

ACL 2014

**Frame Semantics in NLP**

**A Workshop in Honor of  
Chuck Fillmore (1929–2014)**

**Proceedings of the Workshop**

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## Introduction

Chuck Fillmore received the Association for Computational Linguistics' Lifetime Achievement Award in July 2012. We see this workshop, held in conjunction with the annual ACL meeting, barely four months since Chuck's passing on February 13, 2014, as an especially fitting occasion to honor Chuck and his contributions to the field.

Those who have had the privilege of knowing Chuck also know that his kindness, humanity, and generosity cannot be surpassed. Those who have had the good fortune of studying with Chuck have learned that his guidance and wisdom, in matters of life at least as much as in those of language, will remain forever. Those who have had the even better fortune of working closely with Chuck in particular throughout the development of FrameNet also have had the great pleasure of witnessing the sheer delight that he brought to his work, and that he shared with his students, colleagues, and friends.

Chuck's career extended for over fifty years, during which time he was professor of linguistics at the Ohio State University and the University of California, Berkeley. Chuck arrived in Berkeley after ten years at OSU, which included a year at the Center for Advanced Studies in the Behavioral Sciences at Stanford University. Chuck's legendary humility belied his keen intellect and profound insight about the nature of language and how we, linguists and computational linguists, ought to think about language, also for machine processing, an effort in which he began to engage during his early days at Ohio State. Chuck's equally legendary wit served as a brilliant pedagogical technique and an endearing personality trait.

Any attempt to summarize Chuck's research in a limited space would necessarily fail. Nevertheless, we would be remiss were we not to invoke Chuck's contributions to the subfields of syntax, semantics, pragmatics, lexicon, and grammar. A number of relatively early papers came to be very important works and remain so to this day, not simply for historical purposes. An early contribution to transformational grammar that introduced cyclic rules applying to small units of structure rings of concepts later revived and expanded in Chuck's work with his Berkeley colleagues in developing Construction Grammar. "The Case for Case," an often-cited work among linguists of many persuasions, holds the seed of the frame idea that later blossomed into Frame Semantics. The careful reader will identify numerous FrameNet frames in papers about verbs of judging, hitting and breaking, as well as the concept *risk*, the last with lexicographer Sue Atkins, whose influence on Chuck to found FrameNet cannot be underestimated. Chuck's well-known lectures on deixis provided support to the newly emerging field of linguistic pragmatics.

And, of course, the impact of Chuck's research on Natural Language Processing is the subject matter of the invited talks and papers at the workshop whose proceedings we introduce here.

This small collection begins with several contributions that highlight the profound and sometimes under-appreciated role of Chuck's work in computational linguistics. Collin F. Baker ("FrameNet: A Knowledge Base for Natural Language Processing") takes the reader on a journey through time from Chuck's early work on case grammar all the way to FrameNet's current use in natural language processing. Kenneth Church ("The Case for Empiricism (With and Without Statistics)") contextualizes these achievements with respect to the broader developments in the field of computational linguistics. Jerry Hobbs ("Case, Constructions, FrameNet, and the Deep Lexicon") expounds on how Chuck's discoveries contribute to developing what Hobbs calls *deep* theories of lexical meaning, drawing on ideas from psychology and logic.

Two papers relate FrameNet to other resources while presenting ongoing efforts to interlink them. Martha Palmer, Claire Bonial, and Diana McCarthy ("SemLink+: FrameNet, VerbNet and Event Ontologies") discuss FrameNet's relationship to VerbNet and to event ontologies in the SemLink+ project. Nancy Ide

(“FrameNet and Linked Data”) assesses broader community activities to connect FrameNet with other resources such as WordNet and MASC in the Linguistic Linked Open Data cloud.

Given the subject of the workshop, that a number of contributions focus on practical natural language processing applications is no surprise. Srinu Narayanan (“Bridging Text and Knowledge with Frames”) presents an overview of sophisticated artificial intelligence and information retrieval applications of FrameNet such as information extraction, question answering, and metaphor detection. Dipanjan Das (“Statistical Models for Frame-Semantic Parsing”) describes some of the most advanced algorithms for automatic frame-semantic parsing. Apoorv Agarwal, Daniel Bauer, and Owen Rambow (“Using Frame Semantics in Natural Language Processing”) discuss ongoing research projects at Columbia University that exploit FrameNet for producing advanced semantic representations, while highlighting important research challenges for the community.

Finally, two contributions follow Chuck’s lead in starting with specific empirical observations about language and then raising broader questions about the nature of semantics. Katrin Erk (“Who Evoked that Frame? Some Thoughts on Context Effects and Event Types”) provides an analysis of lexical substitution and examines its bearings on frame semantics. Eduard C. Dragut and Christiane Fellbaum (“The Role of Adverbs in Sentiment Analysis”) comment on the role of adverbs in lexical resources for sentiment analysis.

With these papers, we celebrate Chuck’s path-breaking contributions to linguistics, and their impact on the allied fields of cognitive psychology, computational linguistics, and artificial intelligence. In so doing, we honor the man whose presence in our midst we will miss far beyond what our meager words can express.

Miriam R. L. Petruck and Gerard de Melo

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# Conference Program

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