LANGUAGE AND LOGIC:
IDEAS AND CONTROVERSIES IN
THE HISTORY OF FORMAL SEMANTICS

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The history of formal semantics and pragmatics over the last 50 years is a story of collaboration among linguists, logicians, and philosophers. Since this talk is for logicians, and I'm a linguist, I'll emphasize aspects of the pre-history and history of formal semantics that concern the relation between language and logic.

Logicians have often been concerned with language in a "negative" way: the development of formal logical languages has often been motivated by perceived inadequacies in natural language for purposes of argumentation. Russell and Strawson, who had many disagreements about language, did express agreement on the statement that "natural language has no logic." But logicians and philosophers of language, even those who regarded natural languages as "illogical" in various ways, made crucial advances in semantic analysis that paved the way for contemporary formal semantics.

Chomsky, from a very different angle, considered the invented languages of logic to be so different from any natural language that he doubted that logicians' work on the formal syntax and semantics of logical languages could possibly be of any interest or usefulness for linguistics, and he therefore rejected Bar-Hillel's exhortation in the early 1950's for greater cooperation between logicians and linguists in syntax and semantics.

It was the logician and philosopher Richard Montague, a student of Tarski's, who had the greatest direct impact on the development of contemporary formal semantics, with his theory of "universal grammar" that encompassed both formal and natural languages, constructed in part on the basis of his own typed intensional logic. From his seminal works in the late 1960's and early 1970's, as well as work by David Lewis, Terry Parsons, Richmond Thomason, Max Cresswell, and linguists Partee, Lauri Karttunen, Ed Keenan, David Dowty, Emmon Bach

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and others, interdisciplinary collaboration led to a rapid expansion of the field.

In this talk I'll review some of this background and reflect on key ideas and controversies in the development of formal semantics. I'll talk about some of the pivotal contributions by logicians as formal semantics and pragmatics developed after Montague's untimely death in 1971, and I'll also discuss the "naturalizing" influence that linguists have had on the field as it has become more and more a branch of linguistics. I'll note some of the ways that that advances and debates in formal semantics and pragmatics have been connected with foundational issues in linguistic theory, philosophy, and cognitive science, some of which are still far from resolved.

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