Processing Nominal Suffixes in Korean: Evidence from Priming Experiments

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Hee-Don Ahn, Duk-Ho An, Jung-Yun Choi, Jong-Bai Hwang, Moongee Jeon, Ji-Hyon Kim. 2011. Processing Nominal Suffixes in Korean: Evidence from Priming Experiments. Language and Information 15.1, 1–12. This study investigates morphologically complex nouns in Korean through a series of priming studies. Two experiments examined whether morphological affixes on Korean nouns were decomposed or processed as a whole. Two types of morphological affixes were examined: morpho-syntactic case markers and the plural marker ‘-tul’. Results showed that priming occurred for the plural marker with SOAs of 80 ms and 160 ms, but no priming occurred for the morpho-syntactic case markers. These results suggest that the morphological processing for these two types of affixes differ. We argue that Korean nouns with the plural suffix are decomposed into the stem and affix, supporting the Decomposition Model (Pinker & Ullman, 2002). We suggest that while plural markers are truly morphological affixes, case markers in Korean are morpho-syntactic, and thus presuppose the existence of other syntactic elements, such as the matrix verb, hence the lack of priming effects. (Konkuk University)

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1. Introduction

Morphology has been playing a significant role in language processing in psycholinguistic research in the areas of language comprehension (see Marslen-Wilson, 2007 for extensive review), language production (see Meyer & Belke, 2007 for extensive review), and biology of brain (see Ullman, 2007 for extensive review). This issue has been addressed as to how morphologically complex words are represented in the mental lexicon. This debate took English regular and irregular inflectional morphology, raising fundamental questions about whether rule-like behavior can be explained in terms of: (i) symbolic computation (Clahsen, 1999; Pinker, 1999; Pinker & Ullman, 2002); or (ii) connectionist learning systems, containing no rules and symbols (Rumelhart & McClelland, 1986; Seidenberg & Goodman, 2000; McClelland & Patterson, 2002). There is a considerable body of behavioral, brain imaging, and electrophysiological studies concerning morphological processing by native speakers. For example, the status of regular past tense morpheme ‘-ed’ in English and the question of whether morphologically structured representations are required for such forms remains a subject of controversy (see Pinker, 2006; Clahsen, 2006 for extensive overview).

Concerning our purposes of this study in particular, many debates on the status of morphologically complex nominals have also been centered on two main models: The so-called Decomposition Model (Pinker & Ullman, 2002) states that in morphological processing, the recognition of an inflected word such as ‘cats’ involves decomposing the word into its stem and its affix, e.g., ‘cat + s’. On the other hand, the so-called Full-listing model (McClelland & Patterson, 2002) claims that every inflected word is recognized as an unanalyzed whole word. Under the Full-listing model ‘cats’ would not be recognized as the word ‘cat’ plus a plural suffix ‘-s’; ‘cats’ would be a single, indecomposable word, just like ‘cat’.

Numerous word recognition studies have also been carried out across languages, employing various experimental technologies, to replicate and concern how morphologically complex words are represented in the lexicon (e.g., Frost, Forster, & Deutsch, 1997; Henderson, 1985, 1989; Laukkanen, Cermela, & Carraza, 1997; Marslen-Wilson, 1999; Sandra & Taft, 1994; Taft, 1985, 1994; Taft & Forster, 1975, 1976). Most of these studies have conducted experiments to investigate whether morphological relations are represented independently of both form (orthographic/phonological) and meaning relationships (e.g., Allen & Bodecker, 1999; Drews & Zwitserlood, 1995; Feldman, 1992; 1994; Feldman & Moscovitch, 1987; Fowler, Nagga, & Feldman, 1985; García-Alías et al., 1998). One might argue that morphological relations could be reduced to a convergence of orthographic/phonological and semantic overlapping since morphologically related words not only share a common root or stem but also orthographic/phonological and semantic features. Thus, some current connectionist models have made proposals along these lines (Elman, Bates, Johnson, Karmiloff-Smith, Parisi, & Plunkett, 1996; Rumelhart & McClelland, 1986; Seidenberg & McClelland, 1989; Sereno &