Crosslinguistic Variation in Aspectual Processing

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Grammatical Differences between Aspectual Systems and their Processing Implications

- Grammatical opposition between perfective +p and imperfective -p in English
  1a) John built the house (for two years)
  1b) John was building the house (for two years)
- From (1a) it follows that the house was finished; from (1b) it doesn’t
- When (1a) is combined with a for-adverbial the sentence feels ‘garden-path’
- By contrast (1b) can be easily modified by a for-adverbial
  - Does (2) imply a finish event? What happens when a for-adverbial is added?
  - Offline judgments: 90% “complete event” without vs 16% with for-adverbial
  - In contrast to English: continuing (2) with a for-adverbial doesn’t feel difficult!

Are the grammatical differences influence online comprehension? Do English comprehenders commit earlier to an aspectual interpretation?

Methods

- Self paced reading with moving window technique
- Sensicality judgment after each sentence
- Exp. 1: 30 accomplishments (+ 110 fillers), Exp. 2: 20 accomplishments (+ 80 fillers), Exp. 3: 40 accomplishments (+ 110 fillers); latin square design
- 30 American English (Exp. 1), 32 Germans (Exp. 2), 40 Germans (Exp. 3)

Predictions

- For-modification of +p English accomplishment leads to enhanced difficulty
  - RT of adverbials: [+p, for] > [+p, in] = [-p, for]
- Immediate aspectual assignment in German: RT of for > in
- Delayed aspectual assignment: RT of for = in
- Based on earlier experiments no RT difference is expected between the two kinds of adverbials in VAO order (Bott & Schlotterbeck, CUNY 2009)

English Materials (Exp. 1)

Adverbials following the direct object (VOA):
+ (p, for) Peter | washed | the dishes | for an hour | after | they | had finished | dinner.
- (p, in) Peter | washed | the dishes | within an hour | after …
- (+p, for) Peter | was washing | the dishes | for an hour | after…

Adverbials preceding the direct object in sentences with heavy NP shift (VAO):
+ (p, for) Peter | washed | for an hour | the huge pile of dishes | his roommate had used for the party.
- (+p, in) Peter | washed | within an hour | the huge pile of dishes | his…
- (+p, for) Peter | was washing | for an hour | the huge pile of dishes | his…

German Materials (Exp. 2+3)

Exp. 1: +p-for is difficult

- +p-for was read slower than both +p-in and –p-for
- Heavy NPs: no differences on either the adverbial or the following segments (adv: 984 vs 1011 vs 1080 ms)
- Judgments: +p-for 70% “sensible”, +p-in 78%, -p-for 71%; no difference between VOA and VAO

Exp. 2: But not in German

- RTs didn’t differ between for and in irrespective of order
- Judgments: both adverbials were judged sensible (for 69.5% “yes” vs in 71.0% “yes”-judgments)
  - In German, grammatical aspect seems to be underspecified during online comprehension
  - Contrast between Exp. 1 and 2 depend on interpreting the null effect of Exp. 2

Exp. 3: A Replication

- Exp. 3 served as a replication of Exp. 2
- Testing more participants and items reveals no significant difference in RT between for and in

- Inference patterns show non-monotonic update
- In contrast to English, this update isn’t difficult
- Same semantic output, different computations!

Conclusions

- If a language doesn’t have the grammatical means to make an aspectual distinction, there is no aspectual commitment during processing
- Different mechanisms are needed to deal with perfectivity in English and German: Data suggest aspectual reanalysis vs underspecification
- Are the inferences in the two languages really the same? Judgment data are needed for English, too
- When do Germans compute aspectual aspect? Is the difference between languages a difference in processing domain (verb vs sentence)?