The Order, and the Ordering, of Nature
A seminar in
Philosophy of Science
History of Philosophy
Science Studies
UCSD, Winter Term, 2011
Led by Nancy Cartwright
Tuesdays, 2:00 – 5:00

The theme will be ‘Natural order: imposed (by us? by God?) or within?’ There will be a conference on the early modern history of order sponsored by the project God’s Order, Man’s Order and the Order of Nature, March 4 – 6. Students should attend the conference and we will discuss the papers in the last seminar. We center in history for the first 5 weeks and again at the end in the conference and last two sessions, with 3 weeks in between dedicated to some contemporary accounts. We will omit Kant since that is a seminar in itself and we all know, albeit probably only very roughly, the Kantian position. Similarly with Latour. And for Feyerabend we will read only one particularly striking paper.

Week 1. Generating order through science: (1) Bacon and Mach
• Mach, Analysis of Sensations, sections to be decided.
• Bacon, The Advancement of Learning, sections to be decided.

Weeks 2&3. How laws came to natural philosophy
• Dennis Des Chene, 'Natural law and divine agency in the later seventeenth century' http://artsci.wustl.edu/~ddeschen/pdf/deschene-purdue201003.pdf.
• Descartes, Principles of Philosophy, part II, §§36 & 37.
• Malebranche, Dialogue on Metaphysics and Religion, Dialogue VII, ‘The inefficacy of natural causes, or the impotence of creatures. We are immediately and directly united to God alone.’
• More Malebranche for reference:
  o Search after Truth, Book Six: Part Two, Chapter Three, ‘The most dangerous error of the philosophy of the ancients’.
  o Search, Elucidation 15 (elaboration on the former), ‘Concerning the efficacy of secondary causes’.

Week 4. Necessary order and wonderful exceptions
• Peter Dear, *Discipline and Experience: The Mathematical Way in the Scientific Revolution*.
• Lorraine Daston and K Park, *Wonders and the Order of Nature*.

Week 5. Generating order through science: (2) Duhem
• Pierre Duhem, *The Aim and Structure of Physical Theory*

Background reading for both weeks
• Jordi Cat, ‘The Unity of Science’, *Stanford Encyclopedia of Philosophy*

Week 6
• Jordi Cat and Gennaro, ‘Analysis of Theories and Synthesis of Models’ (photocopy available).
• Sandra Mitchell, *Biological Complexity and Integrative Pluralism*, Part II.

Week 7
• William Wimsatt, *Re-Engineering Philosophy for Limited Beings*, sections to be decided.

Week 8. Two views on how laws don’t govern
• Nancy Cartwright, ‘Causal laws, policy predictions and the need for genuine powers’, photocopy available.

Week 9. The natural order and the moral order
• Amartya Sen, *The Idea of Justice*, chapters 5,6,7,9.

Week 10. Post conference discussion