

**Seminar in Cultural Anthropology:
Anthropology of Science, Beyond the Laboratory**

Anthropology 256
University of California, Riverside
Winter 2010
Watkins 1347
Wednesday 4:10 PM-7 PM
<http://faculty.ucr.edu/~derickf/10winsci/>

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“There is a price to pay...for the renewed and principled use of the expression [the anthropology of science]: most of what we believe anthropology to be has to be abandoned and so has most of what we believe science to be.”

— Bruno Latour

Course Overview

In recent decades, sociocultural anthropologists have taken the ethnographic methods they developed for studying exotic peoples in exotic locales and applied them to scientific communities and practice. Anthropology has become one of many disciplines contributing to and drawing from the interdisciplinary field of science and technology studies. One theme of the course is the ongoing and controversial legacy of French philosopher and anthropologist Bruno Latour. Latour's *Laboratory Life* (with Steve Woolgar) represented one of the first ethnographic studies of scientific practice, but Latour's more recent work has expanded into political philosophy, and a bold attempt to rethink fundamentally the categories and methods of social science. The second theme is the movement of approaches derived from ethnographic studies of science “beyond the laboratory,” to more “field-based” scientific pursuits (e.g. oceanography and conservation biology) and topics outside the conventional purview of science studies (e.g. space and place, international development). Underlying this theme is an inquiry into the implications of social studies of science for the practices of anthropological fieldwork and ethnographic writing: what form should anthropology take if, according to Latour, “no social explanation is necessary”?

Requirements

This class will be run as a graduate-level reading-intensive research seminar. Preparation for class discussion by careful reading of the week's readings is required. This seminar relies upon the participants' capacity to participate in a fruitful discussion in the seminar meeting. This means that each student should be familiar with the central arguments of the required readings, and be able to develop thoughts on the connections/disconnections in the larger body of readings for the week and across the term.

Additionally, each student will be expected to:

1) Prepare a one page critical commentary on the week's readings to be circulated electronically via iLearn by 10 AM on the Tuesday before each class. In iLearn, click on Weekly Commentaries > Week # > Create Blog Entry . These are meant to jump-start discussion, to

flag critical issues and concerns, and to highlight any crosscutting themes or connections that you may want to bring in. They should be intelligible but need not be formal or incredibly polished.

2) Co-lead/co-chair at least one class discussion. (The exact number will depend on the number of students in the class). This involves three things: 1) a short (<15 minute) presentation of the key arguments made in the readings pertaining to that week; 2) using other materials to locate them in one or more debates or to show something of their intellectual genealogy; 3) leading the class discussion on the readings. Again, the presentation should be no more than fifteen minutes.

3) Write. There are two options for the writing component of this course. I have no preference for either choice; I expect you to choose the option that is more useful to you at the current stage of your graduate career.

Option one: Two papers of 6 to 8 pages, in which you develop your thoughts and/or reading commentaries into well-crafted and concise analyses that relate readings to each other within a given week or across sessions. You may submit the papers at any point during the term; however, you should submit the first one by week seven, and the second by the final class.

Option two: submit a paper or research proposal of 15-25 pages, due by Wednesday March 17. Papers or proposals should use readings from the class (probably in theoretical, contextual or comparative sections) to engage with your dissertation topic or a closely-related area.

4) Finally, all students should visit the exhibition Intelligent Design: Interspecies Art at the UCR Sweeney Art Gallery (downtown Riverside) sometime before the class of January 27.

Auditors

Auditors are welcome in this class on two conditions: they need to come to most (preferably all) of the classes and they should be prepared to do all the readings and fulfill qualification (i) above, i.e. prepare a weekly commentary. Auditors can add a great deal to the discussion in the class but only if they prepare in the same way as students taking the class for credit.

Grading

Participation (including commentaries and discussion leading): 35%

Discussion Leading: 15%

Paper(s) : 50%

Required Texts

Cori Hayden, *When Nature Goes Public: the Making and Unmaking of Bioprospecting in Mexico*

Stefan Helmreich, *Alien Ocean: Anthropological Voyages in Microbial Seas*

David Mosse, *Cultivating Development: An Ethnography of Aid Policy and Practice*

Robert Oppenheim, *Kyongju Things: Assembling Place*

Bruno Latour, *Science in Action: How to Follow Scientists and Engineers through Society*

Bruno Latour, *Reassembling the Social: An Introduction to Actor-Network-Theory*

Bruno Latour, *Aramis, or the Love of Technology*

Lyn Schumaker, *Africanizing Anthropology: Fieldwork, Networks and the Making of Cultural Knowledge in Central Africa*

Sergio Sismondo, *An Introduction to Science and Technology Studies*

(Note that *Aramis* was not on the precirculated list of texts, and has only just been ordered at the UCR bookstore).

