

**The Department of Linguistics is proud to present:**

**Lecture Series: The History of Formal Semantics** (Barbara H. Partee)  
and  
**Ontology and the Integration of Formal and Lexical Semantics**  
Vladimir Borschev and Barbara H. Partee

May 11-14, 2015 • Laurel Hall 201

Structure of the series: Lectures I, II, and IV are on the history of formal semantics. Lecture I will be relatively accessible to a general audience although primarily for linguists and philosophers. Lectures II and IV, designed primarily for students and colleagues in linguistics, philosophy, and logic, each presuppose Lecture I (or (Partee 2011)), but IV does not presuppose II. Lecture III is an interlude on a separate topic, the role of sorts and types in integrating formal and lexical semantics, and does not presuppose any of the previous lectures.

**I: Logic and Language: A History of Ideas and Controversies**

*Mon, May 11, 1-4*

There have been centuries of study of logic and of language. Many philosophers and logicians have argued that natural language is logically deficient, or even that “natural language has no logic”. And before the birth of formal semantics in the late 1960’s, both linguists and philosophers were mostly agreed, for very different reasons, that what logicians meant by “semantics” had no relevance for the study of natural language. The logician and philosopher Richard Montague argued that natural languages do have a very systematic semantic structure, but that it can be understood only if one uses a rich enough logic to mirror the rich syntactic structure of natural languages. So changing views of the relation between language and logic have often involved changing views of logic itself, and of linguistic structure. In this talk I’ll describe this chapter in the history of ideas with a minimum of technical detail.

**II: The Starring Role of Quantifiers in the History of Formal Semantics**

*Tue, May 12, 10-1*

The history of formal semantics as described in Lecture I features quantifiers at several points. In this talk I’ll look more closely at crucial turning points in the history of semantics where quantifiers have played a major role. One example: the theory Chomsky described in his 1965 *Aspects of the Theory of Syntax*, where meaning was determined at Deep Structure and transformations were meaning-preserving, ushered in a brief “Garden of Eden” period; part of what led to expulsion from the Garden and to the Linguistic Wars was linguists’ discovery of quantifiers. I’ll describe this and a number of other crucial moments, some earlier and some later. The history of formal semantics is much more than the history of treatments of quantifiers, but their story is an important and fascinating chapter. (Partee In Press)

**III. Ontology and the Integration of Formal and Lexical Semantics**

*Wed, May 13, 1-4*

Lexical semantics has been relatively neglected within formal semantics: Montague treated only certain logical words explicitly, and simply translated content words into constants of appropriate types. Later semanticists have studied certain aspects of lexical meaning such as aspectual properties of verbs, semantic classes of adjectives, etc. that play a systematic role in semantic composition. In order to integrate lexical and formal semantics more systematically, we propose extending type theory to include fine-grained sortal information. In this talk we discuss ontology and the semantics

of measure constructions in Russian, considering expressions like *dva stakana moloka, polkorziny gribov, tri meshka muki* (*two glasses of milk, half a basket of mushrooms, three bags of flour*), describing various kinds of *containers*, or corresponding measures based on them, and their contents—*portions of substances*. Treating *sorts* as *types* gives us the means for specifying various aspects of the ontology and lets us more fully specify the semantics of these constructions and the shifts from concrete containers to expressions of measure. The substantive goals of this research are, in part, to be able to describe and explain co-occurrence constraints and ideally to be able to formally distinguish well-formed from ill-formed expressions in this domain. We close with a discussion of the problem that embedding semantically anomalous expressions under negation or modals sometimes yields well-formed expressions, as with Thomason's example *It is not true that The Painted Desert is reluctant*. (Borschev and Partee 2014)

#### IV: Psychologism and Anti-psychologism in the History of Semantics

*Thu, May 14, 10-1*

The last talk will take off from my 1979 paper "Semantics - Mathematics or Psychology?" (Partee 1979). I'll revisit the central issues in a historical context, as a clash between two traditions, Fregean and Chomskyan, a clash that accompanied early work combining Montague's semantics with Chomskyan syntax. We know that successful ways were found to do that, starting in the early 1970's, and formal semantics and then also formal pragmatics blossomed and has flourished over the decades. But the foundational questions raised by the apparent incompatibility of Chomsky's view of linguistics as a branch of psychology with the anti-psychologistic Fregean tradition were never clearly resolved, and within linguistics they were rarely discussed. In this talk I'll look at the history of some of these questions, especially the question of what competence should mean in semantics and the question of whether "meanings are in the head". What I once saw as a problem I now see as a good thing: how semantics pushes us toward a less narrow view of competence and psychological reality. What do competence and performance mean in semantics? How does that differ from competence and performance in syntax? And how have ideas about what "in the head" means changed from Fodor's "methodological solipsism" views, prominent at the time of in the 1970s, in intervening decades? Semantics is the part of linguistics most affected by changes advanced by Stalnaker and Burge in what "in the head" means. I believe that recent advances in philosophy of mind go a long way towards changing the suppositions on which earlier arguments about "psychological reality" and "competence" rested. That part of the history of formal semantics is still unsettled, still very current.

#### Selected References

- Borschev, V.B., and Partee, B.H. 2014. Ontology and integration of formal and lexical semantics. In *Computational Linguistics and Intellectual Technologies: Annual Conference "Dialogue"*, eds. V.P. Selegey et al., 114-127. Bekasovo, Russia: RGGU. <http://www.dialog-21.ru/digests/dialog2014/materials/pdf/BorschevVBParteeBH.pdf>.
- Partee, Barbara H. 1979. Semantics - mathematics or psychology? In *Semantics from Different Points of View*, eds. R. Bäuerle, U. Egli and A. von Stechow, 1-14. Berlin: Springer-Verlag. Reprinted in Heimir Geirsson and Michael Losonsky, eds, (1996) *Readings in Language and Mind*, Oxford: Blackwell Publishers, 88-100 <http://semanticsarchive.net/Archive/DZmMTg5O/> [1978 pre-pub ms.].
- Partee, Barbara H. 2011. Formal semantics: Origins, issues, early impact. In *Formal Semantics and Pragmatics. Discourse, Context, and Models. The Baltic Yearbook of Cognition, Logic, and Communication. Vol. 6 (2010)*, eds. B.H. Partee, M. Glanzberg and J. Skilters, 1-52. Manhattan, KS: New Prairie Press. <http://thebalticyearbook.org/journals/baltic/article/view/1580/1228>.
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