The Acquisition of Null Subjects in Hebrew: The Role of Abstract Syntactic Features

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Hebrew provides a challenge to theories of language variation and language acquisition. Subjects are required in some person-tense combinations but not others: in the present tense, subjects are required for all three persons, but in the past and future tenses, subjects are only required in 3rd person. The 3rd person also has exceptions, where subjects must be absent (such as in impersonal constructions and expletives) or may be absent (as in embedded clauses where the subject is co-referential with the matrix subject). The Borer-Chomsky Conjecture (Baker, 2008) hypothesizes that features of functional categories determine a range of phenomena, including the types and locations of empty categories. Such functional categories include agreement features, specifically person (e.g., Levy & Vainikka, 1999/2000; see papers in Biberauer, et al., 2010), and tense (Shlonsky, 2009).

What is the role of person and tense in the development of children's knowledge and production of subjects? We use the acquisition of Hebrew as a case study. We suggest that children determine the distribution of subjects by testing the input for the presence of subjects in each cell of a matrix defined by the intersection of tense and person. If children's parses are aided by tense-person information, they should show the adult pattern from the onset of acquisition, but should have difficulty with 3rd person because of apparent exceptions. If children use only person features to parse their input, given the distinct morphological characteristics of each tense in Hebrew, they should provide the same percentage of subjects within each tense. Similarly, if children use only perceptual properties of individual verbs and communicative functions to make grammatical generalizations and lack abstract syntactic knowledge (Abbot-Smith & Tomasello, 2006), given the distinct tense morphology, they should either provide the same percentage of subjects within each tense, or copy the parents, including exceptions.

Method. We taped 19 children (aged 1;10 to 2;7, with MLUWs ranging from 1.40 to 3.01) in approximately 1½ hours of spontaneous conversation with an adult. We tabulated children's main clauses with a verb and the number of subjects for both verb types and tokens, separately by tense (present vs. past) and person (1st vs. 3rd). For verb types, we established whether a verb was always used with a subject or not.

Results and discussion. The results for verb types (Fig.1) and tokens (not shown, but similar) confirm that from the onset of combinatorial speech, children show the adult pattern in their provision of subjects, not just for a few verbs but across the board. Children do not overgeneralize based on person features alone; they are sensitive to both person and tense. Their use of subjects also increases as a function of MLUW, suggesting relaxation of performance constraints as acquisition proceeds. Children's performance is weakest in 3rd person present, where the parental input contains omissions in special contexts that are apparently not categorized as such by the children. Children are thus not simply copying their input on a verb by verb basis, but using person and tense features in parsing.
Fig. 1. Percentage of verb types always used with a subject

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