The Acquisition of X-Bar Theory

General Observations (cf. Crain/Lillo-Martin)

Children seem to use relatively early correct or at least consistent word order and have a well-developed idea of the existence of phrases. Theoretically 3-word sentences allow for 6 word order variants, 4-word sentences for 24 variants but only very few variants are found. Phrase or word substitution tests yield correct results with children of 2 - 2_ already. Moreover, occurring errors seem to follow a certain pattern. This is interpreted as a hint for the existence of a language structuring system inherent in LAD.

General X-Bar Theorem: $X^n \to \ldots X^{n-1} \ldots$; for English XP (or X") $\to$ Spec X', X' $\to$ X Comp, adjuncts may be added to XP or X'. Children have "just" to set the parameters for their language according to evidence of input data.

Free word order languages: some children are found to stick to a particular preferred word order, interpreted as evidence for the **subset principle:** first the narrowest UG rule is applied which then might be extended to a rule admitting more variation according to input data.

Step by Step Acquisition of Phrase Structures (cf. Small Clause Hypothesis by Radford)

Following Chomsky's **Economy Principle**, Grimshaw and others share the notion that "a clause is only as big as it needs to be"[1] (= **Minimal Projection Principle**). If we assume that children learn some sorts of words earlier then others - first contentive words, i.e. lexical verbs before auxiliaries, nouns before determiners etc., possibly because of their usually being phonetically less salient and more cognitively, semantically and grammatically complex - we may infer that only those words will project into structures which have been acquired at a certain stage of development. The Structure-Building approach by Radford assumes, that the full X-Bar structure of adult grammar is acquired in 3 main steps:

Stage One
- **Projection of VPs**, ie. direct projections of lexical words $\to$ evidence: lack of auxiliaries and complementizers (even in repetition tasks), no infinitival "to"
- negations or wh-questions can be interpreted as adjuncts to VP
- accounts for
  - o   word order: "where he go? what you doing?"
  - o   case assignment may be explained as inherent case of direct constituents like "me talk", "my need her", also inversions like "Allgone grape juice" as a resulting "confusion" of argument structure
  - o   empty subjects even in questions, negations and with finite (modal) verbs = null constituent (not PRO), because of root specifier position which may be discourse-identified (cf. diary style)

Stage Two
- **Projection of functional IPs** as a consequence of using first auxiliaries
- as long as NP remains in VP Spec position, accounts for inverted word order in declarative sentences: "is shoes off", wh- or negation items can occupy IP-Spec position $\to$ agreement with preceeding wh-expression "what's the wheels doing?"
- when NP is raised to IP Spec Position, wh-item or negation can still be adjoint to IP
- accordingly accounts for
  - o   non-inversion of subject and verb in questions,
  - o   starting use of nominative case in subject position and correct agreements

Stage Three
- **Projection of functional CPs** resulting from the use of embedded sentences with overt complementizers (around 2 _)
- wh-items can no longer be adjuncts to IP, as adjuncts to complements are not allowed $\to$ move to CP-Spec position
- Projections to VP, IP and CP seem to exist as possible alternatives side by side
- stage of misconception of categories, complementizers/prepositions or question-words/auxiliaries are mixed up due to similar position within different projection degrees, fixed categories seem to be learned word for word (eg. Labov's daughter first consistently used inversion in how-questions and never with why-questions)

Clahsen: LLH - Lexical Learning Hypothesis

Very similar in principal assumption of Minimal Projection and Economy Principles, yet functional categories are interpreted as feature bundles whose properties are not acquired in one fell swoop, i.e. in an underspecified manner.

Theoretical difference to Radford presumably due to studies with German children acquiring a language with freer word order and richer morphological structures which have to be accounted for right from the start. German children seem to form functional projections earlier than English learning children, however in an underspecified way. Radford's explanation for this difference: clear stepwise acquisition of functional categories better visible in morphologically poor languages, with free word order languages each single stage is either vanishingly short or may even be "silent", yet there are also cases of clear stages with Spanish or Creole learning children. $\to$ Both theories account for similarities and differences between adult and child grammars.

Bibliography:

Clahsen, Harald ed al (1996). 'Lexical Learning in Early Syntactic Development' in *Generative perspectives on Language Acquisition*. Clahsen, Harald (ed). Amsterdam: Benjamins, p. 129 - 159.

Crain, Stephen and Diane Lillo-Martin (1999). *An Introduction to Linguistic Theory and Language Acqusition.* Oxford: Blackwell Publishers.

Grewendorf, Günther (2002). *Minimalistische Syntax.* Tübingen und Basel: A. Francke.

Radford, Andrew (1996). 'Towards a Structure-Building Model of Acquisition' in *Generative perspectives on Language Acquisition*. Clahsen, Harald (ed). Amsterdam: Benjamins, p.43-89.

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[1] Radford 44