

At the Margins of Modern Science:

*Leviathan and the Air-Pump* as a Case Study for Meta-analysis of  
Contemporary Science and Technology Studies

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#### (ABSTRACT)

In this thesis I will offer an extended discussion and critique of an important social constructivist book, Steven Shapin and Simon Schaffer's *Leviathan and the Air-Pump* (1985), focusing on its reception and its standing in science and technology studies in the fifteen years since its publication. This work claims to be an "origins" story for the modern form of life that we now call the scientific community, and this claim has not itself been contested strongly by other scholars. Central to Shapin and Schaffer's argument for the socially constructed nature of scientific knowledge, is the contrast they find between the community orientation of Robert Boyle and the anti-community stance of Thomas Hobbes. In the course of this thesis, I question the validity not only of this contrast, but of the origins story itself. I suggest that while experimental, communally-practiced science and modernity did emerge together around the end of the seventeenth-century, the qualities of science that Shapin and Schaffer suggest are distinctive of modern *science* might more accurately be represented as distinctive of *modern science*. In other words, I suggest that the story of *Leviathan and the Air-Pump* is not so much an origins story for *science* as it is emblematic of the early influence of widespread European *modernist* culture on scientific practices. *Leviathan and the Air-Pump* is an important case to study in order to unravel the strands of science and modernity because it occupies simultaneously both the early and late margins of the modern period: first, by taking the contested but emergent modernism represented by Robert Boyle as its subject and, second, as a work of scholarship that sits on the far margins of the modern period. My method is to treat Shapin and Schaffer's work as a central primary source for understanding how contemporary science and technology studies scholarship deals with early modern science. A side product of this analysis is to suggest strongly that Shapin and Schaffer's account of the social construction of scientific knowledge is itself socially constructed: that is, it is highly selective in its presentation and interpretation of historical evidence. I also consider what the implications may be for separating modernity from science, and for thinking about how science might be practiced in the age that will follow -- perhaps is already following -- the modern period.

## Table of Contents

|   |     |
|---|-----|
| 1. Introduction: The "Black-Boxing" of Scientific Community .....             | 1   |
| 1.1 Re-Opening and Closing an Historical Black Box.....                       | 3   |
| 2. <i>Leviathan and the Air-Pump</i> as a Case Study in Modern STS .....      | 10  |
| 2.1 The Argument of <i>Leviathan and the Air-Pump</i> .....                   | 10  |
| 2.2 The Authors: Shapin's and Schaffer's Related Work .....                   | 12  |
| 2.3 Critical Reception and Reviews of <i>Leviathan and the Air-Pump</i> ..... | 17  |
| 2.4 Competing Local Views: Hobbes, Boyle, and the Royal Society.....          | 23  |
| 2.5 Competing Macronarratives.....  | 28  |
| 3. We beg to differ: Competing Histories in STS .....                         | 32  |
| 3.1 The Royal Society.....  | 32  |
| 3.2 Literary Technology.....  | 38  |
| 3.3 Experiment vs. Mathematics.....   | 43  |
| 3.4 Trust and Sociality .....   | 52  |
| 3.5 England the Crucible.....   | 59  |
| 3.6 Hobbes's Importance .....   | 63  |
| 3.7 Hobbes's Exclusion .....  | 68  |
| 3.8 Science as Politics and Community .....                                   | 71  |
| 4. The Lineage and Limits of Science as "Community" in STS .....              | 80  |
| 4.1 Merton's Normative Communities .....                                      | 83  |
| 4.2 Kuhn's Consensual Communities.....  | 84  |
| 4.3 Community as Ethnos: The Anthropological Turn .....                       | 86  |
| 4.4 Political Community: Knowledge as Power .....                             | 89  |
| 4.5 Discursive Community: "Totius in Verba" .....                             | 94  |
| 4.6 Hobbesian Community .....   | 97  |
| 5. Conclusion: At the Margins of Modern Science.....                          | 100 |
| 5.1 Shapin and Schaffer: Science as Community?.....                           | 100 |
| 5.2 Natural Reason.....   | 102 |
| Appendix 1: Selecting <i>Leviathan and the Air-Pump</i> .....                 | 108 |
| Bibliography.....   | 110 |
| Vita.....   | 123 |