THE UNIVERSITY OF WESTERN ONTARIO
DEPARTMENT OF PHILOSOPHY
GRADUATE COURSE OUTLINE

Philosophy XYZ: Scientific Realism
Spring Term 2020 Instructor: Stathis Psillos
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Course outline
This intensive seminar aims to examine in detail the various arguments in favour or against scientific realism. Scientific Realism is a philosophical theory about science which consists of three theses. A metaphysical thesis: there is a mind-independent world which science aims to describe; a semantic thesis: scientific theories are taken literally as truth-conditioned and truth-valued accounts of the world; an epistemic thesis: science does offer us knowledge of the world (in particular, of the hidden-to-the-naked-eye entities posited by theories to account for the observable phenomena. The most well-known argument for scientific realism is the so-called 'no miracles argument' which is based on Hilary Putnam's slogan: scientific realism is the only philosophy of science that does not make the success of science miraculous. The form (inference to the best explanation) and the content (explanation by postulation) of this argument have generated a lot of controversy. The major argument against scientific realism has been the so-called Pessimistic (Meta-)Induction, which is based on the claim that most past theories were empirically successful, yet false. Attempts to reconcile realism with the historical record have led many realists to develop weaker realist positions, such as structural realism. Until recently, the main rival of realism was van Fraassen's constructive empiricism, but recently there has been a resurgence of (neo-)instrumentalist positions (Kyle Stanford, Brad Wray, Darrell Rowbottom). Part of the aim of this seminar will be to re-assess the current revival of anti-realism.

TEXTS: Readings will be available through a dropbox folder. Lecture notes will be provided. The main background texts will be my books *Scientific Realism: How Science Tracks Truth* (Routledge 1999) (SRhSTT) and *Knowing the Structure of Nature* (Palgrave 2009) (KtSoN); as well as my recent papers 'The Realist Turn in the Philosophy of Science'. In Juha Saatsi (ed.) The Routledge Handbook of Scientific Realism, pp. 20-34, (2017) and 'Realism and Theory Change in Science'., *The Stanford Encyclopedia of Philosophy* (Summer 2018 Edition), Edward N. Zalta (ed.). URL = <https://plato.stanford.edu/archives/sum2018/entries/realism-theory-change/>.

COURSE REQUIREMENTS: This is an intensive course. There will be 8 or 9 sessions in the space of three weeks. If necessary, there will be two more sessions over skype. All those who take it for credit are required to write two essays. One short essay (about 2500 words) which will be delivered by the end of March and one standard size essay (about 4500 words) to be delivered by the end of April. They are also required to make a presentation of a

paper. The course will start on the 28th of February 2019.

Plan of the course (exact dates to be provided)

1. Introduction—What is scientific realism? A look at the history of the debate
2. No Miracles Argument vs the Pessimistic Induction
3. The *Divide et Impera* Strategy
4. Structural Realism
5. Empiricism and Scientific Realism
6. Constructive Empiricism
7. Neo-Instrumentalism I (Unconceived Alternatives)
8. Neo-Instrumentalism II (Wray vs Rowbottom)
9. Wrapping up