

Course Summary for “The Structure and Semantics of Scientific Theories”

Dr. Erik Curiel

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course website:

<http://strangebeautiful.com/lmu/2015-summer-sems-theors.html>

Summer, 2015

Tuesdays, 12:00–14:00 C.T.

Ludwigstr. 31, 021

1 Course Description

The idea of a scientific theory and the way that it makes contact with and represents the world (or, at least, that part of the world it purports to treat) ramifies into most if not all of the major problems in the philosophy of science: the structure of scientific knowledge, the relation between theory and experiment, the realism and instrumentalism debate, the analysis of confirmation, the meaning of theoretical terms, the problem of induction and other forms of scientific reasoning, and on and on. For this reason, the problem of understanding the structure of scientific theories and of providing an adequate account of their semantics—how it is that their formal structures acquire empirical content, and what that empirical content is—may be the single most important problem in philosophy of science. It is certainly one of the most central problems. In this seminar, to try to get a grip on what exactly the problem is, and what promising avenues of attack on it may be, we will spend the first part of the term studying the two major schools of thought advanced in the 20th Century to try to address the problem, the so-called Received View of the Logical Empiricists and the more recent Semantic View initiated in the late 1950s primarily by Suppes, *et al.*, including prominent criticisms of them, to determine their respective strengths and weaknesses. We will conclude the term with a study of a few contemporary approaches, including the neo-structuralists, the neo-Kantians and the neo-Carnapians.

2 Structure and Evaluation

The class period will begin with approximately one hour of lecture by Dr. Curiel covering the required reading for that week. In the final half hour or so, the the class will engage in informal

seminar-type discussion, based on study questions Dr. Curiel will send out every week.

The course is worth 9 ECTS. The grade for the course will be determined by a 16–18 page term paper, due *18 Sep 2015*. The paper will be on a subject of the student’s choice; I strongly urge students to consult with me before choosing a topic. I will be happy to read and comment on rough drafts of the final paper, so long as they are given to me at least two weeks before the due date.

Students wishing to audit the course should consult with me prior to or during the first week of classes.

3 Readings

Most of the required and suggested readings are available online at the course’s website, though they may not be listed as such in the bibliography:

<http://strangebeautiful.com/lmu/2015-summer-sems-theors.html>

4 Tentative Schedule

INTRODUCTION AND HISTORICAL BACKGROUND

Week 1 Introduction (Apr. 14)

Week 2 Russell, Ramsey and the Roots of Structuralism (Apr. 21)

THE LOGICAL EMPIRICISTS AND THE “RECEIVED VIEW”

Week 3 Carnap I (Apr. 28)

Week 4 Carnap II (May 05)

Week 5 Hempel and Modifications to the Received View (May 12)

Week 6 Discontents (May 19)

DER PFINGSTDIENSTAG Week 7: NO LECTURE (May 26)

THE SEMANTIC VIEW

Week 8 Tarskian Semantics (Jun. 02)

Week 9 Suppes (Jun. 09)... and My Birthday!

Week 10 van Fraassen (Jun. 16)

Week 11 Halvorson’s Critique of the Semantic View (Jun. 23)

CONTEMPORARY APPROACHES

Week 12 Neo-Structuralism (Jun. 30)

Week 13 Neo-Kantianism I (Jul. 07)

Week 14 Neo-Kantianism II (Jul. 14)

Week 15 Stein's Neo-Carnapianism (Jul. 21)

Week 16 Representational Propriety as a Basis for Semantics (Jul. 28)

FINAL PAPER DUE: 18 SEP 2015