

Bio 97 (Fall 2005 Tentative Syllabus)
Biosocial Problems in Contemporary America

Instructor: Ross S. Feldberg 7-3196 (ross.feldberg@Tufts.edu)

Class Meets Monday 1:30 – 2:45 Wed 1:30 – 2:45 Thursday 2:55 – 3:45
Barnum 113 Barnum 113 Barnum 207

Texts

- 1) *Sexing the Body* by Anne Fausto-Sterling (Basic Books) (**STB**) – buy this new or used from Amazon or Abebooks or your favorite book dealer
- 2) Supplemental Readings (**SR**) -to be handed out (Xeroxing and copyright fees of about \$ 42 -45 total will be assessed)

I. Sessions 1-6 A Question of Ethics

Can we draw on the fields of ethics and critical thinking to help us evaluate situations where difficult moral choices must be made?

- | | |
|-----------------|---|
| Sept 7 (Wed) | Introduction / course contract / intro to ethics |
| Sept 8 (Thur) | Contract / Personal Statement review / Critical Reading (SR-1) |
| Sept 12 (Mon) * | Intro to Ethics: (Discussion of SR-2 readings) |
| Sept 14 (Wed) * | Discussion of Physician Assisted Suicide (SR-3 & SR-4) |
| Sept 15 (Thur) | <u>Personal Statement due</u> / View film: GATTACA (Barnum 207)* |
| Sept 19 (Mon) | Discussion: On Perfection (GATTACA & SR-5) <u>Essay 1 due</u>
(Ethical issues in GATTACA) |

II. Sessions 7-9 Biology As Ideology (Biological Determinism)

Is the only role of science the acquisition of new knowledge? Are there assumptions in scientific work that go unrecognized?

- | | |
|-----------------|---|
| Sept 21 (Wed) * | Discussion: Biology As Ideology (SR-6 & SR-7) |
| Sept 22 (Thur) | Collective Outline Exercise |
| Sept 26 (Mon) * | Discussion: Biology as Ideology (SR-8 / SR-9) |

III. Sessions 10 - 16 The Politics of Women's Biology

In this section we will explore some of the biological arguments society and science have advanced to explain women's disadvantaged position in this society.

- | | |
|----------------|--|
| Sept 28 (Wed) | Discussion: Why no woman mathematicians at Harvard? (SR-10) |
| Sept 29 (Thur) | Revision exercise* (<u>Essay 2 due: Biology and Ideology</u>) |
| Oct 3 (Mon) * | Sex Differences in Math Ability Discuss: SR-11: Newsweek Dec 15, 1980 p 73 and SR-12: Benbow, C.P. and Stanley, J.C. (1980) <i>Science</i> 210 : 1262-1264 “Do Males Have a Math Gene?” |
| Oct 5 (Wed) | Group Critiques of Pinker and Spelke Debates (SR-13) |
| Oct 6 (Thur) | Library Research Session |

- Oct 10 (Mon) no class – Columbus Day
- Oct 11 (Tue) Discussion: Sex and the Brain (SR-14 / SR-15) (**buy this book!**)
- Oct 12 (Wed) * Discussion Sex and Behavior (SR-16) (**buy this book!**)
- Oct 13 (Thur) no class (Yom Kippur)

IV. Sessions 17-21 Behavioral Genetics

Behavioral genetics is the effort to ascribe genetic causes to complex human behaviors. We will examine one aspect of this field - the genetics of criminality. How reliable are genetic explanations for anti-social behavior? What will be the appropriate response if we do find certain genotypes predispose individuals to violent behavior?

- Oct 17 (Mon) Discussion: The XYY controversy (SR-17)
- Oct 19 (Wed) * Discuss: “Crime and Violence” by Steen, R (SR-18)
- Oct 20 (Thur) MAO Background / mid-term course evaluation
- Oct 24 (Mon) * Discuss SR-19 “Genetic Influences in Criminal Convictions”
- Oct 26 (Wed) * Discuss SR-20 “Role of Genotype in Violence” Science **297**: 851-854 (2002)
- Oct 27 (Thur) writing exercise

V. Sessions 22-27 Evolutionary Psychology (tentative schedule)

Evolutionary psychology attempts to understand specific human behaviors in the context of adaptation by natural selection. We will examine the modes of explanation employed in this field and the problems associated with them by looking at the specific example of how this field has treated the role of rape in human society.

