

## What parenthesized modifiers (may) mean: Experimental evidence from English & Korean

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Research on parentheticals has focused on their use as appositives, speaker-oriented adverbials, and expressives (McCawley 1982; Ziv 1985; Potts 2002; Dehé & Kavalova 2007). However, there is little work on parentheticals marked with parentheses: in Kaltenböck (2007)'s survey of English parentheticals, none contain parentheses. Moreover, work on parentheticals outside of Indo-European is relatively scarce. Our work provides new cross-linguistic evidence about the meaning contribution of parentheses in one key construction. We present results from an experiment comparing the interpretation of parenthesized modifiers in Korean and English, manipulating syntactic position and modifier properties (scalar/non-scalar, categorical/continuous). We focus on a parenthesized construction, shown in (1), which in English gives rise to an implication that its non-parenthesized counterpart does not. Lewen & Anderson (2022) refer to the construction as a *restricted parenthesized parenthetical* and show that it behaves differently than better-studied parentheticals like appositives: not only is its parenthesized content integrated into the host, but it also gives rise to the implication shown in (1) and (2). They posit that the parentheses function as a focus-sensitive operator, invoking and negating a set of alternatives to the parenthesized content. Here we test their hypothesis experimentally. We explore how the semantic properties of the parenthesized modifier affect how alternatives are negated in English, and compare to a language with different conventions on use of parentheticals: Korean. In particular, the parenthesized parenthetical can come on either side of the modified noun, as in (3) and (4). Do these syntactic structures correspond to different meanings? Preliminary native speaker judgements suggest that Korean readers may parse the parenthesized parenthetical in (3) as a non-exhaustive example of the kind of gain, while in (4), the parenthetical adds emphasis: i.e., *Sarah hopes to acquire some gain, especially intellectual gain*. English and Korean thus provide an interesting cross-linguistic comparison.

Our study probes a) whether alternatives are invoked in each position and b) what alternatives are negated. We test four categories of modifiers: non-scalar and categorical (*wool* v. *cotton*); scalar and categorical (*weekly* v. *monthly*); non-scalar and continuous (*morning* v. *afternoon*); and scalar and continuous (*warm* v. *hot*). For each, we present ten dialogue sets between A and B in which A presents a question, and B's response contains a parenthetical, as in (5). Based on the parenthesized information, participants (32 native Korean & 32 English speakers) selected one or more options. In Korean, to consider position, the parenthetical appeared either to the right or left of the modified noun. Our results from English (Fig 1) confirm Lewen & Anderson's proposal that some alternative is negated; however, we find a contrast between the Non-Scalar and Scalar conditions. In Non-Scalar conditions, participants tend to exclude both alternatives, while in Scalar conditions, they exclude only one. Although we expect the strongest alternative to be excluded, we find equal selections of the weaker and stronger alternatives for Scalar Categorical items. A by-item analysis reveals that this is an effect of averaging across items: most items show a strong preference for one or the other alternative to be excluded. We posit that scale flip occurs in cases where the weaker alternative is excluded. In Korean, we find similar results across both position conditions, suggesting that syntactic position does not correlate with a difference in meaning. In general, Korean participants exclude only one

alternative: we find no evidence of the extra implication that arises in English and leads to the exclusion of all alternatives in Non-Scalar conditions, as shown in Fig 1. Our findings highlight the richness of the (often neglected) semantico-pragmatic space of parenthesized content.

- (1) Sam studies linguistics for (intellectual) profit. #And actual profit.
- (2) Sam studies linguistics for intellectual profit. And actual profit. (Lewen & Anderson 2022)

- (3) *Sam-neun (cicek) iik-ul wuyhay enehak-ul kongpu-ha-p-ni-ta*  
 sam-TOP (intellectual) gain-ACC for linguistics-ACC study-do-AH-IND-DECL
- (4) *Sam-neun iik-ul (cicek) wuyhay enehak-ul kongpu-ha-p-ni-ta*  
 sam-TOP gain-ACC (intellectual) for linguistics-ACC study-do-AH-IND-DECL

- (5) A: Are you still doing a lot of volunteer work for the pet shelter?  
 B: I don't do as much as I used to, but I still help write their (weekly) newsletter.  
**Question:** Which kinds of newsletters do you think B doesn't help to write?  
 ( ) daily  
 ( ) monthly  
 ( ) Other: \_\_\_\_\_

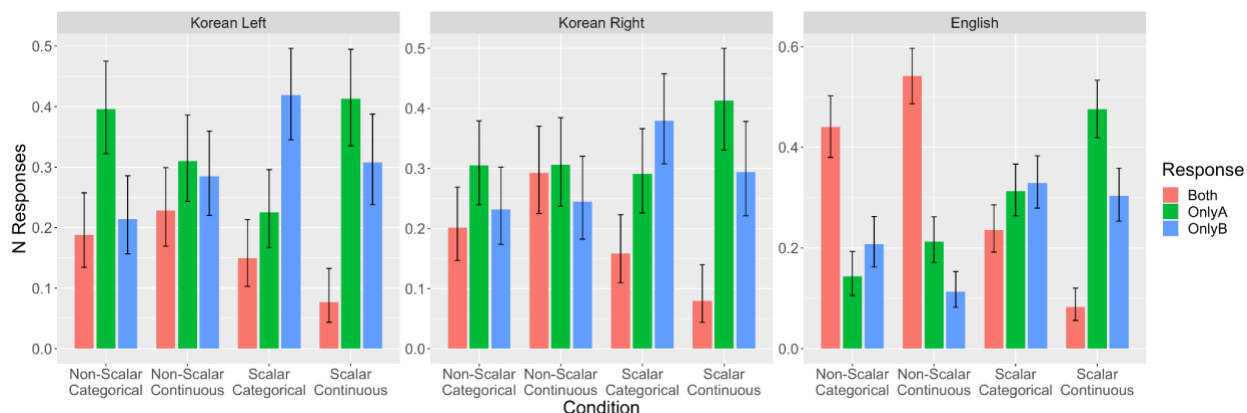


Fig. 1: Responses by Type in Main Conditions. Error bars indicate 95% confidence intervals. Note A and B (in the legend) refer to the options presented in the question.

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