ON THE ACQUISITION OF MAXIMALITY

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Plural definite descriptions like "the things on the plate" have been argued to refer to the maximal (plural) individual of the set denoted by the nominal "things on the plate" (Link 1983). The same semantic analysis has been extended to free relative clauses (FRs) introduced by bare phrasal wh-words like "what is on the plate" (Jacobson 1995, Caponigro 2004). However, these two constructions differ in their syntax-semantics mapping of maximality. In definite descriptions, maximality is triggered overtly by *the*, while in FRs, maximality results from the application of a type-shifting operation, which may be triggered by a silent operator. In this study, we examined the hypothesis that definite descriptions and FRs are mapped onto the same meaning using a similar mechanism (a maximality operator) by testing the acquisition of these forms in young children. We find that children acquire a maximal interpretation for these constructions around the same time – even though maximality is triggered overtly in one and covertly in the other, and even though these two constructions differ massively in their frequency in children's input. This suggests a common underpinning for children's interpretation of maximality in these constructions.

Corpus analysis. Our corpus analysis (Table 1) finds that children encounter definite plural constructions more than seven times as frequently as they encounter FRs. Moreover, if children are tracking how often lexical items predict a maximal interpretation, the definite article *the* has perfect predictive power while the wh-words used in FRs are only associated with a maximal interpretation in subordinate clauses 8% of the time.
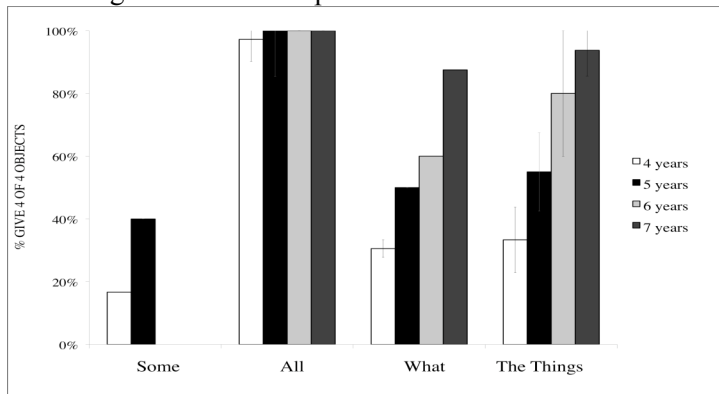
Experiments. We tested 3- to 7-year-old children and adult controls on two comprehension tasks: an act-out task and a truth value judgment (TVJ) task. Each task probed participants' interpretation of definite plurals and FRs, as well as for quantifiers (*some, all*). In the act-out task, we found that by 6 years of age, definite plurals and FRs were as likely as constructions involving *all* to generate maximal responses (Figure 1). In the TVJ task, only 7-year-old children (and not younger) distinguished both definite plurals and FRs from *some* constructions while showing no difference between definite plurals, FRs, and *all* constructions (Figure 2).

Discussion. The results of two experiments suggest that children assign a maximal interpretation to plural definites and FRs at the same point in development, between 6 and 7 years old. Since a corpus analysis finds that these constructions differ significantly in their frequency in child-directed speech, these results indicate a global change in how children interpret maximal expressions which appears to be independent of how frequently the words are used in their input. Interestingly, before the age of 6, children treat the two constructions as semantically similar to indefinite nominals like "some of the things on the table" (no maximalization but existential quantification), while they assign the correct interpretation to quantified nominals like "all the things on the table" (no maximalization, but universal quantification). This brings further support to the analysis of plural definites and FRs as semantically similar and non-quantificational.
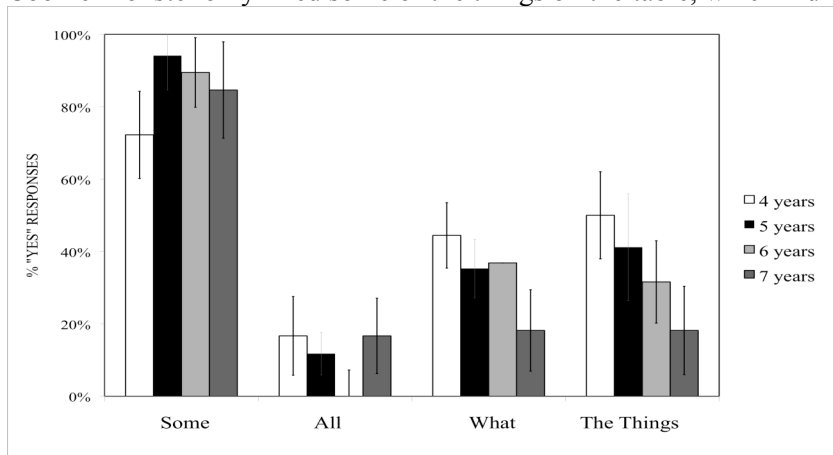
Table 1. Corpus analysis of 205,320 word tokens (9365 word types) from portions of the Bates-Free20, Bates-Snack28, Bates-Story28, Valian, VanHouten, and VanKleeck datasets in CHILDES.

NPs	Definite-NPs	Definite-Plurals		Embedded clauses	WH-clauses	Embedded WH-clauses	FRs
79892	7901	1169		3618	8521	1963	157

Figure 1. Act-out Task results. The horizontal axis shows the different constructions used in the request "Give me *X* on the plate" (*some of the things, all of the things, what's, the things*). The vertical axis shows the percent of the time participants gave all four of the objects on the plate to the experimenter, indicating a maximal interpretation.

Figure 2. Truth Value Judgment Task results. The horizontal axis shows the different constructions used in the question "Does Cookie Monster like *X* on the plate?" (*some of the things, all of the things, what's, the things*). The vertical axis shows the percent of the time participants answered yes when Cookie Monster only liked some of the things on the table, which indicates a non-maximal interpretation.

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