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STS.003 The Rise of Modern Science  
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## **Week 2: The Culture of Experiment**

### Readings:

- Bowler and Morus, “The Scientific Revolution,” MMS, pp. 23-53.
- Robert Boyle, *New Experiments Physico-Mechanicall, Touching the Spring of the Air, and Its Effects* (Oxford: H. Hall, 1660), excerpts. [Full text available via Early English Books Online via MIT E-Resources]
- Steven Shapin, “Pump and Circumstance: Robert Boyle’s Literary Technology,” *Social Studies of Science* (1984): 481-520.

### Additional Background:

- Bowler and Morus, “The Organization of Science,” MMS, pp. 319-340.

This week’s readings include a primary source (Boyle’s own account of his experiments) and a secondary source (a historian’s analysis of Boyle’s work). I’d recommend reading some of Boyle first, to get a sense of it, then read the Shapin article, and then go back and finish Boyle and decide if Shapin’s analysis is on target.

Boyle’s piece is a series of excerpts from a much longer, 400-page-long book, in which he describes his vacuum pump experiments. What was Boyle’s “literary technology”? What did he have to do to convince people that his experimental method produced facts (something true about nature), and not just artifacts (something made by humans)? Are you convinced by his arguments? How effective is it as a work of scientific communication?

Steven Shapin teaches history of science at Harvard. He has published an important book about Boyle; this article is a summary of some of the book’s arguments. Shapin depicts 17th-century science as first and foremost a social enterprise, a communal activity in which research, presentation, and persuasion are closely intertwined. Are you convinced by his argument? Shapin describes what he calls the material technology, the literary technology, and the social technology of Boyle’s experimental program. How well does this model of the three technologies apply to modern science? Are material, literary, and social technologies still operating? What has changed?