

**Department of Mathematics, Logic, and Philosophy**

## LOGIC SEMINAR

### Proofs of the Completeness Theorem: Gödel, Henkin, and Beyond

What hath Tarski wrought? If Gödel had already proved the completeness theorem, why was there any need for Tarski to define truth?

We examine the difference between Gödel's statement of the completeness theorem and the version in current texts. Then we discuss the difference between the Henkin and Gödel proofs.

We conclude with a result extending this method from a forthcoming paper with Laskowski: If a complete theory  $T$  has an atomic model of cardinality  $\aleph_1$  that is pseudominimal, then it has an atomic model in the continuum.

Here is a version of this lecture for a philosophy talk on explanation (the present talk will be both historical and have some new math, but not the philosophical issue of explanation).

<http://homepages.math.uic.edu/~jbaldwin/pub/chietihenkfeb20.pdf>

Presented by

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Thursday, May 4, 2017 – 2:00pm

207A Morgan Hall