Distributed Morphology feature geometries crosslinguistically: Acquiring the copula

Shiloh Drake
Bucknell University

In Distributed Morphology (DM), it is assumed that words, phrases, and sentences are made up of the same hierarchical relationships: that is, elements of sentences and elements of words can be diagrammed in constituent structures, and morphemes are not simply the result of morphophonological processes (Harley & Noyer, 1999). Morphemes are made up of three elements that, when combined, result in a structure that contains grammatical features, semantic features, and the phonology necessary to utter the word or phrase in question. This paper tests the acquisition of the feature bundles that comprise the grammatical features of a word—for instance, person, number, clusivity, case, and other morphosyntactic features that differentiate between the functions of words.

As an offline model, DM must specify how morpheme selection occurs. One proposed method is through a feature hierarchy or geometry, similar to those proposed as typological universals (Drake, 2020; Harley & Ritter, 2002; Hanson, 2000). In acquisition, the feature hierarchy would predict that less marked morphemes are acquired before more marked morphemes, and morphemes that express more agreement features are acquired later than morphemes that express fewer agreement features. Harley and Ritter (2002) analyzed typologically distinct languages as well as acquisition data from Hanson (2000), and showed that this type of feature hierarchy correctly predicts the acquisition and distribution of pronouns agreeing in person and number. Drake (2020) showed that the acquisition of English copula followed a similar pattern, where the stages of acquisition follow a default 3.pres.sing *is* at around 2;0 (years;months) and more complex forms of agreement like the use of the past participle *been* occur much later at 3;1.

To further test the assumptions set forth by the previous studies, additional copora of child speech from CHILDES (MacWhinney, 2000) in English, French, Irish, Japanese, Sesotho, and Welsh were analyzed for the occurrence of copulas, with children ranging from 0;11 to 7;00 in age. According to previously proposed feature geometries, 1st and 3rd person present singular forms should occur at earlier ages, followed by 2nd person present singular. Forms with more distinguishing features, such as number, tense and aspect, should appear later.

This hypothesis is borne out after a preliminary analysis of the corpora. In each of the corpora, the first instance of a copula occurred at roughly 1;0 and was a “default” non-second, non-past singular form. Forms specified for additional features, such as past, plural, and aspect, occurred much later, as found in Drake’s (2020) previous study. Overall, 1st and 3rd person singular forms are most often used, with the present tense observed slightly more often than the past tense in the children’s speech.

This analysis provides further support to the feature geometry proposed by Harley and Ritter (2002) and Drake (2020), and also provides support for DM’s potential usefulness as a model of on-line language processing (Pfau, 2008; Gwilliams & Marantz, 2015; Drake, 2018; *inter alia*). Analyzing the longitudinal naturalistic speech of typically developing children who speak many different languages provides a measure of on-line grammatical processing that is difficult to obtain in a setting other than in a child’s home, but also provides rich data to aid in validating theories and models of language. As children seem to acquire morphemes in an orderly fashion (e.g., Brown, 1973) regardless of the language that they speak, acquisition data can only enhance the models and frameworks that pay it heed—especially given the frequently cited divide between linguistic competence and linguistic performance.