

Can Language Users Derive Sentence Meaning without Relying on Verbs? Evidence from English and Korean

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Two approaches provide conflicting explanations for how language users interpret sentences. One is the Lexical Rules Approach (LRA), which claims that verbs play a central role in the comprehension of sentence meaning by specifying the grammatical relations of arguments^[1,2]. In contrast, the Constructional Approach (CA) holds that Argument Structure Constructions (ASCs; independent units of form-meaning-function pairings^[3]) directly contribute to the composition of sentence meaning by providing cues for the grammatical relations of arguments, independent of verbs^[4,5]. The present study tests both accounts by investigating how native speakers of English and Korean, two typologically distinct languages in terms of word order and case marking, derive sentence meaning. Of special interest in this context is whether speakers of these languages can identify the grammatical relations of arguments in sentences where verb's lexical information has been eliminated. Another goal is to investigate whether the typological differences between English and Korean (e.g., word order and case marking) influence the extent to which constructional information is utilised in each language.

Methods. We conducted a sentence-sorting task with native speakers of English (n=30) and Korean (n=32) under Real-Verb (RV) and Nonce-Verb (NV) conditions. Participants in each language group sorted 16 sentences into 4 piles based on overall sentence meaning. The sentences were created by crossing 4 types of ASCs (Table) with 4 real or nonce verbs. Half of the participants in each language group saw real verbs and the other half saw nonce verbs. The sorting results were transformed into deviation scores by counting the number of changes for a sort to be entirely verb- (Vdev) or construction-based (Cdev) one^[5]. On a scale from 0 to 12, a Vdev closer to 0 indicates a stronger verb-centred sorting tendency, and a Cdev closer to 0 denotes a stronger construction-centred sorting tendency. A hierarchical agglomerative cluster analysis was also performed to analyse participants' sorting tendency in depth.

Prediction. LRA predicts that participants will produce weaker construction-based sorting in NV than in RV since verbs fail to provide information on the grammatical relations of arguments as sorting criteria. Alternatively, CA predicts that participants will yield the same or stronger construction-based sorting in NV than in RV because they can utilise argument structure information from ASCs even when verbs provide no cue as to the grammatical relations of arguments. In addition, it is predicted that the degree of reliance on constructional cues will be modulated by the typological differences between the two languages.

Results and Discussion. In NV, participants in each language group showed stronger construction-based sorting than in RV (Figure 1). The cluster analysis further supported participants' tendency towards construction-based sorting in NV (Figure 2). This tendency confirms that language users exploit information about the grammatical relations of arguments via ASCs, regardless of verbs, which supports the prediction of CA. Across language groups, the Korean participants produced more construction-based sorting than the English participants did in both conditions, indicating that the Korean participants were more sensitive to constructional cues than the English participants were. The stronger reliance on ASCs by the Korean participants may be associated with interpretation of nominal arguments with particles prior to the appearance of a verb. Moreover, the lower rate of construction-based sorting in English RV than in Korean RV may result from the fact that the early appearance of the verb in English sentences allowed the participants to utilise it as a sorting criterion before they resorted to the grammatical relations of arguments derived from ASCs. Taken together, these findings suggest the major contribution of ASCs to sentence meaning and different degrees of reliance on ASCs in the course of sentence interpretation based on language-specific propensities such as word order and case marking.

Table. Argument Structure Constructions

Type	Abstract form	Meaning	Example
Transitive	S-V-O	X acts on Y	Tim loves Jane.
Ditransitive	S-V-O ₁ -O ₂	X causes Y to receive Z	Kim sent Harry a letter.
Caused-motion	S-V-O-Ob _{direction}	X causes Y to move Z	Jo kicked my bag under the desk.
Resultative	S-V-O-Ob _{result}	X causes Y to become Z	Nick talked himself blue in the face.

Figure 1. Vdev and Cdev Scores of Each Verb Condition in English and Korean

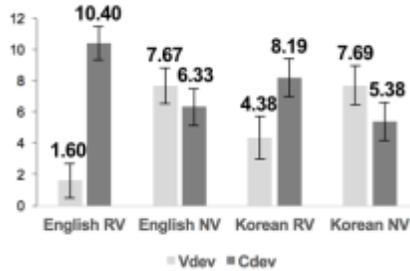
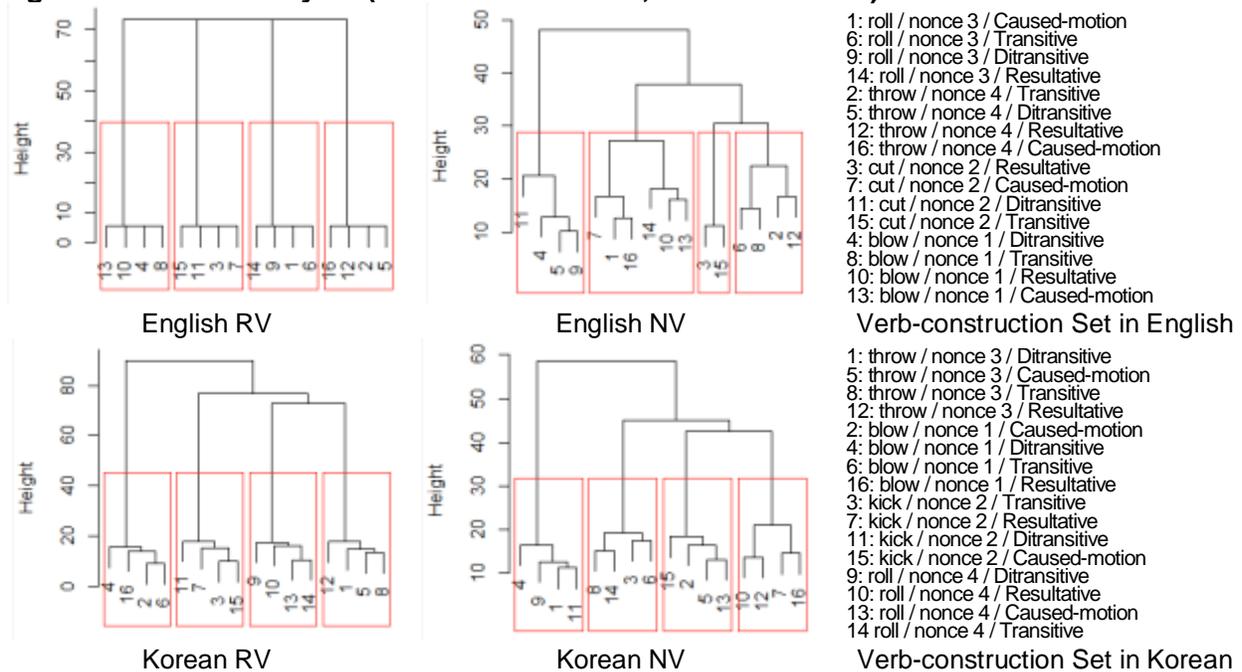


Figure 2. Cluster Analysis (Euclidean distance; Ward's method)



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