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Is Syntactic Priming a Two-Way Effect ?

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Syntactic priming is the proposal that 'processing of a particular syntactic structure within a sentence affects processing of the same (or related) syntactic structure within a subsequently presented sentence.' (Branigan, Pickering, Liversedge, Stewart & Urbach, 1995). In a language production task Bock (Bock, 1986, 1989) asked subjects to first read a sentence out loud and then describe a picture. She found that the way in which subjects described the pictures was influenced by the syntactic structure of the sentence they had just produced. After reading sentences containing a prepositional phrase such as (1a), subjects were more likely to describe a picture using a prepositional phrase sentence, e.g. 'The girl handed a paintbrush to the man.'

(1a) The rock star sold some cocaine to an undercover agent.

(1b) The rock star sold an undercover agent some cocaine.

Similarly, sentences of a double object form (Example (1b)) were more likely to elicit a picture description containing a double object construction, e.g. 'The girl handed the man a paintbrush'. Bock took this syntactic persistence as evidence that the residual activation associated with the syntactic structure of the first (prime) sentence results in that structure being reused to describe the picture. Branigan et al further demonstrate evidence for syntactic priming in language comprehension. For certain sentence structures, reading time associated with a sentence is facilitated if that sentence has been immediately preceded by one of equivalent syntactic structure. Branigan et al take this as evidence that syntactic persistence also occurs in language comprehension.

Because previous work has not employed an unrelated baseline condition, it is unclear whether, in each case, priming effects are associated with *both* alternative structures. Hence it is possible that priming is centred upon one structure only. For example, it might be the case that only the marked structure in each structure pair is affected by the priming manipulation. In (1) above, double object primes might both facilitate subsequent double object structures and inhibit subsequent prepositional object structures, whilst prepositional object primes might have no effect on the structure of subsequent sentences. If priming were to be centred upon one structure only, this might cast doubt on some of the conclusions that have been drawn from previous work (e.g. Bock 1989).

In this poster we report a language production experiment which contains a baseline condition, allowing us to examine whether priming effects are associated with both structures in a pair of alternatives or with only one. Our experiment employed a written sentence completion task (see Pickering & Branigan, in press, for more details). Subjects completed sentence fragments which encouraged a prepositional object, double object or intransitive continuation and then completed a target fragment which could be completed either using a double object or prepositional object phrase. The intransitive fragment primes constituted our baseline condition.

Our results show that priming effects can be found for both prepositional object and double object structures: more double objects were produced following a double object prime (relative both to the baseline and a prepositional object prime) and more prepositional objects were produced following a prepositional object prime (again relative both to the baseline and a double object prime). We can conclude that syntactic priming occurs for both structures in a structure pair, and is not restricted simply to the more marked alternative.

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