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Title: Reconsidering the Semantic Role(s) of Predicate Arguments

Abstract:

Dowty's 1991 seminal article "Thematic Proto-Roles and Argument Selection" constructed the notion of a proto-agent and proto-patient, based around selectional criteria can be mapped to binary questions, such as: "Did the argument change state?", or "Did the argument have volitional involvement in the event?". It was argued that these properties group together (non-categorically) according to classic agent/patient intuitions; for instance, a proto-patient often both changes state, and is causally affected by another participant. To a large extent independently, various resources have since then been constructed for use by computational linguistics in building systems to automatically label the correct 'semantic role' for each argument to a recognized predicate, typically focused on more classic thematic roles.

With colleagues at Johns Hopkins we are pursuing an alternative interpretation to Dowty's arguments, with respect to the task of Semantic Role Labeling (SRL). As Dowty himself argued, a given agent or patient in a particular sentence may not satisfy all properties that are agent-like, or patient-like: those roles stand for a tendency to satisfy proto-agent properties, not a strict requirement. Thus, we are exploring whether the SRL task may be more productively focused towards answering those underlying questions, rather than performing coarse categorical labeling (AGENT, PATIENT, etc.). Might this lead to a more accurate shallow-semantic technology? Perhaps it is easier for annotators to label these properties than the original semantic roles? If so, does that have ramifications for the construction of new HLT for so-called "low resource" languages, where technology for most of the world's languages is limited based on a lack of labeled resources?