Focus on adjuncts: a uniform event-based semantics for only

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Problem: only and adjuncts
- Constituents in the syntactic scope of only can require access to non-predetermined material outside of the onlyP.
- Two such cases are shown on the right. The problematic material is shown in red.
- There is no way we can anticipate the amount and type of this material in the entry of only.

Solution: events and higher types
- Event semantics (Davidson 1967, Parsons 1990, a.o.) allows us to analyze lexically non-predetermined material.
- Higher types across the board give us access to the material outside the syntactic scope of only.
- We implement a uniform analysis of only that can handle adjuncts in event semantics based on Champollion 2015.

Selected references
Bonomi & Clark 2008. Sense and sensitivity: how Focus determines meaning. OUP.
Beaver & Clark 2008. Solution: events and higher types.
Champollion 2015.

Key examples and their truth conditions
(1) John danced [only [in the garden]].
   True iff John danced in the garden, and [no events of John dancing occurred outside the garden].

(2) With most knives John [only [buttered a toast]].
   True iff …
   a. Available reading … most knives x are such that John buttered a toast with x and [John did nothing other than buttering a toast with x]. (true in Scenario 1, false in Scenario 2)
   b. Unavailable reading … John buttered a toast with most knives and [John did nothing other than buttering a toast with most knives]. (true in both Scenarios 1 and 2)

Scenario 1

Scenario 2

Case 1: only applies to adjuncts

(1a)

John
Dav.: e
NeDav.: vt
onlyP
Dav., NeoDav.: vt

(1b)

only
PP

[in the garden]
Dav., NeoDav.: vt

Non-starter

Giving the onlyP scope over the rest of the sentence (raise or type-shift). Would work here, but not for (2').

Instead

Giving the PP a higher type ((V, t), where V is the verb’s type). As things stand, only works in the Davidsonian system.

Case 2: adjuncts bind into the scope of only

(2a)

With most knives x
John
onlyP

[buttered a toast]f

Non-starter

Giving the onlyP scope over the rest of the sentence would yield the wrong truth conditions (shown in (2b)), since we want the material in blue to bind into the scope of only.

Instead

Giving the VP a higher type, but what type would that be?

Our analysis: higher types both for adjuncts and VPs

Generalization
- We want to introduce non-predetermined material into the scope of only. Standard event semantics doesn’t allow that.
- Analyses of only that rely on standard event semantics (Bonomi & Casalengo 1993; Beaver & Clark 2008, a.o.) can’t handle (1) and (2).

Proposal
- Raise all types uniformly, as in continuized event semantics from Champollion 2015.

Gist of Champollion 2015
- Verbs and their projections denote existential quantifiers over events ((v, t)):

(3) \[ [danced] = \lambda f, e \cdot [\langle f, e \rangle \land dance(e)] \]

- Modifiers (arguments that have combined with their \( \theta \)-roles and adjuncts) are uniformly of type \( (v, t) \):

(4) a. \[ [John, ag] = \lambda v, t, f \cdot \lambda f, e \cdot V(\lambda f, e \cdot ag(e) = j) \]
b. \[ [in the garden] = \lambda v, t, f \cdot \lambda f, e \cdot V(\lambda f, e \cdot \land loc(e) = \text{in} \cdot \text{garden}(e)) \]
c. \[ [with most knives] = \lambda v, t, f \cdot \lambda f, e \cdot V(\lambda f, e \cdot \land instr(e) = x) \]

- A sentence-level closure, \([\text{[cl]}]\), contributes a trivial continuation, \text{true}.

(5) \[ [\text{John danced in the garden}] = [[\text{John, ag}]\cdot[[\text{in the garden}]\cdot[[\text{danced}]])\cdot[[\text{[cl]}]] \]

Our implementation of only in Champollion’s system
- Only takes a continuized constituent \( \alpha \) and \( \langle x \rangle \) checks the presupposition (underlined) that the ordinary semantic value of \( \alpha \) holds of its continuation \( X \), and \( \langle y \rangle \) asserts that all (relevant) alternatives \( Y \) to \( \alpha \) are false of \( X \):

(6) \[ \langle \alpha \rangle = \lambda X \cdot \lambda \omega \cdot [\omega^O(\langle x \rangle) \supset \forall Y \cdot [\exists \omega^O(\langle y \rangle) \supset \forall Y)] \]

- \( \alpha^O \) = ordinary semantic value of \( \alpha \), \( \alpha^A \) = set of alternatives to \( \alpha \) (Rooth 1992)

(7) \[ \text{John danced [only in the garden]意} = \exists \omega^O(\langle x \rangle) \supset \forall Y \cdot \langle Y \rangle \supset \text{true} \]

- \( \langle \alpha \rangle = \lambda X \cdot \lambda \omega \cdot [\omega^O(\langle x \rangle) \supset \forall Y \cdot [\exists \omega^O(\langle y \rangle) \supset \forall Y]] \)

(8) \[ \langle \text{With most knives John only [buttered a toast]意} = \langle \text{butter}(e) \rangle \supset \langle V \cdot [\exists \omega^O(\langle x \rangle) \supset \forall Y \cdot [\exists \omega^O(\langle y \rangle) \supset \forall Y]] \rangle \]