

Priming for morphological representations: Case marking vs. case drop

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While previous studies have found evidence for abstract linguistic representations for syntactic structure (Bock & Loebell, 1990; Messenger et al., 2012; Hartsuiker & Westenberg, 2000), prosodic structure (Tooley et al., 2018), and semantic information (Raffray & Pickering, 2010; Vernice et al., 2012), research on discrete morphological representations has been scarce, and findings have been mixed (Santesteban et al., 2015; Yamashita et al., 2005). Morphological processing has mostly been examined at the lexical level, and it is unclear whether morphological elements are represented independently of syntactic structure. In Korean, direct objects can occur either with or without an accusative case marker (-*lul/-ul*). Taking advantage of this optionality, the present study investigated whether case-marking, which lies at the interface between syntax and morphology, is represented and planned independently of syntactic structure during sentence production.

In a recall-based sentence production task (Ferreira, 2003), sixty-four adult native Korean speakers were asked to recall and produce sentences they had read previously. The primes and targets were presented on separate consecutive trials. Participants first read and encoded a prime sentence in memory and produced it when prompted by its adverb and verb on the next screen. The target sentence was presented immediately after the recall of the prime sentence. Participants were prompted similarly to produce the target sentence. To test whether the representation of case marking is stored independently of syntactic structure, primes were manipulated for the presence of an accusative case-marker -*lul/-ul* (case-marked vs. case-dropped) as well as for word order (canonical vs. scrambled). The target was always presented in a canonical order, with or without the accusative case marker. (See [1] for example sentences)

Inaccurate responses were excluded, leaving 1050 out of 1536 trials for analysis. The 1050 utterances were coded for case marking and were analyzed using a mixed logit model with the maximal random effects structure. For fixed effects, the model had prime case marking (case marked vs. case drop), prime word order (canonical vs. scrambled), and their interaction. The predictor variables were coded using mean-centered contrast coding. The results revealed a main effect of case-marking ($z=8.93$, $p<.01$): participants were more likely to produce target sentences with an accusative case marker when it occurred in the prime than when it did not. There was also a main effect of word order ($z=2.24$, $p<.05$): direct objects were more likely to be case-marked when the prime was presented in a scrambled order than when it was presented in a canonical order. However, there was no significant interaction between these two factors ($z=-0.28$, $p>.1$), indicating that the priming effect was not modulated by the word order of the prime sentence.

The data show that the choice between case marking and case drop can be primed, affecting the planning of a subsequent sentence. This suggests that like other levels of linguistic representation, the morphological aspect of language is also represented abstractly and planned independently of syntactic representation. We also found that the likelihood of using the accusative marker varied by whether the same structure was repeated across utterances. This finding suggests that case marking is planned after the linear structure of sentences is determined.

[1] Procedure for prime-critical trials for the sentence-recall task

| | | |
|---------------------|-----------------|--|
| Prime Trial | Filler | Eccetaka matang-eyse nemecy-ess-ni? How yard-LOC fall-PST-Q? 'How did you fall down in the yard?' |
| | Prime | (one of the following) CM: Coyonghi pesu-eyse nolay-lul tut-ca. Quietly bus-LOC song-ACC listen-IMP. CD: Coyonghi pesu-eyse nolay-Ø tut-ca. Quietly bus-LOC song-Ø listen-IMP. SM: Coyonghi nolay-lul pesu-eyse tut-ca. Quietly song-ACC bus-LOC listen-IMP. SD: Coyonghi nolay-Ø pesu-eyse tut-ca. Quietly song-Ø bus-LOC listen-IMP. 'Let's listen to the song quietly in the bus.' |
| | Prime prompted | often listen- IMP |
| Target Trial | Target | (one of the following) M: Nayil kicha-eyse phyenci-lul ssu-ca. D: Nayil kicha-eyse phyenci-Ø ssu-ca. Tomorrow train-LOC letter-ACC/Ø write-IMP. 'Let's write a letter in the train tomorrow' |
| | Filler | Epmwu cwung-ey oksang-ulo tallye-ka-sse. Work middle-LOC rooftop-ALL run-go-PST-DEC. 'I ran to the rooftop in the middle of working' |
| | Target prompted | tomorrow, write-IMP |

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