

A Less Informative Approach to Argument/Oblique Alternations in English

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1 Introduction

- In this paper I investigate the relationship between direct argument markers (subject, object, indirect object) and obliques in English argument/oblique alternations (cf. Levin (1993)).
- The set of grammatical functions and obliques I'll refer to as **participant marking devices**.
- I'll define an alternation as follows:
 - (1) An alternation is a set of valence patterns for a verb V with participants $x_1 \dots x_n$, where x_i is realized via an argument marking device X_i in one valence pattern and an argument marking device Y_i not necessarily equal to X_i in another.
- The *spray/load* alternation is a classic example: (Pinker, 1989, Dowty, 1991, Baker, 1997):
 - (2) (a) John sprayed the wall with the paint.
 - (b) John sprayed the paint on the wall.
- *The wall* is a direct object in (2a) and a locational oblique in (2b); *the paint* is a direct object in (2b) and an instrumental oblique in (2a).
- **Take one:** These are just two options the syntax provides for realizing the same meaning (see (Baker, 1988, *inter alia*) on this approach to dative shift).
- Some alternations show semantic differences (Goldberg, 1995, Baker, 1997, Dowty, 2000):
 - In (2a) the wall is holistically affected (totally covered in paint), but the paint is not holistically affected (totally used up).
 - In (2b) the paint is holistically affected (totally used up), but the wall is not holistically affected (totally covered in paint).
- **Take two:** Alternations are semantic: they signal different thematic roles.
- But other factors induce alternations (Arnold et al. (2000), Wasow (2002) on dative shift):
 - (3) (a) Relative Heaviness (light before heavy):
 - i. John sprayed the wall with the paint that Mary swore she'd hidden so well John would never find it again.
 - ii. John sprayed the paint on the wall that Mary had decided just the other day would be best left its original color.

- (b) Information Structure (old/topic before new/focus).
 - (c) Definiteness, person, animacy (see Hopper and Thompson (1980) on transitivity, Aissen (2003) on differential object marking)
 - I refer to these as non-thematic properties: they do not have to do with the relationship of the participant to the event and to other participants (cf. Evans (1992) on role vs. cast properties).
 - How do these non-thematic factors interact with thematic factors?
 - **An Observation:** The oblique participant is actually *underspecified*:
- (4)
- (a) John sprayed the wall with the paint, with enough left over for the ceiling.
 - (b) John sprayed the wall with the paint, using every last drop to get a good coat.
 - (c) #John sprayed the wall with the paint, but only had enough to cover the top half.
- **Claim:** I propose that the difference is one of **monotonic specificity**:

Direct argument markers encode *more specific* thematic roles.
 Obliques encode *less specific* thematic roles.

- This is compatible with non-thematic alternations:
 - obliques *allow* less informative interpretations, but do not *require* them
 - context and pragmatics can support stronger interpretations
- I explore this in terms of thematic proto-roles.

2 Proto-Roles

- Proto-roles (Dowty, 1989, 1991, Primus, 1999) are prototypes: a set of “lexical entailments” that a particular participant may or may not be known to have.
- (5) Dowty’s proto-agent and proto-patient (Dowty, 1991, (27),(28)):
- | (a) Contributing properties for the Agent Proto-Role: | (b) Contributing properties for the Patient Proto-Role: |
|---|---|
| i. volitional involvement in the event or state | i. undergoes change of state |
| ii. sentience (and/or perception) | ii. incremental theme |
| iii. causing an event or change of state in another participant | iii. causally affected by another participant |
| iv. movement (relative to the position of another participant) | iv. stationary relative to movement of another participant |
| (v. exists independently of the event named by the verb) | (v. does not exist independently of the event, or not at all) |
- The participant most closely matching each role is assigned a particular realization device:
- (6) 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. (Dowty, 1991, (31))

- Another variant of the conative alternation:

- (13) (a) John slashed the computer. (computer necessarily affected)
 (b) John slashed at the computer. (computer not necessarily affected)
- (14) (a) John angrily at slashed the computer with his sword, cutting it into two pieces.
 (b) John drunkely slashed at the computer, but managed to miss it entirely.

- *Break* alternation:

- (15) (a) John broke the fence with the stick. (Affected fence, stick underspecified)
 (b) John broke the stick against the fence. (Affected stick, fence underspecified)

- (16) Affectedness of instrumental participant:

- (a) John broke the fence with the stick, and then used the unbroken stick to smash a mailbox.
 (b) John broke the fence with the stick, which caused the stick to snap in half.
 (c) #John broke the stick against the fence, and then used the pristine stick to smash a mailbox.

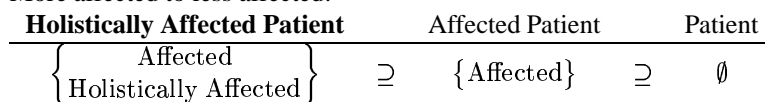
- (17) Affectedness of locatum participant:

- (a) John broke the stick against the fence, but the resilient fence stood up perfectly.
 (b) John broke the stick against the fence, which caused the fence to fall apart.
 (c) #John broke the fence with the stick, but the fence emerged unscathed.

- Here the differences are between necessary affectedness vs. underspecified affectedness.

- There are more alternations, but these already form a specificity relationship:

- (18) More affected to less affected:



- (19) Markers: DO $<$ *in, on, at, with* *against*
- Roles: Holistically Affected Patient \supseteq Affected Patient \supseteq Patient
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- Thus the proto-roles associated with each marker conform to the specificity requirement.

