Philosophy Department Undergraduate Colloquium Series

The Epsilon-Operator and Epsilon-Calculus: Some History and Its Role in the Logic Classroom

Speaker: Nathan Hoffart
Day/Date:
Friday, December 2, 2016
Time: 4:00 p.m.
Location: C-630

The ε-calculus (epsilon-calculus) was developed through the study of David Hilbert's work in the 1920s and 1930s on the foundations of mathematics. Despite Hilbert's use of the ε-operator being primarily mathematical in nature, this talk will focus on the subsequent development and applications of the ε-calculus. I will discuss some of its philosophical and formal aspects, including some of the history surrounding its development. First, I will summarize some potential reasons why Hilbert developed the ε-operator. Second, I introduce the ε-calculus, while briefly mentioning its use in proving some metatheorems of the classical predicate calculus. The introduction to the ε-calculus will emphasize its translational accuracy when formalizing referring expressions such as "that God" which are only roughly translatable into the classical predicate calculus. Lastly, I explore whether or not there are benefits to familiarizing students with the ε-calculus in an introduction to logic classroom setting, which I answer in the affirmative.

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Everyone is welcome.