

University of California Berkeley
Department of History

HIST100S/100ST
Biology, Ecology, and the Making of U.S. Imperialism

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OUR ANIMATIONS

The natural sciences have longstanding imbrications in the making of U.S. empire and the ongoing occupation of the land we live on today. Beliefs about the natural world, as well as the field and laboratory practices that constitute them, have always influenced our culture, politics, and economies. In turn, the territorial and social objectives of U.S. expansion have also shaped scientific inquiry and development. Critical examination of the history of natural sciences can assist us in better understanding how scientific institutions, debates over science in society, and material conditions of human and non-human life have always been arenas of contestation regarding notions of race, gender, and sexuality. Today, at lab benches and in our field-sites, biologists continue to grapple with both obvious and not-so-obvious broader social implications for how we come to know what we know about plants, animals, and ecosystems. How has natural history, and the formation of modern evolutionary biology and ecology as we practice them today, produced concepts of “variation” and “difference”—specifically along the lines of race, gender, sexuality, and the human—with what consequences, and for whom? Can we imagine forms of biological knowledge and engagements with nonhuman animals that address and undo histories of colonialism, racism, sexism, and exploitation that brought us here?

COURSE CONTENT

This lecture asks you to engage with interdisciplinary academic work at an advanced level. We examine the evolution of natural sciences—with a focus on evolutionary biology and ecology—from the mid-1700s to present. Specifically, we focus on the formation of the U.S. as a settler colonial empire with global reaches in the Caribbean, Central and South America, Africa, and Asia. We examine the politics of biological knowledge production, as well as the political and economic enrollments of such knowledge for the expansion of U.S. territorial and social control. The shifting constructions of the “laboratory” and “field” as racialized and gendered sites of knowledge production—that shaped and were in turn shaped by—U.S. moves to acquire new lands and labor forces are central to our study.

Our discussions depart from a foundational argument: Dichotomous thinking about “humans” vs. “nature” have produced scientific practices that have privileged the lives and perspectives of “First World” men in particular, at the expense of the views and realities of historically marginalized subjectivities. In this course, there are no separate units on “race” or “gender”—instead, we think critically about race and gender throughout the entire course. We also examine how queer, feminist, critical race, crip and Indigenous theoretical approaches have historicized and disrupted common understandings of scientific research and practices, human and

nonhuman bodies, and environments and ecologies. Far from a comprehensive genealogy of these lines of thought and practice, this seminar weaves a multidisciplinary set of cases and analyses that allows us to borrow from, and create with, the diversity of interventions in History of Science and STS.

This course provides tools to engage with natural sciences as historically developing, socially and culturally situated practices of inquiry, conceptual understanding, and problem solving. Close reading of texts, archival material analysis, and cultural studies methods such as reading visual images like photographs, illustrations, and figures will be part of our assignments. We will develop tools to analyze the often-obscured power relations emergent in scientific practice and knowledge production. But we will also focus just as much on the slippages, incoherence, and spaces of alternative and/or empowering possibility within these dominant dichotomies. This leads us to imagine the liberatory and revolutionary possibilities in scientific and technological research and practice.

Importantly, we weave together our theoretical inquiries with science and research *praxis*. The units that bookend our more theoretically dense readings help us to keep in mind who “counts” as a researcher/scientist/expert, and how we might challenge hierarchical arrangements of knowledge production. Through this investigation, we will interrogate ourselves, too. Turning the critical gaze we develop back on our own positionalities, we will investigate the historical context and implications of our own academic training and methodological and theoretical choices. Always with generous and productive analyses and critiques with each other.

OBJECTIVES

Refine interdisciplinary modes of learning and research in natural history, with a focus on humanistic analyses of narrative, power, identity, and knowledge production.

Synthesize key theoretical and methodological approaches to the analysis of race, gender, sexuality, class, and the human in historical formation of natural history, biology, and ecology.

Demonstrate growth in skills of archival research and primary document analysis, including contextualizing documents in their historical political and social context.

Successfully navigate the scholarly research process through the final project (defining a problem, writing a literature review, finding scholarly sources, etc).

Demonstrate proficiency in critical scholarly engagement, including self-reflexivity and the process of peer review and revision.

