

## **Anthropological Sciences 191B/291B**

### **Conduct and Misconduct in Science**

*What cases of scientific misconduct tell us about how research really works*

#### **Description**

This course investigates the structure of the modern scientific/biomedical research enterprise through a study of misconduct and ethics. We will examine case studies of alleged scientific misconduct to investigate different notions about what constitutes ethical research practice, the meaning of authorship, the limits of “grantsmanship,” the place of research in society, and the proper roles of advisors, students, postdocs, and principal investigators. Both theoretical and practical aspects of these issues will be covered, with special attention paid to case studies in anthropology, biology, and medicine. This should provide students with an improved theoretical understanding of the structure and culture of science and its role in society, as well as useful practical knowledge regarding issues of scientific conduct, misconduct, and ethics. Case studies of alleged misconduct covered include: Mendel, Piltdown, Cyril Burt and IQ, the “Baltimore” case, the Darsee case, and “Darkness in El Dorado”.

#### **Course Information**

Mondays and Wednesdays 3:15pm – 5:05pm  
Building 360, Room 361J  
3-5 units  
No prerequisites  
Fulfills the GER DB-Social Science requirement

#### **Instructor**

Prof. David DeGusta  
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Phone: 724-6373 (e-mail is a much better way to contact me)  
Mailbox: Dept. of Anthropological Sciences, Main Quad Building 360, room 361D  
Office: Main Quad Building 80, Room 208  
Office Hours: Monday and Wednesday 12:15pm – 1:15pm

#### **Required Texts (any edition is fine)**

Djerassi C. 1989. *Cantor's Dilemma: A Novel*. Penguin Books: New York. 240 pages. ISBN 0140143599. ~\$10.

Judson, H. 2004. *The Great Betrayal: Fraud in Science*. Harcourt: New York. 480 pages. ISBN 0151008779. ~\$20.

Kevles DJ. 1998. *The Baltimore Case: A Trial of Politics, Science, and Character*. WW Norton and Company: New York. 512 pages. ISBN 0393319709. ~\$17.

Sabbagh K. 1999. *A Rum Affair: A True Story of Botanical Fraud*. Farrar, Straus, and Giroux: New York. 296 pages. ISBN 0306810603. ~\$15.

Tierney P. 2000. *Darkness in El Dorado: How Scientists and Journalists Devastated the Amazon*. Norton: New York. 464 pages. ISBN 0393322750. ~\$10.

Weiner JS. 1955. *The Piltdown Forgery*. Oxford University Press: London. 248 pages. ISBN 0198607806. ~\$15.

A reader will be distributed (in PDF form on CD) at the second class which will contain:

Baur MP et al. 2001. International Genetic Epidemiology Society: Commentary on Darkness in El Dorado by Patrick Tierney. Genetic Epidemiology 21:81-104.

Bechtel HK, Pearson W. 1985. Deviant scientists and scientific deviance. Deviant Behavior 6:237-252.

excerpt (pgs 1-36, 104-111) from Bell R. 1992. *Impure Science: Fraud, Compromise, and Influence in Scientific Research*. John Wiley and Sons: New York.

Ben-Yehuda N. 1986. Deviance in science: Towards the criminology of science. The British Journal of Criminology 26:1-27.

Braunwald E. 1987. On analyzing scientific fraud. Nature 325:215-216.

Cordero JF et al. 2002. Response to allegations against James V. Neel in Darkness in El Dorado, by Patrick Tierney. American Journal of Human Genetics 70:1-10.

DeGusta D. 2003. More digging in Mendel's garden. Evolutionary Anthropology 12:1.

Fairbanks D, Rytting B. 2001. Mendelian controversies: A botanical and historical review. American Journal of Botany 88:737-752.

Gee H. 1996. Box of bones 'clinches' identity of Piltdown palaeontology hoaxer. Nature 381:261-262.