Besides these books, there will be several articles and/or book chapters assigned most weeks, distributed via iLearn.

Class Schedule

Week One - January 6

Required Readings

Latour, B.

1990 Postmodern? No, simply amodern! Steps towards an anthropology of science. *Studies In History and Philosophy of Science Part A* 21(1):145 - 171.

Week Two - January 13 - STS: the Early Years, and Some Anthropological Precedents

Required Readings

Sismondo chapters 1-3, 5, 6, 10, 15

Whorf, B.

1940 Science and Linguistics. *Technol. Rev.* (6):42:229-231, 247-248.

Nadasdy, P.

2003 "It's Not Really Knowledge at All". Chapter two of *Hunters and Bureaucrats: Power, Knowledge, and Aboriginal-State Relations in the Southwest Yukon*. Vancouver: Univ of British Columbia Press.

Latour, B. and Woolgar, S.

1986 "From Order to Disorder". Chapter one of *Laboratory Life: The Construction of Scientific Facts*. Princeton, NJ: Princeton University Press.

Latour, *Science in Action* — Introduction and Part One.

Optional Readings

Early STS

Merton, R. K.

- 1979 *The sociology of science: Theoretical and empirical investigations*. Chicago: University of Chicago Press.
- Bloor, D.
1991 *Knowledge and social imagery*. Chicago: University of Chicago Press.
- Kuhn, T. S.
1962 *The Structure of Scientific Revolutions*. Chicago: Univ of Chicago Press.
- S. Turner
2008 The Social Study of Science before Kuhn, in Hackett, E., Amsterdamska, O., Lynch, M., and Wajcman, J., eds. *Handbook of Science and Technology Studies*. Cambridge, MA: MIT Press.
- Shapin, S., Schaffer, S., and others
1989 *Leviathan and the air-pump: Hobbes, Boyle, and the experimental life*. Princeton University Press Princeton, NJ.
- See also the literature reviews in Latour and Woolgar 1986 above and Bourdieu 2004 below.

Anthropological Precedents

- Bloor, D.
1978 Polyhedra and the Abominations of Leviticus. *The British journal for the history of science* 11(3):245--272.
- Evans-Pritchard, E. E.
1937 *Witchcraft, oracles and magic among the Azande*. Oxford: Clarendon Press Oxford.
- Horton, R.
1967 African Traditional Thought and Western Science. Part I. From Tradition to Science. *Africa: Journal of the International African Institute* 37(1):50--71.
- Horton, R.
1967 African traditional thought and Western science, part two: the 'closed and 'open' predicaments. *Africa: Journal of the International African Institute* 37(2):155--187.
- Malinowski, B.
1992 *Magic, Science and Religion and Other Essays*. Prospect Heights: Waveland Press.

Some Philosophical Underpinnings

- Popper, K. R.
1963. "Science as Falsification" in *Conjectures and Refutations*. London: Routledge.
- Wittgenstein, L.
1963 *Philosophical Investigations/Philosophische Untersuchungen*. Trans. GE M. Anscombe. Oxford: Basil Blackwell.
- Berger, P. and Luckmann, T.
1966 *The Social Construction of Reality*. New York: Anchor Books.
- Hacking, I.
1999 *The social construction of what?*. Cambridge, MA: Harvard Univ Pr.

A Critical Reading of the History of STS

- Bourdieu, P.
2004 *Science of science and reflexivity*. Cambridge, UK: Polity Press.

Week Three - January 20 - Actor-Network Theory, and Some Critiques

Required Readings

Callon, M.

1986 Some elements of a sociology of translation: domestication of the scallops and the fishermen of St Brieuc Bay. In *Power, Action, and Belief: A New Sociology of Knowledge?* pp. 196-223. London: Routledge.

Latour, *Science in Action* — remainder

Singleton, V. and Michael, M.

1993 Actor-Networks and Ambivalence: General Practitioners in the UK Cervical Screening Programme. *Social Studies of Science* 23(2):227-264.

Sismondo, ch. 8 and 7

Haraway, D. J. and Randolph, L. M.

1997 *Modest_Witness@_Second_Millennium. FemaleMan©_Meets_OncoMouse™: feminism and technoscience*. London: Routledge. pp. 23-39.

Optional Readings

The literature on Actor-Network Theory is vast. John Law's web page at

<http://www.lancs.ac.uk/fass/centres/css/ant/antres.htm>

contains a useful guide to and annotated bibliography of the literature through 2004.

A useful recent critical review can be found in

Braun, B.

