marginal notes recorded by two of the most well-documented and rigorous annotators of the Renaissance: Gabriel Harvey and John Dee.

Harvey and Dee assembled two of the largest known libraries in Renaissance England. Both read actively and pragmatically, engaging with printed texts on a large range of subjects with a particular interest in applying their reading to action, achievement, and immediate influence within their own lifetimes.

Gabriel Harvey was a scholar of rhetoric at Cambridge University with direct court connections to major literary figures such as Sir Philip Sidney and Edmund Spenser. He aspired to positions of high patronage and diplomatic preferment within the Elizabethan court and undertook an ambitious and rigorous course of reading in order to be "studied for action."

John Dee was a mathematician and natural philosopher who served as an adviser to members of the Elizabethan court. He was also an internationally recognized scholar and frequent traveler in continental Europe who dedicated himself to a broad course of reading across the sciences, from medicine and magic to navigation, alchemy, and the occult.

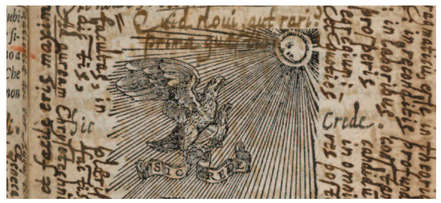
What do the marginalia tell us?

Harvey's and Dee's marginalia take us far beyond the subject matter of the books in which they appear. They also reveal complex methods of responding to the changing technology of print and the wide range of methods through which information was represented, adapted, organized, stored, preserved, and made accessible centuries ago through the predominant medium of printed books.

When seen side by side, Dee's and Harvey's annotations reflect an encompassing range of dynamic reading practices as well as deep funds of knowledge spanning many ancient and modern language traditions, from Latin, Greek, and Hebrew to Italian, French, Spanish, and German.

Harvey employed a complex, personal system of astrological symbols and marks, red-pencil highlights, and a particularly rigorous method of underscoring printed words. These marginalia sometimes fill every available blank space in the pages of his books.

Dee inscribed his books with marginal notes, symbols, marks, and underscoring as well, though he deployed an array of visual marginalia not found in Harvey's annotations, including genealogical trees, technical illustrations, numerical tables, and astrological charts. Dee also tipped in and bound together separate manuscript lists and interleaved annotated pages into the books in his library, creating complex, composite texts that challenge many conventional notions of what constitutes an early modern "book."



What is the Gabriel Harvey corpus?

The Harvey corpus includes important annotated books on modern languages, geography, literature, court culture, politics, warfare, ancient Roman history, and law.

Author	Title	Place/Date
Buchanan, George	*Ane detectioun . . . M. Quene of Scottes*	London 1571
Buchanan, George	*De Maria Scotorum regina*	London 1572 (?)
Castiglione, Baldessare	*Il libro del cortegiano*	Venice 1541
Castiglione, Baldessare	*The courtyer*	London 1561
Domenichi, Lodovico	*Facetie, motti, et burle*	Venice 1571
Freigius, Joannes	*Paratitla . . . Pandectarum iuris ciuilis*	Basel 1583
Frontinus, Sextus Julius	*The strategemes . . . of warre*	London 1539
Guicciardini, Lodovico	*Detti et fatti*	Venice 1571
Livy	*Romanae historiae*	Basel 1555
Machiavelli, Niccolò	*Art of warre*	London 1573
Magnus, Olaus	*Historia de gentibus septentrionalibus*	Rome 1555
Melanchthon, Philipp	*Selectarum declamationum*	Strasbourg 1564–67
Smith, Sir Thomas	*De recta et emendata linguæ Anglicæ*	Paris 1568

What is the John Dee corpus?

Dee was predominantly a reader of scientific books, in particular alchemy, astronomy and astrology, mathematics, and navigation, as well as works of ancient literature and medieval historiography.

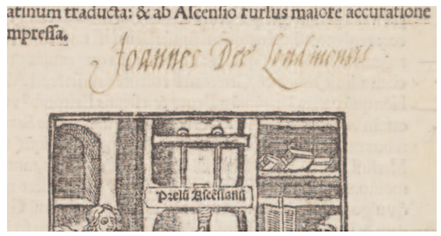
Author	Title	Place/Date
Alexander, Andreas	*Mathemalogium*	Leipzig 1504
Beroaldus, Matthaeus	*Chronicum*	Geneva 1575
Cardano, Girolamo	*Libelli quinque*	Nuremberg 1547
Cicero	*Opera*	Paris 1539-40
Colòn, Fernando	*Historie . . . Christoforo Colombo*	Venice 1571
Crusius, Paulus	*Doctrina revolutionum solis*	Jena 1567
Dorn, Gerhard	*Chymisticum artificium*	Frankfurt (?) 1568
Euclid	*Elementorum libri XV*	Paris 1557
Firmicus Maternus, Julius	*Astronomicon*	Basel 1533
Geoffrey, of Monmouth	*Britanniae utriusque regum*	Paris 1517
Ovid	*Amatoria*	Paris 1529
Pantheus, Joannes	*Voarchadumia contra Alchimiam*	Venice 1530
Paracelsus	*Baderbuchlin*	Mülhausen 1562
Paracelsus	*Das buch meteororum*	Cologne 1566
Paris, Matthew	*Flores historiarum*	London 1570
Postel, Guillaume	*De originibus*	Basel 1553
Quintilian	*Institutionum oratoriarum*	Lyon 1540
Ryff, Walther Hermann	*In Caii Plinii Secundi Naturalis historiae*	Würzburg 1548
Saa, Jacobus a	*De navigatione . . . mathematicae*	Paris 1549
Walsingham, Thomas	*Historia brevis*	London 1574
Walsingham, Thomas	*Ypodigma . . . Normanniae*	London 1574

How does the AOR technology work?

