

PHILOSOPHY OF SCIENCE: NATURE AS AN ARTEFACT

Second semester, academic year 2015/16

Predrag Šustar

Topics

The seminar will explore Kant's overall account of *natural teleology*, namely, with regard to the enablers of *empirical cognition* of natural phenomena. Additionally, the most prominent topics of *biological teleology* will be also taken into consideration, especially, those that more directly resonate with major current debates in the philosophy of the biological and biologically related sciences. Kant's account will be explored along the following lines: (I) by reconstructing the main lines of argument scattered, most notably, throughout the *Critique of the Power of Judgment*; (II) by focusing on recent scholarship in this and neighboring research areas, which also overlaps in interesting ways with approaches worked out by philosophy of the natural sciences in the strict sense; and, finally, (III) by assessing Kant's account in question in the light of corresponding current debates. In other words, in this way, the seminar will try to show not only Kant's and Kantian underpinnings of those debates, but also point to some interesting underexplored alternatives, which may prove useful in expanding our philosophical understanding of at least certain important points in the internal workings of the natural sciences, with particular emphasis been given to the life sciences (for the specification of these points, see below).

Schedule of Topics and Readings

- i. *Introduction* No Reading

- i. KANT'S NATURAL AND BIOLOGICAL TELEOLOGY

- ii. *Commonsensical Empirical Cognition* Reading: I. Kant (1783), *Prolegomena*,
with special emphasis on the "Second Part of the Transcendental Problem: How is the
Science of Nature Possible?"

- iii. *Scientific Empirical Cognition* Readings: I. Kant (1781/1787), *Critique of Pure Reason*, with particular emphasis on the "Appendix to the Transcendental Dialectic"; ID.
(1790), *Critique of the Power of Judgment*, Introduction, and the "First Introduction"

- iv. *Biological Cognition* Readings: I. Kant (1790), *Critique of the Power of Judgment*, with particular emphasis on the “Critique of the Teleological Power of Judgment”
 - ii. SELECTED DEBATES
 - v. *Logical and/or Formal Purposiveness of Nature: Minimalism vs. Total Transcendentalism*
Readings: P. Guyer (2003), “Kant on the Systematicity of Nature: Two Puzzles”, *History of Philosophy Quarterly*, 20, 277-95; I. Geiger (2003), “Is the Assumption of a Systematic Whole of Empirical Concepts a Necessary Condition of Knowledge?”, *Kant-Studien*, 94, 273-98; ID. (2009), “Is Teleological Judgement (Still) Necessary? Kant's Arguments in the Analytic and in the Dialectic of Teleological Judgement”, *British Journal for the History of Philosophy*, 17, 533-66
 - vi. *Chemical Explanations* Readings: M. Carrier (2001), “Kant's Theory of Matter and His Views on Chemistry”, in E. Watkins (ed.), *Kant and the Sciences*, New York: Oxford University Press, 205-30; M. Friedman (1992), *Kant and the Exact Sciences*, Cambridge: Harvard University Press, Ch. 5, III; M.B. McNulty (2014), “Kant on Chemistry and the Application of Mathematics in Natural Science”, *Kantian Review*, 19, 393-418
 - vii. *Causation and Mechanisms in Biology* Readings: P. Šustar (2014), “Kant's Account of Biological Causation” in I. Goy and E. Watkins (eds), *Kant's Theory of Biology*, Berlin-New York: Walter de Gruyter, 99-116; H. Ginsborg (2004), “Two Kinds of Mechanical Inexplicability in Kant and Aristotle”, *Journal of the History of Philosophy*, 42, 33-65; Th. Teufel (2011), “Wholes that Cause their Parts: Organic Self-Reproduction and the Reality of Biological Teleology”, *Studies in History and Philosophy of Biology and Biomedical Sciences*, 42, 252-60
 - iii. INTERVENING INTO THE *PHIL.SCI.* AND *PHIL.BIO.* DEBATES
 - viii. *Reflecting Judgment and the Inference to the Best Explanation* Readings: G. Harman (1965), “The Inference to the Best Explanation”, *Philosophical Review*, 74, 88-95;

P. Lipton (2008), “Inference to the Best Explanation”, in S. Psillos and M. Curd (eds), *The Routledge Companion to Philosophy of Science*, London-New York: Routledge, Ch. 18, 193-202; D. Tulodziecki (2007), “Breaking the Ties: Epistemic Significance, Bacilli, and Underdetermination”, *Studies in History and Philosophy of Biological and Biomedical Sciences*, 38, 627-41

- ix.

The Underdetermination Problem(s)

Readings: P. Forber and E. Griffith

(2011), “Historical Reconstruction: Gaining Epistemic Access to the Deep Past”, *Philosophy and Theory in Biology*, 3, DOI: <http://dx.doi.org/10.3998/ptb.6959004.0003.003>; P. Godfrey-Smith (2008), “Recurrent, Transient Underdetermination and the Glass Half-Full”, *Philosophical Studies*, 137, 141-48; P.K. Stanford (2001), “Refusing the Devil's Bargain: What Kind of Underdetermination Should We Take Seriously?”, *Philosophy of Science*, 68 [Proceedings], 1-12
- x.

Ascribing Functional Features to Biological Entities

Readings: L. Wright

(1973), “Functions”, *Philosophical Review*, 82, 139-68; P. Šustar and Z. Brzović (2014), “Natural Selection and the Function Debate: Between ‘Cheap Tricks’ and Evolutionary Neutrality”, *Synthese*, 191, 2653-2671; H. Ginsborg (2014), “Oughts without Intentions: A Kantian Account of Biological Functions”, in I. Goy and E. Watkins (eds), *Kant's Theory of Biology*, Berlin-New York: Walter de Gruyter, 259-74
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Concluding Remarks

No Reading.