



WS 290A  
INTRODUCTION TO THE BIOLOGY OF DIFFERENCE'  
FALL 2007  
Stacy Carvalho

Tuesday/Thursday: 1:15-2:45pm  
Tobin 201A

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## I. COURSE DESCRIPTION

How should we understand the “body?” While humans have many similarities and differences, we are organized around certain axes of “difference” that have profound consequences – sex, gender, race, class, sexuality, religion, nationality etc. These differences shape not only group affiliation and identity but are often correlated with socioeconomic status, profession, work mobility, and stereotypes about personal traits and behaviors etc. One of the big debates that have and continue to consume us is how to understand these correlations. Are they innate and immutable? Or are they constructed and therefore open to change? Or both? The biological sciences have been very important in the history of differences. Scientists have contributed to bolster claims that differences are determined by our biology – such as research on sex and racial differences, notions of the “gay” gene, math abilities, spatial ability etc. Conversely, scientists have also contributed to critiquing claims of difference – claims of the existence of “race” and racial differences, claims about differences amongst sexes, genders and sexualities. How do we weigh these claims and counterclaims?

In this course, we will explore both popular and academic writings - their understandings, debates and critiques of “difference.” We examine these categories systematically to evaluate claims of difference. We will begin with a historical overview of biological studies on “difference” to trace the differing understandings of the “body” and the relationship of the body with identity, behavior and intellectual and social capacity. We will then examine contemporary knowledge on differences of sex, gender, race, class, and sexuality. We will use several case studies to explore how scientific and experimental knowledge is produced. What is good data? How do we “know” what we know? The course will take up a range of claims about difference, their purpose and their consequences to examine what these studies of “difference” can tell us – exploring both what they tell us and what they do not. Using literature from biology, women’s studies, and science studies, we will examine the biological and cultural contexts for our understanding of “difference.” The course will give students the tools to analyze scientific studies, to understand the relationship of nature and culture, science and society, biology and politics.

## II. TEXTS

*Sexing the Body: Gender Politics and the Construction of Sexuality*, Anne Fausto Sterling,  
Basic Books, 2000. (referred to as STB )  
Available at Food for Thought Book Shop, North Pleasant Street, Amherst.

*E-Reserves and Web Sites*, as indicated (Password for E-Reserves = skeleton)

### III. COURSE REQUIREMENTS

- Reading assignments must be completed by the class period for which they were assigned.
- You are responsible for knowing when assignments are due and handing them in on time. Dates of major writing assignments are in this syllabus. Absence on the day the assignment is due is no excuse for not handing in the assignment on time.
- There will always be time to provide the opportunity to talk critically and analyze issues and topics. You will be expected to have completed and thought about all of the readings for each class.
- Videos and guest lectures are part of the class material and students are responsible for knowing the material.

*We will follow all university policies on issues of Academic Honesty, Grading, Attendance, Examinations, and Absences due to Religious Observance.*

#### Written Assignments and Exams

- **Two exams:** One take-home midterm exam due Thursday, October 11 and a final exam (TBA).
- **Three short exercises/assignments** including a Descriptive Essay (Sept. 27), Popular Claims of Difference (Oct. 18), and Ethnography of Good Health (Nov. 20). Guidelines for each assignment will be given in class and each assignment is worth 10% of your grade.
- **News clippings:** This course deals with issues that are very relevant to our times. We encourage you to bring newspaper articles/clippings, stories from the news, radio and television programs, the movies as well as conversations with friends and family. We will begin each class with such connections. During the semester each student must present *at least 2* relevant links. (It would be appreciated if you turn in a copy of the article if it is a print article or a link to the online article)
- **Attendance and participation** are factored into the final grade. Two unexcused absences or more will result in your grade being marked down. Non-attendance will result in an "F." If you have an excused absence, you must submit a two-page reflection paper based on the readings assigned for that week. This paper is due the next class day.

