

The Slaughterhouse of Science^a: Turning Scientific Leftovers^b into Historical Data

^a The metaphor of the 'slaughterhouse of science' refers back to Hegel's image of history as a slaughter-bench. Franco Moretti borrows it to refer to the big mass of unread books to be rediscovered through distant reading¹. I am adopting it to address the neglected and overlooked sources in the history of science, which could be brought back into view through datafication.

^b By *leftovers* of science, I mean a particular kind of historical sources that were once involved in the production of scientific knowledge, but have since been left behind by science. These are drafts, experimental protocols, obsolete instruments, photographs, research notebooks and other testimonies of 'science in the making'.

01 Scientific leftovers in the archives

- Archives frame the objects as cultural heritage, emphasizing their authenticity, provenance rather than histories of circulation & usage;
- Priority is given to the 'objective' characteristics of the artifacts (size, materials, datings) rather than to their meanings, interpretations and use-contexts;
- Such representations can hardly be of use to the history of science, since they shed little light on the of knowledge production practices of the past.

Hipp chronoscope in the Harvard Collection of Historical Scientific Instruments



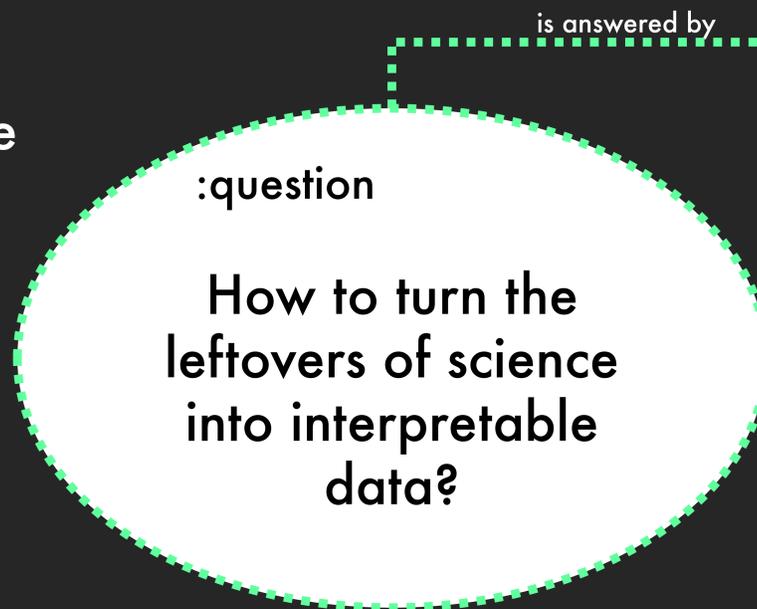
Source: The Collection of Historical Scientific Instruments, Harvard University
[http://waywiser.fas.harvard.edu/objects/3441/hipptype-chronoscope].
Copyright: Harvard University

02 Developing alternative modes of representation

Summarizing interpretative models for scientific objects

Translating the models into ontology language

Specifying and historicizing the models within the ontology



03 Models of interpretation

a) Cultural biography: mapping social lives of objects²

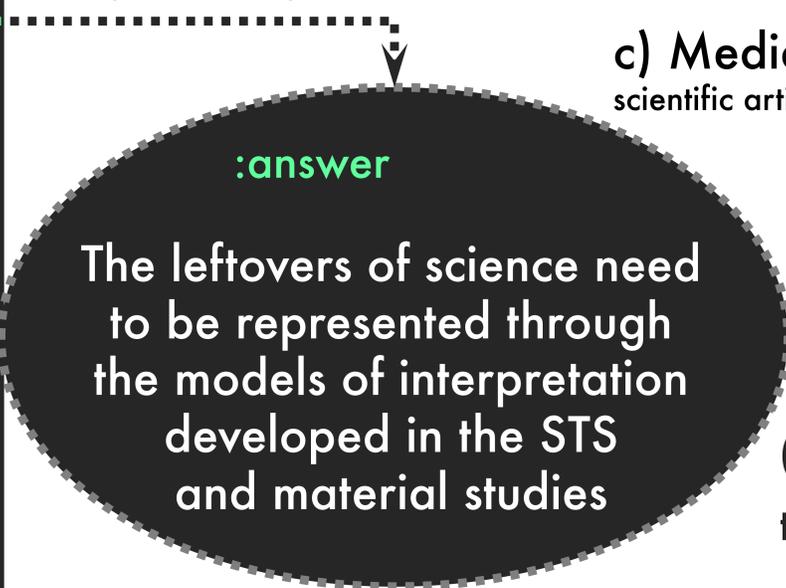
- tracing things in motion, histories of their production, circulation and usage; highlighting institutional and disciplinary settings, transfers between contexts, transformations, associations with individuals, communities, institutions;
- the model is structured around the (biographical) events, such as invention, production, transfer, transformation.

