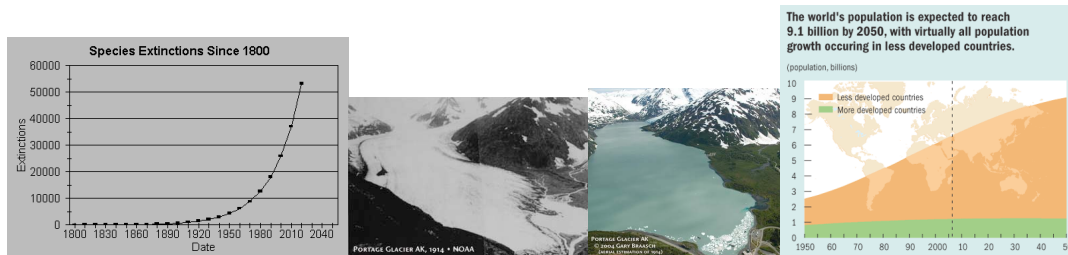




“The future has already arrived. It's just not evenly distributed yet.” – William Gibson



“We tend to overestimate change in the short run, and underestimate it in the long run.” – Roy Amara

“This Changes Everything: Cases in Futures Studies”

College of the Atlantic, Spring 2015

Instructor: Gray Cox

Office Hours: T 1-4 Davis Second Floor and by chance or appointment

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This course examines strengths and weaknesses of different ways of dealing with the future by looking in depth at two case studies: climate disruption and artificial intelligence. When dealing with potential existential threats of these sorts, what are the powers and limits of specific methods for trying to know the future and/or act with regard to it? Of what use, for example, are theories of history, economics, sociology and other disciplines? How useful are tools such as trend spotting, extrapolation, quantitative modeling, prediction markets, SWOT analysis, imaging, narrative science fiction, scenario building, or Delphi processes of consensus? And what precisely are these theories and tools useful for? Learning about the inevitability, probability or possibility of various futures? Or perhaps learning about ourselves our societies and the ways in which reality is currently constructed? And how can we frame meanings for our lives, our work, our communities and the social movements in which we may participate in order to act with integrity and hope in the face of pressing problems that are “wicked” in character and may call for dramatic transformations?

This course is an introduction to Futures Studies in general. But it will focus on two case studies, looking in depth at two issues and two key questions associated with them: 1. Climate disruption – To what extent and in what ways can, should and/or will

the development of socio/political/economic systems be compatible with (and sustainable within) the global ecosystem? 2. Artificial Intelligence – To what extent and in what ways can, should and/or will the development of artificial technologies be compatible with ethical values and the well being of human and natural communities?

Readings on the climate change case study will focus on Naomi Klein's *THIS CHANGES EVERYTHING: CAPITALISM VS. THE CLIMATE* and critics of her work. Readings on artificial intelligence will include, for instance, James Barrat's *OUR FINAL INVENTION* and selections by Ray Kurzweil and Peter Bostrum. Readings on Futures Studies as a field of study and the specific methods within it will include, for example, selections from James Dator's anthology, *ADVANCING FUTURES: FUTURE STUDIES IN HIGHER EDUCATION*, the Millennium Project's *STATE OF THE FUTURE*, and works by Alvin Toffler, John Naisbitt, Eliezer Yudkowsky and Elise Boulding, as well as articles from journals such as *THE FUTURIST*. As our own dialogue, thinking, concerns and interests develop in the context of unfolding events in the world this term, reading assignments in the syllabus may be shifted or refocused so it will be important to stay on top of the current version of the course outline for assignments. This will be especially true in the second half of the course while we are focusing on AI.

The course will include a Friday/Saturday workshop in futures invention using methods developed by Warren Ziegler and Elise Boulding. This workshop will be open to public participation. (Members of the COA community interested in renewing the College curriculum are especially encouraged to participate.) It will run from 6-9:30 Friday evening and from 8:30 on, all day Saturday, ending with a party Saturday night to which we will invite the COA community to come to Boogie Like It's The Future!!!

Extra sessions for the class, besides the Imaging Workshop, will include a talk on Friday afternoon at the end of the term dealing with modeling the future and climate change. (This is part of a speakers series Sarah Hall has organized for her Seminar on Climate Change – and, of course, all the other speakers for that series are also recommended.) Also, on May 4th our Thursday class will run as a double session (from 2:35-5:30) to allow for us to view and discuss a movie in class. Since Naomi Klein will be the graduation speaker this year, it is to be hoped that we will be able to also have a session with her as well.

In studying big issues concerning the future it is important to practice constructive ways of dealing with emotions that may come up that, besides excitement, intrigue and exhilaration can also sometimes include being overwhelmed, anxiety and despair as well as pathological ways of dealing with those like future shock and denial. During the course we will discuss and practice ways of dealing with these – through physical activity, art, songs, affinity group activities like deep listening, and action.

