

The Reversible Core of ObjExp, Location, and Govern-Type Verbs

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1. Introduction: The Eventive/Stative Alternation

Consider the sentences in (1–3):

- (1) *ObjExp verbs* (e.g., *amuse, annoy, impress, ...*):
- a. John amused Bill (for hours). ≈
“John did something (for hours) that amused Bill.”
(Eventive)
- b. John’s appearance amused Bill. ≈
“Bill’s amusement was at John’s appearance.” (Stative)
- (2) *Location verbs* (e.g., *cover, surround, block, ...*):
- a. John covered the screen. ≈
“John put something on the screen that covered it.”
(Eventive)
- b. The blanket covered the screen. ≈
“The blanket lay over the screen.” (Stative)
- (3) *Govern-type verbs* (e.g., *protect, govern, control, ...*):
- a. John protected the gem with lasers. ≈
“John installed lasers to protect the gem.” (Eventive)
- b. Lasers protected the gem. ≈
“The gem was under the lasers’ protection.” (Stative)

Each of the (a) examples above describes an event, while each of the (b) examples describes a state, an alternation which is well-known (see Kratzer 2000; Rothmayr 2009 for location verbs, and Fábregas & Marín 2017 for *govern*-type verbs).¹ This alternation causes problems for a strong linking theory like Baker’s (1988) UTAH:

- (4) *The Uniformity of Theta Assignment Hypothesis (UTAH)*:
Identical thematic relationships between items are represented by identical structural relationships between those items at the level of D-structure.

¹García-Pardo (2017, to appear) also discusses these verb classes, but not the eventive/stative alternation.

Here, we have what looks like the same syntactic relations holding between the subject and the verb in the (a) and (b) examples. But in an eventive use (a), the subject is an *AGENT*, while in a stative use (b) it is not.

- Problem (when assuming UTAH): in eventive and stative uses, we have an apparently identical syntactic relationship between the verb and subject, but not the same thematic relationship.

Pesetsky (1995) notes there are three ways to solve such problems:

→ Complicate the syntax, and propose that at the point in the derivation when UTAH holds, eventive and stative subjects are in different positions and thus bear distinct thematic roles. Movement of the subjects to the same surface position then masks this underlying difference.

- Complicate the semantics; in this case, we would propose that the subject actually bears the same theta-role in both cases.²
- Give up on the UTAH and similar theories (but this shouldn’t be our starting point).

I take the first of these options, and derive the eventive and stative uses from a common core structure.

2. Nuances of the Eventive/Stative Alternation

To begin building this analysis, we will first poke into the meaning of the eventive/stative alternation a bit more. The relevant fact here is that the eventive meaning seems to contain something like a stative meaning as a proper part:

- (5) a. John amused Bill for hours. ⇒ (Eventive)
b. Bill was amused (at something) for hours. (Stative)

This is related to another fact about these verbs: they can all appear in eventive uses with an (optional) *with*-phrase. This *with*-phrase seems to bear the same thematic relation to the verb as the subject of stative uses.

²Pesetsky (1995) takes this kind of approach to a problem coming from a different direction, and adds to the possible thematic roles, but that won’t work here.

In fact, an eventive sentence with a *with*-phrase entails a stative sentence with the *with*-phrase's DP as the subject.

- (6) *ObjExp*:
 John amused Bill with his antics. \implies (Eventive)
 John's antics amused Bill. (Stative)
- (7) *Location*:
 John covered the screen with the blanket. \implies (Eventive)
 The blanket covered the screen. (Stative)
- (8) *Govern-type*:
 John protected the jewel with an alarm system. \implies (Eventive)
 An alarm system protected the jewel. (Stative)

This fact causes problems not just for strong, UTAH-like linking theories, but also weaker linking theories like the Universal Alignment Hypothesis (UAH) (Perlmutter & Postal 1984), which claim that arguments being realized in different relative positions reflects a theta-role hierarchy. Arguments with theta-roles higher on the hierarchy are predictably realized syntactically higher than arguments with lower ranked theta-roles.

Take (8) as an example. The issue for UAH-like theories is that in the eventive sentence, the *with*-phrase referent (*an alarm system*) appears in a lower position than the object (*the jewel*), while in the stative sentence, it appears in a higher position (becoming the subject):

- (9) a. John protected every jewel_i with its_i alarm system.
 b. * John protected its_i jewel with every alarm system_i.
- (10) Every alarm system_i protected its_i jewel.

