

The Syntactic Representation of the Small Clause Construction: Evidence from Structural Priming

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There is disagreement on the syntactic analysis of the small clause construction (e.g., *Mary considered the man a friend/interesting*). Scholars differ on whether the subject NP (i.e., *the man*) and the predicate XP (i.e., NP *a friend*, AP *interesting*) of the small clause form a constituent in the syntactic structure. The current study uses the structural priming paradigm to investigate the syntactic representation of the small clause construction experimentally. Structural priming is the tendency for speakers to reuse a previously encountered sentence structure (Bock, 1986), which is dissociable from lexical, semantic and prosodic repetition between the prime and target sentences (e.g., Bock & Loebell, 1990), and thus can tap into and provide an experimental approach to analyze abstract syntactic representations (Branigan & Pickering, 2017). The small clause construction refers to the tenseless [NP XP] structure where NP and XP bear a subject-predicate relation. The predicate can be an NP (e.g., *Mary considered* [NP *the man*] [NP *a friend*]) or an AP (e.g., *Mary considered* [NP *the man*] [AP *interesting*]). Some researchers (e.g., Stowell, 1981) propose that [NP-XP] forms one constituent (henceforth: *1-argument account*, i.e., VP → V-SC) while others (e.g., Williams, 1983) treat NP and XP as two arguments in the verb phrase (henceforth: *2-argument account*, i.e., VP → V-NP-XP). However, there is little empirical research that taps into the syntactic representation of this controversial structure.

In two web-based structural priming experiments, speakers described pictures of dative events after hearing and repeating prime sentences. In Experiment 1 (64 participants), the small clause prime with an NP predicate (SCnp) was compared with the double-object (DO)/prepositional-object (PO) prime and the intransitive baseline prime. The *2-argument account* predicts that SCnp shares syntactic representation with DO sentences (i.e., VP → V-NP-NP) and thus should prime DO responses. In contrast, the *1-argument account* predicts that SCnp has distinct syntactic representation from DO and should operate like the baseline. Critically, E1 shows that the SCnp prime elicited more DO responses than the baseline prime ($z = 2.665, p < .05$) and (marginally more) than the PO prime ($z = 1.777, p = .07$), but comparable DO responses to the DO prime ($z = -1.052, p > .1$). Experiment 2 (65 participants) modified the SCnp prime with the small clause prime with an AP predicate (SCap). E2 shows that the SCap prime also elicited more DO responses than the baseline ($z = 3.350, p < .001$) and the PO prime ($z = 4.616, p < .001$), but comparable DO responses to the DO prime ($z = -0.720, p > .1$).

The two experiments indicate that the small clause construction with an NP or AP predicate both prime similarly as typical double-object dative sentences. Findings from both experiments indicate a shared syntactic representation between small clauses and DO sentences, supporting the ditransitive nature of the small clause construction that the NP subject and XP predicate are two separate arguments of the VP (i.e., *2-argument account*). Experiment 2 suggests that small clauses with an NP or AP predicate share a general ditransitive syntactic representation despite the different syntactic category of the second argument in the VP (i.e., NP vs. AP), which is roughly compatible with the syntactic feature system where syntactic categories Noun, Verb, Adjective and Preposition can be decomposed to two features [N] and [V], where only Noun and Adjective share the feature [+N] (Chomsky, 1970).

Table 1. Sample prime sentences in Experiment 1/ Experiment 2.

Prime Type	Example
a. DO	The soldier gave the clown a camera.
b. PO	The soldier gave a camera to the clown.
c. SCnp/SCap	The soldier considered the clown a friend/interesting.
d. Baseline	The soldier danced.

Table 2. Experiment 1: Pairwise comparisons between prime types.

Comparison	Estimate	SE	Z	p-value
SCnp vs. Baseline	0.53	0.20	2.665	0.007709**
SCnp vs. DO	-0.20	0.19	-1.052	0.292803
SCnp vs. PO	0.35	0.20	1.777	0.075573
DO vs. Baseline	0.73	0.20	3.674	0.000239***
DO vs. PO	0.55	0.20	2.795	0.005192**

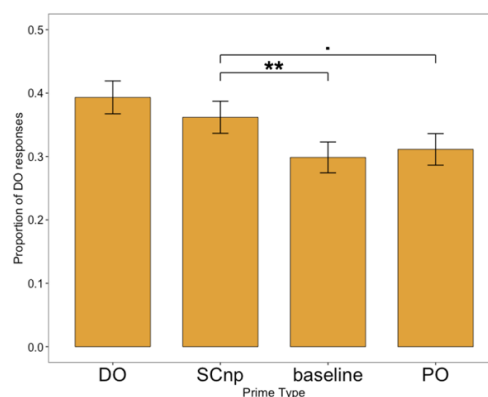
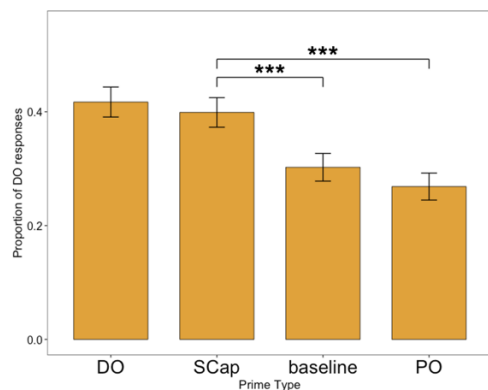


Table 3. Experiment 2: Pairwise comparisons between prime types.

Comparison	Estimate	SE	Z	p-value
SCap vs. Baseline	0.68	0.20	3.350	< .001***
SCap vs. DO	-0.14	0.20	-0.720	0.471231
SCap vs. PO	0.96	0.21	4.616	< .001***
DO vs. Baseline	0.82	0.20	4.029	< .001***
DO vs. PO	1.10	0.21	5.263	< .001***



References

- Bock, J. K. (1986). Syntactic persistence in language production. *Cognitive Psychology*, 18, 355–387.
- Bock, K., & Loebell, H. (1990). Framing sentences. *Cognition*, 35(1), 1-39.
- Branigan, H. P., & Pickering, M. J. (2017). An experimental approach to linguistic representation. *Behavioral and Brain Sciences*, 40, e282.
- Chomsky, (1970). Remarks on Nominalization. *Studies on Semantics in Generative Grammar*. Mouton, The Hague.
- Stowell, T. A. (1981). *Origins of phrase structure* (Doctoral dissertation, Massachusetts Institute of Technology).
- Williams, E. (1983). Against small clauses. *Linguistic Inquiry*, 14, 287-308.