History of Science 176

Fall, 2001

EVOLUTION AND THE MIND

Questions and Controversies

***Instructor*: Anne Harrington**

***Meeting time*: Thursdays, 2-4 PM**

***Venue:* Science Center 226**

How has Darwin's 1859 theory of evolution changed the ways in which questions about the nature and condition of our humanness could be asked? In particular, how has it changed the ways we think about that part of ourselves that most clearly makes us human: our minds? In this course, we are interested in better understanding how people over time have engaged these questions. We are interested, not just in the scientific issues, but also in the social, ethical and existential stakes raised by the range of efforts to think about the human mind as a product of evolution.

Our way in to these issues is via a close reading of a series of both exemplary and influential statements and debates ranging from the 19th to the mid-20th century, and covering themes ranging from: the purpose of consciousness, the basis for ethics and moral responsibility, our relations with other species, our prospects of finding religious consolation in a post-Darwinian era, the relationship between what the mind is and what the mind can know, and more. Many of you have probably been exposed to some of the most current literature on one or another of these issues. One goal of this course is to help you begin to stretch the historical frame within which you think about the questions, and improve your facility to think critically about the relationship between "where we were" and "where we are" on each of them.

In addition to providing a disciplined schedule of reading and discussion, this course also gives you an opportunity to carry out an original research project, for which you will each receive individual guidance. During the final three weeks, we will transform this course into a research seminar and you will present a formal (graded) report to the class on your project-in-progress. Final papers will be due at the end of Reading Period.

Notes on Readings: The *primary source* readings for this course (listed below for each week) are all available in the form of a sourcebook, that you can purchase from Gnomon

Copy on 1218 Mass Ave in Harvard Square.. They represent a broad plan for the semester: we may make cuts, substitutions and other adjustments as we go along.

There is a huge *secondary source* literature on the history of Darwinism, evolutionary theory, and the human condition. As part of your research project, you will be expected to gain competence in some small subsection of that literature (guidance will be provided). In addition, each week, you will read several relatively brief secondary sources in the form of on-line essays, book reviews, or hypertext web sites. The on-line structure was chosen, among other reasons, to encourage you to go beyond the printed requirements of the syllabus, as themes catch your interest or terms and issues remain unclear. Occasionally I will hold "mini-lectures" to provide still more historical context of the week's readings.

Optional background readings on reserve at Hilles and Lamont are Robert J. Richards, *Darwin and the emergence of evolutionary theories of mind and behavior* (Chicago: University of Chicago Press, 1987; Robert Boakes, *From Darwin to behaviourism : psychology and the minds of animals* (New York: Cambridge University Press, 1984)., and Ullica Segerstrale, *Defenders of the Truth : The Sociobiology Debate* (New York: Oxford University Press, 2001)

Formal Requirements: Class participation (including assigned individual and small group presentations) and two discussion papers, 5-7 pages (60%); historical research paper (including presentation of your work-in-progress), c. 15 pages (40%)

September 13 (week one):

The Human Mind in Nature:

Identifying a Preliminary Agenda

Websource:

"Darwin and Evolution overview," in The Victorian Web
http://landow.stg.brown.edu/victorian/darwin/darwinov.html

September 20 (week two):

Can Evolution Explain the "Humanness" of the Human Mind and Brain?

Darwin's Views and the Challenge of Wallace

Charles Darwin's Notebooks, 1836-1844 , ed. Barrett, P.H., Gautrey, P.J., Herbert, S., Kohn, D., Smith, S. British Museum (Natural History), Cambridge University Press, 1985. (selections: notebooks M and N), pp. 517-596

Wallace, A.R. (1864) The Development of Human Races under the Law of Natural Selection. Reprinted in Wallace, A.R., Contributions to the Theory of Natural Selection. London: Macmillan, 1875, pp. 303-331.

