

Darwin's Entangled Bank: The Cultural Legacy of Evolution

Course Number: English 573

Institution: Princeton University

Instructors: William Howarth, Lisa Sideris, Laura Sayre

Sponsored by the Center for the Study of Religion

Charles Darwin's theory of evolution by natural selection has profoundly altered modern literature, religion, and science. His vision of nature as "an entangled bank," a web of connected yet also competing life forces, disputes the humanist belief in divine creation and challenges many traditional ideas about race, sexuality, and class struggle. This seminar explores Darwin's "dangerous idea" through readings that range from world scriptures and fables to recent work on animal rights, bioethics, and ecofeminism.

Seminar readings (200 pp a week) outline the ideology Darwin confronted and assess the impact of evolution on key issues in modern intellectual history. Abstracts (4-6 pp) are provided to summarize current scholarship and suggest areas for student research. The main product of the seminar will be student papers, written to present at a public conference on June 8, 2001, to an audience invited from several institutions. A funded summer workshop will support revision of the conference papers into publishable essays.

Note: Underscored readings are in the course packet.

07 Feb- Creation Myths

Topics: creation and life forms, impact of human error, dominion and stewardship.

Readings: Genesis, Koran, Hindu and Greek myths; Lucretius, *The Nature of the Universe*; Luther, "Lectures on Genesis"

Abstracts: *Primal Myths: Creation Myths from around the World*, by Barbara Sproul. Peter Bowler, *Norton History of Environmental Sciences*, ch 1-2. Max Oelschlaeger, *Caring for Creation: An Ecumenical Approach to the Environmental Crisis*.

14 Feb -Early Religion and Science

Topics: ideas of nature, providence, theodicy, natural history, and animal status before 1800.

Readings: Greek and Hindu fables; Francis Bacon, *The New Atlantis*; Carolyn Merchant, *The Death of Nature*; Peter Bowler, *Norton History of Environmental Sciences*, ch 2-4 (32-138)

Abstracts: Keith Thomas, *Man and the Natural World*; Marston Bates, *The Nature Of Natural History*; David Lindberg & Ronald Numbers, *God and Nature: Historical Essays on the Encounter Between History and Science*; Neil Evernden, *The Social Creation Of Nature*; Clarence Glacken, *Traces on the Rhodian Shore: Nature and Culture in Western Thought From Ancient Times to the End of the 18th Century*.

21 Feb- Ecology and Empire

Topics: growth of Darwin's ideas, relation to political context, ecology as a paradigm.

Readings: Darwin, *Voyage of the Beagle*, ch 10, 11, 17 and "Retrospect"; John Tallmadge, "From Chronicle to Quest: The Shaping of Darwin's Voyage of the Beagle"; Richard Grove, "The Island and the History of Environmentalism"; Bowler, *Norton History of Environmental Sciences*, ch 5-7 (139-305).

Abstracts: Barbara Maria Stafford, *Voyage into Substance: Art, Science, Nature, and the Illustrated Travel Account, 1760-1840*; Lynn White, *The Historical Roots of Our Ecological Crisis*; Joel Hagen, *An Entangled Bank: The Origins of Ecosystem Ecology*.

28 Feb- Darwin and Evolution

Topics: evolution and its reception, Darwinism in literature, politics, ethics, and science.

Readings: Darwin, *Origin of Species*, ch 3, 13, 15; Hull, Darwin and his Critics; Steve Jones, Darwin's Ghost; Bowler, *Norton History of Environmental Sciences*, ch 8-9 (306-427).

Abstracts: Gillian Beer, *Darwin's Plots: Evolutionary Narrative in Darwin, George Eliot, and Nineteenth-Century Fiction*; Adrian Desmond, *The Politics of Evolution: Morphology, Medicine, and Reform in Radical London*; James Rachels, *Created from Animals*; Evelyn Fox Keller, *Keywords In Evolutionary Biology*.

07 Mar -Social Darwinism and Sociobiology

Topics: production and consumption, competition and collaboration, socialized biology.

Readings: Malthus, Summary View of the Principle of Population; Levins and Lewontin, The Dialectical Biologist; Caplan, The Sociobiology Debate; Wilson, Naturalist.

Abstracts: Mike Hawkins, *Social Darwinism in European and American Thought, 1860-1945*. Laura Otis, *Membranes: Metaphors of Invasion in Nineteenth-Century Literature, Science, and Politics*. John Bellamy Foster, *Marx's Ecology: Materialism and Nature*.

14 Mar -The Two Cultures

Topics: aesthetic and scientific expression, heredity and environment, life writing.

Readings: Darwin, *Autobiography*, 1-145; Alfred Russell Wallace, *The Malay Archipelago*; Darwin, *The Expression of Emotions in Man and Animals*, ch 1-2; Donald Fleming, "Charles Darwin, The Anaesthetic Man".