5 Subjects

- In the reciprocal alternation, subjects but not *with*-marked participants must be active.

- (26) (a) The truck and the car collided. (Truck and car moving)
 (b) The truck collided with the car. (Truck moving, car underspecified)
- (27) (a) The truck collided with the car, which was parked on the side of the road.
 (b) The truck collided with the car, which was rolling down the hill.
 (c) #The truck collided with the car while the truck was standing still.
 (d) #The truck and the car collided while the car was standing still.

- Relevant to subjects I'll assume the following specificity hierarchy:

(28) More to less active:

$$\frac{\mathbf{Agent}}{\{\text{Active}\}} \supseteq \frac{(\text{Inactive}) \text{ Participant}}{\emptyset}$$

(29) Markers: *Subj* < *with*
 | |
 Roles: **Agent** \supseteq (Inactive) Participant

- **Summary:** The proto-roles associated with direct argument makers are always monotonically more informative than the proto-roles associated with obliques.

6 Interaction with Non-Thematic Factors

- Underspecification allows non-thematic alternation without contradiction.

(30) In a context where both the wall and the paint are known to be holistically affected:

- (a) John sprayed the wall with the paint that Mary swore she'd hidden so well John would never find it again.

	Argument Marking		Context		Thematic Role
<i>the wall</i>	$\left\{ \begin{array}{l} \text{Affected} \\ \text{Holistic} \end{array} \right\}$	U	$\{\text{Holistic}\}$	=	$\left\{ \begin{array}{l} \text{Affected} \\ \text{Holistic} \end{array} \right\}$
<i>the paint</i>	$\{\text{Affected}\}$	U	$\{\text{Holistic}\}$	=	$\left\{ \begin{array}{l} \text{Affected} \\ \text{Holistic} \end{array} \right\}$

- (b) John sprayed the paint on the wall that Mary had decided just the other day would be best left its original color.

	Argument Marking		Context		Thematic Role
<i>the wall</i>	$\{\text{Affected}\}$	U	$\{\text{Holistic}\}$	=	$\left\{ \begin{array}{l} \text{Affected} \\ \text{Holistic} \end{array} \right\}$
<i>the paint</i>	$\left\{ \begin{array}{l} \text{Affected} \\ \text{Holistic} \end{array} \right\}$	U	$\{\text{Holistic}\}$	=	$\left\{ \begin{array}{l} \text{Affected} \\ \text{Holistic} \end{array} \right\}$

- If alternations signaled categorical thematic distinctions you'd have to commit to a different semantics for non-thematic alternations.

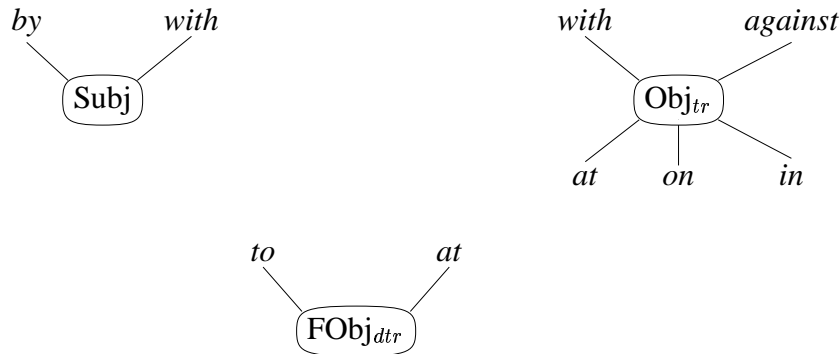
- This does require some semantic compatibility:

(31) #Although he only finished three square feet in one corner, John sprayed the wall with the paint that Mary swore she'd hidden so well John would never find it again.

- But even with this constraint, the monotonic specificity relationship between direct argument markers and obliques yields a system where these factors can interact.

7 A Space of Roles and Argument Realization Devices

- This approaches means that at least some obliques cluster around direct argument positions:



- Each group forms a thematic role cluster:

A specific proto-role R_j is associated with each Direct Argument Marker M .
Each oblique in M 's cluster is associated with a role $R_i \subseteq R_j$.

(see also Croft (1991) on subsequent vs. antecedent obliques)

- This may make predictions about the kinds of spaces of obliques we'll see in a language (obliques never mark more specific information than a corresponding direct argument marker).
- This also has potential to restrict the space of possible alternations we get (only direct arguments with related obliques, e.g. there are no direct object/*to* alternations).
- Specificity relations may simplify linking theories by removing stipulations and/or moving some work to the structure of the lexicon:

(32) For a given thematic cluster, use the marker that:

- Is maximally specificity regarding thematic information known of the participant.
- Reflects non-thematic factors (information structure, heaviness, person, number, animacy, definiteness hierarchies).

8 Conclusion

- Purely syntactic approaches to argument/oblique alternations don't explain semantic facts.
- Approaches to argument/oblique alternations that assume categorical semantic differences are incompatible with non-thematic constraints on alternations.
- A closer look at the data in alternations reveals a monotonicity requirement: obliques are monotonically less informative with regards to certain thematic role information than direct argument markers.
- This is compatible with non-thematic alternations in a non-contradictory way.
- Could also provide a basis for a structured morpho-lexical inventory of participant marking devices, upon which a stripped down linking theory could be based.

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