



SEMINÁŘ LOGIKY SEMINAR OF LOGIC



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An Overview of Object Theory in 2 Parts

In these two lectures, I describe the latest body of results in object theory (OT). The results are presented as theorems derivable from the axioms of OT. The theorems constitute the basic principles that govern classes/sets, truth-values, situations, possible and impossible worlds, concepts, natural numbers, and mathematical objects and relations generally.

For Lecture 1, I humbly request that attendees look over the axioms and prepare questions about the axioms that may be unfamiliar. The full list of axioms is available at:

<https://mally.stanford.edu/presentations/system-A4.pdf>

but most of these are "logical" axioms: for propositional logic, predicate logic (with free logic for complex terms), identity, modal logic with an actuality operator, the logic of definite descriptions, and the logic of the relational lambda-calculus. The axioms of encoding may be unfamiliar. Lecture 1 will start by addressing any questions, and then developing some of the main results concerning classes, truth-values, situations, possible and impossible worlds, and concepts. Lecture 2 will (a) sketch the derivation of 2nd order Peano Arithmetic within OT (which uses no mathematical primitive notions or axioms), and (b) sketch how the type-theoretic version of OT, again without mathematical primitives, can analyze, for an arbitrary theoretical mathematical theory T, both (i) the denotations of the well-defined terms of T and (ii) the truth conditions of the theorems of T.

Lecture 1: Monday, May 29, 10:00 a.m.

Title: "The Axioms and Some Key Results"

Lecture 2: Tuesday, May 30, 10:00 a.m.

Title: "Natural Numbers and Mathematical Objects/Relations Generally"

Meeting room („zasedačka“), Institute of Philosophy CAS, Jilská 1, Prague 1