Lecture 13: Aspect and Quantification II

No assigned reading. Suggested readings are mentioned throughout.
Please get all homeworks and projects to me by May 30! (Send by e-mail or bring them to me at the Arutjunova conference.) Last regular class meeting will be June 5: bring your zachet-books and whatever else I need to sign.

Today: We begin with Sections 2 and 3 of the handout from Lecture 12, and then continue with this handout.

1. The Vendler Classification of Aktionsarten

See also Lecture 10: Tense, Aspect, and Events, Section 4.1. Lexical Aspect, Aktionsart. In that lecture I didn't use the Vendler terminology, but did discuss the four basic Vendler classes. Here I will summarize the four classes, and relate them to the terminology and 'tests' employed in Lecture 10.

From (Casati and Varzi 2006), a good reference summary article on "Events", available online:

> Philosophers who agree with a conception of events as particulars typically distinguish different sorts of such particulars. A classic typology distinguishes four sorts: activities, accomplishments, achievements, and states (Ryle 1949, Vendler 1957). An *activity*, such as John's walking uphill, is a homogeneous event: its sub-events satisfy the same description as the activity itself and has no natural finishing point or culmination. An *accomplishment*, such as John's climbing the mountain, may have a culmination, but is never homogeneous. An *achievement*, such as John's reaching the top, *is* a culminating event (and is therefore always instantaneous). And a *state*, such as John's knowing the shortest way, is homogeneous and may extend over time, but it makes no sense to ask how long it took or whether it culminated. Sometimes accomplishments and achievements are grouped together into a single category of *performances* (Kenny 1963). Sometimes achievements have also been called *events* tout court and all other events have been grouped together into a broadly understood category of temporally extended entities, called *processes* [Ingarden 1935]; the word '*eventuality*' may then be used as a label covering both categories (Bach 1986).

> Some authors introduce aspectual considerations into the taxonomy, drawing on Aristotle's distinction between *Energeia* and *Kinêsis* [Ackrill 1965]. The idea is that different verbs describe different types of events: verbs with no continuous form ('know') correspond to states; verbs with continuous form for which the present continuous entails the past perfect ('John is walking uphill' entails 'John walked uphill') correspond to activities; and verbs for which the present continuous entails the negation of the past perfect ('John is climbing the mountain' entails 'John has not (yet) climbed the mountain', at least in the relevant context) correspond to performances (Mourelatos 1978). Several authors have followed in these footsteps to

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develop linguistically sophisticated theories (Taylor 1977, Dowty 1979, Bach 1981, Galton 1984, Verkuyl 1989).

Terminology and tests:

States: The terminology for *states* is most uniform: states are states. But even that is not entirely simple – some 'states' are more 'dynamic' than others, and some sentences seem to describe something so atemporal that one does not even want to call it a 'state'.
    More 'dynamic' states: John is silent; the towel is wet; the door is open; tickets are available, John knows the answer, John loves Mary.
    Less 'dynamic' states: Moscow is in Russia. John is an American. This book has 200 pages.
    States at all? Two is an even number. A bachelor is an unmarried adult male.
    (Such considerations may be relevant to linguistic distinctions such as: Spanish 'be': *ser* vs. *estar*; see also discussion of *stage-level* vs. *individual-level* predicates in Lecture 12, Section 3.4.
    Tests for states:
(1) State-predicates in English resist progressive (perhaps because they already contain the 'continuity'-content that progressive aspect normally adds): *The towel is being wet; *John is knowing the answer. (*John is loving Mary: OK but only when 'love' is coerced to a non-stative meaning.) ([OK]John is being silent: but that has been argued to involve a separate 'active verb *be*', limited to animate agents (Partee 1977)).)
(2) State-predicates can occur with durative adverbials like *for 3 hours* and resist 'elapsed time' adverbials like *in 3 hours*. OK with *at 10 o'clodk.* Note it's the more 'dynamic' states that are compatible with temporal predicates. Putting such an adverbial on a sentence like "Moscow has been in Russia for centuries" requires that we think of locations as changeable – in this case not because Moscow might move around but because the borders of Russia might not be eternal. The classification of states into +/- dynamic seems therefore not to be grammatically based: 'is in Russia' is normally dynamic when the subject is 'movable', non-dynamic when the subject is also a location or a thing with a fixed location, but shiftable to dynamic even in that case.
(3) Not normally good with aspectual verbs like *continue, stop, start, finish, complete.*

