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International Workshop on Henri Poincaré's Philosophy: Conventions and Structural Realism

Organized by María de Paz (CFCUL)

[19 JUNE '15 | 10H00-13H00 | FCUL | ROOM 8.2.11]

FREE ADMISSION

VENUE

Faculty of Sciences of the University of Lisbon (FCUL)
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10h00 | *Conventions and Relations in Poincaré's Philosophy of Science*
Stathis Psillos (University of Athens & Rotman Institute of Philosophy)

In this talk I will reconcile the two main interpretative lines of Poincaré's philosophy of science: conventionalism and structuralism. Though these two lines were present in Bertrand Russell's review of Poincaré's *Science and Hypothesis*, they were developed independently of each other. The key to this reconciliation is Poincaré's relationism. I will argue that Poincaré was neither a rampant conventionalist (as Édouard Le Roy was arguing) nor a pure structuralist (as Bertrand Russell was urging). But he was aiming to delineate a position which allowed room for both freely, but not arbitrarily, chosen constitutive principles of science and the acquisition of objective, though, relational knowledge of the natural world.

11h00 | *Poincaré's realism*
Robert DiSalle (University of Western Ontario)

Structural realists frequently see a precedent in Poincaré's account of "true relations". The structural realist claim that science can discern the underlying structure of the world, despite its changing ontological conceptions of the nature of reality, seems to echo Poincaré's claim that scientific theories can express "true relations," and that the discovery of such a relation is an enduring achievement of science, that transcends the changing "images" that particular theories, at particular historical stages, associate with physical reality. Poincaré's conventionalism poses a problem for this view: how can the structure of scientific theory be its truly representative aspect-- the aspect that faithfully represents structural features of the world-- if precisely the structural framework of science is a matter of convention?
My analysis of this problem has two aims: first, to show that that Poincaré's view of "true relations" as the object of scientific knowledge is not, after all, a form of realism about mathematical structure in our contemporary sense; second, to suggest that the realist principle articulated within Poincaré's conventionalism is historically better grounded, and philosophically more defensible, than the usual forms of structural realism.

12h00
Poincaré's classification of hypotheses and its relation to conventions
María de Paz (CFCUL)

In the Introduction of his famous book *La Science et l'Hypothèse*, Poincaré remarks the necessary role and legitimacy of hypotheses. There, he establishes a triple classification of hypotheses, dividing them in verifiable, useful, and apparent. The latter are no hypotheses but definitions or conventions in disguise. However, in Chapter IX of the same book, entitled "Les hypothèses en Physique", he gives a slightly different triadic classification: natural hypotheses, indifferent hypotheses, and real generalizations. What are the similarities and differences between these two classifications? And, more importantly, what is the relation that they have with the concept of convention? My first purpose is to provide a possible equivalence between both classifications in order to clarify the role of hypothesis in Poincaré's philosophy of natural science. By doing this, I will also try to provide a conection with the concept of convention and the idea that it has not a univocal sense in Poincaré's philosophy. The discussion will be based in the two fundamental texts above quoted and in the contrast of Poincaré's use of this notion (hypothesis) with some of his contemporaries.