Karl Popper: The Logic of Scientific Discovery

Seminar, Summer Semester 2017
Mon. 14:00-16:00 h (c.t.), start Mon. 10 April 2017
Room B 313, Im Moore 21 (Bldg. 1146), rear entrance (inner courtyard), third floor

Course concept and aims

Sir Karl Popper (1902-1994) is one of the most well-known philosophers of science, both within and outside of philosophy. He is known for, among other things, his "critical rationalism", in which the principle of falsificationism occupies a central position. In his first book, *The Logic of Scientific Discovery* (*LSD*; published in German in 1934 and in a revised English version in 1959), is a classical text in the philosophy of science. In this course we will read parts of *LSD*, as well as one supplementary text. The book and supplementary text will be available to course participants; the course will be taught in English.

The general **aim** of the course is to provide students with an introduction to contemporary debates in the area of ontology. As **learning objectives** upon completion of the course students should be able to

- explain in their own words the main elements of Popper's philosophical views;
- develop their own position regarding the topics that were discussed.

With respect to **general competences** after completion of the course students should be able to

- read and understand complicated argumentative texts;
- to identify the principal ideas, arguments, etc. in such texts and to separate them from side issues;
- to present their own work (orally and/or in writing) in a clear and concise way.

Organizational and formal issues

The course is an integral part of the M.A. programs *Philosophy of Science* and the M.Ed. teacher training program for the subject of Philosophy. Students can take the course as part of the following modules:

- M.A. *Philosophy of Science* (Masterstudiengang Wissenschaftsphilosophie): modules "Vertiefung Theoretische Philosophie" (VT), "Philosophie und Geschichte der Naturwissenschaften" (PGN), "Philosophie und Geschichte der Geistes- und Sozialwissenschaften" (PGS), "Theoretische Philosophie der Lebenswissenschaften" (TPL);
- M.Ed. teacher training Master (*Masterstudiengang Lehramt an Gymnasien*), Philosophy: "Vertiefungs- modul zu einem systematischen Schwerpunkt" (VMs), "Vertiefungsmodul zu einem historischen Schwerpunkt" (VMs);
- Teacher training certificate program, third subject (*Zertifikatsprogramm Drittes Fach für das Lehramt an Gymnasien*), Philosophy: "Vertiefungsmodul zu einem systematischen Schwerpunkt" (VMs), Vertiefungsmodul zu einem historischen Schwerpunkt" (VMs).

In addition to the abovementioned programs, the course is open to interested students from all other areas, as well as guests and auditors. In case of a shortage of places in the course, students from the programs listed above will enjoy priority admittance. Participants from programs not listed above

should contact the student advisor of their own program to discuss whether they can obtain credits for participation.

The course will be supported by a website in the university's online learning environment, Stud.IP (https://elearning.uni-hannover.de/index.php). On this website you will find information about the course, as well as notifications of changes in the program, or time or location of individual sessions. All participants **must register** for the course on the course website. All course readings (listed below in the course plan under "required reading" and "optional background reading") will be made available to registered participants as downloadable PDFs on the course website.

All participants are expected to **actively participate** in the sessions, for example by asking questions during the lectures or engaging in discussions with the audience on lecture topics. The lecture sessions will contain **dedicated question/discussion sections** focused on questions from course participants about the required readings or related issues. Accordingly, participants are expected to have read the required readings for each session, and to **have formulated questions about the text(s)**, e.g., about things they have not understood, with which they disagree, or that for any other reason they find important to discuss with the group. Participants are **expected to attend all sessions**.

Students in the M.A. program *Philosophy of Science* or the M.Ed. and certificate programs *Lehramt an Gymnasien* can obtain 5 credit points and have to fulfill the following **course requirements**:

1. **Preparation:** Thoroughly read and prepare the required readings – this includes detailed reading of all texts and **writing down a few questions and/or topics for discussion** that you would like to raise after the lecture.
2. **Questions:** Get together with 1 or 2 study partners and discuss the questions / topics that you have written down while preparing the readings. For every class session every group of 2-3 participants must **hand in a set of questions / topics for discussion** on a single sheet of A4 paper on the day of the session.
3. **Participation:** Everyone is required to **participate actively** in class.
4. **Presentation:** You have to give a presentation of at most 20 min. The presentation is intended to give **impulses for the discussion** and should not be an exhaustive overview of the readings for your session, but rather a presentation of the questions you came up with while reading the texts, the difficulties you encountered when reading, issues you want to discuss with the group, and so on. In addition to the presentation you should assemble a **list of 5-8 questions** about the reading in advance to the session in which you will present, as well as write a **protocol of the group discussion** after your presentation (to be handed in at the latest 1 week after your presentation).

Students who want to be examined in the context of finalizing a module in one of the philosophy programs ("*Modulprüfung*") should make separate arrangements with the instructor.

The course credit points are calculated as follows:

11 sessions × 1½ h. =	16 ½ h.
10 x ± 6 h. preparation per session ≈	60 h.
Preparation of presentation (± 4 days = ± 32 h.) ≈	32 h.
Development of questions for presentation (± 2 days = ± 16 h.) ≈	16 h.
Writing of discussion transcript (± 2 days = ± 16 h.) ≈	16 h.

Total =	140 ½ h. ≈ 5 CP.

Contact details

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Course plan

1. (10.04.17) *Introduction*
   No readings.

– (17.04.17) *no class – Easter Monday*

2. (24.04.17) *Popper and Logical Positivism*
   Kraft, Victor (1974): 'Popper and the Vienna Circle', in: Schilpp, P.A. (Ed.): *The Philosophy of Karl Popper*, La Salle (IL): Open Court, pp. 185-204.

