

Seminar on Gender and Science

GSS 393

Prof. Angela N. H. Creager
Office hours 10 a.m.–12 noon, Mondays
125 Dickinson Hall, ext. 1680

Fall 2012
Tuesdays 1:30–4:20 p.m.
101 Marx Hall

Course Description

This course explores two aspects of the gender and science literature: the historical participation of women (and men) in scientific work, and feminist critiques of scientific knowledge and practice. In looking at these two areas, the course will focus on the sex/gender distinction and both its promise and problems for understanding developments in science. We examine historically the systematic exclusion of women from science, while stressing that science has not been unique in its failure to welcome women as participants. Our readings in the feminist assessments of scientific knowledge address epistemological and methodological questions about the conceptual frameworks of science. Given that feminist critiques have been circulating for over a quarter century, we also ask how they have impacted science so far—and how feminism has challenged or changed technology and medicine as well. This course is intended both to familiarize students with the scholarly issues around gender and science and to allow students to reflect on their own (gendered) experiences and expectations in encountering science as students, laboratory workers, patients, and consumers.

Course Requirements

Students are expected to read the assigned selections fully in preparation for seminar, and to open the discussion twice during the semester. We will use these responses, posted on Blackboard, as the starting point for discussion. In addition to these responses and your regular, vociferous participation in the discussions, two papers are required. The first paper is a biographical sketch (5–7 pages, due 5 p.m. Monday, Nov. 19, 2012) of the life and work of a woman scientist, natural philosopher, physician, or engineer. Students are urged to consult available primary and secondary source material, including any published papers or books by the scholar. In addition, the archives or national libraries where relevant manuscripts are available should be cited (if applicable). Where biographies have already been written on the subject, the student should comment on the adequacy of the biographical depictions available in the literature.

In the final paper (15–25 pages, due 3 p.m. Dean's Date, Jan. 15, 2013; extensions *only* through Dean's Office), students are expected to engage the scholarship on gender and science analytically. The specific topic may be one that we are covering in the syllabus or a topic of the student's interest. For example, the paper might be a thoughtful literature review, an examination of past or current issues around gender or sexuality in science, or an analysis, informed by feminist or queer theory, of a current problem in scientific or medical research.

The following required books are on sale at Labyrinth, as well as on reserve in Firestone. All other assigned readings are available on E-reserves through Blackboard. (Note: in some cases the reading in E-reserves may be listed under the editor rather than the author.)

- Joan Cassell, *The Woman in the Surgeon's Body*, Harvard University Press, 1998.
Angela N. H. Creager, Elizabeth Lunbeck, and Londa Schiebinger, eds., *Feminism in Twentieth-Century Science, Technology, and Medicine*, University of Chicago Press, 2001.
Rachel P. Maines, *The Technology of Orgasm*, Johns Hopkins Press, 1998.

Readings and Class Schedule

Please note that assigned readings should be completed before the week's precept meeting.

Week 1. (9/18) Introducing Seminar Themes: Why Gender and Science?

We will view and discuss Bill Moyers' interview with Evelyn Fox Keller from "A World of Ideas."

Week 2. (9/25) The Sex/Gender Distinction and Its Legacy for Science Studies

Anne Fausto-Sterling, "Dueling Dualisms," *Sexing the Body*, chapter 1.

Evelyn Fox Keller, "The Gender/Science System: Is Sex to Gender as Nature is to Science?," in Nancy Tuana, ed., *Feminism and Science* (Bloomington: Indiana University Press, 1990), pp. 33–44.

Robert J. Stoller, "A Contribution to the Study of Gender Identity," *International Journal of Psycho-Analysis* 45 (1964): 220–226.

Moira Gatens, "A Critique of the Sex/Gender Distinction," in Sneja Gunew, ed., *A Reader in Feminist Knowledge* (London: Routledge, 1991), pp. 139–157.

Judith Butler, "Against Proper Objects," in Elizabeth Week and Naomi Schor, eds., *Feminism Meets Queer Theory* (Bloomington, IN: Indiana University Press, 1997), pp. 1–30.

Thomas W. Laqueur, "The Rise of Sex in the Eighteenth Century: Historical Context and Historiographical Implications," *Signs* 37 (2012): 802–812.

A. Women and the History of Science, Technology, and Medicine

Week 3. (10/2) The History of Science as a Manly Vocation

Londa Schiebinger, "Introduction" and "Institutional Landscapes," *The Mind Has No Sex?* (Cambridge, MA: Harvard University Press, 1989), pp. 1–36.

Evelyn Fox Keller, "Spirit and Reason at the Birth of Modern Science," from *Reflections on Gender and Science* (New Haven: Yale University Press, 1985), pp. 43–66.

Jan Golinski, "The Care of the Self and the Masculine Birth of Science," *History of Science* 40 (2002): 125–145.

Mary Terrall, "Émilie du Châtelet and the Gendering of Science," *History of Science* 33 (1995): 207–232.