But *an alarm system* appears to bear the same thematic relation to the verb *protect* in both sentences in (8). This means that *an alarm system*'s thematic role would be ranked both below and above *the jewel*'s thematic role, undermining a strict hierarchy that would ensure consistency in arguments' relative positions.

Finally, when this *with*-phrase is left out, a stative sentence with an existential subject is entailed (e.g. *something/someone*), shown in (11–13):

- (11) *ObjExp*:
 John amused Bill for hours. \implies (Eventive)
 Something amused Bill for hours. (Stative)
- (12) *Location*:
 John covered the screen. \implies (Eventive)
 Something covered the screen. (Stative)
- (13) *Govern-type*:
 John quickly protected the jewel. \implies (Eventive)
 It quickly became the case that the jewel was under the protection of something. (Stative)

(Where the non-eventive reading may otherwise have been more accessible, I've added modifiers that I hope disambiguate in favor of it.) This supports treating these *with*-phrases as arguments rather than adjuncts, since they get interpreted similarly to other dropped arguments (e.g., *John ate* \implies *John ate something*).

Key Entailment Facts

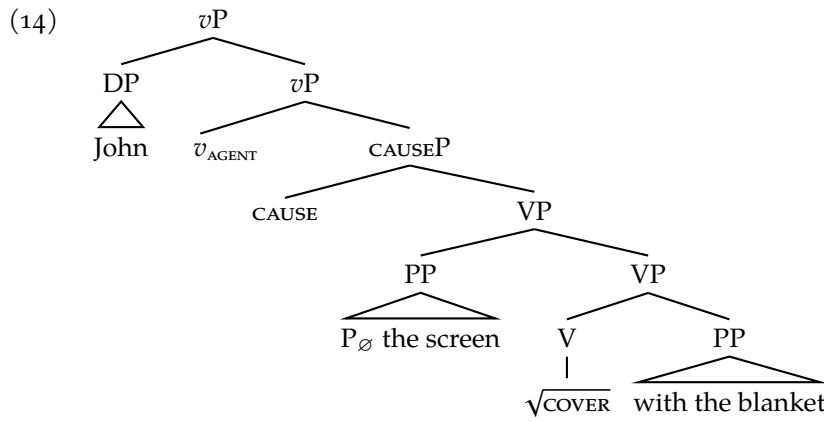
- Eventive \implies Stative
- Eventive *with*-phrase \implies Stative subject

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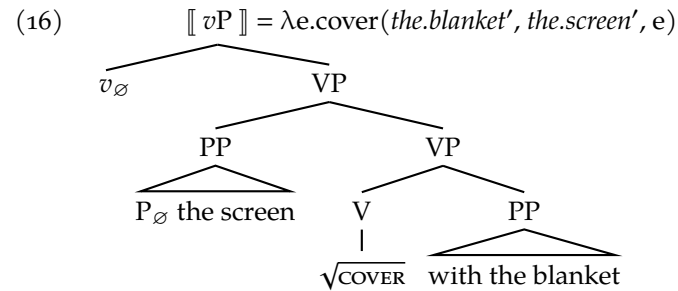
3.1 Deriving Eventive Uses

These entailment facts suggest that an eventive sentence containing an ObjExp, location, or *govern*-type verb contains at least part of what goes into a stative sentence with the same verb, since an eventive use always entails some sort of stative use. Furthermore, it seems like the difference in meaning between eventive and stative uses relates to **causation**: an eventive use describes an event of causing the state described by a stative use.