#### Grading

*Final grades will be computed as follows:*

Attendance and participation	20%
Exam I	20%
Exam II	20%
Written assignments (3 assignments- 10% each)	30%
Unannounced quizzes (Best 5 grades)	10%

#### Academic Honesty

Academic dishonesty, in any form, will not be tolerated and you are responsible for educating yourself about the University's official policy on academic honesty. Following is a summary - you can read it in full at [http://www.umass.edu/dean\\_students/rights/acad\\_honest.htm](http://www.umass.edu/dean_students/rights/acad_honest.htm)

If an instructor finds that a student has violated the University's Academic Honesty Policy, the instructor has the right to lower the student's grade, or even to fail the student for the course. Students have the right to appeal such a grade penalty by an instructor. The University Academic Honesty Board, which must be notified by instructors of any grade penalty, reviews all student appeals. The Board may sustain or recommend modification of the penalty given by the faculty member, or may recommend sanctions exceeding those originally given, such as suspension or expulsion from the University. The Board may

also recommend sanctions for offenders who have committed multiple violations of the Academic Honesty Policy but who have not appealed the faculty members' decisions.

### Ground Rules

Despite the size of this class, I am concerned about the quality of your experience. To that end, I will try to foster as much active participation in the course as is possible. Lectures will include time for questions as they arise. Please make use of email correspondence and office hours to continue class discussions, clarify confusions or to discuss any other problems you are having with the course. Because of the class size and the nature of the subject matter, it is necessary to set some ground rules:

- I expect you to remain for the entire class period. Late-comers and those who begin to pack 5 minutes before the class period disrupt the class for everyone.
- Although many of the course readings are on E-Reserves, it is expected that you either print the articles or take detailed notes while reading. The readings will form the crux of our discussions and you must be able to reference to them.
- Class participation is part of your grade and students will be encouraged to participate in class discussions and debates.
- Make up exams will only be given to students who have an exam conflict, a medical or unavoidable excuse. Ignorance of this rule will not constitute a valid excuse.
- Class members must respect the opinions of other people and recognize that debates are not conflicts, but are intellectual discussions.
- If at any time you are uncomfortable with the course material or the class discussion please let me know as soon as possible. I cannot correct a problem or oversight unless I am aware of it.

## IV: SCHEDULE

### Week 1: Introduction and Background

#### Thursday, September 6:

- [Web] Gloria Steinem, "If Men Could Menstruate." *Ms. Magazine*, October 1978  
<http://www.haverford.edu/psych/ddavis/pl109g/steinem.menstruate.html>
- [E-Reserves] Lois Gould, "X: A Fabulous Child's Story," In *Women's voices, Feminist Visions*, Susan M. Shaw and Janet Lee, eds. Mayfield 2001. 119-121
- [Web] Loren Cameron, "Portrait of a Man,"  
[http://www.findarticles.com/p/articles/mi\\_m1589/is\\_1999\\_May\\_25/ai\\_54775066/print](http://www.findarticles.com/p/articles/mi_m1589/is_1999_May_25/ai_54775066/print)

### Week 2: Difference: Why? What? How? Who?

#### Tuesday, September 11:

- [E-Reserves] Lynda Birke, "In Pursuit of Difference: Scientific Studies of Women and Men," In *Gender and Science Reader*, Muriel Lederman and Ingrid Bartsch eds., Routledge, 2001, 309-322.
- [E-Reserves] Maxine Baca Zinn and Bonnie Thornton Dill, "Theorizing Difference from Multiracial Feminism" In *Through the Prism of Difference*, Allyn and Bacon, 1997, 23-29.
- [E-Reserves] Sandra Bem "Transforming the Debate on Sexual Inequality: From Biological Difference to Institutionalized Androcentrism," In *Lectures on the Psychology of Women*, Joan C. Chrisler, Carla Golden, Patricia D. Rozee eds., Mc-Graw Hill, 3<sup>rd</sup> edition, 3-15.

