

The Effect of discourse continuity on Structural Priming

Chi Zhang (Ghent University), Sarah Bernolet (University of Antwerp), Robert J. Hartsuiker
(Ghent University)

Speakers tend to spontaneously repeat sentence structures they have experienced (i.e., structural priming). A multifactorial account of structural priming posits an implicit learning process and an explicit memory-related process jointly contributing to structural priming. Specifically, implicit learning leads to long-term, abstract priming, whereas explicit memory causes a short-lived, cue-dependent effect, especially when there is lexical overlap. Some versions of the multifactorial account further assume that speakers encode sentence structure in explicit memory to maintain the coherence of discourse. We therefore hypothesized that speakers are more likely to retrieve previous sentence structures when there is coherence between primes and targets, which leads to larger structural priming. We tested this hypothesis by varying the presence or absence of connectives in two structural priming experiments. One hundred and ninety-two native Dutch speakers read (double object/prepositional object) prime sentences and described target pictures. We manipulated prime structure, lexical overlap, and critically, the presence of a connective (*en* meaning *and* in Experiment 1; *maar* meaning *but* in Experiment 2) joining primes and targets. Both experiments showed structural priming, which was stronger with lexical overlap. Crucially, there was stronger priming when the connective *en* was present, but only when there was no lexical overlap. Unexpectedly, the lexical-dependent structural priming was reduced in the presence of the connective *maar*. These findings suggest that speakers temporarily hold sentence structure in explicit memory to help maintain discourse coherence. Memory retrieval can be facilitated by the presence of a connective. However, this process does not seem to affect lexically-dependent priming.

Appendix 1: Exemplar items in each condition of Experiment 1 and 2

	Condition	Example sentence/fragment
Prime sentence	DO, same verb	De danseres overhandigt de non een boek. [Literally: The dancer hands the nun a book.]
	PO, same verb	De danseres overhandigt een boek aan de non. [Literally: The dancer hands a book to the nun.]
	DO, different verb	De danseres toont de non een boek. [Literally: The dancer shows the nun a book.]
	PO, different verb	De danseres toont een boek aan de non. [Literally: The dancer shows a book to the nun.]
Target fragment	Connective	En/Maar de danseres overhandigt _____. [Literally: And/But the dancer hands _____.]
	No connective	De danseres overhandigt _____. [Literally: The dancer hands _____.]

Appendix 2: Descriptive data in Experiment 1 and 2

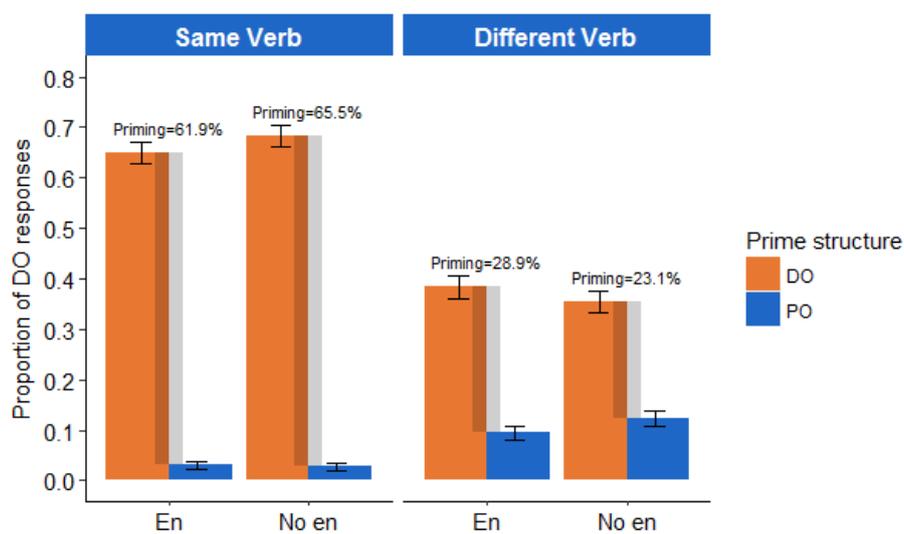


Figure 1. The proportion of double object (DO) responses as a function of prime structure, lexical overlap, and connective (*en*) condition in Experiment 1. The shaded bars indicate priming effect.

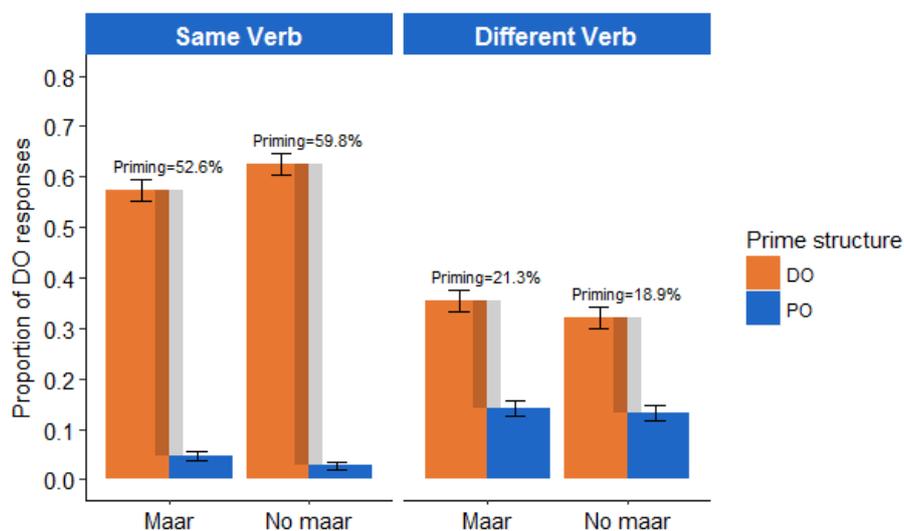


Figure 2. The proportion of double object (DO) responses as a function of prime structure, lexical overlap, and connective (*maar*) condition in Experiment 2. The shaded bars indicate priming effect.