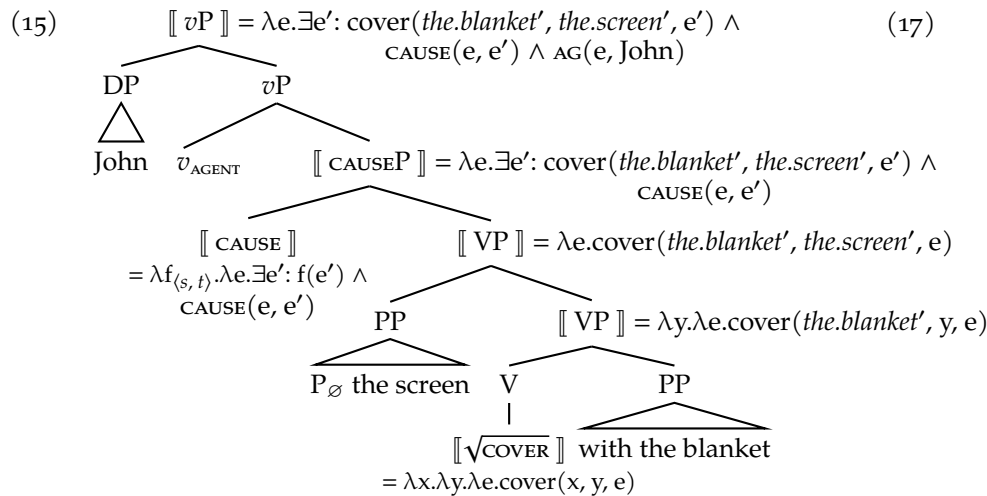
These facts may be structurally encoded as shown in (14), using *cover* as an example:



semantic meaning:



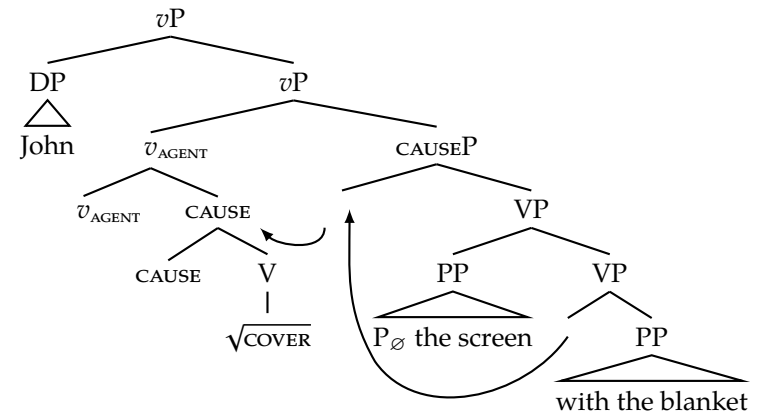
(I will ignore the preposition P_\emptyset for now; we'll get to it shortly.) Semantically, I assume $[\sqrt{\text{COVER}}]$ denotes a three-place stative spatial relation holding of two entities—here, *the blanket* and *the screen*—and an eventuality, and that *with* (and P_\emptyset , for the time being) is in this case semantically vacuous. (15) adds the proposed truth conditions to the tree:



Such a sentence describes, in contrast to a sentence like (14), covering relations that hold between the blanket and the screen, rather than an event causing such a relation to hold.

To get the surface word order in an eventive sentence like (17a), the derivation is fairly straightforward: $\sqrt{\text{COVER}}$ raises to CAUSE, perhaps then to $v_{\text{AGENT}'}$ where a spell out rule applies to the complex head [CAUSE $\sqrt{\text{COVER}}$], yielding “cover.” The derivation is shown in (17b).

- (17) a. John covered the screen with the blanket.
 b.



More simply, the sentence describes events where John is the agent of an event that caused the covering state to hold of the blanket and the screen.

A stative use, since it lacks a causative meaning, would replace everything above VP with v_\emptyset , a categorizing head that doesn't contribute any

3.2 (Abstract) Locations and P_\emptyset

Now, what is P_\emptyset doing here? I've included it in these structures following Landau (2010), who argues that crosslinguistically, experiencers have locative syntax (i.e., they are PPs). Landau also suggests that semantically,

- (24) *ObjExp*:
- a. * Each's other_i's friends deliberately annoyed the partygoers_i by blowing cigar smoke in their faces.
(Eventive ObjExp, *BB)
 - b. Each other_i's constituents annoy the politicians_i.
(Stative ObjExp, ✓BB)

The present analysis of ObjExp predicates, with some independently motivated assumptions about how binding works, can account for this. Looking at the structure in (17b) for eventive uses of these verbs, we see that the subject c-commands the object at all levels of the derivation, and the object never c-commands the subject at any level. BB is ruled out in these cases as expected.

In contrast, looking at the derivation in (21) shows that initially, the object c-commands what becomes the surface subject. Binding conditions can be satisfied at this level of the derivation, allowing for binding from the object into the subject—assuming that P_{\emptyset} can be ignored for binding purposes.