Wallace, A.R. (1870) The Limits of Natural Selection as Applied to Man. Reprinted in Wallace, A.R., Contributions to the Theory of Natural Selection. London: Macmillan, 1875, pp. 332-372.

Darwin, Ch. (1871) The Descent of Man, and Selection in Relation to Sex., 2 vols. London: Murray, pp. 445-511.

Websource:

Desmond, Adrian, "Charles Darwin," BBC Evolution Website

http://www.bbc.co.uk/education/darwin/leghist/desmond.htm

"The Alfred Russel Wallace Page" (developed by Charles A. Smith)

http://www.wku.edu/~smithch/index1.htm

September 27 (week three):

Does Consciousness Matter?

Mind, Body and the "Automaton" Debate

Huxley, Th. (1874) On the Hypothesis that Animals are Automata and Its History. Fortnightly Review 22: 199-245.

Clifford, W.K. (1874) Body and Mind. Reprinted in: Lectures and Essays, ed. L. Stephen & F. Pollock. London: Macmillan, 1886, pp. 244-273.

James, W. (1879) Are We Automata? Mind 4: 1-22.

Websources:

Robert Wozniak, "The 19th-Century: Mind and Brain," Chapter Four in Mind and Body: René

Descartes to William James, Bethesda MD and Washington DC: National Library of Medicine and American Psychological Association, 1992. http://serendip.brynmawr.edu/Mind/19th.html

"The Huxley File," http://aleph0.clarku.edu/huxley

October 4: (week four):

Can Nature Tell Us How We Should Live?

The Ethics of Evolution and Evolutionary Ethics

Spencer, H. (1882) Social Statics, or, the Conditions Essential to Human Happiness. New York: Appleton & Co, pp. 28-44, 69-80, 353-60, 411-416.

Huxley, T.H. (1893) Evolution and Ethics (with "Prolegomena" [1894]). In: Touchstone for Ethics, 1893-1943, T. Huxley and J. Huxley. New York: Harper, 1947, pp. 38-112.

Huxley, J. (1943) Evolutionary Ethics. In: Touchstone for Ethics, 193-1943, T. Huxley and J. Huxley. New York: Harper, 1947, pp. 113-166.

Websources:

"Herbert Spencer" [The Internet Encyclopedia of Philosophy]

http://www.utm.edu/research/iep/s/spencer.htm

"The Huxley File," http://aleph0.clarku.edu/huxley

Weikart, Richard, *The Resurgence of Evolutionary Ethics* (Book Reviews, Origin and Design, 18:1 (1997*):* http://www.arn.org/docs/odesign/od181/weikart181.htm

Oct 11 (week five):

Did Animals Evolve Minds Too?

(And Why is it Important to Know?)

Romanes, G. (1888) Animal Intelligence. New York: Appleton, pp. 471-498.

Lloyd-Morgan, C. (1894) An Introduction to Comparative Psychology. London: Walter Scott, pp. 36-59, 287-304..

Watson, J.B. (1913) Psychology as the behaviorist views it. Psychological Review 20: 158-77.

Griffin, D. (1976) The Question of Animal Awareness: Evolutionary Continuity of Mental Experience. New York: Rockefeller Press, pp. 1-19, 99-137.

Durant, John, "Brain Research, Animal Awareness, and Human Sensibility: Scientific and Social Dislocations," So Human a Brain: Knowledge and Values in the Neurosciences, ed. Anne Harrington. Boston: Birkhäuser, 1992, pp. 179-1989

"Roundtable discussion: 1. What are the criteria by which experimental animals could have moral rights? 2. 'Hard' versus 'soft' approaches to the understanding of 'animal mind', So Human a Brain: Knowledge and Values in the Neurosciences, ed. Anne Harrington. Boston: Birkhäuser, 1992, pp. 288-298

Websources:

"Important Scientists in the Early Development of Comparative Cognition," http://www.pigeon.psy.tufts.edu/psych26/history.htm

Eakin, Emily, "No Longer Alone: The Scientist Who Dared to Say Animals Think," New York Times (01/03/2001) http://www.iufod.com/non_ufo_news/sci_tech/main/The%20wannabe%20Dr%20Doolittle.html

"Animal consciousness" [Stanford Encyclopedia of Philosophy]

http://plato.stanford.edu/entries/consciousness-animal/

Oct. 18 (week six):

Are We "Naturally" Violent?

