Lexical Semantics and Argument Realization IV

Revisiting Aspect as a Determinant of Argument Realization


GOALS:
— To better understand the notion of result, by comparing an important subset of result verbs, change of state verbs, to aspectually similar verbs.
— To assess claims that aspectual notions are semantic determinants of argument realization.
— To show that traditional aspectual classes do not correlate with argument realization patterns, but the aspectually-relevant notion of lexicalized scale, which characterizes result verbs, does.

1 Background: 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.

• Hopper & Thompson (1980) list “telicity”, “punctuality” as transitivity components.

• 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).

• Tenny (1987, 1994) proposes a strong and explicit role for aspect in argument realization.

(1) THE ASPECTUAL INTERFACE HYPOTHESIS:
The universal principles of mapping between thematic structure and syntactic argument structure are governed by aspectual properties. ... Only the aspectual part of thematic structure is visible to the universal linking principles. (Tenny 1994:2)

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

— 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 (conative, locative alternations).

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

(3) Locative alternation: Sam loaded the hay on the truck/ loaded the truck with hay.
(Yet these proposals ignore the existence of argument alternations that are not aspectually-driven and, specifically, do not involve alternate choices of incremental theme: e.g., the dative and with/against alternations; L&RH 2005.)

• 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.


(Yet these proposals ignore the existence of incremental theme subjects; Dowty 1991, Jackendoff 1996, Verkuyl 1972.)


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

THE QUESTION:
What type of aspectually-based lexical semantic representation figures in argument realization?

Two analyses of telic predicates:
— Telic predicates are analyzed in terms of result states.
— Telic predicates are analyzed in terms of an argument-to-event homomorphism.

1.1 Analyses in terms of result states

Based on the discussion in Dowty (1979, Chapter 2), many researchers identify the notions “accomplishment” and “causative”, among them Sybesma (1992), Van Valin and colleagues (see Foley & Van Valin 1984, Van Valin 1990; but contrast Van Valin & LaPolla 1997).

This identification arises because Dowty’s (1979) aspectual calculus represents a merger of two traditions: the lexical decompositions of generative semantics, and the logical analysis of predicate types in the Aristotle-Vendler-Kenny tradition. The two traditions are actually concerned with different sets of phenomena.

Decompositions of generative semantics are motivated by lexical entailments, shared selectional restrictions and the existence of systematic morphological correspondences between word classes.

(4) a. The soup was cool.
b. The soup cooled.
c. John cooled the soup.
   ‘John caused it to come about that the soup became cool.’
Aristotle-Vendler-Kenny classes are based on the distribution of temporal modifiers and of tenses (e.g., simple present, progressive) and entailments (e.g., progressive to perfect).

Link which brings the two traditions together:

(5) But every performance must be ultimately the bringing about of a state . . . One performance differs from another in accordance with the differences between states of affairs brought about: performances are specified by their ends. (Kenny 1963: 178)

This motivated the introduction of the operators BECOME and CAUSE in Dowty (1979), which combine with result states.

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 Dowty’s own discussion in Chapter 3).

However, though the operators BECOME and CAUSE are well-motivated for the reasons set out by the generative semanticists, subsequent studies affirm they are independent of temporal properties (Abusch 1986, Hay, Kennedy & Levin 1999, Levin 2000, Pustejovsky 1991, Van Valin & LaPolla 1997).

— Verbs with common decompositions (motivated by lexical entailments) do not have uniform temporal properties (e.g., not all causatives are accomplishments);
— Verbs with common temporal properties don’t have uniform lexical decompositions (e.g., not all accomplishments are causatives).

1.2 Analyses in terms of argument-to-event homomorphisms

The result state analysis of telic predicates has been replaced by analyses based on argument-to-event homomorphisms (Dowty 1991, Krifka 1989, 1992, Ramchand 1997, Tenny 1992, 1994), but the point still holds: predicates sharing this aspectual property don’t show uniform decompositions.