There is precedent for saying that some prepositions can be ignored for binding purposes. For instance, sometimes *to* can apparently be ignored for binding purposes (Drummond 2008), provided it's close enough to the verb (van Riemsdijk & Williams 1986):³

- (25)
- a. Mary talked to Bill_i about himself_i on Tuesday.
 - b. Who did you talk to t_i about himself_i?
 - c. * To whom_i did you talk t_i about himself_i?

P_{\emptyset} fulfills this adjacency requirement in structures like (21). Assuming we can treat it like *to*, it won't prevent binding.⁴

Given that the current analysis treats location and *govern*-type verbs the same as ObjExp verbs, it predicts that they too should allow BB, and in only stative and not eventive uses. This prediction is borne out:

³Linear adjacency may be too strict a condition; the following sounds fine to me:

- (1) Mary talked quite frequently to the boys_i about each other_i's futures, and only rarely to the girls_j about theirs_j.

⁴Not all prepositions allow this, so we have to make an assumption here—though there's some sort of precedent for doing so. Some theories propose reworking the constituent structure of PPs completely to avoid this issue (e.g., Pesetsky 1995), but this runs into problems as well, and most research does not take this sort of approach.

- (26) *Location*:
- a. * A copy of itself_i quickly covered every robot_i with a sheet.
(Eventive, *BB)
 - b. A picture of itself_i covered every pail_i. (Stative, ✓BB)
- (27) *Govern-type*:
- a. * His_i advisors protected every regent_i with a bodyguard.
(Eventive, *BB)
 - b. Its_i own thick skin protects every whale_i. (Stative, ✓BB)

This analysis thus makes a prediction about how backwards binding should extend to verb classes other than ObjExp verbs which is borne out.

5. The Two Faces of *With*

On the surface, there appears to be a similarity between the behavior of the *with*-phrase in the eventive/stative alternation dealt with here and the instrument subject alternation. A comparison is shown in (28)

- (28)
- a. John covered the screen with the blanket.
The blanket covered the screen. (Eventive/Stative)
 - b. John opened the door with the key.
The key opened the door. (Instrument/Subject)

Assuming this could cause a problem for the analysis of reversible verbs presented above, as I have been treating these *with*-phrases as arguments, rather than adjuncts. Presumably, *with the key* in (28b) is a *vP* adjunct, yet it can still occur in subject position. If this is possible, maybe we don't need to put the *with*-phrase inside the VP in the structure of ObjExp, location, and *govern*-type verbs, and we can instead treat these as special cases of the instrument subject alternation.

I would like to suggest that the reversible *with*-phrases are actually quite distinct from instrumental *with*-phrases, despite this surface similarity. For one thing, the entailment patterns are different. Recall that even in the absence of a *with*-phrase in eventive uses of reversible verbs, a stative sentence with an existentially bound subject is entailed. Nothing like this happens for verbs that allow the instrument subject alternation:

- (29)
- a. John covered the screen. \Rightarrow (Eventive)
Something covered the screen. (Stative)
 - b. John opened the door. \nRightarrow
Something (= some instrument) opened the door.

All this evidence shows that there is a distinction between *with*-phrases of the instrument subject alternation, and *with*-phrases of reversible verbs. The relative order of the two *with*-phrases is crucial: means *with*-phrases must occur outside end *with*-phrases. This points to the end *with*-phrases being inside the VP, assuming instrumental *with*-phrases adjoin to vP_{AGENT} , while the backwards binding facts point to them originating below the object. This supports the structural analysis presented in section 3.

6. Conclusion

I've attempted to explain why the eventive/subject alternation displayed by reversible verbs is a problem for linking theories: it appears to disrupt the regular mapping between syntactic and thematic relationships. However, considering the peculiar properties of these verbs and their arguments points to a more complicated syntax than is apparent on the surface—but this allows us to retain a strong linking theory, as the different thematic relationships these verbs bear to their subjects is reflected underlyingly by a structural difference.

Of course, I haven't accounted for all of the peculiar properties of these verbs—just a small subset of them. Future research will show whether the line of reasoning pursued here could explain more of these properties (discussed in Landau 2010; Pesetsky 1995; Rothmayr 2009, etc.).

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