Temporal modification and event structure

Event semantics and adverbial modification

Class V

Temporal adverbial modification

- Telicity tests: *for*-phrase combines with atelic and *in*-phrase with telic eventualities.
- Why is it so, and how does that fit with the standard accounts for telicity?
- Give an analysis of the two types of modifiers.
- See how it combines with the available definitions of telicity.

For-phrase

- Specifies the duration of an atelic eventuality.

(1) Rafa swam (*to the shore) for 20 minutes.

- Downwards entailing.

(2) a. Rafa swam for 20 minutes. →
Rafa swam for 15 minutes.

b. Rafa swam for 20 minutes. -/→
Rafa swam for 25 minutes.

Implicature

- Has the ‘at least’ implicature.

(3) A: Anyone who swam for 15 minutes will be given an extra meal.
B: Rafa swam for 20 minutes. He’ll certainly get one.

- The temporal interval specified is possibly smaller than the aggregate interval for which the predicate of the eventuality holds (portioning out, partition).

Measuring the nominal domain

- *For*-phrase out in a direct measuring.

(4) a. Give me seven kilograms of those apples.
b. ??Give me (those) apples for seven kilograms.

- Much better if the measure is not direct.

(5) a. #Give me seven dollars of apples.
b. Give me apples for seven dollars.

More liberal in Slavic

- In Serbo-Croatian, direct measuring also allows for a *for*-phrase.

(6) Daj mi jabuk-a za sedam kila. S-C
give me apples-ACC for seven kilograms
'Give me seven kilograms of apples', in fact:
'Give me a quantity of apples to match/make seven kilograms.'

- A purpose/match component of *for*.

A mediating operation: still indirect

(7) a. U sobi je jabuka za sedam kila. S-C
in room is apples.GEN for seven kilograms
'There are apples in the room to match 7 kilograms'

b. U sobi je sedam kila jabuka.
in room is seven kilograms apples.GEN
'There are seven kilograms of apples in the room'

- Bias for dispersed apples (a) vs. one pile (b).

Homogeneous quantities

- Only atelic eventualities.

(7) a. I slept for ten hours.
b. *I pushed a cart to the shop for ten hours.
c. I pushed carts to the shop for ten hours.

- Only nominals with homogeneous denotations.

(8) a. Daj mi pirinač/jabuke/*lubenicu za 10 kila.
give me rice/apples/watermelon for 10 kg
'Give me 10 kg of rice/apples'

Lucas: homogenization along a dimension

- Dispersed apples need to be turned into a continuous object to be measured.
- An eventuality is made homogeneous (e.g. blurring the atomic and lower levels of granularity) to be measured.

(10) Na livadi je snega za 5cm.
on field is snow.GEN for 5cm
~ 'If equally distributed, the snow on the field would be 5cm thick.'

Extensive measure functions

- Mapping from a real world continuum to numeric (scalar) values.

(9) a) m is a function from U to the set of positive real numbers.

b) $\forall x,y \in U[m(x^y) = m(x) + m(y)]$ (additivity; ^ = concatenation)

c) $\forall x,y \in U[m(x) > 0 \wedge \exists z \in U[x = y^z] \Rightarrow m(y) > 0]]$ (comensurability: if x has a measure, its parts also do)

Extensional or intensional?

- For model-theoretic semanticists, event predicates are defined wrt. the real world.
- *For*-phrase is defined in terms of mereological or set-theoretic quantification (every part of the event/interval, every point in time…).
- For Jackendoff, and for syntactic approaches, they are rather intensional (conceptual), and may become extensional only when reference and speech time information is added.

Quantification

- Mereology: *for*-phrase specifies that every part of the eventuality/temporal interval must satisfy the predicate of the eventuality.
- Set-theoretic: the predicate of the eventuality holds for each point in time within the interval of the *for*-phrase.
- Repeating the homogeneity condition.
- Not very explanatory (why two phrases?).

One bounding predicate

- *For x time*: a bounding predicate, assigns a boundary to another predicate.
- Syntactic restrictions: there is one syntactic position where a predicate can be assigned boundaries.
- An event predicate is derived starting up as a mass, and then composing with different kinds of predicates, each being introduced at a specified position and only once (Cinque).

