

Thursday 25th May, 2017 – Byrne House, University of Exeter

PROCESS EPISTEMOLOGY (A WORKSHOP WITH BILL BECHTEL)

The argument for process epistemologies in studies of the life sciences has arguably been growing for a number of years now. At Egenis there are two ERC-funded projects, 'A Process Ontology for Contemporary Biology' and 'The Epistemology of Data-Intensive Science', which are dealing with particular aspects of this topic. In this workshop we will take stock of this development and explore a few different areas linked to this issue through some of the research being conducted as part of these two projects.

What does it mean to think about the epistemology of scientific processes? There are at least two ways to interpret this question, and they might well intertwine.

First, there is a question about what is the best way to think about the world. Can scientific thought and practice be advanced by a better appreciation of the importance of processes as a unit with which to explain worldly phenomena? How would scientific debates, problems and, perhaps most importantly, practice transform if they were set up or reframed in a process-based world-view?

Another way of being concerned with scientific process is associated with asking how the actual conduct and organization of research processes matters for the directions and trajectories scientific research takes and for the challenges it encounters when studying certain kinds of phenomena (processual, structural, etc.) rather than others.

We think that these two sets of questions are hardly independent from one another. The aspiration of this workshop is therefore not only to present different aspects of research in process epistemology, but also to explore their interrelations.

We also feel that to ask this question is timely, as both dimensions of process epistemology as sketched above are connected and concerned with some important developments in the contemporary life sciences, such as the increasing complexity and standardisation of tools and technologies for research, with the legacy this implies for both discovery, knowledge production, and organization.

In his long career, Bill Bechtel has been concerned with both of these strands. On the occasion of his visit to Egenis, we take the opportunity of exploring these issues with him.

Workshop organizers: Niccolò Tempini, Stephan Guttinger, Dan Nicholson, Anne Sophie Meincke.

SCHEDULE

11:30 - 11:40 Opening remarks

11:40 - 12:00 Anne Sophie Meincke – “Why We Need A Process Account of Biological Identity”

12:00 - 12:20 Dan Nicholson – “Mechanisms and the Fluidity of Life”

12:20 - 12:40 Stephan Guttinger – “Change in biology: when entities and activities are not enough”

12:40 - 13:00 Javier Suarez – “Persistence of symbiotic associations and mechanistic explanation”

13:00 - 14:00 Lunch

14:00 - 14:20 Flavia Fabris – “Dynamical systems theory and process ontology”

14:20 - 14:40 Gregor Halfmann – “What a practice of long-term ecological monitoring has in common with the processual construction of a material model”

14:40 - 15:00 Adam Toon – “Extended Concepts”

15:00 - 15:20 Sabina Leonelli and Niccolò Tempini – “Where Health and Environment Meet: How Data Integration Techniques Inform Ontology of Disease and Related Interventions”

15:20 - 16:00 Coffee break

16:00 - 16:45 Bill Bechtel – “Discovering (Dynamical) Patterns by Visualizing and Analyzing Network Representations”

16:45 - 17:00 John Duprè – comments

17:00 - 17:30 Concluding discussion

17:30 - [...] Pub