#### Thursday, September 13:

- [E-Reserves] Teresa L. Amott & Julie A. Matthaei, "Race, Class, Gender and Women's Works: A Conceptual Framework" in *Race, Gender and Work: A Multi-cultural Economic History of Women in the United States.*, Teresa Amott & Julie Mattaei eds., 1996, Boston: South End Press. 11-28.
- [E-Reserves] Audre Lorde, "Age, Race, Class, and Sex: Women Redefining Difference," In *Sister Outsider*, The Crossing Press, 1984, 114-123.
- [Web] Anne Fausto-Sterling, "The Five Sexes: Why males and females are not enough." *The Sciences* 33(2): 20-25, 1994: <http://www.neiu.edu/~lsfuller/fivesexes.htm>

### Week 3: Binaries/Dualisms: Nature/Culture, Science/Society, Biological/Social

#### Tuesday, September 18:

- [Text] Anne Fausto Sterling, (STB) Chapters 1 & 2 (pp. 1-44)

#### Thursday, September 20:

- [Web]: Eugenics Archive: <http://www.eugenicsarchive.org/eugenics/>
- [Web] Jonathan Marks, "A Feckless Quest for the Basketball Gene," NYT, April 8, 2000  
<http://www.uncc.edu/jmarks/pubs/feckless.html>
- [E-Reserves] Joseph Graves, "The Social Construction of Race and Sports," In *The Race Myth: Why we Pretend Race Exists in America*, Dutton, 2004.

#### Week 4: Biological Determinism/Social Constructionism

**Tuesday, September 25:**

- [Text] Anne Fausto Sterling, (STB) Chapters 3 & 4 (pp. 45-114)

**Thursday, September 27:**

- [E-Reserves] Ruth Bleier, "Sociobiology, Biological Determinism and Human Behavior," In *Science and Gender: A Critique of Biology and Its Theories on Women*, Pergamon Press, 1984, 15-48.
- [E-Reserves] Gail Bederman, "Remaking Manhood through Race and "Civilization," In *Manliness and Civilization*, University of Chicago Press, 1995. 1-44

**Writing Assignment #1 due at the beginning of class**

#### Week 5: Good Science/Bad Science?

**Tuesday, October 2:**

- [E-Reserves] National Academy of Sciences, "Methods and Values in Science", In *Racial Economy of Science*, Sandra Harding ed., Indiana University Press, 1993.
- [Text] Anne Fausto Sterling, (STB) Chapter 5 (pp. 115-145)

**Thursday, October 4:**

- [E-Reserves] Richard Lewontin, "Parts and Wholes: Causes and Effects." In *The Triple Helix: Gene, Organism and Environment*, Harvard University Press, 2001.
- [E-Reserves] Ruth Hubbard, "Science, Facts and Feminism," In *Women, Science and Technology*, Mary Wyer *et al* eds., Routledge, 2001, 153-160.
- [E-Reserves] Garland Allen, "Science Misapplied: The Eugenics Age Revisited." *Technology Review* 29, Aug/Sep 1996.

#### Week 6: Intersectionality: Race, Gender, Race, Class, Sexuality, Nation

**Tuesday, October 9: No Class- Monday Schedule**

**Thursday, October 11:**

- [E-Reserves] Patricia Hill Collins, "Toward a New Vision: Race, Class, and Gender as Categories of Analysis and Connection," In *Women's Voices, Feminist Visions*, Susan M. Shaw and Janet Lee, eds. Mayfield 2001., 119-121.
- [E-Reserves] Michael Omi and Howard Winant, "Racial Formation," In *Racial Formation in the United States: From the 1960's to 1990's*. Routledge, 1994., 53-76.
- [E-Reserves] Anne Fausto Sterling, "Gender, Race, and Nation." In *Deviant Bodies*, Jennifer Terry and Jacqueline Urla eds., Indiana University Press, 1995, 19- 42.
- [Handout] "Finally Buried With Honor in Her Native Land." *New York Times*, August 10, 2002.