• Tenny’s notion of measuring out:

(6) 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))

Tenny (1994) distinguishes two ingredients to measuring out:
— a measuring scale associated with an argument
— a temporal bound or delimitedness

• 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 (7) 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.

(7) 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.

2 Uniformity in argument realization is not aspectual uniformity in the traditional sense

A source of evidence regarding the validity of the assumption that argument realization is sensitive to traditional aspectual notions: The argument realization properties of change of state (COS) verbs, especially when compared with those of aspectually-related verbs.

2.1 The argument realization profile of change of state verbs

THE BOTTOM LINE: Verbs lexicalizing a change of state show uniform argument realization options, but do not show uniform aspectual properties in the traditional sense.

COS verbs show a distinctive 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.

(8) * Pat broke/dimmed.
(9) a. * My kids broke me into the poorhouse.
   b. * The stagehand dimmed the scene dark.
(10) 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.
(11) a. Alex broke the vase
   b. * Alex broke at the vase.
(12) a. Sam dimmed the lights
   b. * Sam dimmed at/from the lights.
(13) a. Kelly broke my arm
   b. * Kelly broke me on my arm. (cf. Kelly hit me on the arm)
(14) 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.

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

SUMMARY: COS verbs show uniform, severely constrained argument realization options.

2.2 The aspectual characteristics of COS verbs

COS verbs, however, 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.

(17) a. NECESSARILY TELIC COS VERBS: break, crack, dry, explode, flatten, ripen, shatter
    ATELIC/TELIC COS VERBS: cool, darken, dim, widen
    b. PUNCTUAL COS VERBS: break, crack, explode, shatter
    DURATIVE COS VERBS: cool, darken, dim, dry, flatten, ripen, widen

IMPLICATIONS: Traditional lexical aspectual classification alone does not determine the argument realization profile of COS verbs.

THE COMMON PROPERTY OF COS VERBS:
As mentioned in Lecture Notes III, these verbs all lexicalize a scalar change. Their traditional aspectual classification follows from the nature of the scale:
— punctual, if two-point scale; durative, if multiple-point scale
— telic, if closed-scale (i.e., bounded); atelic, if open-scale (Hay, Kennedy & Levin 1999, Kennedy 2001)
3 Further investigation of the contribution of aspect to argument realization:
Verbs said to have “incremental themes” aren’t uniform in argument realization

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

PROBLEMS WITH THE INCREMENTAL THEME HYPOTHESIS:
If this notion were implicated, “traditional” incremental theme verbs would be expected to show the same argument realization profile as COS verbs, as the patient of a COS verb acts in some sense as an incremental theme (see below); however, a comparison of these two types of verbs shows that they do not in fact share the same argument realization profile.

3.1 Comparison with traditional incremental theme verbs

The term “incremental theme” (Dowty 1991) was originally applied to the argument of predicates such as those in (18) involved in defining a homomorphism from its own spatial extent to the temporal progress of the event it participates in.

(18) Subclasses of traditional incremental theme verbs:
   b. Verbs of creation: build, compose, draw, write, . . .


They attribute the same aspeutical role to a COS verb patient and a traditional incremental theme.

• Patients of COS verbs 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 is atelic (Kennedy & Levin 2001).

• Comparably, the spatial extent of a traditional incremental theme measures the temporal progress of the event as a whole: when the event describes a specified change in the spatial extent of the incremental theme the event is telic and when it describes an unspecified change, the event is atelic (Kennedy & Levin 2001).

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 non-subcategorized NPs as direct objects, in resultative constructions or via out-prefixation.

(19) Dana read/ate/wrote.
(20)  a.  The teacher read us into a stupor.
    b.  My kids ate me into the poorhouse.
    c.  I wrote myself out of a job.

(21)  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.

(22)  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.

