Semantic Prominence and Argument Realization IV

Is Aspect a Semantic Determinant of Argument Realization?

Several aspectual notions are claimed to be semantic determinants of argument realization.

Goals of this handout:
— To review the reasons for this claim.
— To assess the merits of this claim and show it is problematic.

(Much of this material is drawn from L&RH 2005, section 4.2.4, and RH&L 2005 [2002])

1 How aspect has been said to figure in argument realization

Starting with Hopper & Thompson’s (1980) work on transitivity, aspectual notions have increasingly been included among semantic determinants of argument realization, even if different researchers cite different, though overlapping, aspectual notions, including measure, delimiter, incremental theme, telicity, and accomplishment.

“Aspect, or event structure, is that part of a verb’s meaning which is relevant for its interface with the syntax. Thematic roles are best characterized in aspectual terms.” (Arad 1998:59)


- Aspectual notions, particularly telicity, are implicated in unaccusative diagnostics (e.g., Centineo 1986; Dowty 1991; Van Valin 1990; Zaenen 1993), passive nominals (e.g., Fellbaum 1987; Tenny 1987, 1994), middle formation (e.g., Tenny 1987, 1994).


(1) The Aspectual Interface Hypothesis:
The universal principles of mapping between thematic structure and syntactic argument structure are governed by aspectual properties. Constraints on the aspectual properties associated with direct internal arguments, indirect internal arguments, and external arguments in syntactic structure constrain the kinds of event participants that can occupy these positions. Only the aspectual part of thematic structure is visible to the universal linking principles. (Tenny 1994:2)

What constitutes the aspectual part of thematic structure?

(2) a. Direct internal arguments are the only overt arguments which can ‘measure out the event’. (Tenny 1994:11, (9ii))

b. . . . ‘measuring out’ entails that the direct argument plays a particular role in delimiting the event . . . (Tenny 1994:11, (9i))

c. An indirect internal argument can only participate in aspectual structure by providing a terminus for the event described by the verb. The terminus causes the event to be delimited. (Tenny 1994:68, (128i))
• Dowty (1991) includes “incremental theme” among his Proto-Patient entailments; these, in turn, determine the most likely object, as well as unaccusative behavior. The incremental theme is the element involved in defining a homomorphism from properties of an argument to properties of the event it participates in.

The *apricot* is the incremental theme in (3) since the progress of the eating event is reflected in the amount of apricot remaining: when the apricot is half-eaten the event is half done, when the apricot is two-thirds eaten, the event is two-thirds done, and so on.

(3) Taylor ate the apricot.

• Verkuyl (1993) proposes a compositionality principle, the Plus Principle, which has the effect of requiring objects to contribute to bounding an event; as a result, basically atelic transitive verbs such as *push* must be analyzed as not being true transitives.

• Van Hout (1996) proposes that many argument realization alternations are instances of event type-shifting—i.e., aspectual reclassification.

Relevant Phenomena:
— Alternations between direct object and oblique expressions reflect alternations between telic and atelic uses of verbs (conative and accusative/partitive alternations);
— Alternate choices of direct object reflect alternate choices of argument which determines a sentence’s telicity, i.e., incremental theme or measure (locative alternation).

(4) Conative alternation: Taylor ate the apricot/Taylor ate at the apricot.

(5) Locative alternation: Sam loaded the hay on the truck/loaded the truck with hay.

• Some studies (e.g., Ackerman & Moore 1999, 2001; Arad 1998) associate telicity with accusative case, citing accusative/partitive alternations associated with telicity shifts in Finnish and Estonian, as well as the use in some languages of oblique rather than accusative case for the second argument of atelic verbs.

• More generally, a range of studies propose that direct object position is tied to a range of related aspectual notions, including telicity (Ritter & Rosen 1998; Sanz 1999; Slabakova 1998, 2001; Van Hout 1996), incremental theme (Rothstein 2000), measure (Tenny 1992, 1994), subject of result (Borer 1998), or subject of quantity (Borer 2005).

Consequence: Aspectual notions are seen as critical to structuring lexical semantic representation. That is, ontological types of events are determined by their temporal contours.

• Many have adopted the reinterpretation of the predicate decompositions of generative semantics as reflecting the Vendler aspectual classes in Chapter 2 of Dowty (1979), including Foley & Van Valin (1984), but see Van Valin & LaPolla (1997) and Dowty’s own discussion in Chapter 3.

