

Is this a question? AuxSVO order in a monolingual English-acquiring child and the role of input

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Children produce polar questions with subject-auxiliary inversion from their earliest production of multiword utterances, around 2;0, even when some utterances are still characteristic of the telegraphic stage (Klee 1985, Stromswold 1990, Santelmann et al 2002). We present diary and recorded spontaneous speech data from Paddy, an early talker (first multiword utterances around 1;10), whose production is marked by an unusual pattern: subject-auxiliary inversion (i.e. AuxSVO order) in declaratives. This is illustrated in (1-3); note that Paddy also reverses pronouns in (2-3):

- (1) *Context: Paddy throws two books straight up into the air and they fall to the floor.*
Paddy: Did you throw them - did you catch them in the air?. 2;3,03
- (2) *Context: Paddy wears a wooden toy car transporter as a hat. None of the adults present have anything on their heads.*
Paddy: Is it on your head! 2;4,13
- (3) *Context: Paddy is counting drawers in a kitchen*
Paddy: 1, 2, 3, 4, 5, did you count the drawers! 2;5,0

Following a mainstream generative grammar approach, we formally represent subject-auxiliary inversion as movement of the auxiliary from I to C. Between 2;3,03 and 2;6,03, we see no examples in which an untensed auxiliary is raised to C and only three examples in which a tensed auxiliary is left low in I, all of which are arguably rote-learned phrases (e.g. *there it is*). Lexical verbs (excluding *be*) are never raised to C.

This is not obviously a feature of early talkers' speech. We examined the production of Eve (Brown 1965) and Naima (Demuth et al 2006) in CHILDES, neither of whom produce AuxSVO in declaratives. When we consider their input, we find that Paddy hears ~44% questions from his primary caregiver compared with around 30% for Eve and for Naima. A variational learning model such as Yang (2002, 2010) predicts that a child with a high percentage of AuxSVO structures in their input will hypothesise that AuxSVO is a plausible English word order on purely mathematical grounds. This is compounded by the fact that many of the questions Paddy hears, like in (1), are not 'true' information-seeking questions, but rather clarification or rhetorical schoolroom-type questions in which the questioner actually knows the answer but is aiming to elicit an utterance from their addressee, in this case the child. These two types of questions differ only subtly in their syntax, and these differences are often only visible in specific contexts, such as in the presence of different types of NPI (Han 1998). We will examine the interplay between input, theories of movement and pragmatics in our talk, demonstrating that none of these alone can explain the pattern seen in Paddy's speech. However, these factors interact in such a way that the pattern, while unusual, is indeed within the space predicted by a variational model, and that the retreat from this pattern is also best accounted for by a variational model (as opposed to, for example, micro-cue-based models (Lightfoot 2006, Westergaard 2014)).