

Severing the external argument from the aspectual verb

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Piñango and Deo’s (2015) core proposal, cont’d

- (5) a. $\llbracket \text{begin} \rrbracket = \lambda x_{\tau} \lambda y_{\sigma} : \mathbf{struct} - \mathbf{ind}_{f_c}(x). \exists f' [f'(y) <_{small-init} f_c(x)]$
 b. $\text{begin}(x)(y)$ is defined iff x is a structured individual with respect to the contextually determined function f_c . If defined, $\text{begin}(x)(y)$ is true iff there is some function f' (possibly identical to f) such that $f'(y)$ is a ‘small’ initial subpart of the axis $f_c(x)$. (Piñango and Deo 2015:21)

Example (Piñango and Deo 2015:25):

- (6) a. This famous perch begins the Appalachian trail.
 b. $\llbracket \text{this famous perch} \rrbracket = p$
 c. $\llbracket \text{the Appalachian trail} \rrbracket = a$
 d. $\llbracket (6\text{-}a) \rrbracket$ is defined iff $\mathbf{struct-ind}_{\sigma}(a)$ (σ = spatial trace function)
 e. If defined, $\llbracket (6\text{-}a) \rrbracket = 1$ iff $\exists f' [f'(p) <_{small-init} \sigma(a)]$

Extension to “coercion” frame: “inverse thematic functions” f_{ag_i} and f_{th_i} map individuals and time intervals onto the smallest event that they are the agent / theme of at the relevant time interval.

- (7) a. John began the book.
 b. $\llbracket \text{John} \rrbracket = j$
 c. $\llbracket \text{the book} \rrbracket = b$
 d. $\llbracket (7\text{-}a) \rrbracket$ is defined iff $\mathbf{struct-ind}_{f_{th_i}}(b)$
 e. If defined, $\llbracket (7\text{-}a) \rrbracket = 1$ iff $\exists f' [f'(j) <_{small-init} f_{th_i}(b)]$

(7-e) says that if there exists a function f' that maps John onto an event constituting a small initial subpart of an event whose theme is the book, then $\llbracket (7\text{-}a) \rrbracket = 1$. So if John is the *agent* of such an event (i.e., if $f_{ag_i}(j) <_{small-init} f_{th_i}(b)$), then $\llbracket (7\text{-}a) \rrbracket = 1$.

Desiderata for a revised account

Coverage of raising and intransitive uses

Piñango and Deo treat aspectual verbs as two-place predicates, yet in (8)–(9), they appear to behave as one-place predicates.

- (8) RAISING
 a. The shit **continued** to hit the fan.
 b. There **began** to be trouble.
 c. It **started** to rain.
 d. The rock **stopped** rolling down the hill.

- (9) INTRANSITIVE
 a. The war **began**.
 b. The banquet **started**.
 c. The trouble **continued**.
 d. The rein of terror **ended**.

The *with*-alternation asymmetry

The transitive non-agentive sentences $[x \text{ VERB } y]$ in (3) all have paraphrases $[y \text{ VERB with } x]$ (10), but not control, “coercion”, or transitive agentive sentences (11).

- (10) a. The trail **begins** with a fountain.
 b. The banquet **began** with a prayer.
 c. The day **ends** with/(at) midnight.
 d. The alphabet **begins** with ‘A’.
 e. The row **finished** with a little porcelain pot.

- (11) a. #Reading the book **began** with John.
 b. #The book **began** with John.
 c. #The war **began** with the general.

A revised account

Raising and intransitive sentences

Proposal: In raising and intransitive sentences, Aspect quantifies over the y -argument of the aspectual verb:

(12) $\llbracket \text{PRF} \rrbracket = \lambda P \lambda t. \exists e [P(e) \wedge \tau(e) \subseteq t]$

(13)
$$\begin{array}{c} \lambda t. \exists e [\exists f' [f'(e) <_{small-init} f_c(\iota e[\text{war}(e)])] \wedge \tau(e) \subseteq t] \\ \text{PRF} \qquad \qquad \qquad \lambda y. [\exists f' [f'(y) <_{small-init} f_c(\iota e[\text{war}(e)])]] \\ \qquad \qquad \qquad \qquad \qquad \qquad \qquad \qquad \qquad \qquad \qquad \text{begin} \\ \qquad \qquad \qquad \qquad \qquad \qquad \qquad \qquad \qquad \qquad \qquad \text{the war} \end{array}$$

Control, “coercion”, and transitive agentive sentences

Proposal: In control, “coercion”, and transitive agentive sentences, Aspect quantifies over the y -argument, and v introduces the Agent:

(14) $\llbracket v \rrbracket = \lambda x \lambda e. \text{Agent}(e) = x$

(15)
$$\begin{array}{c} \lambda t. \exists e [\exists f' [f'(e) <_{small-init} f_c(\iota e[\text{read} - \text{the} - \text{book}(e)])] \wedge \text{Agent}(e) = j \wedge \tau(e) \subseteq t] \\ \text{PRF} \qquad \qquad \qquad \lambda e. [\exists f' [f'(e) <_{small-init} f_c(\iota e[\text{read} - \text{the} - \text{book}(e)])] \wedge \text{Agent}(e) = j] \\ \qquad \qquad \qquad \text{John} \qquad \qquad \qquad \lambda x. \lambda e. [\exists f' [f'(e) <_{small-init} f_c(\iota e[\text{read} - \text{the} - \text{book}(e)])] \wedge \text{Agent}(e) = x] \\ \qquad \qquad \qquad \qquad \qquad \qquad \qquad \qquad \qquad \qquad \qquad v \qquad \qquad \qquad \lambda y. [\exists f' [f'(y) <_{small-init} f_c(\iota e[\text{read} - \text{the} - \text{book}(e)])]] \\ \qquad \qquad \qquad \qquad \qquad \qquad \qquad \qquad \qquad \qquad \qquad \qquad \qquad \qquad \qquad \qquad \qquad \text{begin} \\ \qquad \qquad \qquad \qquad \qquad \qquad \qquad \qquad \qquad \qquad \qquad \qquad \qquad \qquad \qquad \qquad \qquad \text{reading the book} \end{array}$$

We hypothesize that only arguments introduced by the aspectual verb itself participate in the *with*-alternation, thereby explaining the contrast between (10) and (11).