Activities = Processes: Since the notion of 'activity' presupposes an agent, most linguists prefer the term *process*. Process predicates are inherently atelic, having no intrinsic culmination point; they may be homogeneous (*flying, burning, spinning*, *orbiting the earth*), or not homogeneous (it is not a sharp line, and depends on 'granularity') (*building a house, coughing, climbing a mountain, becoming a millionaire, studying linguistics*). Iteration of events can be viewed as a process (*hopping, asking questions, playing a sonata* (*over and over*)).
    Tests for activities:
(1) Activity predicates can take progressive in English;
(2) + *for three hours*; – *in three hours[1]*; ok with *at 10 o'clock*.
(3) Good as complement to *continue, stop, start*; not usually good as complement to *finish* or *complete*, although it's often easy to shift between 'extended event' (accomplishment) reading and process (activity) reading, so many verbs and verb phrases readily accept being complements of both classes of verbs, on different readings.

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[1] There is an irrelevant sense of adverbials like *in three hours*, locating the event in terms of temporal distance from the topic time, as in "I will leave in three hours"; this was mentioned in Lecture 10, section 4.1.

(4) Present progressive entails present perfect: *John is walking* entails *John has walked.*

Accomplishments = Extended event; Achievement = Instantaneous event: The terminology of 'accomplishments' vs. 'achievements', while standard since Vendler and still widely cited, is not very intuitive, and also presupposes an animate agent for both, so linguists often prefer *extended event* for 'accomplishments' and *instantaneous event* for 'achievements'.
Extended events are those that are conceptualized to take some time; *instantaneous events* are those that are conceptualized as instantaneous. (As the 'conceptualized' caveat suggests, this classification is somewhat shiftable.) Typical accomplishments/ extended events: *Climb the mountain, build a house, cross the street, learn linguistics*. Typical achievements/ instantaneous events: *Die, reach the top, turn green, break the window, notice a mistake, catch the ball.* (Much more discussion needed about most of these examples! And the classification itself should be considered preliminary and subject to major modifications.)
Tests for extended events:
(1) Good with progressives (which denote the associated activity-phase of the event)
(2) – *for three hours*, + *in three hours*. Not good with *at 10 o'clock* but ok with appropriate-sized interval-locating adverbials like *on Tuesday, last week, in December*.
(3) Good as complements to *continue, stop, start* (involving the associated activity-phase) and as complements to *finish, complete* (involving the culmination).
(4) Present progressive entails negation of present perfect: *John is building the house* entails *John has not built the house*.

Tests for instantaneous events:
(1) Whether they accept progressive in English or not depends on whether they are understood as having a preparatory process (Parsons 1990). [OK]*John is dying, John is reaching the top, ?The light is turning green, *?John is noticing the mistake* (The latter seems to require a shift from instantaneous event to extended event, perhaps in the context of monitoring a dynamic brain scan.)
(2) –*for three seconds, - in three seconds;* OK with *at 10 o'clock.*
(3) Cannot be complements to any of the aspectual verbs *continue, stop, start, finish,* etc.

2. Imperfectives and Non-culminating Accomplishments
Task for formal semantics: find an explanatory basis for all the properties of different eventuality predicates discussed above, and provide a compositional semantics for constructions involving tense and aspect operators and temporal adverbials combined with verbs of various Aktionsarten.

2.1. The analysis of accomplishments/ extended events. Example discussed in Sergej Tatevosov's handout last week : The analysis of accomplishments.
Dowty 1979: Accomplishments are all causatives involving two subeventualities: an activity/process performed by the Agent/Causer and a caused change of state of the Patient.

See Tatevosov's handout for decompositional characterizations of accomplishments by Dowty, Levin and Rappaport Hovav, Kratzer, von Stechow and Paslawska, Pylkkänen, and Ramchand. All involve variations of the idea that *John close the door* is decomposed into two parts: John is the agent of some activity, and that activity causes a change of state in the door:

the door becomes closed. These are often referred to as the ACTIVITY subevent and the BECOME subevent.

