English 184C: Data and Knowledge in the Humanities

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Description

With the computational and scientific turn during the late twentieth century, knowledge and data have become linked in the public imagination: knowing more things, in other words, has become equated with knowing more about things. In our current moment, therefore, how do skills such as interpretation and critical thought work with data in the process of creating knowledge? As an emerging field, Digital Humanities (the use of computational technology to study large archives of texts) is forced to grapple with this problem as it combines a scientific interest in data analysis with a humanities interest in figuring out what the data means. In this course, we situate these new humanities approaches by looking at how different kinds of arguments make use of data across disciplines. Beginning with the mathematical revolution in the seventeenth-century, we will investigate how subjects like cosmology, which were long the domain of philosophy and theology, became mathematical subjects. Similarly, in the early nineteenth-century, sociology emerged as a statistical intervention into the philosophic understanding of human society. As we move from historical data revolutions to the present day, we will look together at how the interaction between critical interpretation and data analysis is reshaping knowledge in the humanities, how our current technological moment repeats the transformations of the past, and how the future evolution of scholarship will depend upon the ways in which we answer the dual needs of data and interpretation now.

In addition to readings and class discussion, this course will also feature guest lectures from scholars from a range of disciplines, including the sciences and the social sciences, who will discuss how they, in their own field, create knowledge from data.

Course Outcomes

Students in this class will learn to assess the difference between data/factual knowledge and theoretical knowledge within the context of academic disciplines. They will study the how the relationship between theory and method has changed historically and how it continues to alter the disciplinary practices of the humanities. Students will also learn the information-based theoretical basis for new kinds of Humanities practices, particularly the Digital Humanities. They will learn the role that information has played within different disciplinary contexts, particularly within the history of science and the development of the scientific method, and they will acquire the skills to assess what constitutes appropriate data, including how to gather fact-based information, and mobilize it within theoretical argumentation, for humanities and social inquiry.

Course Books:

The Blackwell Companion to Digital Literary Studies (available online)
Michel Foucault The Order of Things
Margaret Cavendish The Blazing World
Charles Darwin *The Origin of the Species*
Thomas Malthus *Essay on the Principle of Population*
William Empson *7 Types of Ambiguity*
Franco Moretti *Graphs, Maps and Trees*

**Work and Assignments:**

1. Participation and Attendance 20%
2. Reading Responses 30%
3. Presentation 20%
4. Final Project 30%

**Participation and Attendance**

This course places a high priority on participation in several venues. First, in-class discussion is critical to helping us understand the methodological and theoretical differences between the disciplines that we will study. As such, you are expected to be in class with questions prepared (this will be done hand-in-hand with the online reading responses that you will be required to submit).

**Reading Responses**

We will be covering a wide variety of material this quarter, from a number of different disciplines and periods. While none of the readings will be overly long, they will require thought, particularly in regards to how the readings shed light on the objectives of the course. In order to better help you prepare for class, therefore, you will be required to submit a brief, online response to at least one of the readings for the upcoming week, which will be due the day before the first class of that week. These responses have no set format: they can include your private reflections on the reading, links to similar or contrasting materials, or questions, but they should demonstrate your thoughtful engagement with the material.

**Presentation**

In class, we will focus exclusively on real-world historical and contemporary examples of how the disciplines of the humanities deal with the introduction of data, as well as how the sciences and social sciences have undergone their own data revolutions. This, however, is only one method through which we can understand the place of data in the creation of knowledge. For your presentation, you will try something different: instead of finding a pre-existing example, you will chose a discipline of interest to you and imagine what the ideal informational resource for that discipline would look like. Then, in a 5-10 minute presentation, present this new, undiscovered data to the class by discussing how it would revolutionize the study of your chosen discipline. Further details on this assignment will be distributed in class.

Presentations will take place at the beginning of the second class each week, after week 3. You will sign up for presentation slots during week 2.

