GFMC

The Bounds of Judgement / BJ
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Lecture Series

AROUND GÖDEL'S THEOREMS

Rafał Gruszczyński

Nicolaus Copernicus University, Department of Logic – Toruń, Poland

The popular formulation of the first Gödel's theorem says that there are true mathematical sentences that cannot be proved. Three questions immediately arise: what does `true' mean?, what does 'mathematical' mean and, last but not least, what does it mean `to prove something'. The purpose is to answer these questions and explain the first theorem of Godel's to general audience. The famous second theorem, according to which no strong enough arithmetical system can prove its own consistency, will also be an object of brief analysis.

December 4th –1st Lecture
The road to Hilbert's program
Torre B, Departamento de Filosofia - 17h30

The first lecture will concern the emergence of modern logic in history of science. We will try to show how the notion of formal theory emerged and why it turned out to be so important for logic, mathematics and their philosophy. We will explain for what reasons Hilbert's program emerged and why it was important.

December 7th – 2nd Lecture
Gödel's theorems
Torre B, Gabinete 118 - 18h00

The second lecture will be devoted to presenting some abstract Gödel's theorems. We will show to what kind of systems the theorems apply and what are their consequences for logic, mathematics and philosophy. We will explain why Gödel's theorems turned out to be a tombstone for Hilbert's program. We will also clarify the distinction between Gödel's completeness theorem for first-order logic and his incompleteness theorems for arithmetic.

Faculdade de Letras da Universidade do Porto