“Just now, in civilization, and the arts, the people of Asia are entirely behind those of Europe; those of the East of Europe behind those of the West of it; while we, here in America, think we discover, and invent, and improve, faster than any of them… In anciently inhabited countries, the dust of ages – a real downright old-fogyism – seems to settle upon, and smother the intellects and energies of man. It is in this view that I have mentioned the discovery of America as an event greatly favoring and facilitating useful discoveries and inventions.” – Abraham Lincoln, Speech on Discoveries and Inventions, February 11, 1859

Introduction

Abraham Lincoln is one among countless Americans who have claimed for their country and its people a special talent for inventiveness and innovation. This seminar examines that proposition. Through readings and discussion, we will examine several contexts over the course of American history in which technical innovation appears to have thrived. We’ll begin with Lincoln’s own time – the world of the Yankee workshop – and then move forward in time, pausing in Edison’s world before passing into the twentieth century with its corporate research laboratories, technological universities, and world wars. We’ll finish in Silicon Valley, which for two decades or more has served as the Holy Grail for those wishing to foster technical creativity and innovation.

Our goal is to gain some understanding of the conditions that supported innovation in these contexts. Was New England really so innovative before the Civil War? If so, why? How did it differ from, say, the American South? Why did individual inventors such as Edison appear to have thrived in the decades after the Civil War? Did the patent system, which these inventors worked more heavily than any technologists before or since, have something to do with it? And why did these independents become eclipsed by corporate laboratories in the twentieth century? Where do institutions such as Georgia Tech fit into the picture? And how did war influence innovation? By 1960, Dwight Eisenhower spoke of something called the military-industrial-university complex. What did he mean, and was that complex conducive to innovation? What, for instance, might it have contributed to Silicon Valley?

These sorts of questions will occupy us as a group for most of the course. Each week, we will meet to discuss common readings. Before class, you will submit a question about those readings, along with a brief explanation of why you think the question is important.
In class, you will discuss your own question but also those of your classmates. You are expected to contribute regularly. Students, not the professor, carry this course.

Over the course of the term, you will also complete a major research paper of relevance to the subject of this course. You may choose to do an extended case study of a particular innovation; you might want to look at a time or place that we have not chosen to focus upon as a group; you might look at a particular group of Americans; you might examine literary or social critiques of innovation. The choice is wide. But no matter what the particular topic, your paper should seek to shed light upon the social and cultural context of innovation.

Requirements and Readings

You are expected to complete the assigned readings before class and submit a question and brief explanation of its significance to Professor Usselman via email by noon each Wednesday. Most of the readings will come from journal articles available online, in the HTS Reading Room, or in the library. You may be asked to acquire one or two books fort he latter part of the term. Readings will be assigned sequentially as we go along, as I want to retain flexibility to delve more or less deeply into topics as interest warrants.

The term paper will be due the second to last week of class, so that you may have time to present your findings to the class and perform final revisions.

Class participation, including your written questions and contributions to discussion, count 50% of your grade. Your term paper counts the other half. As a last resort, I reserve the right to give quizzes or other examination tools to cover the assigned readings. These will be applied toward the participation grade.

You are expected to observe the Georgia Tech honor code. This is especially important with regard to plagiarism. We will discuss this more fully in class when we cover requirements for the term paper.

SCHEDULE

1/11 Introduction

1/18 Cultural Background: American-ness of American Technology

Common Readings:


John Kouwenhoven, The Beer Can by the Highway, Ch. 2 and 8.
1/25 Ingenious Yankees?

Common Readings:


Supplemental Readings:


2/1 Nineteenth-Century Knowledge Base

Common Readings:


Supplemental Readings:


2/8 Learning in the Age of Industry

Common Readings:


**Supplemental Readings:**


**2/15 The Age of Invention**

**Common Readings:**


**Supplemental Reading:**


2/22 Corporate R&D: Origins and Overview

Common Readings:


Supplemental Readings:


3/1 Corporate R&D: Product Innovation

Common Readings:


Supplemental Readings:


3/8 No Class – Individual Meetings

3/15 Public Institutions before WWII

Common Readings:


Supplemental Readings:


3/22 No Class – Spring Break

3/29 WWII and the Cold War
Common Readings:


Supplemental Readings:


4/5  Silicon Valley I

4/12  Silicon Valley II

Readings for these two weeks will come from Martin Kenney, ed., *Understanding Silicon Valley: The Anatomy of an Entrepreneurial Region* (Stanford University Press, 2000).