

Where do ‘*maybe*’s come from? The interaction of history and acquisition

Modal verbs (MVs) have been central to historical syntactic and semantic theory. Syntactically, MVs originate from attitude verbs with ROOT modal meanings (e.g., desires, obligations) and get reanalysed up the functional structure ($V > [v > T]_{MVs}$) (Lightfoot, 1979; Roberts, 1985; Roberts & Roussou, 2003). Semantically, MVs are first attested with root meanings and gain additional EPISTEMIC uses (inferences from knowledge/evidence), becoming variable-flavour verbs (Root > Epistemic) (Shepherd, 1982; Sweetser, 1990; Traugott, 1989).

Our proposal relies on and gives empirical support to the generative view that child learning biases feed syntactic cycles of change (e.g., van Gelderen, 2011). We use historical and acquisition data from English and French to highlight a less-studied late stage modal-cycle reanalysis from biclausal constructions with variable-flavour MVs like *mayt* and Fr. *pouvoir* (*It may be that p*), into epistemic adverbs (Eng. *maybe*, Fr. *peut-être*).

We situate this work amidst a broader puzzle: modal adverbs in I.E. languages commonly develop from POSSIBILITY MVs (Ex.1), but not from NECESSITY MVs. In brief, while the reanalysis we describe is robust and varies in its details by language, it seems to only produce *maybes* and *peut-être*s, not **mustbes* or **doit-être*s, despite the fact that (a) epistemic necessity adverbs exist from other sources (*probably*, Fr. *sûrement*), (b) no syntactic differences exist between possibility and necessity MVs.

We propose that two L1 acquisition facts may explain this historical reanalysis: first, the priority and persistence of epistemic adverbs on the learning path, as the most grammatically accessible means of expressing epistemic thoughts (Cournane, 2015), and the strong child bias towards possibility forms, significantly contra input patterns (Dieuleveut et al., 2019). These acquisition facts may explain where *maybes* come from.

Historical Pathway. Semantic interpretation for variable-flavour MVs is constrained by syntactic factors (Brennan, 1993; Hacquard, 2006; Roberts, 1985), and biclausal modal verb constructions (*It may be that p*) key epistemic readings by combining the MV with (a) expletive subjects, (b) stative verbs, (c) explicit high scope over the embedded proposition. These constructions (and only these) constitute the source forms for the reanalysis in both English and French.

In English, the evolution of the matrix clause structure yielded an epistemic adverb (Late Middle English; Ex.2), with the syntactic characteristics of an adjunct (Ex.3). In French, while we describe the same process leading to the development of the adjunctival adverbial element (Middle French (MF); Ex.4a), there is also the parallel evolution that led to the “complex conjunction” *peut-être que* (Ex.4b), which was lost in English (*†maybe that*). These diachronic modal pathways are characterized by the descriptive generalisations of upward reanalysis and clausal simplification (Biclausal > Monoclausal) (Roberts & Roussou, 2003, i.a.). We argue the data presented here on *maybe/peut-être* are an extra piece of comparative evidence, along with the detailed steps of this change, supporting the fact that matrix clauses can become adverbial phrases while the erstwhile embedded clause becomes the only CP (see Klævik-Pettersen (2019: 62) for a description of the same pathway in Norwegian for *kanske*, including remnant embedded-V2 effects on the new matrix clause; also Westergaard, 2008 for early child sensitivity to *kanske* as a V2-exception). This epistemic adverb innovation has not yet been integrated within the canonical modal cycles. We summarize the reanalysis in (5).

Acquisition Data. We know that young child learners (under age 3½–4) initially recast biclausal structures as monoclausal (Veselinović, 2019), as they have yet to acquire productive biclausal structures (de Villiers & Roeper, 2016). This yields an input-divergent monoclausal structure with an epistemic adverb. We further motivate this input > child analysis with new child language corpus studies on English and French children and their input. Children can readily represent epistemic language at age 2 (cf. Papafragou, 1998), but only with grammatically simple adverbs (Ex.6), not with epistemic MVs (with complex form-meaning

relations, and more syntactic complexity in their epistemic uses) nor embedding attitude verbs (e.g., *think*, *know*). This priority of adverbs is not explained by input frequency: while adults use a mix of epistemic MVs and adverbials, both possibility (75%) and necessity (25%), the epistemic expression used in an overwhelmingly majority of child production is the adverb *maybe/peut-être* (95% vs. 5% necessity like *probably*) (Adult x Child, Poss. x Nec.: $X_2 = 51.07$, $df = 1$, $p = <0.0001$). In addition, French children produce *peut-être* constructions earlier than *peut-être que* ones (Ex.6b, c), and the relative complexity of each related to the former being a phrase and the latter a defective CP (see Tailleur, 2013) affects their order of acquisition. Furthermore, children persist in relying proportionally more on adverbs for epistemic talk than do adults (Eng: Cournane, 2015; O'Neill & Atance, 2000, Fr: current study), into the peer-aligned preschool years (Labov, 2001) when child analyses may actuate into E-language (Cournane, 2017).

