Research, Criticism and Analysis: Natural History as Modern Science

In conventional usage and scholarly tradition, the term “modern science” refers to such research arenas as the astronomical “revolution” that was presumed to inaugurate a break with outmoded forms of natural philosophy, or, more currently, to areas such as nuclear physics and experimental biology – that is to scientific work perceived to be on the “cutting edge” of the advance of knowledge. “Science” is, of course, a much more diverse set of enterprises than is depicted by this conventional image, and the sphere of inquiry that falls under the rubric of “natural history” is a prime example. Over the last twenty years, significant advances in redressing the dearth of attention to the history of natural history have emerged, complicating traditional narratives of “the rise of modern science.” Our central question will be to ask what it means to think of natural history as modern science – both in the limited sense of how our historiographic horizons change when studies of natural history supplement canonical literatures from the physical and experimental sciences, but also in a more expansive sense by considering how disciplinary norms are challenged when assigning natural history a major role in the history of science. Our reading will cover the period from the early modern era to the middle decades of the twentieth century.

Books
Brian Ogilvie. The Science of Describing: Natural History in Renaissance Europe (U of Chicago Pr, 2008)
Susan Scott Parrish. American Curiosity: Cultures of Natural History in the Colonial British Atlantic World (U of North Carolina Pr, 2006)
Laura Dassow Walls. The Passage to Cosmos: Alexander von Humboldt and the Shaping of America (U of Chicago Pr, 2009)
Claudine Cohen. The Fate of the Mammoth: Fossils, Myths, and History (U of Chicago Pr, 2002)
Susan Davis. Spectacular Nature: Corporate Culture and the Sea World Experience (U of California Pr, 1997)
Reading Schedule

week 1
1/20  introduction: where we’re starting from, where we’re going, and why

week 2
1/27  mapping the terrain: natural history epistemologies, practices, identities, sources of authority, and cultural referents

reading:
William James, “Pragmatism and Humanism” from Pragmatism: A New Name for Some Old Ways of Thinking (Longman Green and Co., 1907)
Katherine Pandora, “Natural History and Psychological Habitats,” from Rebels within the Ranks: Psychologists’ Critique of Scientific Authority and Democratic Realities in New Deal America (Cambridge U Pr, 1997)
James Secord, “The Crisis of Nature,” from Cultures of Natural History (Chapter 26)
Ogilvie, Science of Describing (chapters 1-3)

week 3
2/3  rethinking the revolution: natural history in the renaissance
1st mini-assignment due: presentation of a renaissance natural history book / reflection paper

reading:
Ogilvie, Science of Describing (chapters 4–6)
Deborah Harkness, excerpt from The Jewel House: Elizabethan London and the Scientific Revolution (Yale U Pr, 2007) / Prelude and Chapter 1, ’Living on Lime Street: ’English’ Natural History and the European Republic of Letters”

further:
Harold Cook, Matters of Exchange: Commerce, Medicine, and Science in the Dutch Golden Age (Yale U Pr, 2008)
Alix Cooper, Inventing the Indigenous: Local Knowledge and Natural History in Early Modern Europe (Cambridge U Pr, 2010)
Lorraine Daston and Katharine Park, Wonders and the Order of Nature, 1150-1750 (Zone, 2001)
Paula Findlen, Possessing Nature: Museums, Collecting, and Scientific Culture in Early Modern Italy (U of California Pr, 1996)
Ella Reitsma, Maria Sibylla Merian and Daughters: Women of Art and Science (Getty, 2008)

week 4
2/10  rethinking the revolution: natural history’s curious consequences

reading:
Cultures of Natural History (Introduction and Part 1: Curiosity, Erudition and Utility – all)
Parrish, American Curiosity (Introduction, chapters 1-2)

further:
Jorge Cañizares-Esguerra, How to Write the History of the New World: Histories, Epistemologies, and Identities in the Eighteenth-Century Atlantic World (Stanford U Pr, 2001)
Londa Schiebinger, *Plants and Empire: Colonial Bioprospecting in the Atlantic World* (Harvard U Pr, 2007)

**week 5**

2/17  rethinking the natural history of centers and peripheries: transatlantic challenges

**reading:**

Parrish, *American Curiosity* (Introduction, chapters 3-7)

**further:**

Therese O'Malley, *The Art of Natural History: Illustrated Treatises and Botanical Paintings, 1400-1850* (NGW-Stud Hist Art, 2008)

**week 6**

2/24  rethinking the natural history of the state: animal, vegetable, mineral

2nd *mini-assignment due:* presentation of an annotated textual primary source (pre-circulate to all) / reflection paper

**reading:**

*Cultures of Natural History* (Part 2: Virtuosity, Improvement, and Sensibility – all; and Part 3: Discipline, Discovery, and Display, chapters 15-17)

**week 7**

3/3  rethinking disciplinary investments: natural history and the return of the repressed (art, gender, the antebellum U.S., and other presumed side matters)

**reading:**

Walls, *The Passage to Cosmos* (beginning through chapter 4)

