Structural priming of SO vs. OS in German: Clauses with psychological verbs as a test case

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German has canonical subject-object (SO) word order. As in other languages, passive voice serves to demote or even drop the subject and to promote the object instead. Speakers have the alternative option to front the object of an active clause. In contrast to passivization, this results in emphasis of the object, constraining the OS order to specific contexts (Frey, 2010). However, a subgroup of psych-verbs, so-called experiencer-object-verbs (Primus, 2003), occur with the participant roles of a stimulus (in nominative case) and an experiencer (in accusative case). Switching their order to OS does not result in information structural markedness. This property led us to assume that these structures would be susceptible to structural persistence irrespective of discourse/text functional demands. Structural persistence refers to the phenomenon that speakers tend to reuse linguistic structures they have processed previously (Bock, 1986). Passive vs. active persistence was examined extensively in priming experiments whereas object fronting was not (Mahowald et al., 2016). This can most probably be explained by the discourse functional demands that are hard to create in experimental settings.

Therefore, we conducted two primed sentence production experiments to test for persistence of SO vs. OS structures with psych-verbs. Primes were presented auditorily with either SO (a) or OS (b) order. Targets were presented on a monitor as vertical word lists headed by a verb (c) for spoken sentence generation. In Experiment 1, prime and target verb were always identical to support persistence (lexical boost, Pickering & Branigan, 1998). The relative order of the stimulus and experiencer target noun was manipulated to account for a bias of presentation order. To promote the production of the less frequent OS, the experiencer was always animate and the stimulus inanimate (animacy effect, Branigan et al., 2008). Analyses were carried out over 1299 trials from 48 participants. In SO prime trials we observed 22.3% OS responses and in OS trials the proportion increased to 46.7% (diff = 24.4%), pointing to the persistence of the OS prime structure in participants’ sentence production. A GLMM confirmed that there was a main effect of prime structure (p < .001). Furthermore, target noun order biased the production (p < .05) but did not interact with prime structure (p = .25). With regard to the robust effect of structural persistence, we examined the impact of verb repetition in a second experiment.

For Experiment 2, we rearranged primes and targets so that they always contained different verbs. All other things remained equal to Experiment 1. We analyzed 1103 valid trials from 48 participants. This time, the difference of OS response proportions between SO and OS prime condition was 11.9%. As in Experiment 1, there was a robust main effect of prime structure and target noun order (both p < .001), but no interaction (p = .45). To determine the impact of verb repetition, the data of both experiments entered a GLMM with the additional factor experiment (1 vs. 2). The interaction of prime structure and experiment was significant (p < .01). It can be concluded that verb repetition boosted the effect of structural persistence.

The findings are in line with accounts that assume a primed linearization of event participant roles at the conceptual level of sentence production or shortly thereafter where role concepts are mapped onto syntactic structure (Cai et al., 2012; Pappert & Pechmann, 2014). Models that attribute the effect to the alignment of phrase structure have to be supplemented with case marking to explain the results. Moreover, the boost by verb repetition can be accounted for by theories that postulate an involvement of lexical representations, although it is puzzling how word order variation would directly relate to the persistence of lexical argument structure.
Experimental item:

prime structure SO vs. OS

(a) SO  Der Fehler  erzürnt  den Vorgesetzten.
        the.NOM mistake  enranges  the.ACC boss

(b) OS  Den Vorgesetzten  erzürnt  der Fehler.
        the.ACC boss  enranges  the.NOM mistake

‘The mistake enranges the boss.’

(c) target  Experiment 1  Experiment 2

  erzürnen (enrage)  verunsichern (unsettle)
  Verrat (betrayal)  Nebel (fog)
  König (king)  Rennfahrer (racing driver)

References:


