

MTA 506 (“Criticism and Theory”)
Instructor: Walter Metz
Spring 2007

Meeting Times

Wednesdays, 2:10-5:00pm in Cheever Hall, Room 131

Information About the Instructor

Walter Metz, an Associate Professor in the Department of Media and Theatre Arts, holds an S.B. in Materials Science and Engineering from M.I.T. and a Ph.D. in Radio-Television-Film from the University of Texas at Austin.

Walter’s Contact Info

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Office Hours: Thursdays, 9am-Noon, and by appointment

Course Description

MTA 506 fulfils a 1st year requirement for the M.F.A. degree in Science and Natural History Filmmaking at MSU. The primary goal of the course is to provide an advanced introduction to the critical methodologies necessary for intelligently interrogating the representations of natural history, science, and technology in print and media. The critical methods deployed by the course will be derived from the history and philosophy of science (Thomas Kuhn), critical theory (Jacques Derrida), and the contemporary field of the humanities known as “science studies” (Andrew Ross, Donna Haraway, et al).

This course argues for the simultaneous understanding of both the profound achievements of science and a healthy skepticism of science’s inherent limitations. A reading of the popular literature on science will help establish these positions: Carl Sagan’s *The Demon-Haunted World: Science as a Candle in the Dark* (1996) serves as an accessible defense of science in a culture embracing irrationalism, while Andrew Ross’ *Strange Weather* illustrates how and why the core methodological practice of contemporary science—the scientific method—is subject to ideological critique.

The course divides scientific discourse into three philosophical camps: positivism, idealism, and realism (or historical materialism). An investigation of these terms, via their major practitioners (such as Karl Popper and Thomas Kuhn), will allow students in the course to analyze the different ways of representing science and its cultural significance. These philosophical contributions, particularly those of Thomas Kuhn, will allow us to analyze critical case studies in the history of science. For example, in *The Structure of Scientific Revolutions*, Kuhn implies that a scientific revolution (“a paradigm shift”) occurs not necessarily because the scientific community comes to be overwhelmed by new facts assaulting the old paradigm, but because of the elegance through which the new paradigm re-assembles the old facts. His example for this is, of course, the Copernican Revolution, but we will also study other key scientific discoveries that illuminate the complex interactions between science and culture.

Such historical material will allow us to pursue the extent to which we believe that science is inherently deformed by ideology. We will engage such an exploration in which ideology directly contaminated scientific practices via a reading of Richard Levins' and Richard Lewontin's *The Dialectical Biologist*. However, we will also push beyond these obvious examples to, for example, contemporary American culture where science is molded according to the (il)logic of the academic and corporate marketplaces.

These challenges to both irrationalism and science as unassailable discourses will allow the course to engage in applied criticism. Here, we will discuss the various ways of conveying scientific information to an audience comprised largely of non-scientists. We will pursue this project by examining an array of books which, over the past 30 years, have attempted to popularize science and the scientific method: for example, Carl Sagan's *Cosmos*. Throughout, we will analyze films and television programs that attempt to adapt this popularization of science to mass-mediated art forms: for example, "Ask Mr. Wizard," "NOVA," "Cosmos," Errol Morris' *A Brief History of Time*, "Connections," "National Geographic Explorer," and the various shows on The Discovery Channel.

The course thus attempts to introduce a number of sites of concern to fledgling science and natural history filmmakers. We begin by posing questions about what science is, how science is done, and why it is done that way. We then introduce students to key historical moments in the history of science in which many of these issues are complexly framed. This will encourage students both to consider the philosophical concerns these historical sites raise as well as to think about science and nature filmmaking in more historical terms. We conclude with a practical interrogation of how science has been popularly represented to get students thinking about what new and innovative strategies need to be developed to compellingly, provocatively, and coherently represent science, technology, and natural history in the visual media of film and television.

Most crucially, the field of science studies will encourage students to develop critical tools to see how *generically bound* and *conventional* natural history and science filmmaking has been, and continues to be. If the course—indeed, if the M.F.A. program itself is successful—no longer will science programs produced by our students replicate traditional narrative gestures (about gender, about race, about capitalism, for example) which have for so long plagued the attempts to deliver scientific information to a mass audience.

