

Agent-oriented adverbs = Individual-level predicates(e)

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PROPOSAL: This talk proposes (i) a novel analysis of agent-oriented adverbs as individual-level predicates, which correctly accounts for both their semantic properties and their syntactic distribution cross-linguistically; and (ii) that adopting a Neo-Davidsonian event semantics (cf. Parsons 1990, Hornstein & Pietroski 2009), the findings provide additional new evidence for Kratzer's (1996) view of argument structure, on which the External argument (Ea) is not a part of the verb's lexical entry.

PROBLEM: Agent-oriented adverbs include *cleverly*, *intelligently*, *stupidly* and *clumsily*, among others. In order to characterize the basic issues, the discussion will center on a principled account of the distribution of the adverb and its readings in English in (1).

(1) (Cleverly) Mary (*cleverly*) passed (**cleverly*) the letter (*cleverly*) to John (*cleverly*)

The readings and their distribution: (i) the pre-subject position has an unambiguous *clausal* reading which can be paraphrased as *It was clever of Mary to pass the letter to John*, (ii) the licit post-verbal occurrences receive an unambiguous manner reading, paraphrasable as *Mary passed the letter to John in a clever way*, and (iii) the pre-lexical verb slot is ambiguous between the two. In addition to these interpretational facts, an analysis must also account for the blocked inter-lexical verb-direct object position. It should be noted (following Ernst 2002, *inter alia*) that the name "agent-oriented" itself is somewhat unfortunate because the argument these adverbs modify is not limited in type to one bearing an Agent thematic role, but more generally, it must be interpreted as being able to control the property denoted by the adverb.

In the literature, past analyses have aimed to define the two readings of agent-oriented adverbs, but fall short of an explanation which addresses the questions of why agent-oriented adverbs have the characteristics they do and where their ambiguity comes from. Jackendoff (1972) accounts for the basic distributional facts by assigning rigid syntactic adjunction sites to each reading: the clausal reading is the product of adjoining the adverb to S and the manner to VP. The ambiguity of the pre-verbal position results from the adjunction site being obfuscated by non-binary branching. More recently, Ernst (2002) rejects a rigid adjunction approach, arguing that the facts can be captured by freer adjunction in the syntax and closer attention to how the adverb interprets the structure it is adjoined to. These representative studies illustrate how the issue has been formally stated, but they shed little light on its linguistic relevance.

ANALYSIS: The analysis pursued here agrees with Ernst (2002) in that the possibility of multiple semantically regulated adjunction sites is behind the distribution facts, but it goes further in arguing that the syntactic structure modified by the adverb in both readings is identifiably distinct. The data in (2)-(3) illustrate how the pre-verbal ambiguity can be dissected. Amalgamating these data with (1), the generalization is that the clausal reading is the product of the adverb immediately c-commanding Ea, and the manner reading of the adverb immediately c-commanding the verb (cf. (4)-(5)).

- (2) The boys *intelligently* all answered the question = *clausal*
[_{TP} The boys_i [_{T'} T [_{VP} intelligently [_{VP} all t_i [_{V'} answered_V [_{VP} the questions [_{V'} t_V]]]]]]]
- (3) John answered the question *stupidly*, but Mary did so *intelligently* = *manner*
... [_{TP} Mary_i [_{T'} did [_{VP} t_i [_{V'} [_{V'} so [_{<VP>} the question [_{<V'>} answer]]] intelligently]]]]]

- (4) Argument structure of manner reading: $P_{\sqrt{\text{Ad}}}(e)$ (where $e = \text{event}$)
 (5) Argument structure of clausal reading of agent-oriented adverbs: $P_{\sqrt{\text{Ad}}}(\text{Ea}, e)$

Further cross-linguistic evidence from English, Romance, Modern Greek, German and Basque lends support to the argument structures in (4)-(5). With this syntactic characterization, the ambiguity of the pre-verbal position in (1) reduces to the lexical verb staying low in English and the adverb adjoining to either vP or v', predicting both readings for this position in the string.

On the semantic side, a quick survey of the adjectival forms of agent-oriented adverbs reveals that they are all individual-level predicates. To our knowledge no prior analysis of agent-oriented adverbs has paid close attention to or explicitly linked the properties that these adverbs share with their adjectival base. Exploring this connection, we argue that (i) agent-oriented adverbs inherit their comparison class characteristics from their adjectival base (cf. Kennedy & McNally 2005), (ii) inspection of the relevant comparison classes verifies an asymmetry in the two readings—as predicted by the difference in argument structure above in (4)-(5), (iii) the interpretation of the adverb in the two predication environments supports the argument vs. non-argument (i.e. Ea) of the lexical entry of the verb distinction (echoing Kratzer 1996), and (iv) on a Neo-Davidsonian account, the argument structures in (4)-(5) derive the two readings as a matter of predicate modification. Once this is done, it becomes clear that the ambiguity of these predicates is not solely a property of the adverb—but of the root itself—whose spell out form (as an adverb or adjective) is determined by whether the Ad-root modifies e , while the interpretation is completely predictable vis à vis the predication environment. In parallel, the manner reading is argued to be an eventive use of stage-level predicate properties.

We distinguish Individual-level predicates from stage-level predicates, such as *hungry*, by a [\pm temporal] feature, since the former are not associated with a temporal limit, but instead denote an inherent property. Likewise, adverbs and adjectives are divided by a [\pm eventive] feature. The distribution and the semantic characteristics of the four readings in (6) then follow straightforwardly. The agent-oriented adverb must c-command Ea because the adverb modifies it in the same way its adjectival counterpart does. The only difference is the added dimension of the event variable, which contributes the sense of Ea employing the property denoted by the Ad-root in the event in question. The clausal reading then reduces to the conjunction of the two parts: $P_{\sqrt{\text{Ad}}}(\text{Ea}) \ \& \ \exists e$. Mutandis mutandi, both types of predicate (i.e. (6a-b)) return a manner reading by inheriting (i) their temporal information via Tense and (ii) an Ea transitively through conjunction in the Neo-Davidsonian sub-atomic structure.

- (6) a. Stage-level adjective: [- eventive], [+ temporal]
 b. Individual-level adjective: [- eventive], [- temporal]
 c. Manner adverb: [+ eventive], [+ temporal]
 d. Agent-oriented adverb: [+ eventive], [- temporal]

Selected references

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