2008 Environmental issues: inventive life. *Progress in Human Geography* 32(5):667-679.

Gender and Science

Lederman, M. and Bartsch, I.

2001 *The gender and science reader*. London: Routledge.

Carolyn Merchant

1990 *The Death of Nature*. San Francisco: Harper and Row.

Schiebinger, L.

1991 *The mind has no sex?: women in the origins of modern science*. Cambridge: Harvard Univ Pr.

Harding, S. G.

1998 *Is science multicultural?: Postcolonialisms, feminisms, and epistemologies*. Bloomington: Indiana Univ Pr.

Haraway, D. J.

1989 *Primate visions: Gender, race, and nature in the world of modern science*. London: Routledge.

Haraway, D. J.

1991 *Simians, cyborgs, and women: The reinvention of nature*. London: Routledge.

In addition, work on gender and reproductive technologies was (and remains) particularly prominent in early anthropological work on science. See the review in Franklin, S. 1995. Science as Culture, Cultures of Science. *Annual Review of Anthropology* 24(1):163-184.

Week Four - January 27 - Moving outside the Laboratory

Required Readings

Henke, C. R.

2000 Making a place for science: The field trial. *Social Studies of Science* 30(4):483--511.

Jacobs, N. J.

2006 The intimate politics of ornithology in colonial Africa. *Comparative Studies in Society and History* 48(03):564--603.

Sismondo chs. 14, 17

Cori Hayden, *When Nature Goes Public: the Making and Unmaking of Bioprospecting in Mexico*

Optional Readings

Latour, B.

1999 Circulating reference: Sampling the soil in the Amazon forest. In *Pandora's hope: Essays on the reality of science studies* pp. 24-79. Cambridge: Harvard University Press.

Scott, J.

1998 *Seeing Like a State: How Certain Schemes to Improve the Human Condition Have Failed*. New Haven: Yale University Press. Chapter Eight.

Doing, P.

2008 Give Me a Laboratory and I Will Raise a Discipline: The Past, Present, and Future Politics of Laboratory Studies in STS. *Handbook of Science and Technology Studies* 279--295.

Week Five - February 3 - Life Itself, and Professional Lives

Required Readings

Sismondo ch. 4, 13

Van Reybrouck, D. and Jacobs, D.

2006 The mutual constitution of natural and social identities during archaeological fieldwork. In *Ethnographies of archaeological practice: cultural encounters, material transformations*. Edgeworth, M., eds. Pp. 33--44. Lanham, MD: AltaMira Press.

Stefan Helmreich, *Alien Ocean: Anthropological Voyages in Microbial Seas*

Optional Readings

Latour, B.

1993 *The Pasteurization of France*. Cambridge: Harvard Univ Pr.

Foucault, M.

1980 *The History of Sexuality, Volume I: An Introduction*. New York: Vintage Books.

Foucault, M., Senellart, M., and Davidson, A. I.

2007 *Security, Territory, Population: Lectures at the Collège de France, 1977-1978*. New York, NY: Palgrave Macmillan.

Foucault, M.

2008 *The Birth of Biopolitics: Lectures at the College de France, 1978-1979*. New York, NY: Palgrave Macmillan.

Agamben, G. and Raiola, M.

1998 *Homo Sacer: Sovereign Power and Bare Life*. Palo Alto: Stanford University Press.

Week Six - February 10 - The Love of Technology

Required Readings

Sismondo ch. 9

De Laet, M. and Mol, A.

2000 The Zimbabwe bush pump: Mechanics of a fluid technology. *Social studies of science* 30(2):225--263.

Latour, *Aramis*

Optional Readings

Lemonnier P.

1992 *Elements for an anthropology of technology*. Ann Arbor: University of Michigan Museum of Anthropology.

Horst H. and Miller D., 2006

The cell phone. An anthropology of communication. Oxford: Berg.

Needham J.

1954 *Science and civilisation in China*. Cambridge: Cambridge University Press.

Pfaffenberger B.

1992 Social anthropology of technology, *Annual Review of Anthropology* 21.

White L.

1962 *Medieval technology and social change*. Oxford: Oxford University Press.

Week Seven - February 17 - Publics, Places and Things

Required Readings

Sismondo ch. 16

Candea, M.

2008 Fire and identity as matters of concern in Corsica. *Anthropological Theory* 8(2):201-216.

Robert Oppenheim, *Kyongju Things: Assembling Place*

Optional Readings

Paris: Invisible City <http://www.bruno-latour.fr/virtual/index.html>

Braun, B.

2005 Environmental issues: writing a more-than-human urban geography. *Progress in Human Geography* 29(5):635--650.

Harvey, D.

