

## **Philosophy 365: Phenomenology and Philosophy of Science Graduate Seminar**

Stanford University, Winter Quarter 2016

Instructors: Prof. Thomas Ryckman, with Prof. Harald A. Wiltsche (Graz)  
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Meetings in 90-92Q, Weds. 4:15 – 6:30.

### **1. Topics**

Our understanding of the development of 20<sup>th</sup> century philosophy of science is more nuanced today than it was only a couple of years ago. However, still more work needs to be done in order to arrive at an adequate picture of how philosophical reflection on the sciences evolved during the last century. The aim of this course is to address one of the remaining blind spots, namely the role of phenomenology in 20<sup>th</sup> century philosophy of science.

Phenomenologists are not usually listed among the canonical authors of philosophy of science. Given the fact that analyses of the formal, physical and human sciences are ubiquitous in the phenomenological literature, this neglect may seem unjustified. Edmund Husserl is a particularly telling example in this respect: Not only that Husserl addressed many of the core issues in philosophy of science. He also made a number of original contributions, some of which were well ahead of their time: Husserl's discussion of the relations between lifeworld and scientific world was a model for Wilfrid Sellars' well-known distinction between manifest and scientific image. Husserl's understanding of scientific theories can be seen as a forerunner of the semantic view, as it was later articulated by Patrick Suppes, Frederick Suppe, Bas van Fraassen and others. Husserl offers one of the first systematic treatments of the role of idealizations in physics, an issue taken up in the 1980s by Ernan McMullin. Husserl's notions of "archaeology" and "sedimentation" as well as his emphasis on the historical and social embeddedness of science foreshadowed the "post-positivist" turn, usually associated with philosophers such as Thomas Kuhn, Ian Hacking or Peter Galison.

The aim of this course is to give an overview of phenomenological philosophy with special emphasis on its relevance for the interpretation of the natural sciences. We will also shed light on one particular instance of the unfortunate alienation between Central-European and Anglo-American traditions in 20<sup>th</sup> and 21<sup>st</sup> century philosophy.

### **2. Objectives**

In this course we pursue two principal aims: The first is to offer students the opportunity to engage critically with the Edmund Husserl, the founding father and main figure of the phenomenological movement. Although we will be concerned with Husserl for the most of the time, we will also touch upon the works of several successors such as Martin Heidegger and Maurice Merleau-Ponty. In all of these cases, however, the focus will be on those aspects that are relevant for a phenomenological interpretation of the sciences.

The second aim of the course is to engage with a selection of contemporary contributions that are inspired by Husserlian phenomenology. Here the focus will be on two issues, scientific realism on the hand and scientific thought experiments on the other. Discussing these topics will also help to gain a better understanding of the relations between phenomenology and different strands within contemporary philosophy of science.

### 3. Course Format

The first three meetings will be lectures. Although there are assigned readings for these meetings, the goal is to provide students with a brief overview of phenomenological philosophy. Normally we will try to lecture for no more than 45-50 minutes, leaving the remaining time of each class open for questions and discussions.

Beginning with the fourth meeting, we will spend six meetings closely studying Husserl's last publication, *The Crisis of the European Sciences*. We will read major portions of this book as well as a selection of secondary sources.

### 4. Prerequisites

While no prior knowledge of phenomenology will be presumed, some background in "mainstream" philosophy of science, natural science and mathematics will not be unhelpful. Although all texts will be in English, knowledge of the German language makes it easier to digest the prose of some of the authors we will be reading.

### 5. Evaluation

Participation:	20%
Presentation:	20%
Research Paper:	60%

The participation will be graded based on thoughtful and reflective contributions, less on frequency. The presentation is on the assigned reading and should present its background, purpose, and the main theses and arguments in no more than 30 minutes, formulating questions for discussion. The presentations should be accompanied by a handout. The final research paper should have a length of 15-20 pages and is to incorporate at least five secondary sources (books or articles). Ideally, students will prepare and work on this paper over the course of the semester. There will be a due date for the outline of the paper (including the anticipated title of the paper, an abstract of about 10-15 lines and the bibliography). This entails that, although the general topic might be taken from the presentation, each student is required to come up with a research topic on his/her own and should discuss this with the instructors at different times during the semester.

### 6. Suggested Background Readings

The following books are recommended as useful general introductions to Husserl and the phenomenological movement.

- Sokolowski, Robert (1974): *Husserlian Meditations*, Evanston: Northwestern University Press.
- Pietersma, Henry (2000): *Phenomenological Epistemology*, New York & Oxford: OUP.
- Moran, Dermot (2000): *Introduction to Phenomenology*, London & New York.
- Welton, Donn (Ed.) (2003): *The New Husserl. A Critical Reader*, Bloomington: Indiana University Press.
- Smith, David Woodruff (2007): *Husserl*, London & New York: Routledge.
- Moran, Dermot (2012): *Husserl's Crisis of the European Sciences and Transcendental Phenomenology. An Introduction*, Cambridge: CUP.

While there is not much literature on the relations between phenomenology and the philosophy of science, the following books are useful starting points.