(NOTE: Potential—or latent (Tenny 1992)—incremental theme verbs fit this pattern (RH&L 2005). This class is exemplified by surface contact verbs (e.g., wipe, rub, scratch, comb, sweep, shovel); their “normal” object is a “location” (Fillmore 1970) or “force recipient” (Croft 1991, RH&L 2001): Their object may be analyzed as an incremental theme or not, even when quantized.)

3.2 The upshot of the COS/traditional incremental theme verb comparison

• The distinctive argument realization profile of COS verbs is specific to this verb class and does not generalize to other classes which are given parallel aspectual semantic analyses.

• Specifically, there must be more than the patient of a COS verb’s aspectual role as “incremental theme” which determines the characteristic argument realization profile of these verbs.

4 What sets COS verbs apart from incremental theme verbs? (Rappaport Hovav 2006)

4.1 COS verbs lexicalize a scale, incremental theme verbs do not

• COS verbs lexicalize a scale, specifically a property scale, representing associated change of state.

Many of these verbs are deadjectival, so their name reflects the associated scale:
    they are the so-called degree achievements (Dowty 1979)—Bertinetto & Squartini’s (1995)
    “gradual completion verbs”: flatten, harden, lengthen, narrow, thin, widen, . . .

(There is also a small set of verbs that lexicalize a “path” scale: enter, exist, leave, reach; ascend, descend; cross, traverse.)

• Traditional incremental theme verbs do not lexicalize a scale;
    in fact, few verbs lexicalize a spatial extent scale.
    — These verbs do not lexicalize a change in their object; if they lexicalize any change, it is a change in their subject.

E.g., to determine whether a poem has been read or memorized, you need to examine the reader/memorizer and not the poem.
— These verbs may have the same denotation even when the object is not incrementally involved in the event (though it typically is because of the default choice of objects)
e.g., a scanner can read a sequence of numbers or a bar code nonsequentially in an instant.

4.2 Evidence for the (non)lexicalization of a scale: Grammatical reflexes

• The range of result XPs found with the two types of verbs differs.
Result XPs may further specify the lexically specified scale of COS verbs, but they may not introduce a new scale.

(23) a. The lake froze solid.
    b. The ice broke apart.
    c. We heated the chocolate to a spreading consistency.

(24) a. *The waiter filled the table wet.
    b. *My kids broke me into the poorhouse.
    c. *We dimmed the room empty.

Result XPs introduce a scale with traditional incremental theme verbs; therefore, such verbs can appear with various types of results.

(25) a. My brother read the comics to tatters.
    b. The scholars read themselves quasi-blind.
    c. My mother read my brother to sleep.

These verbs can appear with nonsubcategorized objects, unlike the COS verbs.

• The two verb classes differ as to whether their patient/incremental theme must be expressed.

4.3 Why do COS verbs have to express their patient?

PROPOSAL: The reason COS verbs have to express their patient is that the property scale they lexicalize is predicated of this argument.

FURTHER EVIDENCE: Once a scale is explicitly associated with traditional (or latent) incremental theme verbs, e.g., via a result XP, then they also must express the NP this scale is predicated of.

(26) a. The scholars read *(themselves) quasi-blind.
    b. My brother read *(the comics) to tatters.
    c. Cinderella scrubbed *(her knees) sore.

In contrast, depictives may be predicated of certain types of unexpressed arguments, at least in French (Lambrecht & Lemoine 2005).

A QUESTION TO THINK ABOUT: The relation between this requirement and the idea that structure arguments must be syntactically realized: arguments that have a scale lexically predicated of them are arguments of the primitive predicate BECOME in their proposed event structures, and thus are structure arguments.
5 Conclusions

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

- The argument realization possibilities of COS verbs appear to be determined by a lexicalized, nontraditional aspectual property: scalar change.

- 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 event structures, and these, in turn, constrain argument realization.

WHERE DOES THIS LEAVE TRADITIONAL ASPECTUAL NOTIONS?

Traditional 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


