

[Power&Knowledge: Introduction to the Sociology and History of Science and Technology](#)

UNDERGRADUATE SEMINAR

Syllabus

Required Texts:

Michael Pollan, *The Omnivore's Dilemma*, (New York: Penguin, 2006)

Apostolos Doxiadis, *Logicomix*, London: Bloomsbury Publishing (2009)

Ursula Le Guin, "The Left Hand of Darkness", available on-line or in print (1969)

Books are available at bookstores, on-line and on reserve

Requirements:

There is a weekly response on a blog where you must respond to one reading and correlate it to something you read or saw or experienced that week. Please also include an image, or the article link, or other artifacts that give evidence to your claim. Maybe its an image you take on your phone at the super market, if we discuss food systems, maybe its an ad you find on the net, or a science article in the New York times, maybe its an image of a green building or surveillance system depending on the topic of the week, there are a range of things you can discuss, be creative! You should write the equivalent of 1-2 pages. The response can't just be what you think, it needs to engage with the conversation in the class over the span of the week that have been covered. These blogs should be posted before the start of class on monday so we can refer to them during class (possibly). You do not need to post on weeks when we go to museums, then you should post about your museum experience, or other field trip excursion if we do one. You can miss two weeks of blog entries without penalty...and weeks you wish depending on your work load. The only ones you cannot miss are visits to museums or sites. These you must do no matter what. These along with your attendance and participation will constitute 60% of your grade.

There is a final 15 page paper due on the last day of class.

This is an independent research paper that must reflect a theme from the class. You must use at least 3 non-internet based sources, and it must engage with any topic from the class involving science and technology. The guidelines will be posted on blackboard.

As part of this paper, there will be a final 7-10 minute presentation of your research in class. The paper and the presentation will constitute 40% of the grade.

Failure to do the final paper is an automatic failure in the class.

Otherwise, just show up and think!!!! That's what I like best!!!!

DATES THAT MATTER:

Mid-term review February 20-27th (I'll give feedback on your blogs and class performance).

Final Project Proposals due February 27

Final Papers due May 1

FIELD VISITS AND CLASS CHANGES:

Redpath Museum: January 24

Botanical Gardens: at your leisure (additional credit) I will lead a visit on February 15

Center for Canadian Architecture: March 7 (we will do multiple visits and work with the exhibition there: Its All Happening so Fast, a Counterhistory of Canadian Environment)

Biodome/sphere: March 28

Class changes for visits and private meetings: January 30, March 13 and 20.

SECTION ONE: DOES NATURE HAVE A HISTORY? WHAT IS NATURE? AND WHAT IS HISTORY?

Week One:

Screening Harun Farocki, *Image of the World and the Inscription of War*

First Assignment. Please bring in one article about nature or science. Be prepared to discuss why you were interested in it. How did the article discuss "nature"? What did the article say was due to people? Or technology? And what parts were considered non-human? What conventions were used? Did you notice anything about the use of

history? Or social context? What type of language (notice the adjectives being used) were deployed?

Here are some other guiding questions that will also help throughout the class, we will be regularly looking scientific research to develop some literacy in reading data

What type of correlation are being made: Causal/Deterministic? Stochastic? Identify the difference between deterministic data and stochastic data or probabilities.

Is there a norm being posited? Is there a baseline? What are these findings being compared to? And if so, how was it determined? If not, what type of correlation is being posited? What is the sample size? What is the scale of measurement? What is the time of the study? How long or over what time periods was information gathered? Where was it gathered? What is the rhetoric of the article? Does it claim the information is “true”, does it make any speculations on how this information will be used, or on the future of the technology? Does the author treat the information as contested? Do they offer alternative studies or models?

Week Two/January 16:

Reading: Michael Pollan, *The Omnivore's Dilemma*

“Anthropocene, Capitalocene, Plantationocene, Chthulucene: Making Kin”, Donna Haraway History of Consciousness, University of California, Santa Cruz, USA [6-71](#)

ASSIGNMENT:

First Assignment for January 16

1) Please bring in one article about nature or science. Be prepared to discuss why you were interested in it. How did the article discuss “nature”? What did the article say was due to people? Or technology? And what parts were considered non-human? What conventions were used? Did you notice anything about the use of history? Or social context? What type of language (notice the adjectives being used) were deployed?

Here are some other guiding questions that will also help throughout the class, we will be regularly looking scientific research to develop some literacy in reading data

What type of correlation are being made: Causal/Deterministic? Stochastic? Identify the difference between deterministic data and stochastic data or probabilities.

Is there a norm being posited? Is there a baseline? What are these findings being compared to? And if so, how was it determined? If not, what type of correlation is being posited? What is the sample size? What is the scale of measurement? What is the time of the study? How long or over what time periods was information gathered? Where was it gathered? What is the rhetoric of the article? Does it claim the information is “true”, does it make any speculations on how this information will be used, or on the future of the technology? Does the author treat the information as contested? Do they offer alternative studies or models?