Experimental Cinema: A Teaching Experiment

The biggest critique of this course has historically been that it is "all so very interesting" (sometimes offered seriously, sometimes with a healthy level of sarcasm!), but does not apply at all to the pragmatic matters of becoming real-life filmmakers. As my expertise is in film studies, I think the best way to address this disconnect between high theory and the practical matters of production is to watch and analyze movies using the tools we are encountering in the course. Furthermore, since the goal of this class is to use science studies to expand the domain of what natural history and science films are ordinarily concerned with, we need filmmaking models of how to re-invent the cinema. These models are, of course, mostly located in the mode of experimental cinema.

MTA Department Safety Policy

You are students in a department whose primary focus is hands-on production. We are in the process of raising student consciousness about the absolute necessity of making safety on productions your first priority. One component of this process is to hold a department-wide safety meeting. **The event will take place on Friday, January 19 from 6:00-8:30pm in the SUB Theatre.** The event will include door prizes and the screening of a film, *Who Needs Sleep?* (Haskell Wexler, 2006), a film commissioned by 12On/12Off, a grassroots industry safety organization. **All MTA students are required to attend this event.**

Grading

Experimental Film #1	25%
Final Exam	35%
Experimental Film #2	40%

Required Texts

1. Bordwell, David and Kristin Thompson. *Film Art: An Introduction*. 8th Ed. New York: McGraw-Hill, 2008. ISBN 978-0-07-353506-7.
2. Snow, C.P. *The Two Cultures*. Cambridge: Cambridge UP, 1998. ISBN 0521457300.
3. Hess, David J. *Science Studies: An Advanced Introduction*. New York and London: New York UP, 1997. ISBN 0814735649.
4. Jones, Caroline A. and Peter Galison. *Picturing Science, Producing Art*. New York and London: Routledge, 1998. ISBN 0415919126.
5. Latour, Bruno and Steve Woolgar. *Laboratory Life: The Construction of Scientific Facts*. Princeton: Princeton UP, 1986. ISBN 069102832X.
6. Schivelbusch, Wolfgang. *The Railway Journey: The Industrialization of Time and Space in the 19th Century*. Berkeley: U of California P, 1977. ISBN 0520059298.
7. Marx, Leo. *The Machine in the Garden: Technology and the Pastoral Ideal in America*. London: Oxford UP, 1964. ISBN 0195007387.

Weekly Schedule

Wednesday, January 24

Topic	Introduction to the Course: Re-inventing Science Filmmaking Critical Theory for Science Filmmakers [Disk #1]
Reading	John Wilson, "The Nature and Variety of Social Theory" {reserves}

Wednesday, January 31

Topic	A Crash Course in Film Aesthetics [Disks #2-7]
Reading	Bordwell and Thompson, <i>Film Art: An Introduction</i>

Wednesday, February 7

- Topic Experimental Cinema: A Model for Re-invention
Science Film and the Avant-garde [Disk #8]
- Reading P. Adams Sitney, *Visionary Film: The American Avant-garde*

Wednesday, February 14

- Topic A Brief History of Critical Theory [Disk #9]
- Reading Plato, "Allegory of the Cave" {reserves}
Benjamin, "Work of Art in the Age of Mechanical Reprod." {reserves}
Baudry, "Ideological Effects of the Basic Cinema. Apparatus" {reserves}
Donna Haraway, "A Cyborg Manifesto" {reserves}
Susan Griffin, *Woman and Nature* [excerpt] {reserves}

Wednesday, February 21

- Topic The Radical Turn: Contemporary Science Studies [Disk #10]
- Reading David Hess, *Science Studies: An Advanced Introduction*

Wednesday, February 28

- Topic Science vs. the Humanities: Towards a Better Future
The Dialectical Biologist [Disk #10a]
- Reading C.P. Snow, *The Two Cultures*
Evelyn Fox Keller, "The Egg and the Sperm" {reserves}
Carl Gardner and Robert Young, "Science on TV: A Critique" {reserves}
Roger Silverstone, "Narrative Strategies in Television Science" {reserves}
Hannah Landecker, "Cellular Features" {reserves}
Levins and Lewontin, "The Problem of Lysenkoism" {reserves}

Wednesday, March 7

- Topic Cultural Studies of Science and Technology [Disk #11]
- Reading Wolfgang Schivelbusch, *The Railway Journey*
Andrew Ross, "The Drought This Time" {reserves}
James Carey, "Technology and Ideology" {reserves}

Wednesday, March 14

No Classes: Spring Break

Wednesday, March 21

Screening of 1st Experimental Film Project

Wednesday, March 28

Special event: For the first hour of today's class, Dr. Georgina Montgomery, historian of science, will discuss gender and race issues using literature on Dian Fossey and Jane Goodall with respect to film and magazine articles in *National Geographic*, with emphasis on the ways in which the indigenous researchers were made invisible in these representations. This will enable an analysis of power structures in science and the media.