ASSIGNMENTS AND GRADING

Grading will be relative to where you are when you begin the course. Successful progress toward the degree always requires both insight and effort, but the proportions vary from student to student. Following are rough proportions for each area of activity, to help you apportion your efforts:

15% Class participation and Attendance

15% Archival Document Exercises (select and analyze documents from an archival source, one electronic and one on campus, twice (5% each))

15% Alternative Knowledge Visit (attend/view/watch a film, exhibition, organizing event, demonstration, and connect it's themes and content to course materials, 1-2pgs.)

15% Reading Responses

Select 8 weeks to write a reading response to share with your classmates by Monday before seminar. Write no more than 1 page, 12 point font, and decent tabs. Provide a paragraph summarizing the main claims and arguments of all the authors read for that week, each in relation to the others. Provide a second or third paragraph that assesses the authors' positions, their use of evidence to make their points, and their arguments in relation to one another, their empirical material, and/or the current or previous ideas covered in class.

20% Mid-Term Exam (Opened 11/5 @5pm, closed 11/7 @5pm)

This exam will be comprised of two parts: One is your final annotated bibliography, with an explication of main arguments surrounding your topic and key primary and secondary sources. Part Two is short essay questions on course material.

20% Final Exam

This exam is also comprised of two parts: Long-form essay on your selected topic (see mid-term), and short essay questions on course material.

ACCESS/ACCESSIBILITY

I am committed to making success in my classes possible for all students. On the first day of class we will establish a Community Agreement about how to be accountable to one another – respectful, participatory, generous and empowering – that we can refer to throughout the semester. If at any point in the semester you find that success is a challenge for you—because of my teaching style, the arrangement of the class, life constraints, technology issues, or a disability—please talk to me. It is University policy to provide, on a flexible and individualized basis, reasonable accommodations to students who have disabilities that may affect their ability to participate in course activities or to meet course requirements. Students with disabilities are encouraged to contact their instructor to discuss their individual needs for accommodations. Resources for ensuring access can be found at dsp.berkeley.edu.

REQUIRED BOOKS:

Paul Farber (2000) *Finding Order in Nature: The Naturalist Tradition from Linneaus to E.O.*

Wilson. (This text is also available as an EBook through OskiCat:

<https://libproxy.berkeley.edu/login?qurl=http%3A%2F%2Fsite.ebrary.com%2Flib%2Fberkeley%2FDoc%3Fid%3D10021630>)

Banu Subramaniam (2014) *Ghost Stories for Darwin: The Science of Variation and the Politics of Diversity*. (This text is also available as an EBook through OskiCat: <https://ebookcentral-proquest-com.libproxy.berkeley.edu/lib/berkeley-ebooks/detail.action?docID=3414407>)

*Please note that these texts are also available as ebooks through OskiCat, and will also be posted as PDFs on bcourses

**Please note that the syllabus and schedule may be subject to change

SCHEDULE

WEEK ONE: Why History of Science Now? (and course overview) (early 18th c.)

Thursday (8/29/19)
Syllabus

Explore “The Free Radicals” webpage <https://freerads.org/>

Roger Pielke Jr. “After April’s March for Science, what next for Anti-Trump scientists?” The Guardian. https://www.theguardian.com/science/political-science/2017/feb/22/after-aprils-march-for-science-what-should-come-next-for-anti-trump-scientists?CMP=share_btn_fb

Shay Akil. “We Need Decolonial Scientists.”
<https://decolonizeallthethings.com/2016/11/10/we-need-decolonial-scientists/>
and check out Shay Akil’s other webpage <http://www.decolonizeallthescience.com/>

WEEK TWO: Empire’s Specimens and Scientific Discipline (18th c.)

Tuesday (9/3/19)
Paul Farber (2000). *Finding Order in Nature: The Naturalist Tradition from Linnaeus to E.O. Wilson*. INTRO & CHP 1

Thursday (9/5/19)
Londa Shiebinger (2004). *Plants and Empire: Colonial Bioprospecting in the Atlantic World*. CHP 1

[[MAPS & ILLUSTRATIONS Maria Sibylla Merian (1705) *Metamorphosis Insectorum Surinamensium*]]

WEEK THREE: Natural History and Settler Colonialism (late 1700s-mid 1800s)

Tuesday (9/10/19)

Paul Farber (2000). *Finding Order in Nature: The Naturalist Tradition from Linnaeus to E.O. Wilson*. CHP 2 & CHP 3

Thursday (9/12/19)

Roxanne Dunbar-Ortiz (2015). *An Indigenous Peoples' History of the United States*. INTRO and CHP 1

[[ILLUSTRATIONS Lewis and Clark Corps Maps, Specimens, and Portraits]]

WEEK FOUR: Natural History and Slavery
(19th c.)

