

HIS / LALS 2403
Animal, Vegetable, Mineral:
European and Indigenous Science, 1492 – 1700
Professor Marcy Norton
Van Pelt 627
Tuesday 1:45 – 4:45



(Image: Florentine Codex, c. 1577)

What happened when European and Indigenous conceptual systems became entangled after 1492? In this course we will consider the frameworks people used for understanding plants, animals, and other elements of “nature” on both sides of the Atlantic. We will explore how the entanglement of Indigenous and European knowledge contributed to the “new science” of the seventeenth century. This course provides a unique opportunity to directly work with medieval and early modern manuscripts, books, and high-quality facsimiles since our weekly meetings take place in Special Collections at the Van Pelt Library. The course will take place in Special Collections at Van Pelt Library and each week we will examine original books and manuscripts and high-quality facsimiles, alongside the translated modern editions. Primary source readings include medieval encyclopedias, fifteenth-century Mexican codices (*tonalamatl* in Nahuatl), and “New World” natural histories co-created by Indigenous and European scholars and artists (please check updated syllabus in early January for exact titles.)

Assignments and Requirements

Class attendance and participation (25%). See below for policies.

Reading Responses (30%). 8 responses to primary sources readings (excluding weeks 1, 8 and 14).

Please print out 2 pages from primary source and answer at least 4 of questions on the print-out.

Due on day of class.

Presentation (15%).

Final Paper (30%). 10- 12 pages. Due May 7.

Additional instructions for these assignments, presentations and the paper will be posted on the Canvas site.

Readings:

In this course we will be reading articles or book excerpts available on canvas or at indicated URL. You are not required but may want to purchase two books for ease of reading (available at online vendor), or order them via EZ-Borrow or ILL.

Bernardino de Sahagun, *Florentine Codex: Book 11: Earthly Things*, trans. Charles E. Dibble and Arthur J. O. Anderson, 1st edition (Salt Lake City, Utah: University of Utah Press, 2012).

Marcy Norton, *Sacred Gifts, Profane Pleasures: A History of Tobacco and Chocolate in the Atlantic World* (Cornell University Press, 2008).

Office Hours

Wednesday 2:30– 4 and by appointment in 306F College Hall. (I may hold office hours on zoom some weeks).

Course Requirements & Policies

Preparation & Participation: Active participation in class and careful preparation for class is key to your success.

Readings must be completed by day indicated on the syllabus. Expect to be called on to answer questions on the readings or participate in short in-class writing exercises.

Communication is a high priority and I welcome your questions and input. Please come to office hours or make an appointment. I will make every attempt possible to address all email queries and requests within 24-48 hours (expect longer times for weekends and holidays). Make sure you check canvas regularly.

Absences/attendance: Attendance and preparation for discussion is VERY important. Grades will be lowered if students have more than two absences except in case of illness, family emergencies, or religious holidays. If you must miss a class because of illness or personal reason, please notify me through the CAN system. If you have symptomatic illness or suspect you have asymptomatic Covid, please do not attend class.

Mask policy: I will ask that everyone wear masks in our classrooms for first two weeks of semester, the first week after spring break, and during surges. Outside of these periods, you are of course welcome to wear a mask if that is your preference; please wear a mask if you think you may have been exposed to Covid or another easily transmissible infectious disease.

Laptop use: Laptops, tablets, are permitted as long as they are used responsibly to take notes and consult course readings. Forays into Facebook, Instagram, email, Netflix and such are not permitted. There will be times during the semester when I ask you to close you laptops and just listen. Discussion is for discussion. In those situations, feel free to consult your readings online if you don't wish to print them out, but don't hide behind your screens and instead engage with your fellow students.

Accommodations: If you require disability accommodations, please let me know as soon as possible and provide the requisite documentation.

Academic Integrity: This course follows the [academic integrity guidelines set forth by the University of Pennsylvania](#). Students should familiarize themselves with the standards of academic integrity and clarify the prohibited forms of academic misconduct. The penalties for deliberate cases of plagiarism and/or other forms of academic misconduct will result in no credit for the assignment.

All cases of deliberate academic misconduct that result in formal sanctions of any kind will be reported, which also ensures due process rights of appeal for students. [This clause is using boilerplate derived from other colleagues with permission.]

Assignment and Reading Schedule (Subject to Change)

Week 1 January 17 Introduction

Week 2 January 24 Classics and Medieval Encyclopedias

- Buellens, “Aristotle’s Zoology”
- Steiner, “Encyclopedic beasts”
- Pliny the Elder, “Natural History” (c. 77 CE):
<https://www.perseus.tufts.edu/hopper/text?doc=Plin.+Nat.+toc> (read 4-5 entries split between animals (books 8-11), plants (12-19) and remedies (20-32))
- Isidore of Seville (d. 636), Etymologies “Book 12”: <https://www-cambridge-org.proxy.library.upenn.edu/core/books/etymologies-of-isidore-of-seville/F2336BA779D4ED95E6D25AAE2CCBAD25>
- Aberdeen Bestiary (c.1200): <https://www.abdn.ac.uk/bestiary/ms24>: examine images and read translation for at least 3 entries

Week 3 Jan 31 Renaissance Natural History and Medicine

- Conrad Gesner and Edward Topsell, *The history of four-footed beasts* (1555; 1607) (5 entries):
https://franklin.library.upenn.edu/catalog/FRANKLIN_9977734563103681
- Pedanius Dioscorides, (d. 90 CE) “De Materia Medica:
<http://www.cancerlynx.com/dioscorides.html> (5 entries)
- Brian Ogilvie, *The Science of Describing*, chapters 2 and 4: <https://ebookcentral-proquest-com.proxy.library.upenn.edu/lib/upenn-ebooks/detail.action?pq-origsite=primo&docID=408582>