Abstracts: David Locke, *Science as Writing*; M. Halliday, J. R. Martin, *Writing Science: Literacy and Discursive Power*; J. W. Slade, J. Y. Lee, *Beyond the Two Cultures: Essays on Science, Technology, and Literature*; G. Levine, A. Rauch, *One Culture: Essays in Science and Literature*; Daniel Cordle, *Postmodern Postures: Literature, Science, and the Two Cultures*.

28 Mar -**The Many Genders**

Topics: animal emotions, fundamentalism, feminism and primatology.

Readings: Darwin, *The Expression of Emotions in Man and Animals*, ch 5; *The Descent of Man*, ch 2-3, 7, 13, 19-20; Edward Larson, *Summer for the Gods*; Donna Haraway, *Primate Visions*.

Abstracts: Londa Schiebinger, *The Mind Has No Sex? Women in the Origins of Modern Science*; Mary Jacobus, Evelyn Fox Keller, Sally Shuttleworth, *Body Politics: Women, Literature, and the Discourse of Science*; Anne Primavesi, *From Apocalypse to Genesis: Ecology, Feminism and Christianity*.

04 Apr -**Darwinism as Dogma**

Topics: revisions of evolution: nature-culture studies, biogeography, intelligent design

Readings: Stephen J. Gould, *Wonderful Life: The Burgess Shales and the Nature of History*; Jonathan Weiner, *The Beak of the Finch*; Philip Johnson, *Objections Sustained: Subversive Essays on Evolution, Law and Culture*; Daniel Dennett, *Darwin's Dangerous Idea*; Peter Bowler, *The Environmental Sciences*, ch 10 (428-502).

Abstracts: Bruno Latour, *We Have Never Been Modern*; Thomas Kuhn, *The Road Since Structure*; Philip Kitcher, *The Advancement Of Science: Science Without Legend, Objectivity Without Illusions*; David Quammen, *Natural Acts: A Sidelong View of Science and Nature*.

11 Apr -**Nature as Web**

Topics: ecology and environmentalism; wilderness preservation, toxic discourse.

Readings: Aldo Leopold, *Sand County Almanac*; Rachel Carson, *Silent Spring*; Wallace Stegner, "Wilderness Letter"; Carolyn Merchant, "The Theoretical Structure of

Ecological Revolutions"; William Cronon, "The Trouble with Wilderness: Or Getting Back to the Wrong Nature"; Bowler, *The Norton History of Environmental Sciences*, ch 11 (503-53).

Abstracts: Linda Graber, *Wilderness as Sacred Space*; Roderick Nash, *The Rights of Nature: A History of Environmental Ethics*; Michael E. Zimmerman, *Environmental Philosophy: From Animal Rights to Radical Ecology*; Lawrence Buell, *The Environmental Imagination*; Niles Eldridge, *Ontogeny and Phylogeny*.

18 Apr- **Sacred Places**

Topics: biodiversity; ritualized landscapes, sociobiology, ecofeminism, creationism.

Readings: Yi-Fu Tuan, *Topophilia: A Study of Environmental Perception, Attitudes, and Values*; E. O. Wilson, *Biophilia*; Vandana Shiva, *Staying Alive: Women, Ecology, and Development*; Terry Tempest Williams, "The Clan of the One-Breasted Women"; Joyce Carol Oates, "Against Nature".

Abstracts: Wilson and Kellert, eds. *The Biophilia Hypothesis*; Paul Shepard, *Man in the Landscape: A Historic View of the Esthetics of Nature*; Belden Lane, *The Solace of Fierce Landscapes*; Jamie Scott, *Sacred Places and Profane Spaces: Essays In the Geographics of Judaism, Christianity, and Islam*; Henry Morris, *Evolution and the Modern Christian*; Duane Gish, *Evolution: The Fossils Say No*; Vincent Crapanzano, *Serving the Word: Literalism in America from the Pulpit to the Bench*.

25 Apr -**Ecotheology**

Topics: sacramental nature, eschatology and salvation, deep ecology and evolution.

Readings; John Grim, Mary Evelyn Tucker, *Worldviews and Ecology*; Sallie McFague, *Super, Natural Christians*; Mary Evelyn Tucker, *Earth Ethics Newsletter*.

Abstracts: Bill Devall, George Sessions, *Deep Ecology: Living as if Nature Mattered*; Timothy Luke, *The Dreams of Deep Ecology*; Rupert Sheldrake, *The Rebirth of Nature: The Greening of Science and God*; Michael E. Zimmerman, *Contesting Earth's Future: Radical Ecology and Postmodernity*; Joanne O'Brien, Fazlud Khalid, *Islam and Ecology*.

02 May -**Bioethics**

Topics: the ethical status of natural order, genetic engineering, animal research, arguments for and against intelligent design, the future of Darwinism.

Readings: Ronald Cole-Turner, *The New Genesis: Theology and the Genetic Revolution*; Behe, *Darwin's Black Box* ; Michael Pollan, "The Botany of Desire"; other handouts to come.

Abstracts: James Rachels, *Created from Animals*; Claus Emmeche, *The Garden in the Machine: The Emerging Science of Artificial Life*; Richard Leowontin, *It Ain't Necessarily So*.