Tuesday (9/17/19)

Paul Farber (2000). *Finding Order in Nature: The Naturalist Tradition from Linnaeus to E.O. Wilson*. CHP 5 & CHP 6

Thursday (9/19/19)

Thomas Jefferson (1785) "Notes on the State of Virginia." [ARCHIVAL]

Britt Rusert (2017) *Fugitive Science: Empiricism and Freedom in Early African American Culture*. INTRO and CHP 1

(Additional *optional* reading¹)

ARCHIVAL DOCUMENT ASSIGNMENT 1 DUE by 5:00pm on FRIDAY 9/20/19

WEEK FIVE: Evolution, Racism, and The Field
(late 19th c.)

Tuesday (9/24/19)

John Jackson and Nadine Weidman (2006). "The Origins of Scientific Racism"

Charles Darwin (1859, 1871) "On the Origin of Species," "The Descent of Man" [ARCHIVAL SELECTIONS]

Thursday (9/26/19)

Megan Raby (2017) "The Colonial Origins of Tropical Field Stations," *American Scientist*.
<https://www.americanscientist.org/article/the-colonial-origins-of-tropical-field-stations>

¹ Christopher Iannini (2012). *Fatal Revolutions: Natural History, West Indian Slavery, and the Routes of American Literature*. CHP 6 and EPILOGUE.

[[PHOTOS Edward Curtis Landscape Photography and Portraiture]]

Megan Raby (2017) *American Tropics: The Caribbean Roots of Biodiversity Science*. INTRO

Wallace (1878) “Tropical Nature” [ARCHIVAL]

WEEK SIX: Exhibition, Gender, and The Hunt

(1900-1950)

Tuesday (10/1/19)

Paul Farber (2000). *Finding Order in Nature: The Naturalist Tradition from Linnaeus to E.O. Wilson*. CHP 7 and CHP 8

Thursday (10/3/19)

Donna Haraway (1994). *Primate Visions: Gender, Race, and Nature in the World of Modern Science*. “Teddy Bear Patriarchy: Taxidermy in the Garden of Eden, New York City, 1908-36” CHP 3

[[LISTEN to “The Rhino Hunter” (2014) *RadioLab* Podcast]]

[VISIT [Essig Museum of Entomology](#)]

DUE: TOPIC IDEAS FOR ANNOTATED BIBLIOGRAPHY ASSIGNMENT in class 10/3/19

WEEK SEVEN: Laboratory Orders: Human-Animal Entanglements

(early 20th c.)

Tuesday (10/8/19)

Robert Kohler (2002) *Landscapes and Labscapes: Exploring the Lab-Field Border in Biology*. CHP 1

Charles C. Adams (1901) “The New Natural History—Ecology” [ARCHIVAL]

Thursday (10/10/19)

Jenna Tonn (2018) “Laboratory Domesticity: Gender, race, and science at the Bermuda Biological Station for Research, 1903-30.” *History of Science*.

DUE: ARCHIVAL DOCUMENT ASSIGNMENT 2 by 5:00pm on FRIDAY 10/11/19

WEEK EIGHT: Animals, Infrastructure, and Modernity

(20th c.)

Tuesday (10/15/19)

Camilo Quintero (2011). "Trading in Birds: Imperial Power, National Pride, and the Place of Nature in U.S.-Columbia Relations." *Isis*. Vol. 102, No. 3, pp.421-445

PS Sutter (2007). "Nature's Agents or Agents of Empire? Entomological workers and environmental change during the construction of the Panama Canal." *Isis*. Vol 98, No.4, pp.724-754

Thursday (10/17/19)

Timothy Mitchell (2002). *Rule of Experts: Egypt, Techno-politics, Modernity*. "Can the Mosquito Speak?" CHP 1

WEEK NINE: Emergent Ecologies, Liberal Accountings

(mid 20thc.)