- Kockelmans, Joseph J./Kisiel, Theodore (Eds.) (1970): *Phenomenology and the Natural Sciences*, Evanston: Northwestern University Press.
- Feist, Richard (Ed.) (2004): *Husserl and the Sciences*, Ottawa: University of Ottawa Press.
- Gutting, Gary (Ed.) (2005): *Continental Philosophy of Science*, Malden: Blackwell.
- Hyder, David & Rheinberger, Hans-Jörg (Eds.) (2010): *Science and the Life-World. Essays on Husserl's Crisis of European Sciences*, Stanford: SUP.

## 7. Course Schedule

### 1<sup>st</sup> Meeting – Introduction to Phenomenology: Basics (Lecture)

- Husserl, Edmund: *Logical Investigations. Volume 2*, translated by J.N. Findlay, London & New York: Routledge, Investigation VI.
- Pietersma, Henry (2000): *Phenomenological Epistemology*, New York & Oxford: OUP, chapter 2.

### 2<sup>nd</sup> Meeting – Introduction II: Epistemology & Science (Lecture) & What Crisis? (Seminar)

- Husserl, Edmund (1970): *The Crisis of the European Sciences and Transcendental Phenomenology*, translated by David Carr, Evanston: Northwestern University Press, §§ 1-8.
- Dodd, James (2004): *Crisis and Reflection. An Essay on Husserl's Crisis of the European Sciences*, Dordrecht: Kluwer, chapter 1 “The Concept of Crisis”. [Dodd summarizes the first eight paragraphs of the *Crisis*; particular emphasis is put on the word “crisis” and what it denotes in Husserl’s text.]
- Moran, Dermot (2012): *Husserl's Crisis of the European Sciences and Transcendental Phenomenology. An Introduction*, Cambridge: CUP, chapter 2. [In this chapter Moran gives a broad overview of the *Crisis*, both concerning the genesis of the book and the topics contained therein.]

### 3<sup>rd</sup> Meeting – Galileo, Mathematization, and Idealization (Seminar)

- Husserl, Edmund (1970): *The Crisis of the European Sciences and Transcendental Phenomenology*, translated by David Carr, Evanston: Northwestern University Press, § 9.
- McMullin, Ernan (1985): “Galilean Idealization”, in: *Studies in the History and Philosophy of Science* 16/3, pp. 247-273. [A classical text in “standard” philosophy of science that gives an idea of how the discussion about idealization techniques evolved after Husserl.]
- Drummond, John J. (1984): “The Perceptual Roots of Geometric Idealization”, in: *Review of Metaphysics* 37/4, pp. 785-810. [A careful exegesis of Husserl’s account of geometrical idealization and its roots in lifeworld perception.]
- Recommended Reading: Moran, Dermot (2012): *Husserl's Crisis of the European Sciences and Transcendental Phenomenology. An Introduction*, Cambridge: CUP, chapter 3 “Galileo’s revolution and the origins of modern science”. [In this chapter Moran gives broad overview of the role of Galileo in paragraph 9 of the *Crisis*. Moran’s chapter also works as a summary of Husserl’s general argument in paragraph 9.]

### 4<sup>th</sup> Meeting: – Who is Husserl’s Galileo? (Seminar)

- Husserl, Edmund (1970): *The Crisis of the European Sciences and Transcendental Phenomenology*, translated by David Carr, Evanston: Northwestern University Press, § 9.

- Wiltsche, Harald A. (2016): “Mechanics Lost: Husserl’s Galileo and Ihde’s Telescope”, in: *Husserl Studies*. [A critique of Ihde and the attempt to rehabilitate Husserl’s take on Galileo by discussing two case studies from Galilean mechanics.]
- Weyl, Hermann (1949): *Philosophy of Mathematics and Natural Science*, Princeton: Princeton University Press, Section 17 “Subject and Object (The Scientific Implications of Epistemology)”.

#### 5<sup>th</sup> Meeting – The Origins of Mathematics, Geometry, and Science (Seminar)

- Husserl, Edmund (1970): *The Crisis of the European Sciences and Transcendental Phenomenology*, translated by David Carr, Evanston: Northwestern University Press, Appendix II: “Idealization and the Science of Reality—The Mathematization of Nature”; Appendix V: “Objectivity and the World of Experience”; Appendix VI: “The Origin of Geometry”.
- Kockelmans, Joseph (1970): “The Mathematization of Nature in Husserl’s Last Publication, *Krisis*”, in: Kockelmans, Joseph J./Kisiel, Theodore (Eds.): *Phenomenology and the Natural Sciences*, Evanston: Northwestern University Press, pp. 45-67. [A broad overview of Husserl’s take on the mathematization of nature.]
- Hacking, Ian (2010): “Husserl on the Origin of Geometry”, in: Hyder, David & Rheinberger, Hans-Jörg (Eds.): *Science and the Life-World. Essays on Husserl’s Crisis of European Sciences*, Stanford: SUP, pp. 64-82. [A critical assessment of Husserl’s claims concerning the origins of geometry in the lifeworld of everyday experience.]