The course goals are to: 1.) increase students' understanding of the possible uses and limitations of the broad range of theories and methods in Futures Studies; 2.) develop student's abilities to apply and critically assess others' applications of these theories and methods in substantive cases dealing with wicked problems; and 3.) develop students insight into the complexities and possible ways of addressing issues related to climate change and developments in artificial intelligence.

Students will each, normally in pairs, develop and present a session in class training the rest of us in the uses and limitations of one of the methods for studying and planning actions for the future. These presentations should be carefully researched and thoughtfully prepared so everyone else benefits from what is taught. They will normally run for sessions of 40-45 minutes in length, half of which should be presentation and half discussion. (Variations on this would be possible if called for by the method being examined.) In preparation for the presentations, the class should be provided, at least 4 days in advance, with appropriate short readings that describe, illustrate, and critically assess the methods. Presentations should also include handouts with useful highlights of key information, outlines of the method, informative (annotated) resource lists and sample applications and exercises for using the method to look at climate disruption and AI.

For those who take the course for a letter grade, the final grade will be based in part on class participation and homework including a series of exercises practicing critical application of the methods to climate disruption and AI (25%). Note that homework assignments will normally be reviewed and used in class the day they are due as part of the activities of the class so it is important that they be done on time and brought to class, ready for use.

Other assignments and their relative weight in grading will include: the in-class report on a Futures Studies/Action method presented by a 2 person team (25%); two 4 to 5 page papers giving a critical analysis of a futures study (one for theories of social change concerning responses to climate disruption and one for the theories of how to incorporate ethics into technology through AI) (30%); and a final reflection exercise that provides a critical synthesis of lessons learned in the course and a prospectus for recommended future learning and action on the issues of Climate Change and AI (20%).

Evaluation criteria will be based on the extent to which class participation and performance in the assignments demonstrates significant advancement in achieving the three core goals of the course.

M, HS, no prerequisites, \$25 lab fee (for materials and workshop costs)

Schedule

(subject to ongoing revision based on student project interests and opportunities)

3/30 Introductions, review of syllabus, and sharing on the questions: What methods do we bring to this seminar, what knowledges, and what interests and backgrounds?

Song: "Slow Right Down"

Review "Some Oversimplified Theories of History" handout

Brief Introduction to SWOT analysis

4/2 11:10 The Future as a realm of knowledge: Extrapolations and Predictions

Readings: <https://themp.org/> The Millenium Project – read the “15 Global Challenges”
and selections from Ray Kurzweil’s HOW TO CREATE A MIND, 248-282 plus footnotes – pdf on the portal.

And James Barrat “The Law of Accelerating Returns” from OUR FINAL INVENTION (Pay special note to discussions of extrapolations and S curve vs. successive paradigms in AI and Moore’s law)

Exercise due: SWOT analysis for COA – Using the projections from the Millenium Project and Kurzweil, provide a bullet list of what you would see as COA’s strengths, weaknesses, opportunities and threats going in to the next 15 years. (Bring this as a typed bullet list to class for use in discussion.)

4/6 “Methods and Exemplars in Futures Research”, Wendell Bell, FOUNDATIONS OF FUTURES STUDIES, ch. 6, available on portal

In class we will discuss theories about the bases of valid predictions in general and the Law of Accelerating Returns (as in Kurzweil and Barrat readings from 4/2) and then discuss Bell and pick topics of later presentations on methods

4/9 THIS CHANGES EVERYTHING (TCE), pp. 1-95

Recommended: talk by Doreen Stabinsky on leadership on climate disruption:
<http://media.medfarm.uu.se/play/video/4851/>

4/13 TCE, pp. 96-190

4/16 TCE, pp. 191-255

Selections from WHY NONVIOLENT RESISTANCE WORKS

4/20 TCE, pp. 256-336

recommended readings on Prediction Markets: Gary Stix, “When Markets Beat Polls”, SCIENTIFIC AMERICAN, March 2008, pp. 38-45; <http://play.intrade.com/>;
www.longbet.org

4/27 TCE, pp. 337-387

Scenario building – The Great Transition

http://www.greattransition.org/documents/Great_Transition.pdf

Other recommended scenario methods reading:

<http://www.oecd.org/site/schoolingfortomorrowknowledgebase/futuresthinking/scenarios/37246742.pdf>

Homework exercise: Write scenarios for Climate Disruption

4/30 TCE, pp. 388-449

Methods Presentation: Social Experiments – Rose and Colin

<http://www.yudkowsky.net/singularity/aibox>

5/4 TCE, pp. 449-466

Pursue readings that critique or elaborate on Klein’s views

Recommended: A critical review of Klein by Will Boisvert:

<http://thebreakthrough.org/index.php/programs/energy-and-climate/the-left-vs.-the-climate>

Exercise to prepare for class: Write out four questions about some part of Klein's book or the whole of it that you think it would be interesting to have other folks in class talk about and bring it in a hard copy to class.