Tuesday (10/22/19)

Paul Farber (2000). *Finding Order in Nature: The Naturalist Tradition from Linnaeus to E.O. Wilson*. CHP 9

Michael Lewis (2004). "Inventing Global Ecology: Tracking the Biodiversity Idea in India, 1947-1997"

DUE: Proposed topic/event/material for "Alternative Knowledge" Assignment in class 10/22/19

Thursday (10/24/19)

LJ Martin (2016). "Mathematizing Nature's Messiness: Graphical Representations of Variation in Ecology."

DUE: 8 ANNOTATED BIBLIOGRAPHY SOURCES (Draft for Feedback before Mid-Term) by Friday @ 5pm 10/25/19

WEEK TEN: Mid-Century Militarism and Ecology

(mid 20th c.)

Tuesday (10/29/19)

EM Deloughrey (2012). "The myth of isolates: ecosystem ecologies in the nuclear pacific."

Ritts and Shiga (2016). "Military Cetology."

Thursday (10/31/19)

Jake Kosek (2010). "Ecologies of Empire: On the New Uses of the Honeybee"

US Department of Energy (2017). “Hanford Site Biological Resources Management Plan” [ARCHIVAL]

WEEK ELEVEN: Anti-Colonial Disruptions, in Labs and on Land
(late 20th c. to present)

Tuesday (11/5/19)

Banu Subramaniam (2014). *Ghost Stories for Darwin: The Science of Variation and the Politics of Diversity*. INTRO and CHP 1

TAKE HOME MIDTERM OPENED TODAY 11/5 at 5:00pm

Thursday (11/7/19)

NO CLASS

TAKE HOME MID-TERM DUE TODAY 11/7 at 5:00pm—50% of material is related to your annotated bibliography/50% is related to course material

WEEK TWELVE: Queering Biology, Messing up Mating

Tuesday (11/12/19)

Zoe Todd (2016). “Fish pluralities: Human-animal relations and sites of engagement in Paulatuuq, Arctic Canada.” *Etudes/Inuit/Studies*.

[[LISTEN to Interview with Robin Wall Kimmerer <https://onbeing.org/programs/robin-wall-kimmerer-the-intelligence-in-all-kinds-of-life-jul2018/>]]

Thursday (11/14/19)

Stacy Alaimo (2010). “Eluding Capture: The Science, Culture, and Pleasure of ‘Queer’ Animals.”

Angela Willey and Sara Giordano (2011). ““Why do voles fall in love?”: Sexual dimorphism in monogamy gene research.”

WEEK THIRTEEN: Critical Multi-Speciality

Tuesday (11/19/19)

Ashton Wesner (2019). “Messing Up Mating: Queer-Feminist Engagements in Animal Behavior Sciences.”

[VISIT Damian Elias Laboratory *RSVP, small group only]

Thursday (11/21/19)

Neel Ahuja (2009). “Postcolonial Critique in a Multi-Species World.”

Zkiyyah Iman Jackson (2013). “Animal: New directions in the theorization of race and posthumanism.”

WEEK FOURTEEN: Liberatory Laboratories in Practice

Tuesday (11/26/19)

Banu Subramaniam (2014). *Ghost Stories for Darwin: The Science of Variation and the Politics of Diversity*. CHP 5 and 6

ALTERNATIVE KNOWLEDGE ASSIGNMENT—DUE by 3:30pm on 11/26/19

Thursday (11/28/19)

HOLIDAY--NO CLASS

WEEK FIFTEEN: Liberatory Laboratories in Practice

Tuesday (12/3/19)

Banu Subramaniam (2014). *Ghost Stories for Darwin: The Science of Variation and the Politics of Diversity*. CHP 7

“How do Black Lives Matter in Teaching, Lab Practices, and Research?”

<https://catalystjournal.org/index.php/catalyst/article/view/28793>

Civic Laboratory for Environmental Action Research (ongoing) *CLEAR Lab Book*.

<https://civiclaboratory.nl/clear-lab-book/>

Thursday (12/5/19)

[[VISIT from [Project Fe \(Field Equity\)](#) on sexual violence and sexual harassment in the field]]

WEEK SIXTEEN (12/9-15)

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EXTRA OFFICE HOURS

WEEK SEVENTEEN (12/16-22)

Final Exams

TAKE HOME FINAL—(50% of material on Final is long-form essay specific to your annotated bibliography topic / 50% of material on Final is short essay responses to course material)