

**The Nature of Inquiry**  
KHC HC 301  
Fall 2012  
Prof. Dellheim, Kaufman, and Scully

Overview:

This course explores how we investigate nature, art, society and their interconnections. It does so by examining and juxtaposing the practices of three disciplines: history, natural science, and classics. Each section focuses on a specific problem in one of these fields while also considering the general questions of what we know, how we know it, and what knowledge means. Throughout the semester, we consider fundamental ethical, social, and aesthetic issues posed by the relationship of human beings to each other, nature, and works of art. The central concern in this class is to understand how and why people make decisions in complex circumstances; how they take or fail to take responsibility for their outcomes, and how they respond when gross mistakes are made by others or indeed by themselves.

Grading Scheme:

Each of the three units will account for 25% of the final grade, while the remaining 25% will be based on participation in the group discussion meetings and performance on the final exam.

Attendance, complete mental absorption, and gut-wrenching emotional engagement are required. Students are expected to complete every assignment. Failure to complete assignments may result in failure of the course. Grading for each unit will be a collaborative effort between the lead faculty member and discussion leader.

Each unit's grades will be calculated as follows:

- History: 33.3% for each of three papers
- Natural Science: 30% for each of two papers plus 40% for model tutorial
- Classics: 20% for the first two papers, 25% for the third, 35% for the fourth

Code of Conduct

Students are expected to abide by both KHC and BU's Undergraduate Academic Code of Conduct. The code of conduct can be found at <http://www.bu.edu/academics/resources/academic-conduct-code/>. Students may not use computers, tablets, smart phones, etc., without the express permission of the instructors.

Lecture:

Wednesday and Friday 9:30-11:00am

Discussions:

B1: Monday 9:30-11:00am MCS B19  
 B2: Friday 2:00-3:30pm KCB 107

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## Teaching Fellows

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## Assigned Texts:

## PART I HISTORY

Robert O. Paxton. Vichy France: Old Guard and New Order, 1940-1944. New York: Columbia University Press, 2001.

Hélène Berr. The Journal of Hélène Berr. New York: Weinstein, 2008.

Irène Némirovsky. Dolce in Suite Française. New York: Alfred A. Knopf, 2006.

Marcel Ophuls, The Sorrow and the Pity (film)

## PART II NATURAL SCIENCE

Ehrlich, Paul and Anne Ehrlich. The Dominant Animal: Human evolution and the environment, 2008.

Fisher, D. 2011. Modeling Dynamic Systems: Lessons for a first course (Second Edition). This is our self-guided (and class-discussed) STELLA modeling tutorial.

Do not purchase, except if you want your own workbook hard copy; the assignments and accompanying tutorials will be provided to students in electronic installments by the professor and teaching fellow.

Peer-reviewed scientific papers will be assigned as supplemental readings, TBA and distributed to the class.

Hubert Sauper, *Darwin's Nightmare* (film)

*Recommended but not required:* STELLA software, for students. The modeling software that I can distribute to you is a run-time version only. That means that it does everything you need to study your assignments, but it does not allow you to save your work as a new model. The software is about \$60. For a six-month version and twice that for a version that does not expire. The class has access to five full versions under my lab, but only five. It is a *lot* more fun to be able to save your models, but again, this feature is not required for you to do well in the course.

### PART III CLASSICS

Homer, *The Iliad* (Richmond Lattimore, tr.). Chicago: Univ. of C. Pr., 2011.

Slaughter, John Robert, *Omaha Beach and Beyond*. Minneapolis: Zenith Pr., 2007.  
Chapters 7 and 8 (available on the blackboard site)

- Videos – TBA

Course website: [blackboard.bu.edu](http://blackboard.bu.edu)

Lecture Schedule (subject to change):

1. Wed., September 5, “You Can’t Always Get What You Want ...”

#### ***PART I. HISTORY: FRANCE DURING THE NAZI OCCUPATION***

During and after the Second World War, the French propagated and embraced a national myth that emphasized heroic resistance against the Nazi Occupation. What happened between the fall of France in June 1940 and its liberation by the Allies in the summer of 1944, was, however, considerably more complex. The usual dichotomy between collaboration and resistance, the “good French” and the “bad French,” ignores the ambiguities of *les années noires*, the “dark years,” in France.