• A line of recent work syntacticizes event structure (e.g., Arad 1998; Borer 1998; Erteschik-Shir & Rapoport 1997; Ritter & Rosen 1998; Slabakova 1997), motivating syntactic structure based on aspectual considerations: the inclusion of explicit Aspect or Event Phrases among functional realizations (e.g., Borer 1998, 2005; McClure 1993; Ramchand 1997; Travis 1991, 1999) or the association of AgrO with delimitation or telicity (e.g., Ritter & Rosen 1998; van Hout 1996). See Rosen (1999) for discussion.
Uniformity in argument realization is not aspctual uniformity:
Evidence from change of state verbs

The types of phenomena reviewed in section 1 has prompted theories of argument realization incorporating the assumption that argument realization is aspectually driven.

A source of evidence regarding the validity of this assumption:
The argument realization properties of change of state (COS) verbs, especially when compared with those of aspectually-related verbs.

The bottom line: Verbs lexicalizing a change of state show uniform argument realization options, but do not show uniform aspectual properties.

COS verbs show a distinct argument realization pattern (Fillmore 1970, 1977; Levin 1993); it holds whether they are necessarily telic (e.g., break) or either telic or atelic (e.g., dim).

The crucial property: The patient — the entity undergoing the change of state — must be expressed and can only be expressed as a direct object.

- The patient must be expressed: COS verbs aren’t found with unspecified objects, nor are they found with direct objects that are not patients—e.g., in nonsubcategorized NP resultatives or with out-prefixation.

(6) *Pat broke/dimmed.

(7) a. *My kids broke me into the poorhouse.
    b. *The stagehand dimmed the scene dark.

(8) a. *The two-year old outbroke the three-year old.
    b. *The stagehand outdimmed the director.

- The patient must be expressed as the direct object: It cannot be expressed as an oblique, nor do these verbs participate in object alternations.

(9) a. Alex broke the vase
    b. *Alex broke at the vase.

(10) a. Sam dimmed the lights
    b. *Sam dimmed at/from the lights.

(11) a. Kelly broke my arm
    b. *Kelly broke me on my arm. (cf. Kelly hit me on the arm)

(12) a. Sam broke the fence with the stick.
    b. Sam broke the stick against the fence. (not a paraphrase of (a))

- No other argument can be direct object, even when having an entailment (e.g., change of location) often associated with direct objecthood.
a. Sam broke the fence with the stick. (fence breaks)
b. Sam broke the stick against the fence. (stick breaks)

a. Sam hit the fence with a stick.
b. Sam hit a stick against the fence. (Fillmore 1977:75)

Aspectual characteristics of COS verbs:
COS verbs lack a uniform aspectual characterization in terms of the traditional aspectual notions of telicity and punctuality.
When they take a definite, singular object, they can be necessarily telic or atelic, as well as telic and either punctual or durative.

a. necessarily telic COS verbs: break, dry, explode, flatten, shatter
b. atelic/telic COS verbs: cool, darken, dim, widen
b. punctual COS verbs: break, crack, explode, shatter
b. durative COS verbs: cool, darken, ripen, melt, widen

Conclusion: COS verbs share a constrained set of argument realization possibilities, but aren’t uniform aspectually. Therefore, traditional lexical aspectual classification alone does not determine argument realization.

3 Further investigation of the contribution of aspect to argument realization:
Verbs with incremental themes aren’t uniform in argument realization

Much current work suggests that the aspectual notion relevant to argument realization is “incremental theme” (Dowty 1991) or one of its relatives (e.g., measure, subject of quantity).

Problems with the incremental theme hypothesis:
The patient of a COS verb acts as incremental theme; however, a comparison of COS verbs with other incremental theme verbs suggests it is not the patient in its role as incremental theme which determines the characteristic argument realization profile of these verbs.

A word on terminology:
The term “incremental theme” (Dowty 1991) was originally applied to the argument of certain predicates involved in defining a homomorphism from its own spatial extent to the temporal progress of the event it participates in. Under this definition, verbs like read, write, and eat are incremental theme verbs. Recent studies of aspect (Hay, Kennedy & Levin 1999; Krifka 1998; Ramchand 1997; Tenny 1992, 1994) have found ways to provide COS verbs with aspectual analyses that parallel those of traditional incremental theme verbs. In these analyses the patient of a COS verb and traditional incremental themes share the same aspectual role. Patients are associated with a scalar property given by the verb which provides a scale for measuring the temporal progress of the event as a whole: when the event describes a specified change on the scale the event is telic and when it describes an unspecified change, the event it atelic (Kennedy & Levin 2001). Although under Dowty’s original definition patients are not “incremental themes”, we refer to such arguments as incremental themes since they serve the same aspectual role as traditional incremental themes.
3.1 Comparison with traditional incremental theme verbs

(16) TRADITIONAL INCREMENTAL THEME VERBS: read, build, write, drink, eat, ...