**Take Home Midterm Exam due at the beginning of class**

## Week 7: The Body: Our Changing Conceptions

### GENERAL FRAMEWORKS:

#### **Tuesday, October 16:**

- [E-Reserves] Gerald Tortora and Sandra Grabowski, "An Introduction to the Human Body," In Principles of Anatomy and Physiology, 10<sup>th</sup> ed., John Wiley & Sons, 2003. 1-11.
- [E-Reserves] Londa Schiebinger, "The Anatomy of Difference: Fixing Racial and Sexual Types." In *Nature's Body: Gender in the Making of Modern Science*, Beacon Press, 1993. 115-142.
- [E-Reserves] George W. Stocking, "The Turn-of-the-Century Concept of Race," *Modernism/Modernity* 1.1, 1994, 4-16.

#### **(See also...)**

- [E-Reserves] Jennifer Terry, "Modernity and the Vexing Presence of Homosexuals," In *An American Obsession: Science, Medicine and Homosexuality in Modern Society*, Chicago UP, 27-39.

#### Resource:

[http://www.pbs.org/race/000\\_General/000\\_00-Home.htm](http://www.pbs.org/race/000_General/000_00-Home.htm)

### THE BRAIN:

#### **Thursday, October 18:**

- [E-Reserves] Nancy Leys Stepan, "Race and Gender: The Role of Analogy in Science." *The Racial Economy of Science: Toward A Democratic Future*. Indiana Univ. Press, 1993. 359-376.
- [E-Reserves] Gerald Tortora and Sandra Grabowski, "Brain," In Principles of Anatomy and Physiology, 10<sup>th</sup> ed., John Wiley & Sons, 2003. 452-457.
- [Web] Stephen Jay Gould, "The Geometer of Race," *Discover*, November, 1994  
<http://www.greeninformation.org/The%20Geometer%20of%20Race.htm>
- [Text] Anne Fausto Sterling, (STB) Chapter 5 (pp. 115-145)

### Writing Assignment #2 due at the beginning of class

## Week 8: The Body: Our Changing Conceptions – Skeletons

#### **Tuesday, October 23:**

- [E-Reserves] Gerald Tortora and Sandra Grabowski, "Skeletal System," In Principles of Anatomy and Physiology, 10<sup>th</sup> ed., John Wiley & Sons, 2003. 187-215.
- [E-Reserves] Londa Schiebinger, "Skeletons in the Closet: The First Illustrations of the Female Skeleton in the Eighteenth Century Anatomy." In *The Making of the Modern Body*, Catherine Gallagher and Thomas Laqueur eds., Univ of California Press, 1987, 42-82.

#### **Thursday, October 25:**

- [E-Reserves] Alan Goodman, "Bred in the Bone," *The Sciences*, March/April 1997.
- [Web] Londa Schiebinger, "Theories of Gender and Race," In *Nature's Body: Gender in the Making of Modern Science*, Beacon Press, 1993. <http://www.hsph.harvard.edu/rt21/concepts/SCHIEBINGER.html>

### Week 9: Changing Conceptions of the Body: Menstruation

**Tuesday, October 30:**

- [E-Reserves] Gerard Tortora and Sandra Grabowski, "Reproductive System," *Principles of Anatomy and Physiology*, Wily, 2003: 1028-1046.
- [Text] Anne Fausto Sterling, (STB) Chapters 6 & 7 (pp. 146-194)

**Thursday, November 1:**

- [E-Reserves] Emily Martin, "Premenstrual Syndrome, Work Discipline, and Anger," In *The Woman in the Body: A Cultural Analysis of Reproduction*, Beacon Press, 2001, 92-112.
- [UMass Online] Dacia Charlesworth, "Paradoxical constructions of self: Educating young women about menstruation," *Women and Language*, Fall 2001, V. 24, Issue 1, 13-21.
- [Web] Kathleen O'Grady, "Is Menstruation Obsolete?" *thirdspace*, Volume 2, Issue 1, 2004.  
<http://www.thirdspace.ca/articles/ogrady.htm>

### Week 10: Reproduction – Past, Present, Future

**Tuesday, November 6:**

- [E-Reserves] Gerard Tortora and Sandra Grabowski, "Reproductive System," *Principles of Anatomy and Physiology*, Wily, 2003: 1012-1027.
- [Handout] Excerpt from the "Handmaid's Tale" by Margaret Atwood

