11 October 2026

Notes on

Fors, Hjalmar, Lawrence M. Principe, and H. Otto Sibum. “From the Library to the Laboratory and Back Again: Experiment as a Tool for Historians of Science.” Ambix 63, no. 2 (2016): 85–97. https://doi.org/10.1080/00026980.2016.1213009.

“material turn” in historical studies validates approach of studying history through hands-on experience.

Kernel:

Experimental reproductions can provide significant new dimensions and insights for historical investigations

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Outline

A brief history of experimental history of science

- Archaeologists use the “experimental approach” all the time.
- Lawrence Principle reproduced seemingly implausible alchemical results
- Otto Sibum reproduces James Joules’ results.
- it used to be a *controversial* approach (p. 88)
  - “relics of positivist approaches” “unmediated access to how things *really* happened”
  - contrary to Sociology of Scientific Knowledge (the experimental approach seems to undermine SSK)
- “how scientific work could be embedded in wider artisanal, industrial, and societal networks”. (p. 88)
- “engaging directly with the materiality of science”

The contributions of Experimental History of Science

- “Experimental approach” as a tool.

1. Improves understanding of text

“It opens the door to a fuller understanding of the texts and artefacts through an active engagement with the practices these texts and objects describe or instantiate”

2. Allows us to ask more interesting questions.

“in the best cases there will be a dynamic relationship between library and laboratory”

- “tacit knowledge”
- “witnessing tin and lead melt easily into mobile, silvery liquids and finely divided iron burn brihtly in a flame provides experiential backing” for the murcury/sulphur theory.

“The sensual experiences of reproducing an experiment can thus offer the historian otherwise unobtainable hints regarding the origins of ideas, theories, conclusions, or the subsequent pathways of investigation followed by historical actors (p. 90)”

- for example, the rhythmic fall of objects may give us a view into the origin of Galileo's law of fall

"the polished literary gestalt" of science may differ dramatically from the scientists lived experience (p. 91)"

"gestural knowledge" (p.92)

Various Methods of Experimental History and its Terminology

- reworking is not "replication" in the scientific or pedagogical sense.
- high fidelity is preferable, but not always necessary (p. 94)

"This high level of fidelity to the original process, apparatus, or experimental protocol is not, however, always necessary to carry out a historically informative reproduction"

Further Reading

Stillman Drake, 1973, "Galileo's Experimental Confirmation of Horizontal Inertia: Unpublished Manuscripts" https://drive.vjbe.net/2026-10-11-drake-galileosexperimentalconfirmation-1973.pdf

Joule, *On the Mechanical Equivalent of Heat*

Hasok Chang on Historical Experiments, Continuation of Science by Other Means