Session 11
Natural Language III

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This session consisted of four papers: two papers discussed the integration of text and graphics in natural language generation/explanation, one paper on interpreting speech acts and one paper on the TAG (Tree Adjoining Grammar) formalism.

Allen presented "Using Structural Constraints for Speech Act Interpretation" by Allen and Hinkleman. The paper discusses ways to distinguish an indirect speech act such as "Can you pass the salt?" from a direct yes-no question. It is important that a speech understanding system be able to distinguish the two; given an indirect question such as "Can you tell me how many ships are in the Bering Sea?", the system should not repsond with "yes". Hinkleman, in her recently completely thesis, has proposed a number of rules such as: "If the sentence contains the adverb 'please,' than the possible interpretation is: 'directive-command.' " In the oral presentation, Allen also suggested that there might be some intonational cues that could be useful. This is an interesting possibility that we ought to think about.

Schabes then presented "An Evaluation of Lexicalization in Parsing," by Joshi and Schabes. Over the last few years, there has been considerable interest in "head-driven" parsing. That is, the parser would somehow take advantage of constraints between a verb (the head of a verb phrase) and its arguments in order to parse more quickly and more accurately. Although there is a very strong intuition that some form of this argument must be correct, much of the literature has been disappointingly vague. In contrast, Joshi and Schabes report on an experiment showing that lexical constraints improves parsing time. The experiment used a small grammar fragment written in the TAG formalism. They plan to investigate how well these results scale up with larger grammars. It would also be interesting to see how well these results generalize over input corpora and over grammatical formalisms.

The last two papers, "Natural Langauge with Integrated Deictic and Graphic Gestures" by Neal (presenter), Theilman, Dobes, Haller, Galnowski and Shapiro, and "Coordinating Text and Graphics in Explanation Generation," by Feiner and McKeown (presenter), discussed a multi-media approach to generation. Sometimes a picture is more appropriate than an explanation in English. Both pictures and English text have constraints. Text should not be ungrammatical, or very awkward. So, too, pictures need to fit in a certain space and shouldn't be too busy. Feiner and McKeown suggest that the constraints should be described declaratively with a unification formalism. It might also be interesting to consider other forms of multi-media presentation such as speech.