

Examining the “Noun Bias”: A Structural Approach

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Whether a universal noun bias exists – whereby nouns form the majority of children’s early vocabularies – is a point of much contention which has not received systematic treatment. In previous studies, a noun bias has been detected in English (Caselli et al. 1995; Genter 1982), French (Bassano 2000), Dutch (De Houwer & Gillis 1998), German (Gentner 1982), Italian (Bornstein et al. 2004), Spanish (Jackson-Maldonado et al. 1993), Hebrew (Bornstein et al. 2004), Kaluli (Gentner 1982), Turkish (Gentner 1982), and Japanese (Gentner 1982; Sakurai 1998). Despite the studies confirming the existence of a noun bias, conflicting data arises in examining Korean and Mandarin (Au et al. 1993; Bornstein et al. 2004; Choi & Gopnik 1995; Genter 1982; Tardif, Gelman, & Xu 1999). Such data leads to the conclusion that the noun bias observed in early speech may be language dependent and not universal as has previously been claimed. To this end, the current study examines whether there is a difference in the emergence of nouns and verbs in children’s early vocabularies in languages possessing different parameter settings with respect to null arguments.

Using data from CHILDES, the proportions of noun and verb types are examined in the speech of children aged 1;7-2;0, 2;1-2;5, and 2;6-2;11 whose native language is English, Mandarin, or Spanish. The English-speaking and Spanish-speaking children exhibit a noun bias across all three age groups – however the English-speaking children boast a stronger bias. We attribute these results to the fact that English prohibits null arguments while Spanish is a pro-drop language permitting null subjects. The Mandarin-speaking children exhibit a split in the first two age groups where half of the children exhibit a noun bias and the other half exhibit a verb bias. For the third age group, a verb bias is found. We attribute these findings to the fact that Mandarin is topic-drop and morphologically transparent. As a topic-drop language, Mandarin is quite verb friendly, permitting both null subjects and null objects. However, in being morphologically transparent, Mandarin lacks morphological markings which can serve to distinguish nouns from verbs, making the task of discriminating between nouns and verbs difficult for a child acquiring Mandarin.

In addition to examining the noun bias in children’s early vocabularies, the question of whether children’s speech parallels adult speech with respect to the noun bias arises. Using data from CHILDES, the proportions of nouns and verbs are examined in caregivers’ speech whose native language is English, Mandarin, or Spanish. While our results indicate that the input differs across language types, our within-language results for caregivers do not match those for the children. While noun dominance over verbs is statistically proven for the English- and Spanish-speaking children, the same does not occur for their respective caregivers. Regarding the Mandarin-speaking caregivers, those who do not exhibit a verb bias all have children who do exhibit a verb bias. Because the results across Mandarin-speaking children and caregivers vary, we conclude that the structure of a language is more dominant in determining the existence of a noun bias than the input.

As previous studies have not examined the noun bias in light of language typology, this study is the first to offer insights on how language typology and the noun bias interact. The current study is also significant as it examines the dominance of language structure over input in children’s early vocabularies.

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