2) Please respond to Michael Pollan “Omnivore Dilemma” and to Donna Haraway, “Anthropocene, Capitalocene, Plantationocene, Chthulucene: Making Kin”, Donna Haraway *History of Consciousness*, University of California, Santa Cruz, USA [6-71](#)

RECOMMENDED:

William Cronon, [*Changes in the Land, Revised Edition: Indians, Colonists, and the Ecology of New England*](#) New York: Hill and Wang (2003) (excerpts)

Films:

SECTION 2: THE HISTORY OF KNOWLEDGE, OBJECTIVITY, AND TRUTH

Question: What is Science? What do you think Science is? How do we know when something is true? Are all truth claims the same? What is the relationship between “science” and truth? Science and method? And what is the difference between practice and ideals of scientific practice? What different models might we produce to think about knowledge production?

Week Three/ January 23 and 24:

Kuhn, Thomas S. (2012). *The Structure of Scientific Revolutions*. Chicago: University of Chicago Press. Or any edition. Although later editions will have more explanation at the start. (excerpts/on-line)

Daston, Lorraine, and Peter Galison. “Image of Objectivity.” *Representations* 40, no. Fall (1992): 81-125.

Lorraine Daston and Katy Park, *Wonder and the Order of Nature*, Introduction, Chapter 1 and 5

Bruno Latour, “We Have Never Been Modern”, Harvard University Press (1991) “Crisis” Chapter

We Have Never Been Modern

Chris Kelty, comments on Latour: <http://savageminds.org/2007/02/15/science-studies-is-anthropology/> (to help understand the concepts)

Assignment: Discuss what constitutes a “fact” today? Continue discussion of Daston, Galison, and Kuhn together. What are the differences in the histories they tell? How can we think these accounts together? What does Latour mean by “we have never been modern?” (or more to the point what do you think he means?)

January 24: Visit to Redpath Museum @1PM @ McGill University

if you cannot make this time, then you must go independently to visit.

Assignment: You must write a response Due February 6.

Week Four: January 30

No class-visit to museum. If you cannot have attended the week before then you must go this week and complete a response to the museum to be posted on your blog.

SECTION: LIFE/EVOLUTION/ SPECIES

Week 5

Darwin “Origin of the Species” –A Historical Sketch/ Introduction/ Chapter IV-Survival of the Fittest/Chapter XV–Recapitulation and Conclusion.

You can also buy the book, it might be easier and cheaper.

But its available at:

http://books.google.com/books?id=TCwLAAAAIAAJ&dq=origin+of+the+species&printsec=frontcover&source=bl&ots=VVk2CYUZ9v&sig=MmOs314yoPZGVK3n6cGALeYikNk&hl=en&ei=W1LgSqbQBs7ZIAf - tyEDw&sa=X&oi=book_result&ct=result&resnum=13&ved=0CD4Q6AEwDA#v=onepage&q=&f=false

Questions to guide you:

- 1) How does Darwin characterize animals?
- 2) How does he characterize nature? What types of metaphors does he use? Of efficiency, economy, time, machinery? what models do you think informed how he looked at evolution?

WEEK 6

CONTINUE with Darwin

Please Read Chapter V on Variation in “Origin of the Species”

Karl Marx, “Das Kapital” Chapter 14 and 15, 32

<http://www.marxists.org/archive/marx/works/1867-c1/>

Karl Marx, Economic and Philosophical Manuscripts 1844

Read: Prelude, 4. The Accumulation of Capitals and Competition Among Capitalists and Estranged Labor

<http://www.marxists.org/archive/marx/works/1844/manuscripts/preface.htm>

OPTIONAL

Das Kapital

Chapters 33

If you do not have time read the prelude to 1844 text and “Estranged Labor” and read Chapter 15 of Das Kapital, and perhaps chapter 32. These are large and interesting texts, obviously you can not get it all, but you can get a taste. The 1844 texts are written at the same time as Darwin wrote (almost) and they give you a sense of Marx’s earlier development as a thinker.

Questions to guide you:

What is alienation? How does it relate to nature?

What is the role of technology?

Can you note a method? How does Marx think about History? Marx once dedicated a copy of Das Kapital to Darwin arguing Darwinism supported all he had to say about class struggle. Today there are debates about how much one theory impacted another, the chapters of Das Kapital I assigned are those that cite Darwin, but while the 1844 manuscripts were developed independently, we might ask about the historical situation that would develop two such models, and ask about how they differ. Look Back on Darwin as well and ask about the idea of the social.

Think about the natural history museum again! and bring in responses, please craft them in relationship to the readings by Darwin and Marx.

Week 7:



PLEASE NOTE THIS WEEK WE WILL BE MEETING IN CLASS AND VISITING THE CCA on Thursday the 16th AT 10:30AM!!!! PLEASE MAKE A NOTE OF IT!!!!