Why's of the *for*-phrase

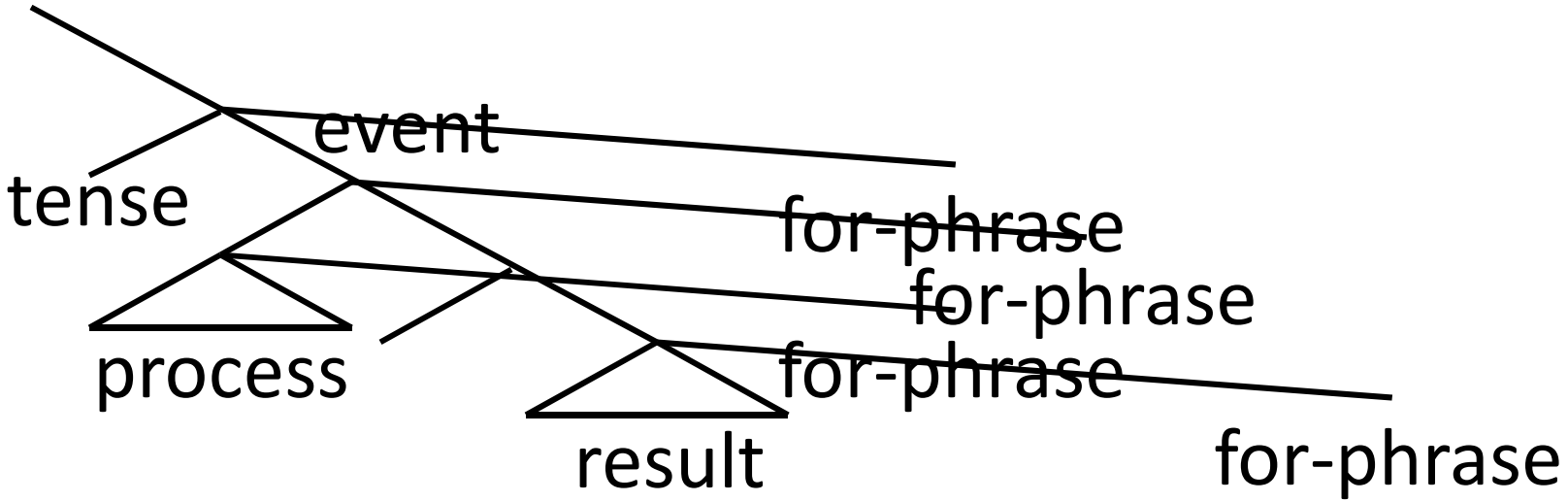
- Why it only applies to homogeneous predicates? Because it is a bounding predicate, and it is introduced only once.
- If it bounds, that entails that there is also an unbounded eventuality out there, which it bounds? No, because the event predicate is intensional until supplied with a referential predicate.

The position and scope

- What does it modify?
- For an hour, nobody came. (R for x time)
- John studied for an hour. (e for x time)
- John went to London for a couple days. (e_{res} for x time)
- %/?John drove for twelve hours to Barcelona. (e_{proc} for x time)

Any currently homogeneous predicate

- *For*-phrase may modify any interval of a divisive predicate specified by the semantics of the clause.



The *in*-phrase

- Specifies a limit for the duration of a telic eventuality.

(10) Eva ran *(to the bank) in 20 minutes.

- Upwards entailing.

(11) a. Eva ran to the bank in 20 minutes. -/→
Eva ran to the bank in 15 minutes.

b. Eva ran to the bank in 20 minutes. →
Eva ran to the bank in 25 minutes.

Quantized quantities

- In x time
- x time = measure.
- The in phrase modifies the temporal interval, specifying that it is part of some other, measured (=bounded) interval.
- Only something bounded can be within something bounded.
- Modifies at the level where bounding has already taken place.

Implicature

- Has the ‘at most’ implicature.

(12) A: Anyone who eats the cake in 2 minutes will be given one more.

B: Eva ate it in 1 minute. She’ll certainly get one more cake.

- The temporal interval specified is possibly bigger than the aggregate interval for which the predicate of the eventuality holds (contain-relation, whole-part).

