

Omission evidence for child V-to-T upwards (re)analysis

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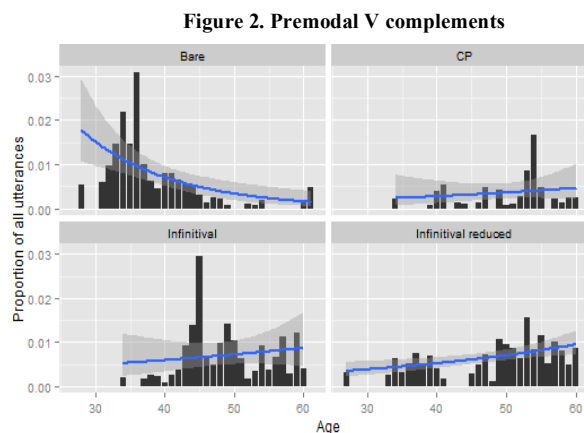
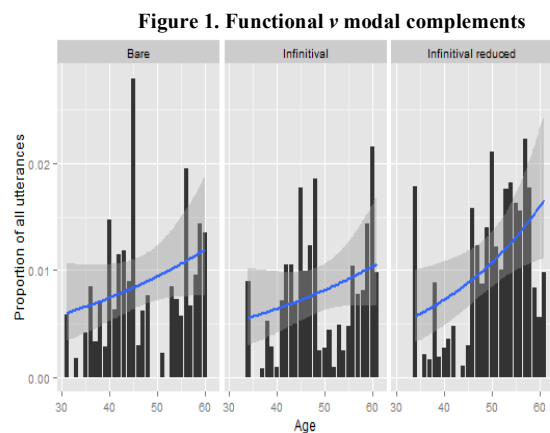
Diachronic syntax research reveals robust patterns of *upwards reanalysis* (Roberts and Roussou 2003), from lower to higher syntactic heads (e.g., $V \rightarrow v \rightarrow \text{INFL}$), as with modals in the history of English (Lightfoot 1979; Roberts 1985; i.a.). Generative change theorists propose that this occurs when child learners reanalyze the input language in accordance with, for example, economy principles (e.g., *Merge over Move*: van Gelderen 2004). This proposal has rarely been explored in child language (see Baron 1977; Weerman 1993; van Gelderen 2011: 21-6), and no previous approach has formalized *upwards reanalysis* predictions at the right level of formal analysis for child language investigation. In this paper, I present a corpus study of modal development in a typical child. My aim is to investigate whether child modal constructions support V-to-INFL reanalysis by showing divergence from the input that aligns with the diachronic pattern. The contemporary child is expected to drive new modal changes.

Methods. All utterances with modal verbs (INFL, v) and a subset of premodals (V) were extracted for Sarah (2440 of 37,021 child utterances from age 2;3-5;1; Brown 1973), yielding 604 instances of premodals, 621 functional verb modals (or “quasi-modals”, which for simplicity’s sake I categorize as little v), and 1215 canonical auxiliary modals (INFL elements; Pollock 1989; i.a.). Premodal verbs (e.g., *want*, *know*, *try*) are known to be reanalysed into functional verb modals (e.g., *have to*, *got to*), which in turn become INFL elements (e.g., *must*, *will*, *can*), and are finally lost (Roberts 1985; Bybee et al. 1994; i.a.). By examining all three syntactic categories we can see whether the child “recruits from below”, or in other words, whether she diverges from her input in ways that would provide the expected renewals for modals in contemporary English (see van Gelderen 2004, 2011).

Utterances were coded for **(a)** modal category (V, v , INFL), **(b)** modal complement type (bare V, VP_{INF} , VP_{FIN} , CP) and **(c)** *be*-omissions where applicable (e.g., *I Ø supposed to go*). Modal complement type was examined because in the input premodal Vs occur with DP, CP, and VP complements (e.g., *want* [*cookie/Dad to read/to go*]), v modals with only VP_{INF} (e.g., *have to go/gonna go*) and INFL only with bare verbs (e.g., *must go*); if the child is miscategorising any of these modals upwards in the syntactic hierarchy then this should be seen in complement selection patterns. *Be*-omissions are likewise of interest because they only occur with functional verb modals in the input (e.g., *I *(am) going to/supposed to exercise more*); *be*-omissions lead the affected v modals to pattern like INFL modals (c.f., *I must go*). In short, utterances were assessed for patterns of use that align with upwards reanalysis in the syntactic hierarchy. To test for frequency effects and input patterns, the input was sampled for the same modals and premodals (300 items).

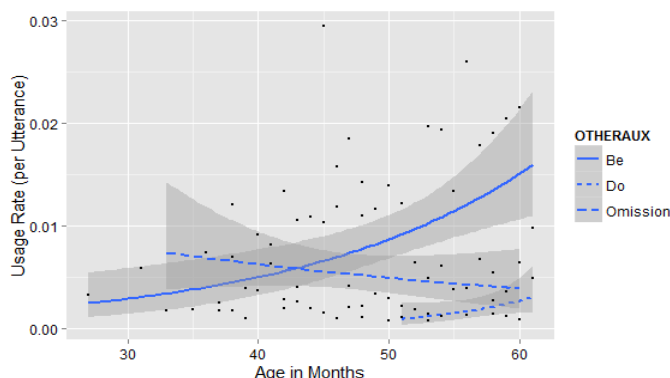
Results. Results show that **(i)** premodals are more frequently used with VP complements in the child data than in the input ($\chi^2=21.5546$, $df=3$, $p < .001$). Presumably the child could also have used more DP complements with these verbs (e.g., *want book*), but rather she is progressive on the grammaticalization pathway, not conservative. Further, **(ii)** functional verb modals exhibit persistent erroneous bare complements (e.g., *goin go*, *have pee*, *got be bubble gum*) (Figure 1, first box), despite bare complements gradually disappearing with premodal

verbs (Figure 2, first box). This suggests the child may be treating these functional verbs in line with INFL-domain modals that select bare complements ($v > \text{INFL}$).



And, finally, (iii) *be*-omissions with functional verb modals persist into the 6th year of life, well past their resolution in other areas of the grammar (i.e. in the progressive or copular constructions; Brown 1973, Becker 2002; i.a.) (Figure 3). This usage pattern also shows that the child's functional verb modals pattern with INFL modals.

Figure 3: BE for *going* and *supposed* by month



Conclusion. A targeted child data study on the modal system of a single child shows biased learning patterns consistent with $V \rightarrow v \rightarrow \text{INFL}$ reanalysis, providing some support for the proposal that learner bias may explain *upwards reanalysis* (e.g., Roberts and Roussou 2003 and van Gelderen 2004). Sarah's omissions make strings pattern with the next stage in syntactic change *v-modals* pattern with INFL-modals (*I going go = I must go*). This result, if we take it at face value that omissions reveal an INFL analysis for the set of *v* modals, suggest the child may have competing grammars (i.e., she posits both *v going* and INFL *going*), like we see in diachrony (Yang 2000, i.a.).

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