The crucial difference:
Traditional incremental theme verbs systematically lack the argument realization properties characteristic of COS verbs: They are more flexible in the options they allow.

• Their incremental theme need not be expressed; they permit unspecified objects and allow nonsubcategorized NPs as direct objects, in resultative constructions or via out-prefixation.

(17) Dana read/ate/wrote.
(18) a. The teacher read us into a stupor.
     b. My kids ate me into the poorhouse.
     c. I wrote myself out of a job.
(19) Pat outread/outate/outwrote Chris.

• The argument normally considered the incremental theme need not be expressed as direct object, though it is then no longer an incremental theme.

(20) a. Dana read the book./Dana read from the book.
     b. Chris ate the apple./Chris ate from/of the apple.
     c. I wrote my book./I wrote at my book.

3.2 Comparison with potential incremental theme verbs

Potential — or latent (Tenny 1992:20) — incremental theme verbs, a class exemplified by surface contact verbs (e.g., wipe, rub, scratch, comb, brush, sweep, shovel) — allow their “normal” object — a “force recipient” (see Lecture Notes III) or “location” (Fillmore 1970) — to be analyzed as an incremental theme or not, even when quantized.

(21) a. Kerry scrubbed the bathtub for hours. (quantized object; atelic)
     b. Kerry scrubbed the bathtub in three minutes flat. (quantized object; telic)
(22) Kerry is scrubbing the bathtub,
     a. and has scrubbed it for the last hour. (quantized object; atelic)
     b. and still hasn’t finished. (quantized object; telic)

Why do these verbs allow telic and atelic uses?
— Atelic uses arise as they describe processes that can be applied indefinitely to a surface.
— Telic uses arise as these processes are usually carried out with specific intended results, though these verbs do not entail the achievement of any result (Talmy 2000).
   (This property makes them good candidates for being transitive across languages.)
The intended result gives rise to an associated scale, with the object as incremental theme. Two scales are usually possible: an example using *scrub the but*
— Scale provided by the tub’s surface area: the process is complete when the scrubbing has covered the entire tub.
— Scale of cleanliness, reflecting the desired result: a clean tub.

Although the location would be considered the “normal” direct object of these verbs, they also may take an argument describing some material found at this location (L&RH 1991).

(23)  
(a) Kerry is scrubbing the bathtub.
(b) Kerry is scrubbing the stains off the bathtub.

THE CRUCIAL DIFFERENCE:
Potential incremental theme verbs systematically lack the argument realization properties characteristic of COS verbs: They are more flexible in the options they allow.

• Neither the material nor the location argument of these verbs need be realized; they permit unspecified objects and allow nonsubcategorized NPs as direct objects, either in resultative constructions or via out-prefixation.

(24)  
Lee swept/wiped/scrubbed.
(25)  
Cinderella scrubbed her fingers to the bone.
(26)  
(a) Cinderella outswept/outscrubbed her stepsisters.
     (b) This hairdresser outcombed that one.

• Potential incremental theme verbs need not express a specific argument as direct object: It can be material, location, or nonargument.

• The material and location, though potential incremental themes, need not be expressed as direct object, though they are then no longer incremental themes.

(27)  
(a) Kerry scrubbed at the stain. (material)
     (b) ?Kerry scrubbed at the counter. (location)
(28)  
(a) Lee scratched at the mosquito bite. (material)
     (b) ?Lee scratched at her arm. (location)

THE UPSHOT OF THE COMPARISONS WITH OTHER INCREMENTAL THEME VERBS:
COS verbs share an important aspectual property with other verbs, but do show unique argument realization properties.
3.3 Comparison with verbs whose theme undergoes a change of location

Many give parallel analyses to themes of change of location and patients of change of state; they unify these arguments under the same aspectual concept which figures in mapping onto direct object (Hay et al. 1999; L&RH 1995; Ramchand 1997; Tenny 1992, 1994). (cf. localist theories, which conceptualize changes of state as changes of location; Gruber 1965; Jackendoff 1976, 1983).

The entailment of a change of state and the entailment of a change of location for an argument constrain argument realization differently (however useful the parallel may be for purposes of determining aspectual properties and understanding metaphorical extensions). (Consider this observation in the context of the proposal that change of state has priority over change of location in object choice; see Lecture Notes III.)

THE CRUCIAL DIFFERENCE
An entity lexically entailed to undergo a change of state MUST be the direct object and MUST be the incremental theme, but an entity lexically entailed to undergo movement CAN be a direct object, but need not be, and it need not be an incremental theme.