The scope

- What does it modify?
- In an hour, john was reading his book. (R in x time)
- John solved the problem in an hour. (e in x time)
- *John went to London in a couple days. (for e_{res} in x time)
- *John drove in twelve hours to Barcelona. (for e_{proc} in x time)

Subevents too, if bounded

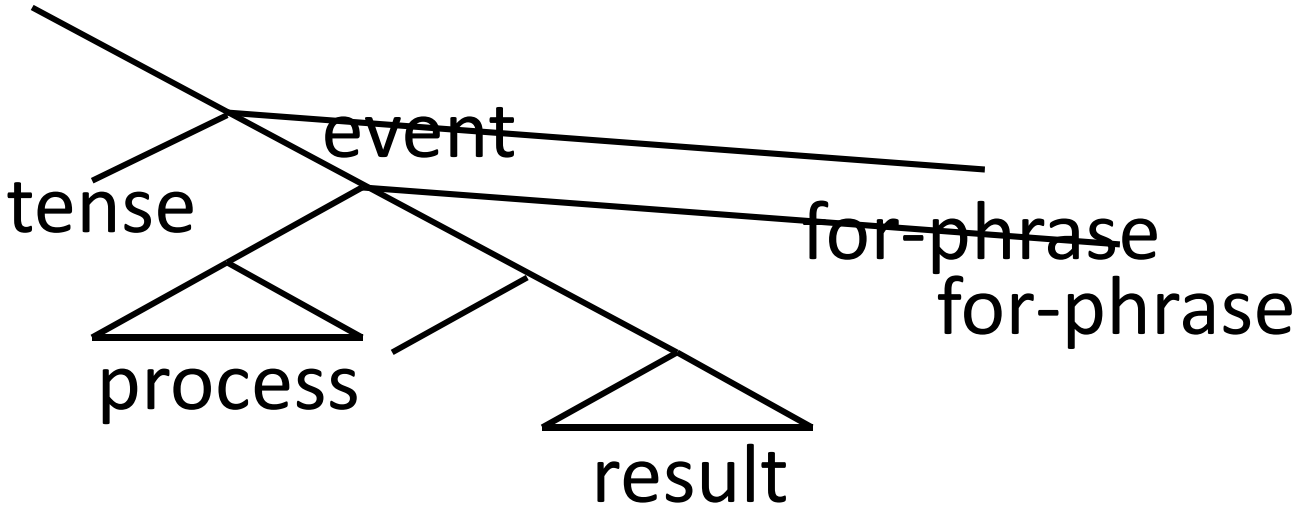
- In causatives, the result subevent itself may be telic, in which case it also can be modified by the *in*-phrase.

(13) a. Hugo made Sebastian write the letter in just two minutes.

b. Hugo made Sebastian run around *(in just two minutes).

Any bounded interval

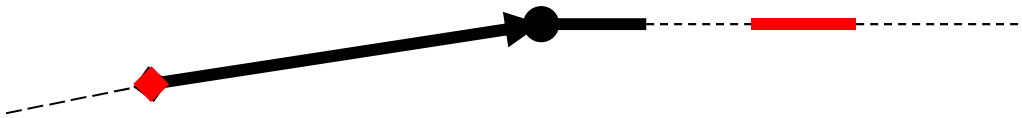
- *In*-phrase may modify the interval of any quantized predicate specified by the semantics of the clause.



For/in like perf/prog

- *In* has a perfect effect (embrace the event interval) and *for* has a progressive effect (portions out from the event interval)

(14)a. Marina had dismantled her pen in 1 hour.



b. Marina was dismantling her pen for 1 hr.

Is adjectival modification temporal?

- Adjectival predicates without a copula cannot be temporally modified.

(15) a. I made Jane worry every time the bell rings.

b. *I made Jane nervous/excited every time the bell rings.

c. I made Mary be angry/clever in class three times. (ambiguous)

Adjectival subevent predicates

- Subevents of causatives temporally located independent of the causing eventuality.

(15) Yesterday, the witch made me run/be clever last night and sit/be stupid this morning.

- Unless they are described by an adjectival predicate without a copula.

(16) *Yesterday, the witch made John clever last night and stupid this morning.

Possible *for*-modification

- Counterargument?

(17) The medicine made Katja sick for a day.

- Idiomatic nature of the [predicate + *for*-phrase] sequence (king for a day, unlucky for seven years).

(18) a. ?(?)The witch made Diana clever for three years.

b. ?The gin made Rachel tipsy for two hours.

Stage level predicates

- If they are atemporal, how can adjectives be marked for denoting a stage-level predicate?

(19) a. The gin made Rachel tipsy.
b. I made Jane nervous/excited.

- To make clear that it is not due to the causative construction, it may include individual predicates just as well.

(20) His mother's genes made Marjolein tall.