

Semantics 1 – Argument structure and proto-roles

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Thematic roles

Your questions

Warm up

- (1) This whiteboard is clean.

Warm up

- (1) This whiteboard is clean.
 - (2) This sentence is false.
- ▶ Liar paradox.

A tiny assignment

By Tues. night: please email 1 question about the Dowty paper to *both* me and Lilia. Max. 1 paragraph, min. a non-trivial question.

Verb-specific roles

- (3) Alfonso killed Joanna.
- (4) Alfonso murdered Joanna.
- (5) Alfonso assassinated Joanna.

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- (3) Alfonso killed Joanna.
- (4) Alfonso murdered Joanna.
- (5) Alfonso assassinated Joanna.
- (6) Alfonso mixed the milk into the eggs.
- (7) Alfonso blended the milk into the eggs.
- (8) Alfonso folded the milk into the eggs.
- (9) Alfonso beat the milk into the eggs.

Proto-roles

- (10) Contributing properties for the Agent proto-role:
- volitional involvement in the event or state
 - sentience (and/or perception)
 - causing an event, or change of state in another participant
 - movement (relative to the position of another participant)
 - (exists independently of the event named by the verb)
- (11) Contributing properties for the Patient proto-role:
- undergoes change of state
 - incremental theme
 - causally affected by another participant
 - stationary (relative to movement of another participant)
 - (does not exist independently of event, or not at all)

Argument selection principle

In predicates with a grammatical subject and object, the argument for which the predicate entails the greatest number of Proto-Agent properties will be lexicalized as the subject of the predicate; the argument having the greatest number of Proto-Patient entailments will be lexicalized as the direct object..

Argument selection corollaries

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- ▶ Corollary 1 – what happens when arguments have equal numbers of entailed Proto-agent and Proto-patient properties?
- ▶ Corollary 2 – What happens with a 3-place predicate?
- ▶ Non-discreteness – what does this involve?
- ▶ Role hierarchies?

Stable verbs

(12) kill, write, bake, clean, build

- ▶ No verb $\llbracket *crote \rrbracket = \lambda x . \lambda y . x \text{ wrote } y .$

Unstable verbs

(13) buy, sell, like, please, fear, frighten, rent

Spray/load verbs

- (14) a. Alfonso loaded the truck with the hay.
b. Alfonso loaded the hay onto the truck.
- (15) a. Alfonso crammed the suitcase with the clothes.
b. Alfonso crammed the clothes into the suitcase.

An important question

How is the argument selection principle situated in the grammar?

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“‘Proto-roles’, as I am using them here, are higher-order generalizations about lexical meanings...not statements about individual lexical meanings.” (p. 577)

Mechanics

- (16) On page 574, Dowty states that "...sentience itself is something that different entities can have to different degrees." How does this play into figuring out proto-agent roles? For example, if two different things meet the same number of properties (if that can happen) but the two things have different degrees of sentience, does the one with the higher degree become the agent? Also, how do we figure out the different degrees of sentience?
- (17) Is it possible for there to be a tie among the number of properties that apply to two different arguments? And if it is, how do we assign the proper roles?

Varieties of arguments

- (18) in “X sold Y to Z on Tuesday after dinner for \$500” are we assuming that “Tuesday” and “\$500” and “after dinner” are not relevant for the semantics of the verb, or at least less relevant than X, Y, and Z?
- (19) How are roles mapped for sentences that have PPs instead of direct objects (i.e., are intransitive, but have multiple “participants” to map)?
- X relies on Y
 - X walked towards Y

Problems in the theory

- (20) At the end of section 8.4, Dowty concludes that, in some cases, “historical semantic drift can result in a predicate that violates selection principles”. My interpretation of this statement is that, while acknowledging that his Argument Selection Principle cannot account for all cases, Dowty attributes a word’s history to the reason why it fails to be properly classified by his theory. However, the use of “historical semantic drift” is vaguely defined – what is Dowty’s criteria for determining when “historical semantic drift” comes into play? Why is history the best explanation for inconsistencies with his theory?