2003 *Paris, capital of modernity*. London: Routledge.

Lefebvre, H.

1991 *The Production of Space*. London: Blackwell Publishers.

Lefebvre, H., Kofman, E., and Lebas, E.

1996 *Writings on cities*. London: Blackwell Publishers.

Hart, G.

2002 *Disabling Globalization: Places of Power in Post-Apartheid South Africa*. Berkeley: University of California Press.

Cronon, W.

1992 *Nature's Metropolis: Chicago and the Great West*. New York: W. W. Norton & Company.

Low, S. and Lawrence-Zunigais, D., eds.
2003 *The Anthropology of Space and Place*. London: Wiley-Blackwell.

Week Eight - February 24 - Anthropology's Actor-Networks

Required Readings

Schumaker, *Africanizing Anthropology*

Plath, D.

1990 Fieldnotes, Filed Notes, and the Conferring of Note. In *Fieldnotes: The makings of anthropology*. Sanjek, R., ed. Ithaca, NY: Cornell Univ Pr.

Optional Readings

Gordon, R.

1988 Apartheid's Anthropologists: The Genealogy of Afrikaner Anthropology. *American Ethnologist* 15(3):535--553.

Hammond-Tooke, D.

1997 *Imperfect interpreters: South Africa's anthropologists, 1920-1990*. Johannesburg: Witwatersrand University Press.

Bank, A.

2008 The 'Intimate Politics' of Fieldwork: Monica Hunter and her African Assistants, Pondoland and the Eastern Cape, 1931--1932. *Journal of Southern African Studies* 34(3): 557--574.

Sanjek, R.

1990 *Fieldnotes: The makings of anthropology*. Ithaca, NY: Cornell Univ Pr.

Vincent, J.

1990 *Anthropology and Politics: Visions, Traditions, and Trends*. Tucson: University of Arizona Press.

Patterson, T. C.

2001 *A social history of anthropology in the United States*. Oxford: Berg Publishers.

Stocking, G. W. and Stocking, G. W.

1983 *Observers observed: essays on ethnographic fieldwork*. Madison: Wisconsin, The University of Wisconsin Press.

Week Nine - March 3 - When Objects Object

Required Readings

Sismondo ch. 12

David Mosse, *Cultivating Development: An Ethnography of Aid Policy and Practice*

Pritchett, J. A.

2001 "People and the Environment," in *The Lunda-Ndembu: Style, Change, and Social Transformation in South Central Africa*. Madison: University of Wisconsin Press.

Mosse, D.

2006 Anti-social anthropology? Objectivity, objection, and the ethnography of public policy and professional communities. *Journal of the Royal Anthropological Institute* (NS) 12:935-956.

Optional Readings

Latour, B.

2000 When things strike back: a possible contribution of 'science studies' to the social sciences. *British journal of sociology* 51(1):107--123.

Anthropology of Development

Cooper, F. and Packard, R. M.

1997 *International development and the social sciences: essays on the history and politics of knowledge*. Berkeley: University of California Press.

Hoben, A.

1996 The Cultural Construction of Environment Policy in Ethiopia. In *The Lie of the Land*. Leach, M. and Mearns, R., eds. Portsmouth, NH: Heinemann.

Ferguson, J.

1994 [1990] *The Anti-Politics Machine: "Development," Depoliticization, and Bureaucratic Power in Lesotho*. Minneapolis: University of Minnesota.

Grillo, R. D.

1997 Discourses of Development: the View from Anthropology. In *Discourses of Development: Anthropological Perspectives*. Grillo, R. D. and Stirrat, R. L., eds. Oxford: Berg.

Long, N.

2001 *Development Sociology: Actor Perspectives*. London: Routledge.

Long, N. and Long, A.

1992 *Battlefields of knowledge: the interlocking of theory and practice in social research and development*. London: Routledge.

Peters, P. E., ed.

2001 *Development Encounters*. Cambridge, MA: Harvard Institute for International Development.

Rist, G.

1997 *The History of Development: From Western Origins to Global Faith*. London: Zed Books.

Week Ten - March 10 - Is the Social in Need of Reassembly?

Required Readings:

Latour, *Reassembling the Social*

Schinkel, W.

2007 Sociological discourse of the relational: the cases of Bourdieu & Latour. *Sociological Review* 55(4):707--729.

OR

Oppenheim, R.

2007 Actor-network theory and anthropology after science, technology, and society. *Anthropological Theory* 7(4):471-493.

Optional Readings:

The Tarde-Durkheim Debate (<http://www.bruno-latour.fr/expositions/TARDE-DURKHEIM-GB.pdf>)