Sociology 636b  
Ecology & Evolutionary Biology 636b  
Topics in Biosocial Science  

Tuesday 4:30–6:30 p.m.  
Spring Term 2015  
Location: Room 303, 17 Hillhouse Ave.

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office hours: Thursday, 4:00–6:00 p.m., or by appointment, in Room 303, 17 Hillhouse Ave.

Course Description:

This graduate seminar (with limited enrollment, but open to anyone, including undergraduates) will cover topics at the intersection of the natural and social sciences, including behavior genetics, gene-environment interactions, gene-culture co-evolution, social epigenetics, and diverse other topics. We will focus on the ways in which our genes and our bodies are in a (short and long) conversation with our social environment. To what extent does our genetic makeup influence our behaviors? To what extent do our behaviors and social experiences influence our genes? To what extent do our genes increase or decrease our risk for particular outcomes given particular environmental exposures? What are the biological bases of resilience? And how does the social environment come to regulate our genome? How do social exposures reshape neural and endocrine processes? How do social exposures “get under our skin”? How are they literally embodied?

This class is a topical seminar, meaning that the material covered each year will vary, and that it will be driven by student interest and fresh scientific discoveries. We are going to run this seminar jointly, and students will suggest topics, articles, critiques, and so on, at will. Students will also lead classes, and suggest topics and readings for those classes. As a result, the syllabus will likely change as the semester progresses. Each student will lead one or more classes (depending on enrollment and topics). A set of proposed topics and readings for the first part of the course is laid out below.
Course Requirements:

• class participation (20%)
• in-class presentation(s) (30%)
• final paper (50%)

Students will sign up to lead or co-lead one or two of the classes during the semester (depending on enrollment and topics chosen).

The final paper (approximately 20 pages) may either be: 1) an actual research paper the student is working on, 2) a research proposal, or 3) a more conventional term paper or literature review. Guidelines for each will be discussed in class.

You should ensure that any written work you submit for evaluation is the result of your own research and writing, and that it reflects your own approach to the topic. You must also adhere to standard citation practices and properly cite any books, articles, websites, etc..

Remember: Academic integrity is a core institutional value at Yale. This includes, among other things, truth in presentation, diligence and precision in citing works and ideas, and acknowledging collaborations with others. In view of our commitment to maintaining the highest standards of academic integrity, the Graduate School Code of Conduct specifically prohibits the following forms of behavior: cheating on examinations, problem sets, and all other forms of assessment; falsification or fabrication of data; plagiarism (i.e., the failure in any written exercise to acknowledge ideas, research, or language taken from others); and multiple submission of the same work without obtaining explicit written permission from both instructors before the material is submitted. Students found guilty of violations of academic integrity are subject to one of several nasty penalties, according to the rules of Yale University.
Class 1: January 14
Course Introduction

Class 2: January 20
Reductionism, Essentialism, Determinism, Positivism

along with Responses and Rejoinders, Perspectives on Politics, 2013; 11: 490-524

Class 3: January 27
The Social as a Cause of the Biological

P. Kristensen and T. Bjerkedal, “Explaining the Relation Between Birth Order and Intelligence,” Science 2007; 316: 171
L. Jin, F. Elwert, J. Freese, and N.A. Christakis, “Preliminary Evidence Regarding the Hypothesis that the Sex Ratio at Sexual Maturity May Affect Longevity in Men,” Demography 2010; 47: 579-586

Class 4: February 3
Animal Society and Culture

C. Boesch, “Teaching Among Wild Chimpanzees,” Animal Behavior 1991; 41: 530-532


**Class 5: February 10**

**Social Networks, Social Interactions, and Friendship**


B Hare, V. Wobber, and R. Wrangham, “The Self-Domestication Hypothesis: Evolution of Bonobo Psychology Is Due to Selection Against Aggression,” *Animal Behaviour* 2012; 83; 573-585

Herrmann E, Call J, Hernàndez-Lloreda MV, Hare B, Tomasello M. “Humans have evolved specialized skills of social cognition: the cultural intelligence hypothesis.” *Science* 2007; 317: 1360-1366

**Class 6: February 17**

**Behavior Genetics**


Class 7: February 24
Gene-Environment Interactions


Class 8: March 3
Social Epigenetics

A. Ost et al., “Paternal Diet Defines Offspring Chromatin State and Intergenerational Obesity,” *Cell* 2014; 159: 1352-1364

March 7–22
NO CLASS, Spring Break

Class 9: March 24
Swarm Intelligence and Animal Voting


**During the latter part of the semester, we will pick topics to discuss. Possibilities include the following, as well as any others students may suggest:**

- Kin Recognition
- Partner Choice, Monogamy, and Pair Bonding
- Facial Symmetry
- Neural correlates of social decision-making and experience (self perception, confidence, risk taking, novelty seeking, cooperation, etc.)
- Neuroplasticity
- Evolution of Cooperation
- Animal Cognition and Decision Making
- Race and Genetics
- Convergent Evolution in Social Processes
- Evolution of Music and Art
- Biological and Social Emergence
- Biologically Inspired Engineering
- Human Pheromones

**Class 10: March 31**

**Class 11: April 7**

**Class 12: April 14**

**Class 13: April 21**