CSCS Ph.D. and Diploma 2009-10
Monsoon Semester 2009
Course Number: 903

Natural and Human Sciences: Arguing about the Two Cultures

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Higher Education has suffered from an inherited separation of the study of ‘natural worlds’ (material and biotic) and the ‘world of humans’. As a result, natural sciences (focused on the study of natural worlds) and humanities and social sciences (focused on the study of human worlds) have developed as two insulated spaces, each with their exclusive and narrow focus. This course wishes to re-visit and understand this separation (if at all there is a separation); as also situate the separation (of the Naturwissenschaften and the Sozial/Geistes-wissenschaften) in history and context. When and where was this separation instituted? How and why was it instituted? Who were its proponents? What were the arguments given in favour of the separation? What do we do with the separation today? Do we retain it? Or do we try and integrate the natural and social sciences? Why is it (if at all) necessary to integrate? What were the problems of the separation? What new (in terms of both solutions and problems) would integration offer? Is it at all possible to integrate? What would integration mean? Would it mean a displacing of social science methodologies by natural science methodologies? Would it mean a diluting of natural science methodologies by social science methodologies? Or would natural science be strengthened in the process? Would integration give birth to a ‘new science’ that is neither exclusively natural nor social? Or would the “line between the human and the natural sciences be firmly in place”? What are natural and social scientists saying about the separation? What are their thoughts on integration? This course will take up most of the above-mentioned questions (some in detail, others tangentially) in the form of readings that would be discussed in class and that would require participants to critically respond to and comment upon.

Week 1 – August 3:

**Natural and Human Sciences: Understanding the Separation**

(a) Edelman, Gerald M. “Forms of Knowledge: The Divorce between Science and the Humanities” & “Repairing the Rift” in *Second Nature: Brain Science and Human Knowledge*.


Week 2 – August 10:

**The Two Cultures**

Week 3 – August 12:

**What is to be Done: Repair/Transcend the Separation?**
(a) Cohen, Bernard I. “Note on 'Social Science' and on 'Natural Science'” in *Interactions: some contacts between the natural sciences and the social sciences*.
(b) Berlin, I. “The Divorce between the Sciences and the Humanities” in *Against the Current: Essays in the History of Ideas*.

Week 4 – August 17:

**The Limits of Social Science**
(b) Flyvbjerg, Bent. *Making social science matter: why social inquiry fails and how it can succeed again* (excerpts).

Week 5 – August 24:

**The Philosophical Discourse of Modernity**
(a) Habermas, Jurgen. “A Historical Reconstruction” in *On the logic of the social sciences “The Dualism of the Natural and Cultural Sciences”*.
(b) Bruno Latour. “The Proliferation of Hybrids” & “What Does It Mean To Be A Modern?” & “Revolutaon” (What Is a Quasi-Object?) in *We have never been modern*.

Week 6 – August 31:

**What is ‘Science’? What Makes ‘Science’ Possible?**
(a) Sorell, Tom. “Scientism and Scientific Empiricism” & “The roots of Scientism” in *Scientism: philosophy and the infatuation with science*.
(c) Richard Levins. “Ten Propositions on Science and Antiscience” in *Science Wars*.

Week 7 – September 7:

**Scientific Revolutions**
(a) Michael Ruse. “Karl Popper and Thomas Kuhn/Two Theories of Science” in *Mystery of mysteries: is evolution a social construction?*
Week 8 – September 14:

Science and Self-Reflection

Week 9 – October 5:

Objectivity
(b) Noam Chomsky. “Science/Rationality” in Z Papers.
(c) Herbert Simon. “Does Scientific Discovery Have a Logic?” in Models of Discovery and other topics in the methods of science.

Week 10 – October 12:

Fact/Value
(b) Karl Popper. “Knowledge: Subjective versus Objective” in Popper Selections.
(c) Latour, Bruno. “Do You Believe in Reality?” in Pandora's hope: essays on the reality of science studies.

Week 11 – October 26:

The Birth of the Sciences
(b) John Losee. “Newton's Axiomatic Method” in, A historical introduction to the philosophy of science.
(e) Hacking, I. “Microscopes” in Representing and intervening: introductory topics in the philosophy of natural science.

Week 12 – November 2:

Science and Christianity: Break or Continuity?
(c) Foucault, M. “Preface to the 1961 Edition” in History of Madness.
Week 13 – November 9:

**The Limits of Science: Why ‘Physics’ is a Bad Model for Physics?**

(a) Polkinghorne, John. “Is science enough?” & “Understanding the physical world” in *Beyond science: the wider human context*.


(c) Robert Almeder. “The Limits of Natural Science: Rescher's View” in *Science at century's end: philosophical questions on the progress and limits of science*.

(d) Hawkesworth, Mary E. “From Objectivity to Objectification: Feminist Objections” in *Rethinking objectivity*.

(e) Feyerabend, P. “How to Defend Society Against Science” in *Scientific revolutions*.

(f) Sandra Harding. “Why “Physics” is a bad Model for Physics” and “Strong Objectivity and Socially Situated Knowledge” in *Whose Science? Whose Knowledge?*


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Week 14 – November 16:

**Orthodoxy under Attack: From the Prescriptive to the Descriptive**


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**Defending Science:**


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**New Directions:**

(a) Stump, David J. “New Directions in the Philosophy of Science Studies” in *The disunity of science: boundaries, contexts, and power*.