Rothstein (2004) rejects the idea that all accomplishments are causatives. She retains the idea that there are two subevents, an ACTIVITY subevent and a BECOME subevent, and instead of requiring a relation of causation between them, she requires an **incremental relation** to hold between them. See Tatevosov's handout for details.

Tatevosov (handout) extends Rothstein's analysis to include extended events consisting of two subevents not (obligatorily) incrementally related: *open the window, tear the thread, awaken the boy*. For these events, the initial activity may go on for some time with no effect, and the effect (if successful – if the event culminates) may all take place within a 'minimal final part' of the activity subevent.

This allows for a three-way classification of event predicates:
Incremental: (INCR-accomplishments): *eat the soup, read the book, go to Spain, put the book on the table, climb the mountain.*
Non-incremental (MMFP-accomplishments): *tear the thread, break the egg, awaken the boy* – predicates which are never incremental.
Underspecified: (R-accomplishments) –may be incremental or not, depending on context: *open the window, open the curtains*.

Note: '*Bil, bil, ne razbil*' cannot really be translated into English. Languages differ with respect to whether 'causative' verbs really imply 'result'.

This extension allows for an explanation of whether an accomplishment verb can allow a 'failed attempt reading' or not. Only MMFP-accomplishments can allow a 'failed attempt' reading; "the essential part of the semantic structure of failed attempt predicates is *the imperfective/inertia modal operator*."

The imperfective/inertial modal operator: (from Tatevosov's handout), the version in Koenig and Muansuwan 2001:163: Impfv(ev, φ), where *ev* is an eventuality and φ is an event description: *ev* and φ satisfy Impfv(ev, φ) relative to an evaluation situation s iff there is an e' which (not necessarily properly) includes *ev* and e' satisfies φ in all inertia worlds relative to s, i.e. in all worlds compatible with what it would mean to complete *ev* in s without being interrupted.

Compare the classic "imperfective paradox" (Dowty 1977), which was a challenge to extensional theories of the progressive such as that of (Bennett and Partee 1972).

Bennett and Partee (before the adoption of Davidsonian event semantics):
Some predicates hold at instants (*be happy, love Mary, be singing, notice a mistake*), others hold only at intervals (*build a house, read a book*): this paper introduced interval semantics into the literature. (The introduction of event semantics provides and even better solution to the problems that required the move from instants to intervals.)

The progressive: *be –ing* (φ) holds at an instant t iff there is an interval I properly including t such that φ holds at I.

For state and activity predicates, φ holds at an interval I iff φ holds at all instants within I; so for state and activity predicates, this definition of the progressive agreed with an earlier one proposed by Montague: progressive of φ is true at t if φ is true at every instant in some neighborhood properly containing t.

For instantaneous events, this definition explains why they can't take progressive: they are never true of an interval containing more than one instant. (An instant can be thought of as in interval [t,t]: one whose starting point and endpoint are identical.)

For extended events (*John is building a house*), this analysis says that the progressive is true at a given instant if that instant is part of an interval of which the non-progressive (*John build a house*) is true.

The problem with this analysis, which Dowty identified, is that it claims that *John is building a house* entails *John will finish building a house*, i.e. that at some point it will be true that John has built a house.

Dowty's classic example:
(1) John was crossing the street when he was hit by a truck.

It may be true that John was crossing the street at time t, and yet because he was hit by a truck at time t, there is no later time at which it becomes true that John crossed the street.

Dowty introduced the idea of "inertia worlds", arguing that the progressive is inherently modal: (1) says that in all those worlds in which "nothing interferes with what was happening at t", it will be true at some later time t' that John has crossed the street.

Two kinds of problems led to much subsequent literature (significant parts of which are cited in Tatevosov's handout): (i) the idea of inertia worlds: 'how do we get rid of that truck?'; (ii) simple imperfectives in languages like Russian: how do we make imperfective the 'default' case? How do we distinguish 'simple imperfective' from an 'imperfective operator'?

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