5/7 PAPER DUE: Critical Analysis of TCE

Methods Presentation: Quantitative Methods – Peter Kemos

Methods Presentation: Survey Research and the Ladder Scale – Will Mason

5/8 EXTRA SESSION – movie at 6:00 pm – Either EX MACHINA or 2001: A SPACE ODYSSEY

5/11 Nick Bostrom, SUPERINTELLIGENCE: PATHS, DANGERS, STRATEGIES, pp. 1-62 – paths to superintelligence and forms it might take

5/14 The Friendly AI Problem – readings from Bostrom (pp. 127-144), from James Barrat's OUR FINAL INVENTION, Bill Joy, "Why the Future Doesn't Need Us", <http://www.wired.com/wired/archive/8.04/joy.html>, and Eliezer Yudkowsky's "Friendly Artificial Intelligence" in SINGULARITY HYPOTHESES

Methods Presentation: Delphi Method – Josh and Emily

Reading from Elise Boulding's BUILDING A GLOBAL CIVIC CULTURE on Imaging processes

5/15 and 5/16 NOTE – FRIDAY AND SATURDAY WORKSHOP ON IMAGING running from 6:00-9:30 on Friday evening and then from 8:45 am - 8:00 pm Saturday followed by a party Saturday night: "Boogie Like It's The Future!!!!!"

5/18 Continued discussion of Bostrom, Joy and Yudkowsky

Methods Presentation on Ethnographic Methods – Chase and Htoo

5/21 "Nine Ways of Biasing the Odds Towards Friendly AI" Ben Goertzel and Joel Pitt, and Gray Cox essay in response

Recommended: Some different approaches to Machine Ethics at the meta-level – readings from Parts II and III of MACHINE ETHICS, and HOW TO READ HEIDEGGER

NOTE: Specially Recommended EXTRA SESSION -- THURSDAY May 21 (11:10-12:30) – Dr. Eric Galbraith, McGill University (skype visit)

5/25 Applying different ethical theories in machine ethics (Utilitarian, Kantian, Buddhist, etc.) – readings from Part IV in MACHINE ETHICS and ROBOT ETHICS

5/28 How might machines acquire values? – Bostrom (pp. 185-208), Steven Omohundro's "Rational Artificial Intelligence for the Greater Good" In SINGULARITY HYPOTHESES, Applications to a Wiser Earth: The Case of Drones – readings from WIRED FOR WAR

PAPER DUE: Critical Analysis of AI and Ethics

6/1 Transhumanism and the Future of the Species: Readings from HUMAN ENHANCEMENT and THE TRANSHUMANIST READER on Cyborg minds and uploading human minds

- 6/4 Closing visions and future for humans as improving us
Final Reflection Exercise Due
- 6/5 EXTRA: Specially Recommended Visit – **Dr. Cynthia Isenhour**, Department of Anthropology AND Climate Change Institute, UMO -- Topic: Economics/Planning/Risk/Hazards – 2:00 pm
- 6/6 EXTRA: Naomi Klein Graduation Speech (and perhaps extra session talking with her)

**Recommended:
Seminar on Climate Change
~Friday Seminars, 4:10-5:30, LH unless otherwise noted**
(Monday and Thursday talks will be at 11:10-12:35 in the LH)

MONDAY April 6 (11:10-12:30) – Dr. Peter Lippert, University of Arizona (skype visit)
We're in Hot Water: What can Scientific Ocean Drilling and Magnetofossils from 55 Million Years Ago tell us about our Earth Today?

MONDAY April 14 (11:10-12:30) – Dr. Katie Snell, University of Colorado, Boulder (skype visit)
Hot summers in the Bighorn Basin during the early Paleogene (~50-60 Ma)

FRIDAY April 24 – Dr. Jeffrey McKenzie, McGill University
Glaciers are rapidly receding in the Andes - What will happen to Water Resources?

FRIDAY May 1 – Dr. Sean Birkel, Climate Change Institute, UMO
Topic: Greenland/Ice Sheets, Title: TBA

FRIDAY May 8 – Dr. Jacquelyn Gill, School of Biology and Ecology, Climate Change Institute, UMO
Topic: Sediment Cores/Holocene Climate Change, Title: TBA

FRIDAY May 15 – Dr. Phil Camill, Bowdoin College
Assessing the vulnerability of high-latitude permafrost and soil carbon to modern and past climate changes

THURSDAY May 21 (11:10-12:30) – Dr. Eric Galbraith, McGill University (skype visit)

FRIDAY May 29 – TBA

FRIDAY June 5 – Dr. Cynthia Isenhour, Department of Anthropology, Climate Change Institute, UMO
The politics of climate knowledge: Sir Giddens, Sweden and the paradox of climate (in)justice