– (01.05.17) *no class – May Day*

– (08.05.17) *no class*

3. (15.05.17) *Logic of Scientific Discovery (1)*
   LSD, 'Preface to the first English edition, 1959' (pp. xvii-xxvi) & Chapter 1, Sections 1-3 (pp. 3-10).

4. (**Saturday** 20.05.17) *Logic of Scientific Discovery (2)* (additional session)
   LSD, Chapter 1, Sections 4-8 (pp. 10-26).

5. (22.05.17) *Logic of Scientific Discovery (3)*
   LSD, Chapter 2, Sections 9-11 & Chapter 3, Sections 12-15 (pp. 27-50).

6. (29.05.17) *Logic of Scientific Discovery (4)*
   LSD, Chapter 3, Sections 16-18 & Chapter 4, Sections 19-21 (pp. 50-66).

– (05.06.17) *no class – Whit Monday / week without classes*

7. (12.06.17) *Logic of Scientific Discovery (5)*
   LSD, Chapter 4, Sections 22-24 & Chapter 5, Sections 25-27 (pp. 66-82).

8. (19.06.17) *Logic of Scientific Discovery (6)*
   LSD, Chapter 5, Sections 28-30 (pp. 82-94).

9. (26.06.17) *Logic of Scientific Discovery (7)*
   LSD, Chapter 10, Sections 79-81 (pp. 248-263).

10. (03.07.17) *Logic of Scientific Discovery (8)*
    LSD, Chapter 10, Sections 82-85 & 'Addendum, 1972' (pp. 264-282).

11. (10.07.17) *Logic of Scientific Discovery (9)*
    Miller, David (2006): 'What do arguments achieve?', in: Miller, David: *Out of Error: Further Essays on Critical Rationalism*, Aldershot: Ashgate, pp. 63-80.

Suggested further reading (selection)

Alt, Jürgen August (2001): *Karl R. Popper (3. Auflage)*, Frankfurt am Main: Campus.

Corvi, Roberta (1997): *An Introduction to the Thought of Karl Popper*, Abingdon & New York: Routledge.

Fuller, Steve (2003): *Kuhn vs. Popper: The Struggle for the Soul of Science*, Cambridge: Icon Books.

Gattei, Stefano (2010): *Karl Popper's Philosophy of Science: Rationality without Foundations*, London & New York: Routledge.

Geier, Manfred (1992): *Der Wiener Kreis*, Reinbek bei Hamburg, Rowohlt.

Geier, Manfred (1994): *Karl Popper*, Reinbek bei Hamburg: Rowohlt.

Jarvie, Ian, Milford, Karl & Miller, David (Hg.) (2006): *Karl Popper: A Centenary Assessment (3 Volumes)*, Aldershot: Ashgate.

Keuth, Herbert (2005): *The Philosophy of Karl Popper*, Cambridge: Cambridge University Press.

Keuth, Herbert (2011): *Die Philosophie Karl Poppers (2. Auflage)*, Tübingen: Mohr Siebeck.

Keuth, Herbert (Hg.) (2013): *Karl Popper: Logik der Forschung (Klassiker Auslegen), 4. Bearbeitete Auflage*, Berlin: Akademie Verlag.

Kreuzer, Franz (1982): *Offene Gesellschaft – offenes Universum: Franz Kreuzer im Gespräch mit Karl R. Popper*, Wien: Franz Deuticke.

Magee, Bryan (1973): *Popper*, London: Fontana/Collins; dt. Übersetzung: 1986 im Verlag J.C.B. Mohr (Paul Siebeck) (UTB-Reihe).

Niemann, Hans-Joachim (2006): *Lexikon des kritischen Rationalismus*, Tübingen: Mohr Siebeck.

O'Hear, Anthony (1980): *Karl Popper*, London: Routledge & Kegan Paul.

O'Hear, Anthony (Hg.) (2003): *Karl Popper*, London & New York: Routledge.

Schilpp, Paul Arthur (1974): *The Philosophy of Karl Popper (The Library of Living Philosophers, Vol. XIV, Books I & II)*, La Salle (Il): Open Court.

Schröder, Jürgen (2006): *Karl Popper*, Münster: Mentis.

Simkin, Colin (1993): *Popper's Views on Natural and Social Science*, Leiden: Brill.

Thornton, Stephen (2013): 'Karl Popper', in: Zalta, Edward N. (Hg.): *The Stanford Encyclopedia of Philosophy (Spring 2013 Edition)*, <http://plato.stanford.edu/archives/spr2013/entries/popper/>.

Uebel, Thomas (2012): 'Vienna Circle', in: Zalta, Edward N. (Hg.): *The Stanford Encyclopedia of Philosophy (Summer 2012 Edition)*, <http://plato.stanford.edu/archives/sum2012/entries/vienna-circle/>.

Vickers, John (2013): 'The problem of induction', in: Zalta, Edward N. (Hg.): *The Stanford Encyclopedia of Philosophy (Spring 2013 Edition)*, <http://plato.stanford.edu/archives/spr2013/entries/induction-problem/>.

Watkins, John (1997): 'Karl Raimund Popper, 1902-1994', *Proceedings of the British Academy* 94: 645-684.

Wettersten, John (2007): 'Karl Popper and critical rationalism', in: Fieser, James & Dowden, Bradley (Hg.): *The Internet Encyclopedia of Philosophy*, < http://www.iep.utm.edu/cr-ratio/>.

<u>Useful internet resources:</u>
Internet Encyclopedia of Philosophy (http://www.iep.utm.edu/).
Stanford Encyclopedia of Philosophy (http://plato.stanford.edu/).