- (16) Additional evidence for agentive status of subject in control and coercion sentences:
 a. Begin (reading) the book! IMPERATIVE FORMATION
 b. I persuaded Jonn to begin (reading) the book. EMBEDDING UNDER *persuade*
 c. John reluctantly began (reading) the book. AGENT-ORIENTED ADVERBS

Transitive non-agentive sentences

Same as in Piñango & Deo:

(17)
$$\begin{array}{c} \exists f' [f'(p) <_{small-init} \sigma(a)] \\ \qquad \qquad \qquad \qquad \qquad \qquad \qquad \qquad \qquad \qquad \qquad \lambda y. \exists f' [f'(y) <_{small-init} \sigma(a)] \\ \qquad \qquad \qquad \qquad \qquad \qquad \qquad \qquad \qquad \qquad \qquad \text{This famous perch} \\ \qquad \qquad \qquad \qquad \qquad \qquad \qquad \qquad \qquad \qquad \qquad \text{begins} \\ \qquad \qquad \qquad \qquad \qquad \qquad \qquad \qquad \qquad \qquad \qquad \text{the Appalachian trail} \end{array}$$

Consequence: Transitive non-agentive sentences do not combine with Aspect. (The y -argument of the aspectual verb is saturated by the subject, rendering the sentences stative: cf. Katz 2000). Some suggestive data:

- (18) a. ??A fountain was beginning the trail. (19) a. It was beginning to rain.
 b. ?A prayer was beginning the banquet. b. The war was beginning.
 c. ??Midnight was ending the day. c. John was beginning to read the book.
 d. ??‘A’ was beginning the alphabet. d. John was beginning the book.
 e. ??A porcelain pot was finishing the row. e. The general was beginning the war.

Conclusions

If our analysis is on the right track, the syntactic-semantic versatility of aspectual verbs has two sources:

1. Optional presence of v , familiar as well in the causative/inchoative alternation (20).

- (20) a. The window broke.
 b. John broke the window.

2. The flexibility of the y -argument of the aspectual verb to be dealt with either by Aspect or by a subject DP, a phenomenon not attested elsewhere, as far as we know.

Introduction

Aspectual verbs are acceptable in a wide range of syntactic/semantic contexts:

- (1) a. It **began** {raining / to rain}. RAISING
 b. The war **began**. INTRANSITIVE
 c. John carefully **began** {opening / to open} the door. CONTROL
 d. John **began** the book. “COERCION”
 e. The general **began** the war. TRANSITIVE AGENTIVE
 f. ‘A’ **begins** the alphabet. TRANSITIVE NON-AGENTIVE

(Cf. also: *start, continue, resume, stop, end, finish, ...*)

Previous work tends to focus on a subset of these contexts only, e.g.:

- Perlmutter 1970: RAISING, CONTROL, TRANSITIVE AGENTIVE
- Pustejovsky 1995: All except TRANSITIVE NON-AGENTIVE
- Piñango and Deo (2015): All except RAISING and INTRANSITIVE

We propose a modest revision of Piñango and Deo’s approach that achieves greater empirical coverage by factoring out the agentive relation associated with the subject in (1-c–e) into a separate morpheme v , unifying *all* of the contexts in (1).

A crucial feature of the analysis is that aspectual verbs are two-place predicates, but their second argument can either be quantified over by Aspect (1-a–e) (with or without a v -introduced agent: (1-c–e) vs. (1-a–b)) or saturated by an ordinary DP subject (1-f).

Piñango and Deo’s (2015) core data

Much work on aspectual verbs focuses on sentences like (2), treating (2-a) as basic and deriving (2-b) via coercion (e.g., Pustejovsky 1995; Jackendoff 1997).

- (2) a. John **began** {reading / to read} the book. VERBAL COMPLEMENT
 b. John **began** the book. “COERCION”

Leading idea of the coercion approach: *begin* requires an **eventive** complement.

Piñango & Deo (2015): This approach “fails to explain the broader distributional and interpretational properties of aspectual verbs” (p. 9), given data like (3):

- (3) a. A fountain **begins** the trail. SPATIAL ORDERING
 b. A prayer **began** the banquet. EVENT ORDERING
 c. Midnight **ends** the day. TEMPORAL ORDERING
 d. ‘A’ **begins** the alphabet. INFORMATIONAL ORDERING
 e. A little porcelain pot **finished** the row. INDIVIDUAL ORDERING

Piñango and Deo’s (2015) core proposal

Leading idea: Aspectual verbs select for “structured individuals”, i.e., “entities that can be construed as one-dimensional directed path structures (Krifka 1998)”.

- (4) a. $\forall x_{\tau} [\mathbf{struct} - \mathbf{ind}_{f_{(\tau,\sigma)}}(x) \leftrightarrow [axis(f(x)) \wedge \forall x', x'' \leq x [x' \leq x'' \rightarrow f(x') \leq f(x'')]]]$
 b. An individual x of any type τ is taken to be a structured individual relative to a function f of any type (τ, σ) iff $f(x)$ is an axis and f is a homomorphism from the part structure of x to the axis $f(x)$. (Piñango and Deo 2015:21)