AOR makes digitally accessible the wealth of data contained in these annotated books through an open-access viewer that displays high-quality digital images of them alongside visible transcriptions of all the manuscript marginalia that they contain in a separate panel. All annotations are captured in XML transcriptions and presented through the viewer technology, allowing users to manipulate the images, read through the annotations, and undertake complex searches of all the marginalia. These allied components of AOR open up new paths of inquiry and make a more systematic analysis of historical reading practices possible.

The technological infrastructure for AOR works closely with the International Image Interoperability Framework (IIIF) protocol to develop features that will enhance AOR within that larger framework. IIIF offers a set of protocols, application programming interfaces (APIs), and shared technologies for the presentation of web-based images. These are incorporated into the AOR technical infrastructure, which includes a data archive, an image server, a IIIF image service, a corresponding IIIF presentation service, and a IIIF-compliant Mirador viewer that has been specially adapted to the research requirements presented by the AOR project.

The AOR technology and content teams have worked closely together at every stage of the project to define and implement a set of use cases related to image viewing and manipulation, marginalia transcription viewing, and dynamic query-building search capabilities. Further developments of the technical infrastructure will help users engage with more complex forms of annotation, differentiating multiple readers in a single book, extra-textual layering of marginalia, and forms of visual annotation. Development efforts also include a data export feature to allow users to capture complex sequences of linked findings through the AOR viewer.



Who are the archaeologists?

The AOR team includes historians, librarians, digital humanists, technologists, and computer engineers working together at every stage of the project. The core of the team is comprised of the Sheridan Libraries and the Digital Research and Curation Center (DRCC) at Johns Hopkins University (JHU); the Centre for Editing Lives and Letters (CELL) at University College London (UCL); and the Princeton University Library. The Principal Investigator team for AOR consists of Earle Havens (JHU), Anthony Grafton (Princeton), Matthew Symonds (UCL), and Lisa Jardine† (UCL).

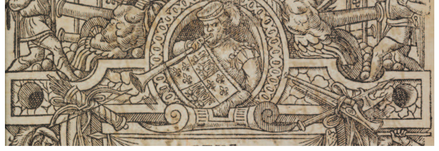
The AOR project is directed by the Principal Investigator, Earle Havens, of the Sheridan Libraries at JHU working with the DRCC technology group led by Sayeed Choudhury, which includes Mark Patton, John Abrahams, and Cynthia York. Primary humanities content is developed through the direction of Matthew Symonds and Jaap Geraerts at CELL, with Lucy Stagg and graduate student Research Assistants Matthew Beros, Amanda Brunton, James Everest, Daisy Owens, Finn Schulze-Feldman, Kristof Smeyers, and JHU Research Assistant Christopher Geekie. The Princeton team is led by Anthony Grafton and includes Stephen Ferguson of the Department of Rare Books and Special Collections, and Jean Bauer of the Center for Digital Humanities of the Princeton University Library.

Who are the sponsors and partners?

Primary sponsorship of AOR has come through a series of three major grants from the Scholarly Communications division of the Andrew W. Mellon Foundation. Additional funding, programming, and dissemination support has been provided by the Singleton Center for the Study of Premodern Europe and the Alexander Grass Humanities Institute, at Johns Hopkins University, as well as through contributions from the Department of Rare Books and Special Collections, and the Center for Digital Humanities, of the Princeton University Library (PUL).

Digital images and usage rights for the several dozen annotated books that comprise the AOR corpus come from rare book libraries across the US and the UK, in particular the Princeton University Library (PUL) and the Royal College of Physicians Library in London. Additional partner libraries include the New York Society Library; the Houghton Library of Harvard University; the Newberry Library, Chicago; the Folger Shakespeare Library, Washington, D.C.; the Cambridge University Library; the Christ Church Library at Oxford University; as well as the UCL Library and British Library in London.

The AOR project also benefits from the advice of a board of external advisers who have been directly engaged in research on early modern marginalia and related digital humanities initiatives, including Arnoud Visser (University of Utrecht), Heather Froehlich (University of Strathclyde), William Sherman (Research Institute, Victoria & Albert Museum), and Alexandra Gillespie (University of Toronto).



What will I find on the AOR website?

The AOR website, www.bookwheel.org, provides information on all aspects of the project, including a direct portal to the AOR Viewer digital interface. Other important elements of the site include an "AOR Corpus" link to detailed descriptions of each digitized book currently available in the AOR corpus. Every few weeks team members and guest contributors also post entries to the "Bookwheel Blog" on interesting marginalia, recent discoveries, and new research questions that emerge in AOR, and in related projects in the digital humanities. A "Help Documents" link offers a nuts-and-bolts guide to using the AOR viewer and an overview of the project's technical infrastructure on the computer "back end." Further helps include brief introductory essays on book history and Harvey's and Dee's backgrounds, and a project bibliography.

Researchers interested in more specific details of the AOR team's findings can go to the site's "Downloads" link, which provides phased "Data Release" zip files in BagIt format along with release-specific reader notes. These include all XML transcriptions of annotations within each book in the corpus; additional .csv files detailing marginalia totals; enumerated spreadsheets of specific words, marks, symbols, and underlining annotations, segregated across language groups; and separate files identifying specific people, places, and book titles cited in the marginalia. Users can also access under "Downloads" the *Transcriber's Manual*—the "bible" for all project workflows and decision making on the AOR XML schema—and an updated overall project "User Documentation" file enumerating the functionalities of the AOR viewer. All project code, data, and other outputs are Open Access under a Creative Commons license, and also downloadable through the AOR project GitHub: https://github.com/livesandletters/aor.