Problems in the theory

- (21) Sentence 47b, was said to be fine. However, 48b is considered a violation. To me, 48b seems just as grammatical as 47b. The only difference is that the first one is an active sentence while the second is passive. I think that if one considers 48b to mean that Mary was in a state of surprise the entire party, then it seems like an awkward sentence. But if you consider the sentence to be a description of one moment in time, which took place at a party, during which Mary was surprised, (which is how I interpret it) then it seems to express the same thing as 47b. Is 48b somewhat ambiguous and, therefore, a problem as a result of its passive nature?

Psych predicates

- (d47)
- a. The birthday party is surprising / pleasing Mary (right now).
 - b. What happened to Mary was that the birthday party surprised / pleased her.
- (d48)
- a. * Mary is being surprised at / is liking the birthday party.
 - b. * What happened to Mary was that she {was surprised at} / {liked} the birthday party.

More on psych predicates

- (22) My question concerns the analysis of doublets in which Dowty gives the examples of psychological predicates. If I'm understanding it, he says that the possible inchoative interpretation of certain predicates gives an extra P-Patient entailment to one of the arguments, so this argument ends up being put in the object position in general (that is, the pattern extends to interpretations of the verb beyond inchoative). So, my question is how this analysis applies to the doublets like buy/sell, where it seems you can give an inchoative interpretation to both verbs in the doublet. What enables the distinction between the uses of "buy" and "sell" — are special entailments listed for these verbs that control which argument is subject, which is object?

The position of the proto-role theory

- (23) I am still not fully convinced that we as language speakers actually assign proto-agent roles and proto-patient roles when we hear or read sentences. I personally have a general sense that we assign the noun phrase preceding the verb as the "subject" of the sentence and the noun in the predicate the "object." Maybe not always, since I can still recognize passive sentences, but I considered the ambiguous case of corollary 1, where either can be the subject if the "count" for proto-agent is equal. Yet in the sentence "John is similar to Mary." my intuition is still that John is the subject of the sentence, not Mary. From the discussion of the word "resembles" in class, it seems assigning the "subject" role to John has some subtle semantic differences from assigning the "subject" as Mary.
- (24) ...Is this just an artifact of "book-learned" grammar in school? If so, can this school-instructed grammar affect our assignment of proto-agent/patient? And if not, why is the proto-agent role ambiguous in Dowty's theory and not in practice?

The nature of thematic roles

- (25) On page 561, Dowty claims that it is not bad that analyzing different domains may lead to different optimal theories of roles because they may be describing different parts of the underlying phenomenon and are related in a way we do not yet understand. He compares this process to blind men examining an elephant. I wonder if this underlying theoretical assumption on which Dowty builds the rest of his argument is problematic in that it seems impossible to falsify. How do we know that the descriptions in different domains are not actually about distinct phenomena instead of a single unified one? How could one demonstrate that the theory in one domain is wrong as it conceivably could be? (In Dowty's metaphor, how do we know that one of the blind men hasn't started examining/describing the leg of the rhinoceros standing next to the elephant instead of the elephant's very similar one?) In the way Dowty sets up the theoretical framework, it seems like it would be difficult to draw such a conclusion even when it is merited- instead you would conclude that even if we don't understand the relationship between the descriptions, they are actually of the same underlying phenomenon.

The nature of thematic roles

- (26) My question is based on Cruse's division of the agent theme. It seems to me that in speech, or colloquial speech, at least, these divides don't have that much semantic difference. There are subtle nuances that separate them from each other, but I don't feel they merit such a division into categories. Would these divisions each have unique denotations because of their status as a specific type of agent (i.e. volitive, effective, initiative, agentive) or would they all be treated the same way in unpacking their meaning in a sentence?
- (27) My question involves the psychological reality of entailments as a foundation for [classification of thematic roles]. What evidence is there that entailments play a functional role in computing thematic role (or meaning in general)? Specifically, how can we be sure that they are not just something we classify after the fact (like a definition)?

Limits of the theory

- (28) What do we lose by eliminating the other commonly-used theta roles (source, theme, goal, etc)? It seems like some important information is lost by just identifying a proto-agent and proto-patient and then having everything else be a less-proto-agent/patient. I could see arguments that have satisfy the same number of proto-agent and proto-patient properties being distinct in that one is a goal and the other is a source (as conventionally defined); this distinction seems to get lost with proto-roles.