The first part of the course examines the practice of history by exploring ethical, social, and aesthetic issues posed by the Nazi Occupation of France. We begin with what historian and resistance fighter Marc Bloch called the “strange defeat” of the French military by the German invaders. The centerpiece of our story is the experience of different individuals and groups,

including Vichy collaborators, Resistance fighters, French and foreign-born Jews as well as artists and intellectuals. We end with the relationship between history and memory in France from 1944 to the present.

Focusing on an a critical historical moment, we look at how historians frame problems; how they construct narratives; how they evaluate the validity of different types of evidence; how they interpret sources, including architecture, literature, painting, and film, and how they deal with moral issues. Throughout we consider the narratives put forth by different individuals and groups.

Assignments: Topics and due dates are tentative.

2. Fri., Sept 7                      The Dark Years: History, Architecture, and Memory

- Mon, Sept 10 – Discussion

C.P. Snow, “The Two Cultures.”

Edward Wilson, Consilience, pp. 1-14

Begin reading Paxton, Vichy France, pp. 9-233

3. Wed, Sept 12                      Causation: “Strange Defeat”

Paxton, Vichy France, pp. 9-233

4. Fri, Sept 14                      History and Literature: Views of Collaboration

Némirovsky, *Dolce*

- Mon, Sept 17- Discussion

5. Wed, Sept 19                      Inclusion and Exclusion

6. Fri, Sept 21                      Art and History

Archival documents (to be distributed)

7.        Mon., Sept. 24                      Life and Death

FIRST PAPER DUE (*comparison of Paxton and Némirovsky*)

- Wed, Sept 26                      Discussion

8.        Fri, Sept. 28    The Lives of Others

The Journal of Héléne Berr

- Mon, Oct. 1 Discussion

SECOND PAPER DUE (evaluate the case of of Georges Wildenstein)

9. Wed, Oct 3 Culture: Collaboration and Resistance

Paxton, Vichy France, pp. 230-286.

10. Fri, Oct 5 History, Film, and Memory

Ophuls, The Sorrow and the Pity

- Mon, Oct 8 – Columbus Day – NO CLASSES
- Tues, Oct 9 (Substitute Monday Classes)- Discussion

THIRD PAPER DUE (evaluate wartime choices in Journal of Hélène Berr/Sorrow and the Pity)

## PART II. NATURAL SCIENCE: **The Natural Science of Humanity**

Earth systems range from simple to very intricate, but all- even those with only a few people or species- are **complex**. The immediate future of humanity rests upon our ability to develop a science for living sustainably, ensuring that people appreciate that they are and act like they are an integral part of earth systems. This is accomplished by perfecting our ability to observe and understand system behavior. We apply this knowledge as a guide to the decisions we make every day, in order to achieve sustainable and just outcomes for people and avoid outcomes that are dead-ended or unjust. We shall explore options that defer social and ecological collapse through the understanding and stewardship of human-natural coupled systems. We'll consider ecological, economic, and social systems dynamics, and tie them all together through a thought experiment simulator called "dynamic modeling". Once we grasp the concept of sustainability for ourselves, we must communicate the basic principles to others. Students will be encouraged to do this through two papers: one a scientific narrative, and the other an exploration of social-ecological linkages conducted through quantitative thought experiments on a computer (models).

*Vanua* is a Fijian word for a coastal watershed ecosystem that runs from ridge top to open ocean, and from the maximum height in the atmosphere to the greatest inhabited depths of earth and water, encompassing all living organisms *including people and their cultures*. While somewhat self-contained, a *vanua* is linked dynamically to its neighbors, and is embedded within a hierarchy of nested ecosystems all the way up to the biosphere and global economy as a whole.