Sharon Traweek, "Pilgrim's Progress: Male Tales Told During a Life in Physics," *Beamtimes and Lifetimes: The World of High Energy Physics* (Cambridge, MA: Harvard University Press, 1988), Chapter 3.

Week 4. (10/9) Overcoming the Odds: 19th and 20th Century Women Scientists

Note: We will meet with Sandra Rosenstock, bibliographer for women and gender, in Firestone Library foyer for a session from 1:30-2:30 pm on this day.

Margaret Rossiter, *Women Scientists in America: Struggles and Strategies to 1940* (Baltimore: The Johns Hopkins University Press, 1982), Introduction, Chapters 1 and 2.

Carla Bittel, "Mary Putnam Jacobi and the Nineteenth-Century Politics of Women's Health Research," in *Women Physicians and the Cultures of Medicine*, pp. 23–51.

Edward H. Clark, *Sex in Education; Or, A Fair Chance for Girls* (Boston: Houghton, Mifflin, and Co., 1882), pp. 11–60.

Scott F. Gilbert and Karen A. Rader, "Revisiting Women, Gender, and Feminism in Developmental Biology," in *Feminism in Twentieth-Century Science, Technology, and Medicine*, pp. 73–97. [Required book]

Nina V. Federoff, "Two Women Geneticists," *American Scholar* 65 (1996): 587–592.

In addition, each of you will read and report on an additional selection on a woman scientist or physician; a sign-up sheet will be circulated a week ahead.

Week 5. (10/16) Contemporary Science: Does Gender Still Matter? What about Race?

Ben A. Barres, "Does Gender Matter?" *Nature* 442 (July 13, 2006): 133–136.

Henry Etzkowitz, Carol Kemelgot, Michael Neuschatz, Brian Uzzi, and Joseph Alonza, "The Paradox of Critical Mass for Women in Science," *Science* 266 (1994): 51–54.

Evelyn Fox Keller, "The Anomaly of a Woman in Physics," from *Working It Out: 23 Women Writers, Artists, Scientists, and Scholars Talk About Their Lives and Work*, eds. Sara Ruddick and Pamela Daniels (New York: Pantheon Books, 1977), p. 78–91.

Shirley Tilghman, "Science vs. the Female Scientist" and "Science vs. Women – A Radical Solution," *New York Times* editorials, January 25 and 26, 1993.

C. Megan Urry, "Are Photons Gendered? Women in Physics and Astronomy," in *Gendered Innovations in Science and Engineering*, ed. Londa Schiebinger (Stanford, CA: Stanford University Press, 2008), pp. 150–164.

Christine Wennerås and Agnes Wold, "Nepotism and Sexism in Peer-Review," *Nature* 387 (1997): 341–343.

Evelynn Hammonds (interview by Aimee Sands), "Never Meant to Survive: A Black Woman's Journey," from *The "Racial" Economy: Towards a Democratic Future*, ed. Sandra Harding (Bloomington: Indiana University Press, 1993), pp. 239–248.

Week 6. (10/23) Women's History and the History of Technology: Interactions and Contradictions

- Donna Haraway, "A Cyborg Manifesto: Science, Technology, and Socialist-Feminism in the Late Twentieth Century," from *Simians, Cyborgs, and Women: The Reinvention of Nature* (New York: Routledge, 1991), pp. 149–181.
- Carol Cohn, "Sex and Death in the Rational World of Defense Intellectuals," *Signs* 12 (1987): 687–718.
- Hugh Gusterson, "Becoming a Weapons Scientist," from *People of the Bomb: Portraits of America's Nuclear Complex* (St. Paul, MN: University of Minnesota Press, 2004), pp. 3–20.
- Carroll Pursell, "Feminism and the Rethinking of the History of Technology," in *Feminism in Twentieth-Century Science, Technology, and Medicine*, eds. Angela N. H. Creager, Elizabeth Lunbeck, and Londa Schiebinger (Chicago: University of Chicago Press, 2001), pp. 113–127.
- Ruth Oldenziel, "Man the Maker, Woman the Consumer: The Consumption Junction Revisited," in *Feminism in Twentieth-Century Science, Technology, and Medicine*, pp. 128–148.
- Michael S. Mahoney, "Boys' Toys and Women's Work: Feminism Engages Software," in *Feminism in Twentieth-Century Science, Technology, and Medicine*, pp. 169–185.
- Tatiana Butovitsch Temm, "If You Meet the Expectations of Women, You Exceed the Expectations of Men: How Volvo Designed a Car for Women Customers and Made World Headlines," in *Gendered Innovations in Science and Engineering*, ed. Londa Schiebinger (Stanford, CA: Stanford University Press, 2008), pp. 131–149.

Fall recess (10/30)

Week 7. (11/6) The World of Medicine I: Physicians and Patients Embodied

- Joan Cassell, *The Woman in the Surgeon's Body* (Cambridge, MA: Harvard University Press, 1998).
- Nelly Oudshoorn, "On Bodies, Technologies, and Feminisms," in *Feminism in Twentieth-Century Science, Technology, and Medicine*, pp. 199–213.