**Thursday, November 8:**

- [E-Reserves] Dorothy Roberts, "Introduction," In *Killing the Black Body: Race, Reproduction, and the Meaning of Liberty*, Pantheon Books, 1997.
- [Web] Ruth Hubbard and Stuart Newman, "Yuppie Eugenics," *Z Mag*, March 2002,  
<http://www.zmag.org/ZMag/articles/march02hubbard-newman.htm>
- [E-Reserves] Richard Hayes, "The Science and Politics of Genetically Modified Humans" *World Watch*, July/August 2002, 11-12.
- [E-Reserves] Judith Levine, "What Human Genetic Modification Means for Women," *World Watch*, July/August 2002.

### Week 11: Ethnography of Good Health

**Tuesday November 13: Work on Writing Assignment #3**

**Thursday, November 15: Work on Writing Assignment #3**

### Week 12

**Tuesday November 20: Guest Lecture (Handouts may be given out prior for background)**

**Writing Assignment #3 due at the beginning of class**

**Thursday, November 22: NO CLASS- Thanksgiving Break**

### Week 13: Genes and Difference

#### **Tuesday, November 27:**

[E-Reserves] Ruth Hubbard and Elijah Wald, "A Brief Look at Genetics" 39-57 and "Inherited Tendencies: Behaviors" 108-117. In *Expolding the Gene Myth*, Beacon Press, 1997.

[Web] Larry Adelman, "Race and Gene Studies: What Differences Make a Difference?"

[http://www.pbs.org/race/000\\_About/002\\_04-background-01-02.htm](http://www.pbs.org/race/000_About/002_04-background-01-02.htm)

#### **Thursday, November 29:**

[Web] Richard Lewontin, "The DNA Era," GeneWatch: Council for Responsible Genetics

<http://www.mindfully.org/GE/2003/DNA-Era-Lewontin1jul03.htm>

[E-Reserves] Dorothy Nelkin and Susan Lindee, "Good Genes and Bad Genes: DNA in Popular Culture," In *The Practices of Human Genetics*, Michael Fortun and Everett Mendelsohn eds., Kluwer Press, 1999, 155-167.

### Week 14: Bodies and Health

#### **Tuesday, December 4:**

- [E-Reserves] Emily Martin, "Historical Overview," In *Flexible Bodies*, Beacon Press, 1994. ]
- [E-Reserves] Angela Davis, "Sick and Tired of Being Sick and Tired: The Politics of Black Women's Health," In *The Black Women's Health Book*, Seal, 1994. (18-26)
- [Web] Nancy Krieger, "If "race" is the answer, what is the question?"  
<http://raceandgenomics.ssrc.org/Krieger/>

#### **Thursday, December 6:**

- [E-Reserves] Eileen Nechas and Denise Foley, "How Women Became Invisible" (13-17) and "Wanted: Volunteers for Medical Research, Women Need Not Apply" (21-37) In *Unequal Treatment*, Simon and Schuster 1994.
- [UMass Online] Nancy Worcester, "Hormone Replacement Therapy (HRT): Getting to the Heart of the Politics of Women's Health," *NWSA Journal*, Vol. 16, NO. 3, Fall 2004, 56-69.
- [E-Reserves] Nancy Krieger and Mary Bassett, 1993. "The Health of Black Folk: Disease, Class, and Ideology in Science." In *Racial Economy of Science*, Sandra Harding ed., Indiana University Press, 1993.

### Week 15: Conclusion: What should we do with "difference?"

#### **Tuesday, December 11:**

- [Text] Anne Fausto Sterling, (STB) Chapter 9 (pp. 233-255)
- [UMass Online] Philomena Essed and David Theo Goldberg, "Cloning Cultures: the Social Injustices of Sameness," *Ethnic and Racial Studies*, Vol. 25, No. 6, 2002, 1066-1082.

#### **Thursday, December 13: Review for Final Exam**