

TEXTS AND IDEAS :
A LONG HISTORY OF CYBERNETICS
CORE-UA 400

Lectures on Monday and Wednesday, 12:30-1:45pm
12 Waverly Place G08

Teaching Staff:

Professor Leif Weatherby (leif.weatherby@nyu.edu) / German Department / 19 University Place, Room 322 / office hours: Wednesdays, 2-3:30pm
Recitation Instructors: Lauren K. Wolfe, Tyler Harper

Course Description

Derived from the Greek word for “steersman,” “cybernetics” was an interdisciplinary movement of engineers and management experts, philosophers and scientists. Its goal was to recast the full range of scientific and philosophical knowledge with the aim of studying and guiding organized systems—animals, machines, social bodies. Its leading figures drew on a long history of mostly Western philosophical and scientific thought, and their work generated and was inspired by a new kind of literature called “science fiction.” This course is an introduction to this discipline and its deep intellectual roots. We will proceed thematically, starting with the key terms “communication” and “control,” and treating such topics as the computer, the system, the animal, intelligence, and emergence. Readings will include early and second-wave cyberneticians like Norbert Wiener, Warren McCulloch, and Ross Ashby, as well as John von Neumann, Heinz von Foerster, and Humberto Maturana and Francisco Varela. We will construe their concerns in terms of a long intellectual history stretching back to Plato, Kant, and Peirce, among others, complementing these readings with science fiction from Isaac Asimov to Octavia Butler, from Samuel R. Delany to Ursula Le Guin to Neal Stephenson.

Course Goals

This course is conceived in the first instance as a course in intellectual history or the history of ideas, presenting detailed attention in lecture and recitation to the way ideas get expressed in complex writing. The goal is to provide students with extensive opportunities to practice textual interpretation and to explore the complexity of ideas through small-group discussion and frequent writing, and to acquaint students with some of the literary and philosophical works that have been most influential in shaping the contemporary world and with significant instances in which the ideas in these works have been debated, developed, appropriated, or rejected.

Participation and Written Requirements:

All texts must be read by the day they are assigned. Please bring books/reading materials to class on assigned day. You are responsible for changes in the syllabus and extra readings that are announced in class.

You are responsible to make one in-recitation presentation of a text during the semester. You should sign up for and discuss this expectation with your recitation instructor in the first two weeks of the semester.

The written requirements for the course consist in two in-class examinations as well as three 4-5-page papers, with topics and guidelines to be distributed in advance.

Readings:

The readings throughout the course must be completed *before* the relevant lectures. The philosophical and scientific texts are often excerpted to make them manageable. During the semester, you will read 5 science fiction novels – highlighted in green below. These texts are longer, and you will need to plan accordingly.

Required Books (available at NYU Bookstore):

Norbert Wiener, *Human Use of Human Beings: Cybernetics and Society* (London: Free Association, 1989)

Plato, *Phaedrus* (Penguin)

Isaac Asimov, *Foundation* (New York: Bantam, 2008)

Vernor Vinge, *True Names* (New York: Tor, 2001)

Samuel R. Delany, *babel 17*

Neal Stephenson, *Snow Crash*

Texts on Classes marked ®

Grading:

Grades will be comprised of the following components

- 4-5-page papers 30% (3x10%)
- In-recitation presentation 10%
- Midterm examination 20%
- Final examination 20%
- Attendance and participation 20%

Attendance:

Attendance at all lectures and recitations is mandatory and will be taken at every meeting. You are allowed 3 absences (excused or unexcused) from the lectures and 1 (excused or unexcused) from recitations; subsequent absences will adversely affect your grade. For all meetings, please arrive on time; an attendance roster will be circulated shortly after the beginning of each class. If you do not arrive at class in time to sign the attendance sheet, you will be recorded as absent. Additionally, if you are seen to leave the lecture room after signing the attendance roster but before the lecture is over, your name will be struck from the attendance roster for that day. Please speak with your recitation instructors *before class begins* if you need to dismiss yourself before the end of lecture. Each lecture will offer the possibility for questions and discussion.

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 Core UA-400
 Professor Leif Weatherby
 ® = texts on Classes

<i>Week</i>	<i>Lecture I</i>	<i>Lecture II</i>	<i>Assignments</i>
<i>i.</i>		Sept 5 - <i>Introduction</i>	
<i>ii.</i> <i>Communication and Control</i>	Sept 10 – <i>Gernsback History</i> <ul style="list-style-type: none"> • William Gibson, “The Gernsback Continuum”® (pdf available on Classes) • Hannah Arendt, “On the Modern Concept of History”® • Ursula Le Guin, “Introduction” to <i>The Left Hand of Darkness</i> 	Sept 12 - <i>Cybernetics</i> <ul style="list-style-type: none"> • Norbert Wiener, Julian Bigelow, Arturo Rosenblueth, “Behavior, Purpose, and Teleology” ® • Norbert Wiener, <i>Human Use of Human Beings: Cybernetics and Society</i> (London: Free Association, 1989) (Chapters 1 and 2) ® 	
<i>iii.</i> <i>Information</i>	Sept 17 <ul style="list-style-type: none"> • Wiener, “Information, Language, and Society” chapter VIII of <i>Cybernetics</i> ® • Isaac Asimov, <i>Foundation</i> (New York: Bantam, 2008) 	Sept 19 <ul style="list-style-type: none"> • Warren Weaver, “Some Recent Contributions to The Mathematical Theory of Communication”® • Roman Jakobson, “Linguistics and Poetics,” pp 1-8 ® • Gregory Bateson, “A Theory of Play and Fantasy” ® 	
<i>iv.</i> <i>Writing</i>	Sept 24 <ul style="list-style-type: none"> • Plato, <i>Phaedrus</i> • Jacques Derrida, “Plato’s 	Sept 26 <ul style="list-style-type: none"> • Alan Turing, “Computer 	

