Facilitating sentence comprehension by syntactic priming
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Structural priming

Matching condition (the total reading times in OVS sentences. The region of interest was the same as in Experiment 1, as were the analytic procedures. The target sentences were modified so that the OVS sentences were unambiguous, and the sentences with datives were more difficult to process (by moving the “heavy” dative NP to a sentence-internal position). If priming occurred in the modified sentences, it would suggest that difficulties arising from ambiguity makes sentence comprehension more difficult.

Experiment 1 stimuli

OV5 (ambiguous target)

Matching prime

Skrytou cestu najde kapitán. / (Hidden path)匹配 finds the captain.

Non-matching prime

Stary kapitán najde cestu. / (The old captain)匹配 finds the path.

Target

Stěni postěla unavený osel u vrat. / A fox holes up the tired donkey at the gate.

Dative (unambiguous target)

Matching prime

Dědek daroval hračku vnukovi. / Granddad gave toy to grandson.

Non-matching prime

Dědek daroval hračku vnukovi. / Granddad gave grandson toy.

Target

Babiš daroval hračku dítěti téhoetu nakladatel. / Poet gave toy to the child of an important publisher.

Participants, procedure, analysis

A total of 46 native speakers participated. The format of the task was the same as in Experiment 1, as were the analytic procedures. In OVS sentences, the primary observed variable was the reading time for the sentence-initial noun. In sentences with datives, the region of interest was the same as in Experiment 1, i.e. the sequence from first structural difference to the sentence end.

Results

Mean reading times are reprinted in the table. For comparison with Experiment 1, mean times for all words in OVS targets are reported.

<table>
<thead>
<tr>
<th>Word no.</th>
<th>Total Matched</th>
<th>Matched</th>
<th>Non-matched</th>
<th>Non-matched</th>
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</table>

Participants, procedure, results

A total of 37 volunteers participated in the experiment. The procedure was similar to Experiments 1 and 2. Analyses examined the effect of prime type, target ambiguity and their interaction. The region of interest was the reading time for the region from word 3 to the sentence end. Follow-up analyses examined individual words.

Experiment 2 stimuli

OV5

Matching prime

Skrytou cestu najde kapitán. / (Hidden path)匹配 finds the captain.

Non-matching prime

Stary kapitán najde cestu. / (The old captain)匹配 finds the path.

Target

Lilka postěla unavený osel u vrat. / A fox holes up the tired donkey at the gate.

Dative

Matching prime

Dědek daroval hračku vnukovi. / Granddad gave toy to grandson.

Non-matching prime

Dědek daroval hračku vnukovi. / Granddad gave grandson toy.

Target

Babiš daroval hračku dítěti téhoetu nakladatel. / Poet gave toy to the child of an important publisher.

Participants, procedure, analysis

A total of 46 native speakers participated. The format of the task was the same as in Experiment 1, as were the analytic procedures. In OVS sentences, the primary observed variable was the reading time for the sentence-initial noun. In sentences with datives, the region of interest was the same as in Experiment 1, i.e. the sequence from first structural difference to the sentence end.

Results

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Experiment 3

The design of Experiments 1 and 2 did not make it possible to compare the prime effects in ambiguous and unambiguous sentences directly. Experiment 3 was designed to allow for this comparison, combining target sentence ambiguity and priming as factors in a 2 x 2 design. The experiment exploited the dative-accusative morphological ambiguity in one class of Czech nouns.

Non-matching prime

Dědek daroval hračku vnukovi. / Granddad gave toy to grandson.

Non-matching prime

Dědek daroval hračku vnukovi. / Granddad gave grandson toy.

Ambiguous target

Pán osdelal hrasynou výpůjčku na konto. / man sent money to account.

Unambiguous target

Pán osdelal zahradu výpůjčku na konto. / man sent garden to account.

Participants, procedure, results

A total of 37 volunteers participated in the experiment. The procedure was similar to Experiments 1 and 2. Analyses examined the effect of prime type, target ambiguity and their interaction. The primary region of interest was the reading time for the region from word 3 to the sentence end. Follow-up analyses examined individual words.

Evidence for the revision stage?

The distinction between ambiguous and unambiguous sentences, if confirmed, could support the two-stage accounts of parsing.

- It looks like priming facilitates revisions but not first-pass parsing.
- If the distinction proves to be robust, it would support the existence of two separate processing stages, each susceptible to different influences.

Possible implications

References


