GP 9: Understanding tools from the distant past

Zeit: Mittwoch 10:00–11:15 Raum: HS 9

GP 9.1 Mi 10:00 HS 9

The ontological value of scientific objects and social history of science to offer new arenas for public encounter with the various mode of knowledge production. — •Sebastien Soubiran and Delphine Issenmann — Jardin des Sciences, University of Strasbourg, France

The Jardin des Sciences of the University of Strasbourg, sustains and develops a general policy for the preservation and the valorisation of university historical heritage including collections and museums. The investment of the University of Strasbourg is strong and had always been associated with a reflexive approach nourished by a department of Science studies (one of the first created in France).

In our presentation we would like to present various approaches and activities that has been developed so far within the University of Strasbourg with different partners (museums professionals, researchers, curators, designers, artists) in order to experiment different paths to built new tools of social and cultural mediation of science for large public.

We will focus on three specific projects : two exhibitions that were developed with the city museums of Strasbourg and a teaching seminars of history of science and technology for students in physics focuses on objects from physics collections.

With these case studies, we explored and questionned the ontological value of scientific objects and social history of science and science studies at large to offer new arenas for public encounter with the various mode of knowledge production.

GP 9.2 Mi 10:30 HS 9

Johann Bernoulli on the vibrating string and the nature of mechanics — •Iulia Mihai — Ghent University, Ghent, Belgium

This paper focuses on a neglected aspect of Johann Bernoulli's mechanical and mathematical practice concerning the vibrating string: Bernoulli's inquiry into the right principles of mechanics. Bernoulli's solution of 1728 to the vibrating string problem has so far been regarded as one of the first replies to Brook Taylor's earlier solution to the taut string (1714), largely concluding that Bernoulli followed Taylor closely in the assumptions he makes concerning the motion of the string and the result he arrives at. However, by closely analyzing the context of Bernoulli's enterprise and his geometrical constructions, a different picture emerges. Bernoulli gives two proofs for the problem of the vibrating string: one based on the statics concerned with the law of composition of forces, and the other on the vis viva. I show that the former is only remotely related to Taylor's proof. Moreover, Bernoulli favors the vis viva approach to the string, and to mechanics more generally. Bernoulli's attempt at establishing vis viva as the right principle of mechanics is more fruitfully interpreted in the context of Bernoulli's exchanges with Pierre Varignon on the nature of mechanics, which take place a decade prior, rather than in an alleged dispute with Taylor. In particular, Varignon argued for the principle of composition of forces, against Bernoulli's use of the vis viva. The vibrating string problem is an opportunity for Bernoulli to reopen the old debate on the principles and nature of mechanics.

15 min coffee break