**further:**


**week 8**

3/10  rethinking disciplinary investments: when even giants are invisible

**reading:**

Walls, *The Passage to Cosmos* (chapters 5-6, Epilogue)
*Cultures of Natural History* (Part 3: Discipline, Discovery, and Display, chapters 18-20)

**further:**


week 9
3/17 no class || spring break

week 10
3/23 rethinking the natural history of boundaries between the “serious” and the “trivial”

reading:
Cultures of Natural History (Part 3: Discipline, Discovery, and Display, chapters 21-25)
Nyhart, Modern Nature (chapters 1-4)

further:
Elizabeth Hanson, Animal Attractions: Nature on Display in American Zoos (Princeton U Pr, 2002)
Christoph Irmscher, The Poetics of Natural History: From John Bartram to William James (Rutgers U Pr, 1999)
Peter Raby, Bright Paradise: Victorian Scientific Travellers (Princeton U Pr, 1996)
Nigel Rothfels, Savages and Beasts: The Birth of the Modern Zoo (Johns Hopkins U Pr, 2002)

week 11
3/31 rethinking scientific habitats: perspectives from natural history

reading:
Nyhart, Modern Nature (chapters 5-10)

further:
-------------, Landscapes and Labscapes: Exploring the Lab-Field Border in Biology (U of Chicago Pr, 2002)
Nancy Parezo, Anthropology Goes to the Fair: The 1904 Louisiana Purchase Exposition (U of Nebraska Pr, 2009)
Charlotte Sleigh, Six Legs Better: A Cultural History of Myrmecology (Johns Hopkins U Pr, 2007)

week 12
4/7 rethinking disciplinary investments: the curious incident of the dinosaur that barked in the night-time
3" mini-assignment due: reflection paper on Cultures of Natural History

reading:
Cohen, Fate of the Mammoth

further:
Mark Barrow, Nature’s Ghosts: Confronting Extinction from the Age of Jefferson to the Age of Ecology (U of Chicago Pr, 2009)
Charles R. Knight, Life Through the Ages: A Commemorative Edition (Indiana U Pr, 2001)
Url Lanham, The Bone Hunters: The Heroic Age of Paleontology in the American West (Dover, 1992)

**week 13**

4/14  rethinking 20th-century history of biology: the missing (prehistoric human) link

**reading:**


(and choose one)

Constance Clark, *God – or, Gorilla: Images of Evolution in the Jazz Age* (Johns Hopkins U Pr, 2008)
Misia Landau, *Narratives of Human Evolution* (Yale U Pr, 1993)

**week 14**

4/21  rethinking scientific habitats: perspectives from natural history

4th mini-assignment due: reflection paper on visit to the Sam Noble Oklahoma Museum of Natural History

**reading:**

*Isis* Focus section on “Museums and the History of Science,” 2005, vol. 96; authors: Samuel Alberti, Sophie Forgan, Sally Gregory Kohlstedd, and Jim Bennett

**further:**

Mary P. Winsor, *Reading the Shape of Nature: Comparative Zoology at the Agassiz Museum* (U of Chicago Pr, 1991)
Carla Yanni, *Nature’s Museums* (Athlone Pr, 2001)
week 15
4/28  rethinking science and popular culture: natural history spectaculars and modern enchantment
Film:  Miss Goodall and the Wild Chimpanzees (1965)

reading:
Davis, Spectacular Nature

further:
Derek Bouse, Wildlife Films (U of Penn Pr, 2000)
Cynthia Chris, Watching Wildlife (U of Minnesota Pr, 2006)
Steve Fiffer, Tyrannosaurus Sue: The Extraordinary Saga of the Largest, Most Fought-Over T. Rex Ever Found (W.H. Freeman, 2001)
Donna Haraway, Primate Visions: Gender, Race, and Nature in the World of Modern Science (Routledge, 1989)
Catherine Lutz and Jane Collins, Reading National Geographic (U of Chicago Pr, 1993)
Gregg Mitman, Reel Nature: America’s Romance with Wildlife on Film, 2nd ed. (U of Washington Pr, 2009)
Science Fiction / for example: Arthur Conan Doyle, The Lost World (1912); Frank Herbert, Dune (1965); Michael Crichton, Jurassic Park (1990); Vonda McIntyre, The Moon and the Sun (1997)

week 16
5/5  individual consultations on papers

Assignments

1. There will be four short reflection papers, three of which also have presentation components. Each paper is worth 10% for a total of 40% of the course grade. They are due in Weeks 3, 6, 12, and 15.

2. The final 60% component of the grade will be a final paper, of approximately 15-20 pages, the topic to be decided upon in consultation with the instructor. The paper can be an historiographic essay using the core books for the semester along with selections from the “further reading” suggestions – contained in the syllabus and in Cultures of Natural History; or an historiographic paper on a particular sub-topic related to the course theme, drawing on the “further reading” suggestions – contained in the syllabus and in Cultures of Natural History; or a research paper on a topic related to the course theme. The Final Paper is due on Thursday, May 15th by 5 p.m. in my office, phsc 619.