Week 4 February 7 Natural History of the “New World”

- Miguel de Asúa and Roger French, *A New World of Animals: Early Modern Europeans on the Creatures of Iberian America*, chapter 3:
https://franklin.library.upenn.edu/catalog/FRANKLIN_9977151615203681
- Kathleen Ann Myers, *Fernández de Oviedo’s Chronicle of America: A New History for a New World*: chapter **
https://franklin.library.upenn.edu/catalog/FRANKLIN_9977901368003681
- Pietro Martire d’Anghiera, *De Orbe Novo, the Eight Decades of Peter Martyr d’Anghiera*, (1516), trans. and Francis Augustus MacNutt <https://catalog.hathitrust.org/Record/008725430>. (read chapters from 1 – 3 decades)
- Oviedo, *Historia general y natural de las Indias* (1535)
 - <https://pages.vassar.edu/oviedo/book-ii-chapter-1/>
 - <https://pages.vassar.edu/oviedo/book-ii-chapter-2-2/> and 4 chapters
 - <https://pages.vassar.edu/oviedo/book-viii-preface/> and 4 chapters in book 8, 9, 10, 11 (plants)

- <https://pages.vassar.edu/oviedo/book-xii-preface/> and 4 chapters in book 12-15 (animals)

Week 5 February 14 *Tonalamatl* (Codex Borgia)

- Elizabeth Boone, *Cycles of Time and Meaning in the Mexican Books of Fate* <https://ebookcentral-proquest-com.proxy.library.upenn.edu/lib/upenn-ebooks/detail.action?pg-origsite=primo&docID=3443186>: Read chapter 1 and 2, 5, or 7
- *Codex Borgia* (c. 1400 – 1500). http://www.famsi.org/research/graz/borgia/thumbs_0.html (please examine two sections of your choosing)

Week 6 February 21 “Gods,” “Ceremonies,” “Merchants” in the Florentine Codex

- Munro S. Edmonson, *Sixteenth-century Mexico: The Work of Sahagún*, chaps 4-5, (C)
- Norton, *Sacred Gifts*, Chapters 1 and 3 (C)
- Florentine Codex (1558 – 1577)
 - Book 1 “The Gods”: <https://babel.hathitrust.org/cgi/pt?id=mdp.39015064834677&view=1up&seq=6>
 - Book 2 “The Ceremonies”: 4 veintenas
 - Book 9 “The Merchants”: <https://babel.hathitrust.org/cgi/pt?id=mdp.39015012402973&view=1up&seq=11>

Week 7 Feb 28 Animals and the Colegio of Tlatelolco

- Florentine Codex (Book 11): pp. 1 – 57 (excluding entries that did not appear in the RAH ms.)
- Miguel León Portilla, “Research Method” (C)
- Optional: “Aesop et al., eds., *Aesop in Mexico*

March 11: Spring break – NO CLASS March 7

Week 8 March 14 Penn museum

Week 9 March 21 *Materia medica* and the Colegio of Tlatelolco

- Codex Cruz-Badianus (c. 1555): <https://link-springer-com.proxy.library.upenn.edu/book/10.1007/978-3-030-46959-7> (Introduction and 5 entries)
- Book 11, *Florentine Codex*: pp. 75 – 288 (selections)
- Paula De Vos, “Methodological Challenges Involved in Compiling the Nahuatl Pharmacopeia,” *History of Science* 55, no. 2 (June 2017): 210–33, <https://doi.org/10.1177/0073275317712139>.

Week 10 March 28 Circulation of Indigenous Medicine

- Nicolas Monardes, *Joyful News of the New Found World*, trans. John Frampton (1571, 1577) (5 entries including tobacco)
- Norton, *Sacred Gifts*, chapters 5 and 6

Week 11 April 4 Indigenous Knowledge and the “Natural History of New Spain”

- Simon, “Francisco Hernández, Renaissance Man,” <https://www-degruyter-com.proxy.library.upenn.edu/document/doi/10.1515/9781503618978/html#contents>
- Simon Varey, ed., *The Mexican Treasury: The Writings of Dr. Francisco Hernández* (Stanford, Calif: Stanford University Press, 2000).
https://franklin.library.upenn.edu/catalog/FRANKLIN_9979009225903681: 46-78; 107-156; 195-248
- Study organization and images in Francisco Hernández et al., *Rerum medicarum Novae Hispaniae thesaurus: seu, Plantarum animalium mineralium Mexicanorum historia*, ed. Federico Cesi (Romae: Ex typographeio Vitalis Mascardi, 1651):
<http://archive.org/details/rerummedicarumno00hern>
- Marcy Norton, “Quetzal takes flight”:
https://franklin.library.upenn.edu/catalog/FRANKLIN_9977671245603681

Week 12 April 11 Florentine Codex

- Diana Magaloni Kerpel, “Powerful Words and Eloquent Images” <https://www-degruyter-com.proxy.library.upenn.edu/document/doi/10.7560/318409/html#contents>
- Iris Montero Sobrevilla, “The Disguise of the Hummingbird: On the Natural History of Huitzilopochtli in the Florentine Codex,” *Ethnohistory* 67, no. 3 (July 1, 2020): 429–53, <https://doi.org/10.1215/00141801-8266434>.
- Florentine Codex (Book 11) “new entries,” p. 1 - 73
- Study images for Books 2 and 11 in the Florentine Codex:
[https://www.wdl.org/en/item/10613/view/1/1/.](https://www.wdl.org/en/item/10613/view/1/1/)

Week 13 April 18 Royal Society and “New” Sciences

- Asúa and French, *A New World of Animals*, chapter 4
- *Ornithology of Francis Willughby* (1678)

Week 14 April 25 Final Presentations