• Verbs like splash and spray lexically entail the movement of a liquid substance; however, the theme of the change of location need not be expressed.

(29) Brett splashed/sprayed.

• Nor does the theme of change of location have to be direct object: It may be left unexpressed or expressed in a PP.

(30) a. Brett sprayed (at) the plants.
b. Brett splashed ?(at) the children.

(31) a. Brett splashed water on the children.
b. Brett splashed the children with water.

• Nor does the theme of change of location have to be an incremental theme.

When the theme of change of location is the direct object of verbs like splash and spray, telicity of the sentence isn’t necessarily determined by quantized nature of the object.

(32) a. Bill sprayed the wall with paint in an hour. (quantized object; telic)
b. Bill sprayed the wall with paint for five minutes. (quantized object; atelic)

CONCLUSION FROM TRADITIONAL AND POTENTIAL INCREMENTAL THEME VERBS:
The special properties of COS verbs are really specific to just this verb class and do not generalize to other classes which are often given parallel semantic analyses.
4 Reexamining the direct object/incremental theme connection

TWO COMMON ASSUMPTIONS ABOUT THIS CONNECTION ARE INCORRECT:
— Incremental themes are constrained to be direct objects.
— All object alternations are really about choice of incremental theme.

• Not all incremental themes must be direct objects.
— Some subjects are incremental themes (Dowty 1991; Jackendoff 1996; Verkuyl 1972).

(33) a. John entered the icy water (very slowly).
b. The crowd exited the auditorium (in 21 minutes). (Dowty 1991:570, (25a,b))
c. The train crossed the border.
d. The parade passed the mayor.
e. Water gradually filled the boat. (Jackendoff 1996:314, (17a))

— Theme of a verb of transfer usually determines telicity, even when recipient is first object.

(34) Quantized theme as direct object, telic:
 a. Dana read the story to her niece in an hour.
b. Dana read the story to employees in an hour.

(35) Nonquantized theme as direct object, atelic:
 a. Dana read poetry to her niece for an hour.
b. Dana read poetry to employees for an hour.

(36) Quantized theme as second object, telic:
 a. Dana read her niece the story in an hour.
b. Dana read people the story for an hour.

(37) Nonquantized theme as second object, atelic:
 a. Dana read her niece poetry for an hour.
b. Dana read people poetry for an hour.

— An NP in a to PP can sometimes be construed as the incremental theme, even when the argument normally thought of as the incremental theme is direct object.

(38) Sam distributed food to fifty senior citizens in three hours. (L&RH 2005:108, (29))

Note: the multiple individuals in the denotation of the recipient NP do not reflect an iteration over events since distribution inherently involves multiple recipients.
• There are nonaspectually-driven alternations in choice of direct object.
  — The dative alternation is not aspectually triggered.
  — The \textit{with/against} alternation is also not aspectually triggered:
    Both variants are atelic and the object is not an incremental theme in either variant.

(39) Cameron hit the fence with a stick.
    Cameron hit a stick against the fence.

— \textit{out}-prefixation is not aspectually driven.

Such examples are necessarily telic, but their direct object is \textbf{not} the incremental theme.
In (40) the parts of the outeating event do not correspond to parts of Chris.

(40) Pat outate Chris (in only 5 minutes).

The incremental theme is the amount of eating that Pat did, and this notion is not expressed.

(41) Pat was halfway towards outeating Chris

CONCLUSION: Since the incremental theme of a sentence need not be the direct object, the fact that the patient of a COS verb must be expressed and must be expressed as direct object cannot be attributed to its having a lexically-specified incremental theme. Therefore, the distinctive argument realization properties of COS verbs do \textbf{not} follow from any aspectual property of these verbs.

5 Conclusions

• The argument realization possibilities of COS verbs appear to be determined by a nonaspectual, lexicalized property (change of state) and cannot be handled by purely aspectual nonlexical theories of argument realization.

• Traditional aspectual classes of verbs do not constitute natural classes from the perspective of argument realization.

• The data here pose problems for approaches which take aspectual notions as the sole determinants of argument realization.

• The data presented here support a theory of event structure as in RH&L (1998), in which constants typed by ontological category are lexically associated with nonaspectually defined event structures, and these, in turn, constrain argument realization (cf. Hale & Keyser 1998, 2002); see Lecture Notes V.

\textbf{Where does this leave aspectual notions?}
Aspectual notions, such as telicity, are still important, but their contribution is
— in computation of entailments, e.g., those figuring in aspectual class diagnostics, and
— in some languages, telicity influences the morphological case of arguments (accusative/oblique alternations), but not necessarily their grammatical function.
References


