The driving force of *the*: Emergence of the parameterized DP?

The over-arching research question addressed in this paper is whether the DP-layer is universal, as assumed in much syntactic literature since Abney (1987). We present acquisitional evidence in support of the view that the existence of the DP-projection is parameterized based on whether the language has an overt definite article. We examine the process of emergence of the lexical items traditionally assumed to be part of the DP projection in spontaneous speech of English speaking monolingual children and demonstrate that their emergence is predicted by a) the emergence of the definite article, and b) frequency of the definite article in parental input.

In what has since become standard in the literature on the nominal domain, Abney (1987) argues for a projection above the traditional NP (in English), which, in turn, takes the NP as the argument. A number of lexical items are now commonly assumed to be part of the projection (in English), e.g. (definite) articles, demonstratives, pronouns. Child language research in the era following Abney has assumed that the aforementioned lexical items are all acquired as part of the DP. The vast majority of works deals with the omission of D-elements, particularly the head of the functional category itself—articles—in contexts for which it is obligatory from the adult speech point of view (cf. Maratsos 1976, de Villiers & Roeper 1995; Shaefer & de Villiers 2000; Mathewson, Bryant & Roeper 2001; Baaw, deRoo & Avrutin 2002; Rakhlin 2007) or mis-analyze them to some degree (though the misanalysis remains consistent with the DP-internal interpretations, cf. Modyanova & Wexler 2007 and references therein). In this paper, we focus instead on whether these items emerge together and predicted by one another in spontaneous speech, particularly if such emergence is unrelated to frequencies in the adult input, suggesting that they are representationally linked.

We assume that children are grammatically conservative, i.e. avoid producing grammatical structures spontaneously unless they have made a (parametric) decision about the structure. Once the aforementioned set of decisions is made, a number of constructions that are representationally related will appear in the child's speech in a particular relation to each other (Snyder 2007, i.a.). We thus hypothesize that if the DP is in fact parameterized, monolingual English-speaking children will begin producing structures associated with the DP layer when they have decided that English is a [+DP] language. That is, we expect the point of emergence of the lexical items associated with the DP projection to inter-correlate. Additionally, we expect that the point of emergence of the definite article in the child's spontaneous speech will predict the emergence of other DP-related items. Furthermore, if the existence of the definite article serves as the locus of the parametric variation, it is expected to trigger the child's decision about the availability of the DP-projection; in this respect, we hypothesize the frequency of the definite article in parental input to predict of the age of emergence of the DP-related lexical items better than the input frequency of the items themselves Moreover, their emergence may be disassociated from their frequency in the input (cf. Tomasello 1992). .

We use the age at "first- and repeated usage" (FRU, Stromswold 1996) as the measure of the landmark of acquisition. Data from 10 monolingual English-speaking children (ages 0;11-2;08) from CHILDES (McWhinney 2000) are examined for a correlation between the FRU of various D-elements. As control, frequency in the input and child MLU are used. Overall, the results support the existence of the DP in English: D-items emerge as a set (1) and inter-correlate in their emergence. Their emergence in child's speech correlates with the emergence of the definite article (2) and not frequency in input (3). Moreover, the study reveals a surprising result: frequency of the definite article in parental input predicts emergence of the pronouns in child's spontaneous speech. We speculate on the nature of this relationship between pronouns and other definite determiners and suggest that the data captures the view that has long been discussed in literature (Postal 1966, Partee 1987, Heim 1991, etc.). Specifically, the framework that views the definite article as a type-shift operator not only accounts for the data but also derives a specific set of hypotheses concerning a language without an overt definite article.

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(1) Clustering

FRUs of D-items
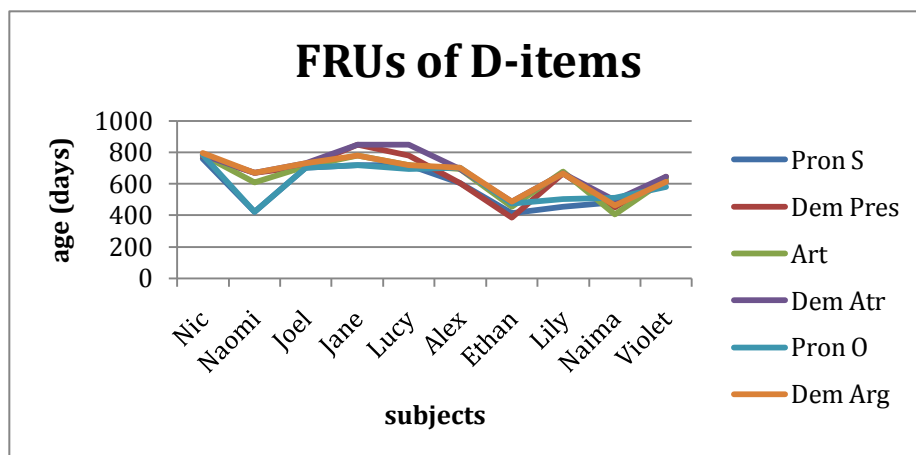
(2)   FRU of the definite article as a predictor of the FRU of …
        a. subject pronouns: $r=.80$, $r^2=.60$, $p=.005$, $p_{two\text{-}tailed}=.01$
        b. object pronouns: $r=.75$, r-squared$=.56$, $p=.006$, $p_{two\text{-}tailed}=.01$
        c. presentational demonstratives: $r=.90$, r-squared$=.90$, $p<.001$, $p_{two\text{-}tailed}<.001$
        d. argument demonstratives: $r=.98$, r-squared$=.96$, $p<.001$, $p_{two\text{-}tailed}<.001$
        e. attributive demonstratives: $r=.97$, r-squared$=.94$, $p<.001$, $p_{two\text{-}tailed}<.001$

(3) Definite article in the input as predictor of the FRU of…
        a. subject pronoun: $r=-.87$, $r2=.75$, $p=.003$, $p_{two\text{-}tailed}=.005$
        b. object pronoun: $r=.91$, $r2=.82$, $p=.0009$, $p_{two\text{-}tailed}=.002$
        c. presentational demonstrative: $r=.29$, $r2=.07$, $p=.24$, $p_{two\text{-}tailed}=.48$
        d. attributive demonstrative: $r=.53$, $r2=29$, $p=.09$, $p_{two\text{-}tailed}=.17$
        e. argumental demonstrative: $r=.49$, $r2=.24$, $p=.11$, $p_{two\text{-}tailed}=.22$
        f. def. article: $r=.38$, $r2=.14$, $p=.17$, $p_{two\text{-}tailed}=.3$

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