Debates across Two World Wars

Freud, S. (1930) Civilization and its Discontents. New York: Norton, 1989 (excerpts: to be distributed in class).

Lorenz, K. (1963) On Aggression [Das soggennannte böse]. London: Methuen, 1966, pp. 236-299.

Margaret Mead. 1940. "Warfare Is Only an Invention--Not a Biological Necessity." Asia40: 402-405.

Websources:

The complete Einstein-Freud (1931-32) correspondence on the theme "Why War?"
http://www.cis.vt.edu/modernworld/d/einstein.html

"Sigmund Freud and Freud Archives" [overview of resources]

http://users.rcn.com/brill/freudarc.html

"Konrad Lorenz," The Psi Café, A Psychology Resource Sites,

http://www.kli.ac.at/theorylab/index.html

Wrangham, Richard and Dale Peterson, "Demonic Males: Apes and the Origins of Human

Violence," *Washington Post* (1996)
http://www.washingtonpost.com/wp-srv/style/longterm/books/chap1/demonicmales.htm

First discussion paper due at this class meeting!

October 25 (week seven):

Does Evolution Play Favorites?

Human Mental Evolution and the Inequality of Peoples

Galton, F. (1869 [1952]) Hereditary Genius: An Inquiry into its Laws and Consequences. New York: Horizon Press, pp. 1-4, 325-337.

Jensen, A.R. (1969) How Much Can We Boost I.Q. and Scholastic Achievement? Harvard Educational Review,39:1-123 (Winter 1969), pp. 1-12, 17, 28-30, 78-82, 84-86, 88-95.

Herrnstein, R. (1971) I.Q., The Atlantic Monthly (Sept. 1971), pp. 43-64.

Backtalk: More about I.Q. Atlantic Monthly (December 1971): 101-11.

Gould, S.J. (1981) The Mismeasure of Man. Middlesex, Eng: Penguin, pp. 73-112.

Websources:

Flint, Anthony, "IQ fight renewed: new book links genes, intelligence," The Boston Globe (August 9, 1994)

http://www/mugu.com/cgi-bin/Upstream/Issues/bell-curve/globe-flint.html

Spencer, Miranda, "Desperately seeking Difference: ABC finds biology is destiny (1995)

http://www.fair.org/extra/9505/abc-gender-differences.html

"19th-Century Science and the Woman Question"

http://members.aol.com/VERSA/society.htm

November 1 (week eight):

Are We "Naturally" Religious?

(And What Should we Do About it in a Post-Darwinian Age?)

Teilhard de Chardin, P. (1955) The Phenomenon of Man. American edition, 1961, pp. 163-214, 254-72.

Simpson, G,G, (1964) This View of Life. New York, ch. 11 [comments on The Phenomenon of Man], republished in Darwin: A Norton Critical Edition, ed. P. Appleman. New York: W.W. Norton & Co, 1970, pp. 470-76.

Medawar, P.B. [Review, The Phenomenon of Man] Mind 70: 99-106. republished in Darwin: A Norton Critical Edition, ed. P. Appleman. New York: W.W. Norton & Co, 1970, pp. 476-485.

Huxley, J. (1967) Evolutionary Humanism as a Developed Religion. Religion without Revelation. London: Pitman Publishing Ltd, pp. 150-189.

Websources:

Cunningham,. Phillip J. "Teilhard de Chardin and the noosphere" (1997)

http://www.december.com/cmc/mag/1997/mar/cunning.html

"Is 'Secular Humanism' a Religion?"

http://members.aol.com/VFTfiles/Humanism/huxley/htm

November 8 (week nine):

Did We Evolve to Know the World Accurately?

