Lexical Aspect

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Linguistics 795
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Outline

1. Introduction
2. Features
3. Mereological Approaches
4. Scalar Approaches
5. Conclusion
### Classes for the following features?

**Filip (2012)**

<table>
<thead>
<tr>
<th></th>
<th>Change</th>
<th>End/Bound</th>
<th>Temp. Extent</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Atelic</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>state</td>
<td>-</td>
<td>-</td>
<td>+</td>
</tr>
<tr>
<td>process</td>
<td>+</td>
<td>-</td>
<td>+</td>
</tr>
<tr>
<td><strong>Telic</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>protracted</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>momentaneous</td>
<td>+</td>
<td>+</td>
<td>-</td>
</tr>
</tbody>
</table>
Explain these facts using the aspectual categories

(1)  a.  * John is believing that he will win the election.
    b.    The statue is standing at the entrance to the park.
Homogeneity/Subinterval property

1. John ran.
2. John ran a mile.
3. John ate a sandwich,
Dowty’s aspect calculus: Questions

<table>
<thead>
<tr>
<th></th>
<th>Does this correctly cross classify aspectual categories?</th>
</tr>
</thead>
<tbody>
<tr>
<td>DO</td>
<td>Bisentential, not event operators. Right choice?</td>
</tr>
<tr>
<td>BECOME</td>
<td>Are all accomplishments causatives?</td>
</tr>
<tr>
<td>CAUSE</td>
<td></td>
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</table>
Accomplishment iff causative?

a. The clowns walked the elephants around in a circle for a hour.
b. John drove a car from Boston to Detroit. (directed motion)
c. John ate popcorn.
d. John ate two apples.
e. Soldiers marched across the bridge for hours.
Motion (Van Valin and LaPolla 1997)

Given an activity:

\[ LS \text{ do}(x, \text{ [pred}' (x)]) \]

add

\[ & \text{BECOME be-LOC}' (y, x) \]

to form an active accomplishment LS.

Motion \[ \text{do}'(x, \text{ [walk}'(x))] \]

Directed Motion \[ \text{do}'(x, \text{ [walk}'(x)]) & \text{BECOME be-LOC}' (y, x) \]

Not obvious telicity is always due to added event structure: run a mile (Filip)
Count mass analogy

Bach (1986)

Nominalization

There was shoving and brawling
There were two killings ...

Analogy

Count:Mass:: telic:atelic
Boy:Mud:: Arrive:Push
Proper subpart relation

Quantization \((\text{boy}; \text{arrive})\)

A given nominal or verbal predicate \(P\) is **quantized** if and only if some \(x\) or \(e\) falls under \(P\), then it cannot have a proper part \(x\) or \(e\) that also falls under \(P\). Krifka (1998)
Continuing the analogy

**Cumulativity** (*mud; run*)

A given nominal or verbal predicate $P$ is **cumulative** if and only if some $x$ and $y$ or $e$ and $e'$ fall under $P$, then the mereological sum $\oplus$ of $x$ and $y$ or $e$ and $e'$ also falls under $P$. 
Conversion of predicates to telicity: The role of thematic role

(2)  
   a. John ate two apples in an hour/*for an hour
   b. John ate apples *in an hour/for an hour.
   c. John watch two storms on the display for an hour/*in an hour.
   d. John watch storms on the display for an hour/*in an hour.

Incremental theme
The verb eat takes an **incremental theme** (theme affectedness tracks progress of event)

\[ \phi = \lambda e \exists x[\alpha(e) \land \delta(x) \land \text{Inc\_Theme}(e, x)] \]

\( \phi \) is quantized/cumulative if \( \delta \) is quantized/cumulative
Telicity and incrementality

- Telicity: build, write, compose, eat, burn, recite, play, mow
- Incrementality: recover, run

1. Telicity does not guarantee incrementality (achievements, instantaneous accomplishments like *make a dot*).
2. Incrementality does not guarantee telicity (Inc. theme may be unquantized).
3. Telicity is independent of complex event structure (*make pyramids*).
## Conversions between Bounded & Unbounded

<table>
<thead>
<tr>
<th>Conversion</th>
<th>Exploiting Constructions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cum</td>
<td>Quant</td>
</tr>
<tr>
<td>mud run</td>
<td>a liter of mud</td>
</tr>
<tr>
<td></td>
<td>run a mile</td>
</tr>
<tr>
<td></td>
<td>run to the park</td>
</tr>
</tbody>
</table>
Abusch (1986)

Degree-based telicity in Degree Achievements

(3) a. The soup cooled in 10 minutes.
   b. The soup cooled for 10 minutes.
   c. \( \lambda x \lambda e. \text{BECOME}(P)(x)(e) \)
   d. \( \text{BECOME}(P)(x)(e) = 1 \) iff \( P(x)(\text{init}(e)) = 0 \) and \( P(x)(\text{fin}(e)) = 1 \),
      where \( \text{init}(e) \) and \( \text{final}(e) \) are the initial and final parts of \( e \)
   e. \( \text{cool}(c_u) \) is the property of being cool in the context of utterance
      (being at least as cool as the standard).
   f. \( \lambda x \lambda e. \text{BECOME(cool}(c_u))(x)(e) \) [for a.]
      \( \lambda x \lambda e. \exists c[\text{BECOME}(\text{cool}(c))(x)(e)] \) [for b.]
   g. Abusch’s semantics gets you cumulativity for b.
Default telics & atelics;

1. The sky darkened (?but it didn’t become dark).
2. The shirt dried (?but it didn’t become dry).
3. The sink emptied (? but it didn’t become empty).
4. ?The gap between the boats widened for/?? in a few minutes.
5. The recession deepened for/?? in several years.
6. The soup cooled 17 degrees.
7. The gap widened 6 inches.
The basic idea

(4) a. The cabinet is wide.
   b. $\text{pos}(\text{wide})(c)(t) \geq \text{std}(\text{wide})$
   c. Closed scale adjectives have a max/min ($\text{bent, open, impure, straight, closed, pure, dry}$)
   d. The crack widened 6 inches.

Measure of change

For any measure function $m$,

$$m_\Delta = \lambda x . \lambda e . \text{the degree to which } x \text{ changes in its } m \text{ measure in event } e.$$

For example, (4d) is:

$$\text{wide}_\Delta(c)(e) \geq [\text{inch } 6]$$
Balboaljik’s Generalization: Relation to the comparative form

(5) Their scores worsened.
Lessons

1. Dowty’s decompositional approach to lexical aspect has been challenged on a number of fronts.

2. Telicity can arise because of quantizing, which appears to be unrelated to the lexical semantic complexity of the verb.

3. In arguably semantically complex cases (where the derived causative analysis is most plausible), cumulativity can defeat telicity.

4. The existence of a **incremental themes** makes a mereolgical approach attractive.

5. There are different semantic approaches to telicity, equally plausible, mereological and degree-based.
Abusch, Dorit. 1986.
   Verbs of change, causation, and time.

   The algebra of events.
   Linguistics and philosophy 9(1):5–16.

Filip, Hana. 2012.
   Lexical aspect.

Hay, Jennifer, Christopher Kennedy, and Beth Levin. 1999.
   Scalar structure underlies telicity degree achievements.