#### 6<sup>th</sup> Meeting – The Lifeworld I (Seminar)

- Husserl, Edmund (1970): *The Crisis of the European Sciences and Transcendental Phenomenology*, translated by David Carr, Evanston: Northwestern University Press, §§ 28-38.
- Moran, Dermot (2012): *Husserl’s Crisis of the European Sciences and Transcendental Phenomenology. An Introduction*, Cambridge: CUP, chapter 6 “Husserl’s problematical concept of the life-world”. [Moran gives a general overview of the discussions concerning Husserl’s somewhat ambiguous notion of the Lifeworld.]
- Held, Klaus (2003): “Husserl’s Phenomenology of the Life-World”, in: Welton, Donn (Ed.): *The New Husserl. A Critical Reader*, Bloomington: Indiana University Press, pp. 32-63. [A classical text in German Husserl scholarship on the late Husserl.]

#### 7<sup>th</sup> Meeting – The Lifeworld II – The Phenomenological Reduction (Seminar)

- Husserl, Edmund (1970): *The Crisis of the European Sciences and Transcendental Phenomenology*, translated by David Carr, Evanston: Northwestern University Press, §§ 39-55.
- Luft, Sebastian (2004): “Husserl’s Theory of the Phenomenological Reduction: Between Lifeworld and Cartesianism”, in: *Research in Phenomenology* 34, pp. 198-234. [A good overview article concerning the epistemological significance of the epoché/reduction and the three paths to the reduction that can be found in Husserl’s works.]
- Sokolowski, Robert (1974): *Husserlian Meditations*, Evanston: Northwestern University Press, chapter 7 “Raising Questions about Appearances”. [A classical exposition of Husserl’s theory of the reduction.]

#### 8<sup>th</sup> Meeting – Psychology and Transcendental Phenomenology (Seminar)

- Husserl, Edmund (1970): *The Crisis of the European Sciences and Transcendental Phenomenology*, translated by David Carr, Evanston: Northwestern University Press, §§ 56-72.

- Moran, Dermot (2012): *Husserl's Crisis of the European Sciences and Transcendental Phenomenology. An Introduction*, Cambridge: CUP, chapter 4 "The crisis in psychology". [Moran gives a good overview of the role of psychology in the *Crisis*.]
- Feest, Uljana (2012): "Husserl's *Crisis* as a crisis of psychology", in: *Studies in History and Philosophy of Science C: Studies in History and Philosophy of Biological and Biomedical Sciences* 43/2, 493-503. [Feest puts Husserl's treatment of psychology in the wider historical context of the development of empirical psychology in the late 19<sup>th</sup> and early 20<sup>th</sup> century.]

#### 9<sup>th</sup> Meeting – History & The Vienna Lecture (Seminar)

- Husserl, Edmund (1970): *The Crisis of the European Sciences and Transcendental Phenomenology*, translated by David Carr, Evanston: Northwestern University Press, Appendix A "The Vienna Lecture".
- Moran, Dermot (2012): *Husserl's Crisis of the European Sciences and Transcendental Phenomenology. An Introduction*, Cambridge: CUP, chapter 5 "Rethinking Tradition: Husserl on history". [A good overview of the role of history in the *Crisis*.]
- Bachelard, Gaston (1970): "Epistemology and the History of the Sciences", in: Kockelmans, Joseph J./Kisiel, Theodore (Eds.): *Phenomenology and the Natural Sciences*, Evanston: Northwestern University Press, pp. 317-352. [Like so many other French "epistemologists", Bachelard was influenced by Husserl. It is interesting to compare Husserl's reflections on history with Bachelard's take on the issue.]
- Hyder, David (2010): "Foucault, Cavaillès, and Husserl on the Historical Epistemology of the Sciences", in: Hyder, David & Rheinberger, Hans-Jörg (Eds.): *Science and the Life-World. Essays on Husserl's Crisis of European Sciences*, Stanford: SUP, pp. 177-198. [One of the view comparisons between the French "epistemologists" and Husserl.]

#### 10<sup>th</sup> Meeting – Phenomenology and Scientific (Anti-)Realism (Seminar)

- Husserl, Edmund (1983): *Ideas Pertaining to a Pure Phenomenology and to a Phenomenological Philosophy. First Book*, translated by Fred Kersten, The Hague et al.: Martinus Nijhoff, chapter 3 "The Region of Pure Consciousness".
- Vallor, Shannon (2009): "The pregnancy of the real: a phenomenological defense of experimental realism", in: *Inquiry* 52/1, pp. 1-25. [An attempt to defend a modified version of Hacking's experimental realism on the basis of a phenomenological account of perceptual experience.]
- Wiltsche, Harald A. (2012): "What is Wrong With Husserl's Scientific Anti-Realism?", in: *Inquiry* 55/2, pp. 105-130. [In this paper I defend the claim that Husserl defended a robust version of scientific anti-realism that is in some respects similar to van Fraassen's constructive empiricism. The paper also includes a criticism of Vallor's phenomenological realism.]