No class Wednesday, Nov. 13

Monday, Nov. 19: first paper due

Week 9. (11/20) The World of Medicine II: The Consumption Junction

- Ruth Schwartz Cowan, "Medicine, Technology, and Gender in the History of Prenatal Diagnosis," in *Feminism in Twentieth-Century Science, Technology, and Medicine*, pp. 186–198.
- Rachel P. Maines, *The Technology of Orgasm: "Hysteria," the Vibrator, and Women's Sexual Satisfaction* (Baltimore: Johns Hopkins Press, 1998).

Amy Hairston, "The Debate Over Twilight Sleep: Women Influencing Their Medicine," *Journal of Women's Health* 5 (1996): 489–499.

B. Feminism and the Sciences

Week 10. (11/27) "Making Sex": Differences and Their Discontents

Anne Fausto-Sterling, "'That Sex Which Prevaileth'" and "Of Gender and Genitals: The Use and Abuse of the Modern Intersexual," chapters 2 and 3, *Sexing the Body* (New York: Basic Books, 1992), pp. 30–77.

Suzanne J. Kessler, "The Medical Construction of Gender: Case Management of Intersexed Infants," *Signs* 16 (1990): 3–26.

Jennifer Terry, "Anxious Slippages between 'Us' and 'Them': A Brief History of the Scientific Search for Homosexual Bodies," in *Deviant Bodies: Critical Perspectives on Difference in Science and Popular Culture*, eds. Jennifer Terry and Jacqueline Urla (Bloomington, IN: Indiana University Press, 1999), pp. 129–169.

Stephanie H. Kenen, "Who Counts When You're Counting Homosexuals? Hormones and Homosexuality in Mid-Twentieth-Century America," in Vernon Rosario, ed., *Science and Homosexualities* (New York: Routledge, 1997), pp. 197–218.

Vernon A. Rosario, "Homosexual Bio-Histories: Genetic Nostalgias and the Quest for Paternity," in *Science and Homosexualities*, ed. Vernon A. Rosario (New York: Routledge, 1997), pp. 1–25.

Week 11. (12/4) Scrutinizing Science: Critiques of/in Biology

Donna Haraway, "Situated Knowledges: The Science Question in Feminism and the Privilege of Partial Perspective," from *Simians, Cyborgs, and Women: The Reinvention of Nature* (New York: Routledge, 1991), pp. 183–202.

Alison Wylie, "Doing Social Science as a Feminist: The Engendering of Archaeology," in *Feminism in Twentieth-Century Science, Technology, and Medicine*, pp. 23–45.

Erika Lorraine Milam, "Making Males Aggressive and Females Coy: Gender across the Animal–Human Boundary," *Signs* 37 (2012): 935–959.

Sarah S. Richardson, "When Gender Criticism Becomes Standard Scientific Practice: The Case of Sex Determination Genetics," *Gendered Innovations in Science and Engineering*, ed. Londa Schiebinger (Stanford, CA: Stanford University Press, 2008), pp. 22–42.

Elisabeth A. Lloyd, "Pre-Theoretical Assumptions in Evolutionary Explanations of Female Sexuality," *Philosophical Studies* 69 (1993): 139–153.

Week 12. (12/11) Primatologists as “Pink-Ribbon” Scientists?

Note: Final paper proposal due this week (1 paragraph).

Linda Marie Fedigan, “The Paradox of Feminist Primatology: The Goddess’s Discipline?” in *Feminism in Twentieth-Century Science, Technology, and Medicine*, pp. 46–72.

Donna Haraway, “Introduction: The Persistence of Vision,” “Women’s Place is in the Jungle,” “Jeanne Altmann: Time-Energy Budgets of Dual-Career Mothering,” and “Sarah Blaffer Hrdy,” from *Primate Visions: Gender, Race, and Nature in the World of Modern Science* (New York: Routledge, 1989), pp. 1–15, 279–315, 349–367. [E-reserves; the book is also on reserve.]

Alison Jolly and Margaretta Jolly, “A View from the Other End of the Telescope,” *New Scientist* 58 (21 April 1990): 58.

Reading Week. (1/8, same day, time, and location) Gametes and Embryos

Emily Martin, “The Egg and the Sperm: How Science Has Constructed a Romance Based on Stereotypical Male-Female Roles,” *Signs* 16 (1991): pp. 485–450.

Rene Almeling. “Selling Genes, Selling Gender: Egg Agencies, Sperm Banks, and the Medical Market in Genetic Material,” *American Sociological Review* 72 (2007): 319–340.

Lynn M. Morgan, “Embryo Tales,” in *Remaking Life and Death: Toward an Anthropology of the Biosciences*, eds. Sarah Franklin and Margaret Lock (Santa Fe, NM: School of American Research Press, 2003), pp. 261–291.

Sarah Franklin, “Embryonic Economies: The Double Reproductive Value of Stem Cells.” *BioSocieties* 1 (2006): 71–90.