**Final Project**
For your final project, you will write an original, well-researched paper on the relationship between data and knowledge in a disciplinary context. The actual discipline that you focus on, as well as the specifics of the relationship that you describe (historical, conjectural, methodological, etc) will be your choice. Further details about this project will be given with the formal assignment later in the quarter.

**Students with Documented Disabilities**

Students who may need an academic accommodation based on the impact of a disability must initiate the request with the Office of Accessible Education (OAE). Professional staff will evaluate the request with required documentation, recommend reasonable accommodations, and prepare an Accommodation Letter for faculty dated in the current quarter in which the request is being made. Students should contact the OAE as soon as possible since timely notice is needed to coordinate accommodations. The OAE is located at 563 Salvatierra Walk (phone: 723-1066, URL: [http://studentaffairs.stanford.edu/oae](http://studentaffairs.stanford.edu/oae)).

**Honor Code**

The Honor Code is the University's statement on academic integrity written by students in 1921. It articulates University expectations of students and faculty in establishing and maintaining the highest standards in academic work:

The Honor Code is an undertaking of the students, individually and collectively:

1. that they will not give or receive aid in examinations; that they will not give or receive unpermitted aid in class work, in the preparation of reports, or in any other work that is to be used by the instructor as the basis of grading;
2. that they will do their share and take an active part in seeing to it that others as well as themselves uphold the spirit and letter of the Honor Code.
3. The faculty on its part manifests its confidence in the honor of its students by refraining from proctoring examinations and from taking unusual and unreasonable precautions to prevent the forms of dishonesty mentioned above. The faculty will also avoid, as far as practicable, academic procedures that create temptations to violate the Honor Code.
4. While the faculty alone has the right and obligation to set academic requirements, the students and faculty will work together to establish optimal conditions for honorable academic work.

**Course Schedule**

**Introduction**

*Class 1: Introduction: What is Data? / What is Knowledge?*

**How do we know what we know?**

*Class 2: Scholasticism and the Scientific Method  
Text: Francis Bacon: Selections from *Novum Organum*; Wired: “The End of Theory”*

*Class 3: Epistemology*
Text: Michel Foucault: Selections from *The Order of Things*

Class 4: Knowledge in a historical context
Text: Thomas Kuhn: Selections from *The Structure of Scientific Revolution*; Karl Popper: Selections from *The Logic of Scientific Discovery*

**Historical Case Study 1: Cosmology**

Class 5: Text: Aristotle: Selections from “On the Heavens”; Thomas Aquinas: Selections from *Summa contra Gentiles*

Class 6: Text: Isaac Newton: Selections from *Principia Mathematica*; Margaret Cavendish: Selections from *The Blazing World*

**Historical Case Study 2: Biology**

Class 7: Text: Erasmus Darwin: *The Temple of Nature*; Karl Linnaeus: Selections from *Systema Naturae*

Class 8: Gregor Mendel: “Experiments in Plant Hybridization”; Charles Darwin: Selections from *On the Origin of Species*

**Historical Case Study 3: Anthropology**

Class 9: Text: Johann Blumenbach: Selections from *On the Natural Varieties of Mankind*; Samuel Morton: Selections from *Crania Americana*

Class 10: Text: Franz Boas: “Changes in the Bodily Form of Descendants of Immigrants”

**Historical Case Study 4: Sociology**


Class 12: Text: Pierre Bourdieu: Selections from *Distinction*;

**Data in the Humanities: Previous Approaches**

Class 13: Text: William Empson: Selections from *Seven Types of Ambiguity*;

Class 14: Text: Roman Jakobson: Selections from *Linguistics and Poetics*; Leo Spitzer: Selections from *Linguistics and Literary History*

**Data in the Humanities: The Quantitative Turn**
History and the Archive

Class 15: Texts: Marshal McLuhan: Selections from *Gutenberg Galaxy*

Class 16: Texts: Jo Guldi and David Armitage: Selections from *The History Manifesto*

Literary Studies

Class 17: Text: Franco Moretti: Selections from *Graphs, Maps and Trees*


Class 19: Text: The Stanford Literary Lab: “Canon/Archive/Literary History” and “On Paragraphs”