	Pharmacy” 95-117	Machinery and Intelligence” <ul style="list-style-type: none"> E.T.A. Hoffmann, “The Sandman” 	
v.	Oct 1 <ul style="list-style-type: none"> Warren McCulloch and Walter Pitts, “A Logical Calculus Immanent in the Ideas of the Nervous System”®; 	Oct 3 <ul style="list-style-type: none"> Kant, “Introduction” to the <i>Critique of Pure Reason</i> Leibniz, “Preface to the General Science”® 	
vi. Computers	Oct 9 – FALL BREAK class meets on Tuesday <ul style="list-style-type: none"> John von Neumann, <i>The Computer and the Brain</i>, pp. 28-39 Vannevar Bush, <i>As We May Think</i>® Sigmund Freud, “The Mystical Writing Pad” ® 	Oct. 10 <ul style="list-style-type: none"> Ada Lovelace, “Notes on the Sketch of the Analytical Engine, Note A”® Charles Babbage, <i>Economy of Machinery and Manufactures</i> (XIX, “On the Division of Mental Labor”); <i>Ninth Bridgewater Treatise</i>, I and VII 	
vii. MIDTERM	Oct 15 REVIEW	Oct 17 MIDTERM	
viii. Computers	Oct 22 <ul style="list-style-type: none"> Boole, <i>The Laws of Thought</i>, II Marx, “The General Formula”; “Fragment on Machines” 	Oct 24 <ul style="list-style-type: none"> Friedrich Hayek, “The Use of Knowledge in Society” ® 	
ix.	Oct 29 <ul style="list-style-type: none"> Carl Schmitt, “Five 	Oct 31 <ul style="list-style-type: none"> “The Triple Revolution Manifesto” 	

	<p>Corollaries” from <i>The Nomos of the Earth</i> ®</p> <ul style="list-style-type: none"> • Gilles Deleuze, “Postscript on the Society of Control” ® 	<ul style="list-style-type: none"> • Richard Barbrook and Andy Cameron, “The Californian Ideology” • Stuart Brand, <i>The Whole Earth Catalogue</i> (browse)® 	
x.	<p>Nov 5</p> <ul style="list-style-type: none"> • Stafford Beer, <i>Cybernetics and Management</i> (pp. 1-61) ® • Eden Medina, “The CyberSyn Revolution” 	<p>Nov 7</p> <ul style="list-style-type: none"> • Samuel R. Delany, <i>babel 17</i> 	
xi.	<p>Nov 12</p> <ul style="list-style-type: none"> • Von Foerster, “On Self-Organizing Systems and their Environments” ® • James Lovelock, <i>Gaia: A New Look at Life on Earth</i> ® 	<p>Nov 14</p> <ul style="list-style-type: none"> • Humberto Maturana and Francisco Varela, “Autopoiesis: The Organization of the Living,” pp 73-85 ® • Georges Canguilhem, “The Problem of Regulation in the Organism and in Society”® 	
xii.	<p>Nov 19</p> <ul style="list-style-type: none"> • Bense, “Small Abstract Aesthetics” ® • Kraftwerk, “Man Machine” 	<p>Nov 21 – THANKSGIVING BREAK</p>	
xiii.	<p>Nov 26</p> <ul style="list-style-type: none"> • Friedrich Kittler, “There is No Software” ® 	<p>Nov 28</p> <ul style="list-style-type: none"> • Octavia Butler, <i>Patternmaster</i> ® 	

<p><i>xiv.</i></p>	<p>Dec 3</p> <ul style="list-style-type: none"> • Nov 28 Donna Haraway, <i>The Cyborg Manifesto</i> ® • Clynnes and Kline, “Cyborgs and Space” ® • J. R. Lickliger, “Man-Computer Symbiosis” ® 	<p>Dec 5 Nov 26</p> <ul style="list-style-type: none"> • John Perry Barlow, “A Declaration of the Independence of Cyberspace” • Allucquere Rosanne Stone, “Will the Real Body Please Stand up?” • Vernor Vinge, <i>True Names</i> 	
<p><i>xv.</i></p>	<p>Dec 10</p> <ul style="list-style-type: none"> • Neal Stephenson, <i>Snow Crash</i> 	<p>Dec 12 REVIEW FOR FINAL</p>	