- Oct 31 (Mon) * Discuss SR-21 “Evol Psych background” & SR- 22 “Biology of Human Rape // mock Trial assignments **Essay 3 Due**
- Nov 2 (Wed) * Discuss SR-23 (Daly and Wilson: Child Abuse & Stepparents)
- Nov 3 (Thur) Evol Psych writing exercise // In-class meeting of groups for mock trial
- Nov 7 (Mon) Mock Trial; Can Evolutionary Psychology be invoked as a mitigating factor in a rape conviction?

V. Sessions 28-30 Is there a Biological Basis for Homosexuality?

To what extent do our prior beliefs and assumptions influence research agendas and outcomes? We will look at some of the main lines of research on homosexuality for insight into this question.

- Nov 9 (Wed) * Discuss SR-24 Historical Treatments of Homosexuality and SR-25 (LeVay Science article)
- Nov 10 (Thur) LOD scores and other matters (Background for Hamer paper)
- Nov 14 (Mon) * SR-26 Hamer, D. *et al.* Science 261: 32 (1993) SR-27 “Varieties of Biological Explanation”

VI. Sessions 31- 33 Should Race Be Used in Medical Decisions?

The use of race has led to many abuses in the past. Recent discoveries from the genome project have led again to the use of race – in this section we will consider some of the issues and controversies in this area.

- Nov 16 (Wed) * SR-28, 29 Concepts of Race
Nov 17 (Thur) SR-30 Science and Racism
Nov 21 (Mon) * SR 31 Race and Medicine pro and con

VII. Sessions 34-37 The Scientist as Citizen

Can we use our skills to make the world a better place? What courses of action are possible for the science professional.

- Nov 28 (Mon) * SR-19: The Role of the Citizen-Scientist: How do we make a difference? *Soul of A Citizen* (UTNE Reader July/Aug 1999)
Nov 30 (Wed) **FIRST drafts of FINAL PAPER due (in-class comments)**
Dec 1 (Thur) Science in the News (Student presentations)
Dec 5 (Mon) Science in the News (Student presentations)
Dec 7 (Wed) Science in the News (Student presentations)
Dec 8 (Thur) **wrap up and evaluation** Final Papers due

* after date indicates BlackBoard Discussion Forum (16 total, you are required to post 12 (if you post more, the lowest scores will be dropped)).

Supplemental Readings (SR) -to be handed out (2005)

