Reading Questions for Oct. 22-24

For the next five classes we will be making cross-cultural comparisons between Europe and other parts of the world. We will also be comparing the approaches to science taken by Daniel Boorstin, a popular American historian whose book The Discoverers takes a thematic look at aspects of science and technology, and James McClellan and Harold Dorn, who are specialists in the history of science and technology. Questions for 10/29-11/5 will be handed out next week.

Tues. 10/22: Marking time
Read: Boorstin, 3-53 (chapters 1-6).

1. Read Boorstin through chapter 3. What recurring units of time have humans used to mark their lives? Which are based on natural phenomena, and which are arbitrary? Does the difference matter?

2. Why does Boorstin claim that astrology represents a step toward scientific thought when compared with other forms of divination?

3. Read chapters 4 and 5. What is the difference between the unequal (or “temporary”) hour and the equal or uniform hour?

4. According to Boorstin, what psychological change went along with the introduction of mechanical clocks that marked even units of time by ringing?

5. What technical problems had to be solved to make a clock that could serve as a marine chronometer? What devices were introduced to solve the problems?

Thurs. 10/24: Europe and China
Read: Boorstin, 56-78 (chapters 7-9); McClellan/Dorn, 117-140 (chapter 6).

1. Read Boorstin, chapter 7. Why does Boorstin begin his chapter on China with Jesuit missionaries, instead of starting with the Chinese calendar and Su Sung’s eleventh-century mechanical clock?

2. Read chapter 8. What is the overall point of this chapter? How did the mechanical clock effect changes in the mechanical crafts more generally? How did the experience of uniform time measured by a mechanical device affect the way that natural philosophers thought about the world?

3. Read chapter 9. Why does Boorstin call his chapter “Why It Happened in the West”? What is “it”? The chapter is about mechanical clocks; does it imply something deeper about the differences between China and the medieval west?

4. Now read McClellan and Dorn, chapter 6. What place did technology and science have in Chinese culture?

5. Why do McClellan and Dorn claim that it is not important to establish a list of Chinese innovations in technology and science (pp. 122, 128). What do they propose instead?

6. Dorn and McClellan call the final section of chapter 6 “Illicit Questions.” Why? What explanations do they discuss for the “failure” of Chinese science to rival the west? Why do they conclude that “the negative question of why the Scientific Revolution did not occur in China is foreign to the historical enterprise and not one subject to historical analysis”?