Each student will do a project that focuses on any *vanua* of each student's choosing. The project is in two parts. The first is a problem statement on some aspect of human-natural coupling in the

*vanua*, and a proposal to study it through a modeling experiment. The second is a log of these computational experiments using the dynamic modeling software called STELLA. Together the proposal and modeling adventure examine how variation in human behavior could lead to alternative ecosystem scenarios, as manifested in the *vanua* and as embodied in human expression. The goal is for students to explore the possible outcomes of a change in human behavior in the *vanua*; i.e., a change in environmental culture or policy.

The lab portion of the module consists of five components: (1) each student individually progresses through a tutorial of model-building and testing exercises drawn from Fisher's STELLA-based text on dynamic systems; (2) simple STELLA models from Fisher and other sources are manipulated in lab as a group modeling exercise, to learn how to model distinct types of dynamic processes. Also, we run and analyze mature dynamic ecosystem service models in real-world applications (e.g. STELLA model for fisheries and biodiversity in Lake Victoria, East Africa, and MIMES-MIDAS model for coastal resources in Massachusetts Bay) to experience simple and emergent behavior in simulated systems, and to learn about tradeoffs and simulation modeling as a tool in conflict resolution; (3) group exploration of nonlinear models with attractors; (4) clinic to provide troubleshooting support for the individual student modeling projects; and (5) each student completes a project in three phases. The first phase is a written narrative describing key dynamics and resource tradeoffs in a coastal community of people and the ecosystem in which they are embedded (a *vanua*). In the second phase the student constructs an original STELLA model that captures these dynamics. In the final phase, the student parameterizes the model from the literature and his or her own hunches, conducts a series of sensitivity analyses, and then summarizes mathematically and verbally, the major insights into the relationship between humanity and nature that are suggested by the model.

We will have two class field trips to sites of ongoing ecosystem service modeling in Massachusetts: Stellwagen Bank National Marine Sanctuary (weather permitting, else a shore point on Mass Bay such as Plum Island marsh), and the Broadmoore Wildlife Sanctuary in the Charles River Basin (Natick).

The Second Unit is not a class in modeling, per se; rather it is an introduction to modeling as a tool for comprehending, illuminating, and communicating the dynamic relationships between human and natural systems. Students are expected to acquire the basic concepts of system dynamics, complexity, and coupled human and natural systems, and to be able to interpret the structure, behavior, and meaning of the major elements of ecosystem simulation models.

Class and Lab Schedule (a= readings, b= individual lab homework).

- Wed, Oct 10 Endless Change So Wondrous
  - a. Ehrlich<sup>2</sup>, Chapters 1 and 2
  - b. Fisher 2, Dynamics of Population Growth
  
- Fri, Oct 12 Accident and Opportunity in Evolutionary History
  - a. Ehrlich<sup>2</sup>, Chapters 3 and 4
  - b. Fisher 3, Generic model structures

- Mon, Oct 15 – Group Lab and Discussion- introduction to linear and structured equation models

Wed, Oct 17 Evolution of Mental and Social Constructs

- Ehrlich<sup>2</sup>, Chapters 5 and 6
- Fisher 4, Nonlinearity as illustrated by drug assimilation

Fri, Oct 19 History as Cultural Evolution on Ecological Landscapes

- Ehrlich<sup>2</sup>, Chapters 7 and 8
- Fisher 5, Rapanui Fluey: the Mysteries of Easter Island

- Mon, Oct 22 – Group Lab and Discussion- resource exhaustion and tradeoffs

12. Wed, Oct 24 The Cycles of Life, Complete and Corrupted- Lake Victoria case study

- Ehrlich<sup>2</sup>, Chapters 9 and 10
- Fisher 6 and 7, Contagion 101

FIRST PAPER DUE: Vanua project problem statement and proposal

13. Fri, Oct 26 Birth of the Anthropocene- Massachusetts Case Study

- Ehrlich<sup>2</sup>, Chapters 11 and 12
- Fisher 8, The Life and Death of Cities