- SR-1 Hand-out on Critical Thinking R. Feldberg (2 pages)
- SR-2 Ethics Background readings (12 pages total)
Feldberg's Very Brief Ethics Primer + bibleo (4 pages)
Utilitarianism in a Nutshell M. Russo, Molloy College (4 pages)
Deontology and Its Discontents M. Russo (4 pages)
Ethics Case Study-1 (1 page)
- SR-3 "Self-Extinction: The Morality of the Helping Hand" D. Callahan from Physician-Assisted Suicide R.F. Weir, ed Indiana Univ Press 1997 P 69-85 (9 p)
- SR-4 "Physician-Assisted Suicide Is Sometimes Morally Justified" D.W. Brock in Physician-Assisted Suicide R.F. Weir, ed Indiana Univ Press 1997 P 86-103 (9 p)
- SR-4B The Oregon Death with Dignity Act (4 pages)
- SR-4B NY Times article on Oregon experience (5 pages)
- SR-5 "The Case Against Perfection" M.J. Sandel The Atlantic Monthly, April 2004 and "Is Biomedical Research Too Dangerous to Pursue?" Science 303: 1142 (2004) (11 p)
- SR-6 Chapter 1 "A Reasonable Skepticism" from *Biology As Ideology*: by R. Lewontin (HarperPerennial) (BAI) (8 p)
- SR-7 Chapter 3 ibid "Causes and Their Effects" (9 p)
- SR-8 Chapter 5 ibid "A Story in Textbooks" ibid (10 p)
- SR-9 The Rise of Neurogenetic Determinism" by S. Rose Nature 373: 380-382 (1995) (3 p)
- SR-10 Harvard Pres. Lawrence Summer's Jan 14, 2005 speech NBER Conference on Diversifying the Science and Engineering workforce. (7 p)
- SR-11 "Do Males Have a Math Gene?" Newsweek Dec 15, 1980 p 73 (1 p)
- SR-12 "Sex Differences in Mathematical Ability" Benbow, C.P. and Stanley, J.C. (1980) Science **210**: 1262-1264 (4 p)
- SR-13 The Edge Debate: The Science of Gender and Science
A. Steven Pinker 11 pages + slides
B. Elizabeth Spelke 10 pages + slides
- SR-14 His Brain, Her Brain L. Cahill Scientific American May 2005 p 40-47 (8 p)
- SR-15 Chap 5 in *Sexing the Body*, A Fausto Sterling Basic Books 2000 pp 115 -145 (16 p + 11p) (BUY THIS BOOK)
- SR-16 Chapter 8 in *Sexing the Body* pp 195-232 and notes (20 p + 13 p)
- SR-17: "Criminality in XYY and XXY Men" Witkin, *et al* Science 193: 547-553 (1976) 4p
- SR-18: "Crime and Violence "by Steen, R. (Chap 13 in *DNA and Destiny*)
- SR-19: "Genetic Influences in Criminal Convictions: Evidence from an Adoption Court" Science 224: 891-894 (1984)
- SR-20: "Role of Genotype in the Cycle of Violence in Maltreated Children" Science **297**: 851-854 (2002) (13 p) and Background by R. Feldberg

- SR-21: Chapter 5 “Evolutionary Psychology” in from *Sense and Nonsense* by K.N. Laland and G.R. Brown (Oxford Univ press 2002) pp 153-196) (23 p)
- SR-22 “The Biology of Human Rape” *Jurimetrics* **39**: 137-147 (6 p)
- SR-23 “Child Abuse and Other Risks of Not Living with Both Parents” M. Daly and M. Wilson pp 159- 171 in *Human Nature: A Critical Reader* (1997) ed. L. Betzig (13 p)
- SR-24: Chapters 1&2 from *A Natural History of Homosexuality* by F.M. Mondimore , Johns Hopkins Univ press 1996 (p 3-33) (16 p)
- SR-25: “ A Difference in Hypothalamic Structure Between Heterosexual and Homosexual Men” LeVay, S. *Science* **253**: 1034 (1991) (4 p)
- SR-26: “ A Linkage Between DNA Markers on the X chromosome and Male Sexual Orientation” Hamer, D. et al *Science* **261**: 32 (1993) (7 p)
- SR-27 “Varieties of Biological Explanation” W.Byne and E. Stein from *The Best of The Harvard Gay and Lesbian Review* Temple Univ Press (1997) p 68-75 (8 p)
- SR-28 “Scientific and Folk Ideas About Heredity” Jonathan M. Marks Chapter 5 in *The Human Genome Project and Minority Communities* (Zilinskas, R.A. et al, eds) Praeger, Westport, CT 2001 (7 p)
- SR-29 “Diversity Among Groups” Chapter 8 in *Human Diversity* by R. Lewontin, Scientific American books (1982) pp 108-134. (28 p)
- SR-30 – “Ideology and Censorship in Behavior Genetics” Glayde Whitney in *Mankind Quarterly* **35**: 327- (1995) (9 p)
- SR-31 Race and Medicine – Pro and con
- “Racial Profiling in Medical Research *New England Journal of Medicine* **344**: 1392-1393 (2001)
- “Racial Differences in the Response to Drugs” *NEJM* **344**: 1393-1395 (2001)
- “The Importance of Race and Ethnic Background in Biomedical Research and Clinical Practice” *NEJM* **348**: 1170-1175 (2003)
- “A Genetic Melting-pot” *Nature* 424: **374** (2003)