Debates on the Limits to Knowledge versus the "Naturalness" of Science

Lorenz, K. (1973) Behind the Mirror: A Search for a Natural History of Human Knowledge, tr. R. Taylor. New York/London: Harcourt Brace Jovanovich, pp. 1-19.

Campbell, D. T., "Evolutionary Epistemology," in: The Philosophy of Karl Popper, ed. P.A. Schlipp. Open Court: la Salle, Illinois, 1974, pp. 413-463.

Callebaut, W., "Evolutionary Epistemology," in Taking the Naturalistic Turn, or How real Philosophy of Science is Done [conversations…] Chicago: The University of Chicago Press, 1993, pp. 286-303.

Websource:

Heylighen, F., "Evolutionary epistemology," Principia Cybernetica Web, http://pespmc1.vub.ac.be/EVOLEPIST.html

A single paragraph outlining your idea for a research project is due(by email) at the end of this week; I will reply to each of you by return email!

November 15 (week ten):

What is the Relationship between Human Culture and Human Biology?

(And What is at Stake in the Question?)

Wilson, E.O. (1975) Sociobiology: The New Synthesis, ch. 27, "Man: From Sociobiology to Sociology". Cambridge: Harvard University Presss, pp. 547-575.

Dawkins, R. (1976) "Memes," in The Selfish Gene, reprinted in: The Mind's I: Fantasies and Reflections on Self and Soul. eds. DR. Hofstadter & D. Dennett. New York: Basic Books, pp. 124-146.

Selections from Unity of Knowledge: The Convergence of Natural and Human Science, eds. Antonio R. Damasio, Anne Harrington, Jerome Kagan, Bruce S. McEewen, Henry Moss, Rashid Shaikh. New York: New York Academy of Sciences, 2001

- Moss, Henry, "Introduction: Unity of Knowledge, circa 2000," pp. 1-11,
- Wilson, E.O. "How to Unify Knowledge," pp. 12-17
- Shweder, Richard A., "A Polytheistic Conception of the Sciences and the Virtues of Deep Variety," pp. 217-232.
- Harrington, Anne and panel, "Science, Culture, Meaning, Values: A Dialogue," pp. 233-257.

Websources:

"Memes, a page on Richard Dawkins' most famous idea,"

http://www.santafe.edu/~shalizi/formerly-hyper-weird/memetics.html

Orr, Allen, "The Big Picture" [a critical review of E.O. Wilson's Consilience], originally

published in the October/November 1998 issue of Boston Review,

Dupre, John, Biology Planters vs. Weeders. Review of Defenders of the Truth:The Battle for

Sciencein the Sociobiology Debate and Beyond, by Ullica Segerstråle.. Oxford University Press, 2000. Scientist's Bookshelf, American Scientist (Jan-Feb., 2001) http://www.americanscientist.org/bookshelf/Leads01/defenders.html

Sterling, Fausto-Anne, Review of: Defenders of the Truth: The Battle for Science in the Sociobiology Debate and Beyond, by Ullica Segerstråle. Celera-Genome News Network. Arts and Science division (January 16, 2001). http://www.celera.com/genomics/news/articles/01_01/Defenders_truth.cfm

Clearing-house reference (multiple sources on sociobiology, evolutionary psychology, memetics, evolution and the social sciences):
http://dmoz.org/Science/Biology/Sociobiology

Second discussion paper due at this meeting!!

November 22 (week eleven)

THANKSGIVING BREAK

November 29 (week twelve):

NO CLASS:

Individual meetings with instructor to discuss research projects

December 6 (week thirteen):

Presentation of student research projects

December 13 (week fourteen)

Presentation of student research projects

NOTE: Final research papers are due on the last day of Reading Period, at 5:00 pm!