

Workshop Panels

Toward a Theory of Semantic Annotation

Conveners: **David Farwell**, New Mexico State University and Universidad Politecnica de Catalunya, and **Eduard Hovy**, Information Sciences Institute, University of Southern California

Panelists: **Manfred Pinkal**, Universität des Saarlandes, and **Martha Palmer**, University of Pennsylvania

Given the increasing number of annotated corpora being created, it is opportune to consider what one needs to do to ensure that the annotation effort succeeds. What, indeed, is “success” for an annotation effort? What desiderata should annotation efforts conform to in order to maximize chances of success? When compromises on the desiderata are required for practical reasons, which desiderata are first to go? What is the resulting impact on the effort?

We propose the following desiderata:

- perform annotations that are useful for a wide number of tasks (possibly ones not even foreseen today);
- focus on annotations not easily done automatically without having the corpus available as training data;
- only annotate when high inter-annotator agreement is possible;
- focus on annotation that is fast and cheap (relatively), that doesn’t require lots of annotator training, and that doesn’t require years to carry out;
- ensure that the annotations are theoretically well-founded and acceptable to a large number of people in various projects;
- build on previous efforts, and use automated tools to speed up annotation if possible;
- pay particular attention to annotation interface design, since this can significantly impact performance.

In order to meet these desiderata, many annotation efforts have made decisions that may be seen as compromises. For example, by using the Penn Treebank texts, one can count on a commonly-understood parse tree syntax. However, the Treebank is not a balanced corpus, and hence may negatively influence the results annotations that reflect phenomena not present in that corpus.

On the panel, members of three semantic annotation projects will describe their work and provide insights as to where they had to make compromises in the light of the desiderata and why they did so:

- SALSA (Manfred Pinkal)
- PropBank (Martha Palmer)
- IL-Annotation (David Farwell and Eduard Hovy)

Can we move from sentence meaning to text meaning?

Convener: **Sergei Nirenburg**, University of Maryland, Baltimore County

Panelists: TBA

Text meaning as a whole has not yet attracted widespread attention. Recent studies usually concentrate on text-meaning components — propositional meaning within a single sentence or even clause, relations among clauses, or co-reference issues. Earlier “holistic” work on

text-level “grammars” or plot units did not reach the stage where the main ideas were ripe for judgments of explanatory power or utility. One can indeed view text meaning as a combination of the meaning of its clauses plus causal, temporal, rhetorical, and other relevant relations among the clause meanings, plus speaker attitudes expressed in the input text. At this level, a central issue is cross-fertilization of heuristic material — how one can use findings in one component of the overall text meaning as heuristics for establishing elements of another component? For example, the propositional meaning of a clause can contribute to establishing a coreferential relation between the meaning of a noun phrase within it and a noun phrase in another clause.

Extracting and manipulating the meaning of an entire text holds the promise of improving the quality of results in information extraction, automatic population of knowledge bases, text summarization, modeling question answering and other intelligent agent systems that communicate with people, and other applications. The needs of specific applications effectively define the scope and depth of text meaning in specific projects. The spectrum of choices here is very broad — from approximating text meaning through textual collocation (the “knowledge-lean” end of the spectrum) to including in text meaning the results of reasoning — for example, judgments about speaker goals and beliefs (the “knowledge-rich” end). The choice is made by balancing two conflicting desiderata — real utility and feasibility. In this discussion, we will analyze the available choices and assess the practicality and the promise of integrating work on different components of text meaning.