Geertz C. 2001. Darkness in El Dorado. New York Review of Books 48(2):18-22.

excerpt from Kalb J. 2001. *Adventures in the Bone Trade*. Springer-Verlag: New York.

excerpt from Miller DJ, Hersen, M. 1992. *Research fraud in the behavioral and biomedical sciences*. Wiley: New York.

Stewart WW, Feder N. 1987. The integrity of the scientific literature. Nature 325: 207-214.

Weiss K. 2002. Goings on in Mendel's garden. Evolutionary Anthropology 11:40-44.

## **Grading**

Students will be graded based on a term paper (70%), an in-class presentation (20%), and participation in class discussions (10%). The term paper will consider one case of alleged scientific misconduct. The case cannot be one we have covered as a main class topic (see list of

class sessions below). For the case considered, the student must A) reconstruct the likely chain of events, noting alternative possibilities as appropriate; B) for each participant, evaluate how a different course of action may have led to a "better" outcome for that individual and/or the case as a whole; C) consider the possible factors in the participants not pursuing those courses of action; and D) evaluate what the case as a whole implies for the structure and ethics of the particular discipline as well as science in general. Late papers are not accepted unless approved in advance in writing by Prof. DeGusta (which will only happen under extreme circumstances). Each student will give an oral presentation of their findings in class.

Term Paper Topics Due: *May 1* (Monday, by e-mail)

Term Paper Outline & Bibliography Due: *May 31* (Wednesday, by e-mail)

In-Class Presentations: *June 5 and 7* (Monday and Wednesday)

Term Paper Due: *June 13* (Tuesday, before noon, by e-mail)

### **Schedule & Readings**

Students are expected to have completed the reading *before* the listed class session. The reading for some class sessions is substantially more than for others: plan ahead.

4/5 Wed	Course Introduction, Ethics and (Mis)Conduct
4/10 Mon	Institutions and the Structure of Science start reading Judson (2004)
4/12 Wed	Publications and Grants finish reading Judson (2004)
4/17 Mon	Mendel and Selective Presentation of Data Reader: Fairbanks and Rytting (2001), Weiss (2002), DeGusta (2003)
4/19 Wed	Pittdown, Fossils, and Perception Weiner (1955); Reader: Gee (1996)
4/24 Mon	paleoanthropology conference, no class
4/26 Wed	paleoanthropology conference, no class
5/1 Mon	Heslop-Harrison, Planted Plants, and Proper Appearances <i>Term Paper Topics Due by e-mail to Prof. DeGusta</i> Sabbagh (1999)
5/3 Wed	Sir Cyril Burt, IQ, and Community Responsibility Reader: Miller and Hersen (1992) Burt excerpt, Bechtel and Pearson (1985), Ben-Yehuda (1986)
5/8 Mon	John Darsee and Authorship Reader: Miller and Hersen (1992) Darsee excerpt, Stewart and Feder (1987), Braunwald (1987)

- 5/10 Wed Jon Kalb, Ethiopian Paleoanthropology, and Peer Review of Grants;  
Reader: Bell (1992), Kalb (2001)
- 5/15 Mon The “Baltimore Case” Part I: Scientific Misconduct Goes Public  
Kevles (1998)
- 5/17 Wed The “Baltimore Case” Part II: Scientific Misconduct Goes Public
- 5/22 Mon Darkness in El Dorado Part I: The Allegations  
Tierney (2000)
- 5/24 Wed Darkness in El Dorado Part II: The Response  
Reader: Baur et al (2001), Cordero et al (2002), Gertz (2001)
- 5/29 Mon holiday, no class
- 5/31 Wed Ichabod Cantor and the Fictional Consideration of Scientific Misconduct  
*Term Paper Outlines Due by e-mail to Prof. DeGusta*  
Djerassi (1989)
- 6/5 Mon Student Presentations
- 6/7 Wed Student Presentations

*Term Paper Due Tuesday June 13 before Noon via E-mail to degusta@stanford.edu*