

Innovative Acquisition: experimenting with divergence from the input

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Many generative historical linguists propose that L1 acquisition (L1A) is the locus of reanalysis-type changes (e.g. Lightfoot 1979; Roberts & Roussou 2003). This proposal has not been directly investigated in the empirical domain. Accepting the proposal, something about the learnability strategies employed by the L1 acquirer must favour the common changes we see in the historical record. The prediction that L1A is biased towards directional changes is tested empirically in this study using the well-studied domain of modal verbs as solid grounding for this innovative research (Lightfoot 1979; Roberts 1986; van Kemenade 1993).

The diachronic modal cycle is characterized by more than one specific pathway but an general pattern emerges whereby over time modal verbs/auxiliaries go from covering only root meanings (*ability, permission, etc.*) to extending into the structurally higher epistemic meanings (Bybee et al. 1994; Closs-Traugott 2006), as shown in (1). Previous acquisition studies have shown that the acquisition pathway mimics the grammaticalization pathway, with children first exhibiting the structurally lower root modals, like the dynamic modal in (2a), and only later mastering the higher epistemic modals (2b) (Hirst & Weil 1982; Papafragou 1998; Choi 2006).

The bridge between the historical and acquisition pathways is learnability (e.g. Clark & Roberts 1993): it is the testable link. Since formal properties of languages tend to change in systematic and unidirectional ways this implies that the L1 innovations that occur are a direct result of the learnability of the data and the acquisition methods of the child. The analysis of my data, in conjunction with a comparison to historical facts from well-attested changes, will bear directly on the question of whether change is syntax-driven or semantics-driven. This is because modals present with interesting semantic and syntactic properties, and a flexible disconnect between morphosyntactic shape and semantic role (Kratzer 1991). I aim to assess whether L1A makes sense given the actual acquisition pathway for modals seen in children.

My studies are tailored to test the predictions implicit in Roberts and Roussou (2003): in acquiring the semantic coverage of modal verbs, do children extend upwards structurally (later stages in the modal cycle) or simplify (less features per head; Longobardi 2001)? In keeping with the research question, the child is hypothesized to use structurally higher (and historically later) uses than are available in the adult target language. However, I do not expect to catch a rare innovation in progress. Rather the learning methods of children are under scrutiny.

It is not clear that L1A is the source of directional changes, thus necessitating this sort of research. Acquisitionists are increasingly of the opinion that children are conservative, accurate, and sensitive to potentially confusing variation in the community grammar of the PLD (e.g., Yang 2001). Additionally, the grammaticalization type changes we see in the historical record could be innovations of teenaged speakers (see for example D'Arcy and Tagliamonte 2007). Further still, some data discovered in pilot studies shows the opposite of the L1A hypothesis (3).

The design of the present experiment assumes that the semantic space is innate, or defined by cognitive development of the LF component of the grammar; all children must define for themselves the highly complex modal space, slicing the semantics up appropriately with the modal LIs in the pattern presented by the Primary Linguistic Data. My methodology consists of dividing the semantic space along a finely articulated cline of subtly differing modal meanings, testing how adults (ages 18-35) assign lexical items to the meanings and comparing how

children, ages 5 and 8, assign lexical items to the same semantically defined scenarios. This is an elicited production task, so as to get children to actually produce the modal verb they see as appropriate for the context. The child is unlikely to use non-target uses into adulthood; however, if the learnability approach of children for acquiring modals indeed supports the hypothesis, then we can begin to empirically support the plausibility of learnability issues during L1A being a locus for directional changes. If it is the opposite of the hypothesis, it is equally interesting.

- 1) Known pathways through the diachronic *Modal Cycle* for LIs (Bybee et al., 1994)
 - a. physical ability → ability → root \diamond → epistemic \diamond (i.e., Eng. *can*, Fr. *pouvoir*)
 - b. obligation → epistemic \square (Eng. *must*)
 - c. agent-oriented (root) → deontic (root) → epistemic

- 2)

<ol style="list-style-type: none"> a. Root Modality 	<ol style="list-style-type: none"> b. Epistemic Modality
<i>Spiderman can climb buildings</i> (4;3)	<i>I might fall if I go too far</i> (5;4)

- 3) *You might drink it Mommy.* (Adam 3;6; CHILDES database)
 Child doesn't want his juice, he uses *might* in a non-epistemic sense, a usage not present in adult (North American) English. The usage is covered by the lower-domain modal *can*.

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