REadings for the week are:ALL AVAILABLE FROM CCA SITE:
<http://www.cca.qc.ca/en/> JUST SCROLL TO THE BOTTOM

“Glimpses of Nuclear Ontario”: <http://www.cca.qc.ca/en/issues/19/the-planet-is-the-client/40788/glimpses-of-nuclear-ontario>

“The Planet is the Client”: <http://www.cca.qc.ca/en/issues/19/the-planet-is-the-client/40943/hostile-docile>

“From Commodity to Community”: <http://www.cca.qc.ca/en/issues/19/the-planet-is-the-client/41046/from-commodity-to-community>

“Troubled Waters”: <http://www.cca.qc.ca/en/issues/11/nature-reorganized/41148/troubled-waters>

Check out the projects in “The Planet is a Client”:

<http://www.cca.qc.ca/en/issues/19/the-planet-is-the-client/33730/how-to-make-seed-bombs>

PLEASE SKIM THROUGH “THE OPERATING MANUAL FOR SPACESHIP EARTH”
Buckminster Fuller: [operatingmanual_bf](#)

WEEK 8: Biopolitics/Colonialism/Race

Foucault, Michel. *The History of Sexuality*. New York: Vintage Books, 1988. Chapter on “biopower” (on-line)

Sekula, Allan. “The Body and the Archive.” In *The Contest of Meaning: Critical Histories of Photography*, edited by R Bolton. Cambridge: MIT Press, 1992.

Thomas Laquer, *Making Sex*, Cambridge: Harvard University Press (1992) excerpts

Teddy Bear Patriarchy: Taxidermy in the Garden of Eden, New York City, 1908-1936,
Donna Haraway, *Social Text*, No. 11 (Winter, 1984-1985), pp. 20-64

Recommended:

Elizabeth Edwards, *Raw Histories: Anthropology, Photography, and the Museum*,
(London: Bloomsbury, 2001) (excerpts)

Week 9: Race/Sex/Colonialism cont.

Kim Tallbear, “NAtive American DNA” (2013)

Michael Taussig, *Shamanism Colonialism and The Wild Man*, (Chicago: University of Chicago Press, 1991) Excerpts

Worster, Donald. 1992. "Empire: Water and the Modern West" in *Rivers of Empire: Water, Aridity, and the American West*, 257-326. Oxford University Press.

Wolfe, Patrick. 2006. "Settler Colonialism and the Elimination of the Native." *Journal of Genocide Research* 8(4): 387-409.

February 20: SPRING BREAK

Section : Cybernetic Ecologies

WEEK 10:

Questions for section: How is information different from previous metaphors used in producing knowledge? What is technology? How are ideas and ideals of knowledge, objectivity, and subjectivity changing since the Second World War? If they are at all?

Logicomix—History of Logic and Computing

Norbert Wiener: *Human Use of Human Beings* (reader) excerpts

Vannevar Bush, *As We May Think* [Excerpts]

Watch: IBM Movies: https://www.youtube.com/watch?v=aEWNeqXG_hl

Charles and Ray Eames "Communications Primer" :
<https://www.youtube.com/watch?v=byyQtGb3dvA>

Adam Curtis: All Watched Over By Machines of Loving Grace:
<https://vimeo.com/groups/96331/videos/80799352>

WEEK 11: (this week is also student meetings 6-8 concerning final projects)

Environment and Ecology

Buckminster Fuller, "Operating Manual for Spaceship Earth", excerpts

Jake Kosek, "Ecologies of Empire: On the NEw Uses of the Honeybee", *Cultural Anthropology* (2010)

Canadian Center for Architecture, "Its All Happening So Fast: A Counter History of the Modern Canadian Environment", Catalogue (2016), excerpts, readings on-line from:
<https://www.canadianarchitect.com/exhibitions-installations/cca-exhibition/1003736116/>

March 7: Second VISIT TO CCA—exhibition “It All Happening So Fast”/ special workshop with curators

Recommended:

Film: ‘Merchants of Doubt’

Week 12: March 27: Securitization

Masco, Joseph. 2010. “Sensitive but Unclassified”: Secrecy and the Counterterrorist State.” *Public Culture* no. 22 (3):30.

Rebecca Lemov, “The Birth of Soft Torture” in Slate,
http://www.slate.com/articles/health_and_science/science/2005/11/the_birth_of_soft_torture.html November 2005.

Militarization of environment (TBA)

Week 13:

Alternatives:

Ursula Le Guin, “The LEft Hand of Darkness”, (1969)

Lucian Casting Taylor and Verena Pavel, *Leviathan* (2013)

Chris MArker, *La Jetée* (screening)

STUDENT PRESENTATIONS START

WEEK 13-14

STudent Presentations

APRIL 19: STUDENT PRESENTATIONS (MAKE UP CLASS)

MAY 1: Final Projects due!!!!