Topic Critical Theory and Science Studies: Two Examples
 1. Primatology
 2. Nuclear Criticism [Disk #12]
Reading Jacques Derrida, “No Apocalypse, Not Now” {reserves}
 Evelyn Fox Keller, “From Secrets of Death to Secrets of Life” {reserves}
 Donna Haraway, *Primate Visions* [excerpts] {reserves}

Wednesday, April 4

Topic Interdisciplinary Opportunities: Sociology
Reading Bruno Latour and Steve Woolgar, *Laboratory Life*

Wednesday, April 11

Topic Interdisciplinary Opportunities: Art History
Reading Caroline Jones and Peter Galison, *Picturing Science, Producing Art*

Special Event:

Tuesday, April 17

Stage Reading: Michael Frayn, *Copenhagen*

7pm in the SUB Theatre

Performers: Stephanie Campbell, Joel Jahnke, and Tom Watson

MTA 506 students are required to attend this performance

Wednesday, April 18

Topic Literature and Science
Reading Leo Marx, *The Machine in the Garden*

Wednesday, April 25

Screening of 2nd Experimental Film Project

Wednesday, May 2

Screening of 2nd Experimental Film Project

Course Evaluations

Final Exam

Thursday, May 10: 6:00-7:50pm in Cheever Hall, Room 131

Citations for Reserves Articles

- Wilson, John. "The Nature and Variety of Social Theory." *Social Theory*. NY: Prentice-Hall, 1983. 1-10.
- Plato. "The Allegory of the Cave." *The Republic*. Trans. B. Jowett. New York: Vintage, n.d. 253-258.
- Benjamin, Walter. "The Work of Art in the Age of Mechanical Reproduction." *Illuminations*. New York: Schocken, 1968. 217-251.
- Baudry, Jean-Louis. "Ideological Effects of the Basic Cinematographic Apparatus." *Narrative, Apparatus, Ideology*. Ed. Philip Rosen. New York: Columbia UP, 1986. 286-298.
- Haraway, Donna. "A Cyborg Manifesto: Science, Technology, and Socialist-Feminism in the Late Twentieth Century." *Simians, Cyborgs, and Women: The Reinvention of Nature*. New York: Routledge, 1991. 149-181.
- Griffin, Susan. "The Labyrinth" and "The Cave." *Woman and Nature: The Roaring Inside Her*. San Francisco: Sierra Club Books, 2000. 155-163.
- Keller, Evelyn Fox. "The Egg and the Sperm: How Science has Constructed a Romance Based on Stereotypical Male-Female Roles." *Feminism and Science*. Eds. Evelyn Fox Keller and Helen E. Longino. Oxford: Oxford UP, 1996. 103-117.
- Gardner, Carl and Robert Young. "Science on TV: A Critique." *Popular Film and Television*. Eds. Tony Bennett et al. London: BFI, 1981. 171-193.
- Silverstone, Roger. "Narrative Strategies in Television Science: A Case Study." *Media, Culture, and Society*. 6 [1984]. 377-410.
- Landecker, Hannah. "Cellular Features: Microcinematography and Film Theory." *Critical Inquiry*. [Summer 2005]. 903-937.
- Levins, Richard and Richard Lewontin. "The Problem of Lysenkoism." *The Dialectical Biologist*. Cambridge: Harvard UP, 1985. 163-196.
- Ross, Andrew. "The Drought This Time." *Strange Weather: Culture, Science, and Technology in the Age of Limits*. New York: Verso, 1991. 193-249.
- Carey, James W. "Technology and Ideology: The Case of the Telegraph." *Communication as Culture: Essays on Media and Society*. New York and London: Routledge, 1989. 201-230.
- Derrida, Jacques. "No Apocalypse, Not Now (full speed ahead, seven missiles, seven missives)." *Diacritics*. 14.2 [Summer 1984]. 20-31.
- Fox Keller, Evelyn. "From Secrets of Life to Secrets of Death." *Secrets of Life, Secrets of Death: Essays on Language, Gender and Science*. New York and London: Routledge, 1992. 39-55.
- Haraway, Donna. "Re-Instituting Western Primatology After World War II." *Primate Visions*. NY: Routledge, 1989. 115-132.
- Haraway, Donna. "Apes in Eden, Apes in Space: Mothering as a Scientist for National Geographic." *Primate Visions*. NY: Routledge, 1989. 133-185.