- Mon, Oct 29- Group Lab and Discussion- nonlinearity and state space reconstruction

14. Wed, Oct 31 The Death of Nature- Fiji-Palau Oceania Case Study

- Ehrlich<sup>2</sup>, Chapters 13 and 14
- Fisher 8, The Life and Death of Cities

15. Fri, Nov 2 Tikkun Olam- How to Save the World

- Ehrlich<sup>2</sup>, Chapters 15 and 16
- Fisher 10, Knock-on Effects of Pollution

- Mon, Nov 5- Group Lab and Discussion- project troubleshooting

16. Wed, Nov 7: Sharing Original Discoveries

SECOND PAPER and MODEL DUE: Experimental Analysis of a Dynamic Compartment in the Vanua

*Part III. CLASSICS: HOMER'S ILIAD*

Turning to Classics, we turn to myth, fiction in poetry. Homer's Iliad is certainly older than his Odyssey and probably the first piece of literature we have from the West. Its first word is *menis*, a divine wrath shared by only one mortal, Achilles, and it is story of war. The poem's allusion to the imminent doom of sacred Troy hangs over it like a black cloud. Behind it all is the "will of Zeus." How are we to evaluate Achilles' divine wrath, Hektor's death (sorry to give away the plot), the female voices of Andromache, Hekabe, and Briseis, and the roles of Zeus, Athena, Hera, Apollo, Aphrodite in the poem?

In reading literature, there is as much excitement in asking questions as there is in coming up with answers. No answer is absolute; all answers must be partial and imperfect. Rarely, if ever, would one look for anything that might be called truth. Yet, how we come up with these questions and answers is of the utmost importance to the activity of reading. How do we evaluate that one question or answer is of greater value than another? Furthermore, the story is imagined, grounded to be sure in history and cultural values to an extent, but it is an imagined construct just the same. The ultimate question is why do we turn to literary story, to fiction over fact, to the imagined world over the actual world?

- Fri, Nov 9 Read and be ready to discuss Iliad Bk 1
  - Mon, Nov 11 - Discussion
 First Paper Due (2-3 pp): Evaluate Achilles' decision to withdraw from the Greek army
- Wed, Nov 14 Read and be ready to discuss Iliad Bk 2-4
- Fri, Nov 16 Read and be ready to discuss Iliad Bk 4-6.236 AND Slaughter, Omaha Beach chaps. 7 and 8 (on blackboard)
  - Mon, Nov 19 - Discussion
 Second Paper Due (2-3 pp): Compare Diomedes' *aristeia* to Slaughter's account of war

Wed, Nov 21, Fri, Nov 23 – Thanksgiving Recess – NO CLASSES

- Mon, Nov 26 - General course discussion  
Assignment to be given later.
- Wed, Nov 28 Read and be ready to discuss Iliad Bk 6.237-9
- Fri, Nov 30 Read and be ready to discuss Iliad Bk 10-18.147
  - Mon, Dec 3 – Discussion
 Third Paper Due (3-5 pp): Evaluate Achilles' decisions in Books 9, 16, and 18
- Wed, Dec 5 Read and be ready to discuss Iliad Bk 18.148-22



- Fri, Dec 7 Read and be ready to discuss Iliad Bk 22-24

- Mon, Dec 10 – Discussion

Fourth Paper Due (5 pp). Write on ONE of the following questions:

1. Evaluate Achilles as a semi-divine and as a mortal figure
2. Evaluate Achilles' killing of Hector and release of his body
3. Does the climax of the Iliad occur at the moment Achilles kills Hector in Bk 22 or his reconciliation with Priam in Bk 24?

- Wed, Dec 12 Common course event: “All Together Now”