

Mathematical Platonism: Frege and Neo-Fregeanism

Organizer: Pilip A. Ebert (Stirling)

Participants: Francesca Boccuni (Vita-Salute San Raffaele), Sorin Costreie (Bucharest), Marcus Rossberg (UConn)

Abstract:

The symposium entitled “Mathematical Platonism: Frege and Neo-Fregeanism” brings together four Frege scholars to debate the relevance of Frege’s thinking on current topics in the philosophy of mathematics. The symposium focuses on Frege’s Platonism: the position that mathematical objects exist independently of human or other mental activities; that they exist as place- and timeless abstract objects, denizens of a Fregean Third Realm. The symposium investigates the importance of Platonism in Frege’s own philosophy, the role and problems of (neo-)Fregean Platonism in contemporary philosophy of mathematics, and the late-Fregean, Kantian alternative to Platonism.

Titles and Abstracts of the talks

1.

Francesca Boccuni: Arithmetic on the Cheap

The Scottish neo-logician school (championed by Hale and Wright) proposes that the foundation of arithmetic is provided by second-order logic plus Hume’s Principle (HP). The approach claims that HP, and the mathematical knowledge retrieved, is analytic. There is a debate regarding this supposed analyticity because of the overwhelming first- and second-order ontological commitments and the Caesar Problem. I propose a revised version that adopts plural quantification and interprets number-terms as arbitrary names. I argue that this second-order fragment is ontologically innocent, the first-order fragment is metaphysically innocent, and that it resolves the Caesar problem.

2.

Sorin Costreie: Frege on Kindergarten Numbers

Frege writes in *Numbers and Arithmetic* about Kindergarten numbers and “an a priori mode of cognition” that it may have “a geometrical source.” This resembles recent findings about arithmetical cognition. I explore this resemblance between Frege’s late position concerning the geometrical source of arithmetical knowledge and current positions in the arithmetical-cognition literature. I address three questions: (i) in which sense may Frege be seen as a forerunner of contemporary authors concerning arithmetical cognition; (ii) in what sense can current findings support Frege’s later ideas; (iii) does geometrical knowledge indeed lie at the bottom of all mathematical knowledge?

3.

Pilip A. Ebert and Marcus Rossberg: Mathematical Creation in Frege’s *Grundgesetze*

We discuss a passage from *Grundgesetze der Arithmetik* which raises doubts about Frege’s attitude towards Platonism. First, we motivate a Platonist interpretation of Frege’s mature philosophy of mathematics and outline his conception of the aims of definition. We then present the passage which *prima facie* raises doubts about a broadly Platonist interpretation

of his logicism. We then survey and discuss readings of this passage by other interpreters. Finally, we present our own interpretation which, we argue, renders the passage compatible with a Platonist interpretation of Frege and offers an explanation of Frege's rather uncharacteristic concessive mood in the passage.