Conclusion. French *pouvoir* and English *may* differ along the modal cycle, with *may* more syntactically grammaticalized (Lightfoot, 1979), but by the middle ages both MVs were possible with epistemic meanings. In both language an epistemic-keying matrix clause structure served as the source for epistemic possibility adverbs. The intersection of historical and acquisition evidence allows us to propose that early child one-to-one form-meaning mapping for epistemic adverbs, combined with the child possibility bias for all modal elements, explains the historical reanalysis of only the possibility MV across I.E., to the crucial exclusion of the necessity MVs. Further work is underway examining the details of the French and English diachrony, in relation to other changes in V2-loss and expletive pronoun loss (Ex.5).

Examples.

- (1) Eng. *maybe*, Fr. *peut-être*, Nor/Swe. *kansk(j)e*, Dan. *måske*, BCS. *možda*, Dut. *mogelijk*, ...
 (2) **May be** sum goost awey him ledde.

a1400 (► a1325) Cursor Mundi (Trin. Cambr.) (OED [online])

- (3) (**Maybe**) *Dino (maybe) eats lots of leaves (maybe)*.
 (4) a. ...*comme Fortune, envyeuse peut estre de leur bien et doulx passetemps, le vouloit*
 (C.N.N., c. **1456-1467** – Dictionnaire du Moyen Français [online])
 b. ...*il a la merdaille De ceens si s'est combatu, Et peut estre qu'ilz l'ont batu*
 (Mir. Rob. Dyable, c. **1375** – Dictionnaire du Moyen Français [online])
 (5) lexical verb (V) + infinitive > modal + (stative) verb > adverb/‘conjonction’
 peut cel estre p (OF) > *il/cela peut estre que* (MF) → *peut estre* (MF) → *peut-être*
 ↑
 peut estre que (MF) > *peut-être que*
 biclausal > monoclausal > phrase
 (6) a. *maybe grandma made this.* (Violet 2;03.05) (Providence Corpus; Demuth et al., 2006)
 b. *peut-être c'est là* (Madeleine, 2;05)
 c. *peut-être qu'il est pas là* (Madeleine, 3;02) (Paris Corpus; Morgenstern & Parisse, 2007)

Selected References: Brennan, V. (1993). *Root and Epistemic Modal Auxiliary Verbs*. MIT. Cournane, A. (2015). Revisiting the epistemic gap. *BUCLD39*, Somerville, MA: Cascadilla Press. Cournane, A. (2017) *In defense of the child innovator*. OUP. Dieuleveut, A., van Dooren, A., Cournane, A., and Valentine Hacquard. (2019). Acquiring the force of modals: sig you guess what sig means? *BUCLD42*, Somerville, MA: Cascadilla Press. Hacquard, V. (2006). Aspects of modality. Doctoral thesis, *MIT*. Klævik-Pettersen, E. 2019. *Inversion, V-to-C, and Verb Second*. Doctoral thesis, *UOslo*. Labov, W. (2001). *Principles of Linguistic Change: Social Factors*. Blackwell. Lightfoot, D. (1979). Principles of diachronic syntax. *CUP*. O'Neill, D. K., & Atance, C. M. (2000). “Maybe my daddy give me a big piano”. *First Language Acquisition*. Papafragou, A. (1998). The Acquisition of Modality. *Mind & Language*. Roberts, I. G. (1985). Agreement parameters and the development of English modal auxiliaries. *NLLT*. Roberts, I. G., & Roussou, A. (2003). *Syntactic change*. CUP. Shepherd, S. C. (1982). *From deontic to epistemic: An analysis of modals in the history of English, creoles, and language acquisition*. J.Benjamins. Sweetser, Eve. (1990). *From etymology to pragmatics*. CUP. Tailleur, S. (2013). *The French Wh interrogative System*. Doctoral thesis, UToronto. Traugott, E. C. (1989). On the Rise of Epistemic Meanings in English. *Language*. van Gelderen, E. (2011). *The Linguistic Cycle*. OUP. Veselinović, D. (2019). *The syntax and acquisition of modal verb flavors*. Doctoral thesis, NYU. de Villiers, J., & Roeper, T. (2016). *The Acquisition of Complements*. OUP. Westergaard, M. 2008. Acquisition and Change: On the Robustness of the Triggering Experience for Word Order Cues. *Lingua*.