b) Assemblages: articulating interactions with humans and 'non-humans'³

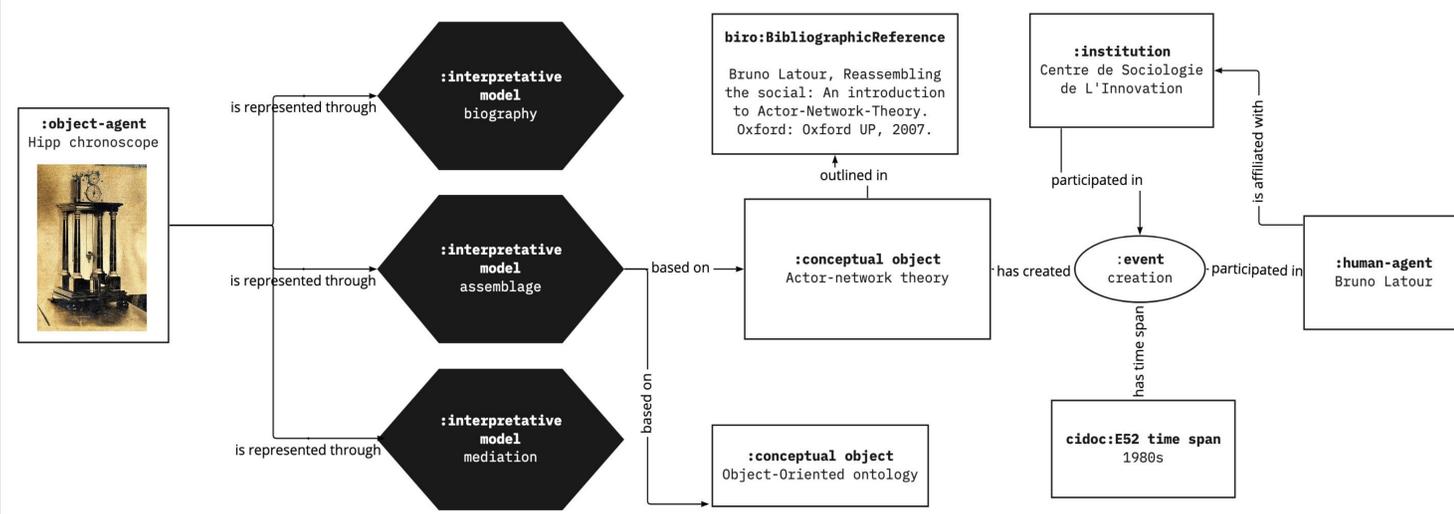
- describing the objects as being part of assemblages, constellations and networks;
- the model defines an object through its relationships with other agents (objects, humans, theories, visualizations) allowing to trace parts of a given assemblage (e.g., an experimental set-up).

c) Mediation: emphasizing the links between scientific artifacts and objects of inquiry⁴

- tracing the mutual influence of the scientific leftovers and the phenomena that have been studied using them ('epistemic objects');
- the model makes it possible to track the ways in which various scientific objects mediate (shape our understanding of) the phenomena under study.



04 Synthetic view: specifying the models within an ontology



Bibliography:

- Moretti, Franco. "The Slaughterhouse of Literature." *MLQ: Modern Language Quarterly* 61, no. 1 (2000): 207–27.
- Kopytoff, Igor (1986). *The Cultural Biography of Things: Commoditization as Process*, In: A. Appadurai (ed.), *The Social Life of Things: Commodities in Cultural Perspective*, Cambridge: Cambridge University Press.
- Latour, Bruno (2007). *Reassembling the Social: An Introduction to Actor-Network-Theory*. Oxford: Oxford University Press.
- Knorr Cetina, Karin (1999). *Epistemic Cultures: How the Sciences Make Knowledge*. Cambridge, MA: Harvard University Press.

Example: Hipp chronoscope interpreted through the three models



Alina Volynskaya

Laboratory for the history of science and technology



alina.volynskaya@epfl.ch