Complexity and conflicting grammars in language acquisition[*]

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The current paper by Amaral and Roeper (henceforth A&R) presents many interesting ideas about first and second language acquisition as well as some experimental data convincingly illustrating the difference between production and comprehension. The paper extends the concept of Universal Bilingualism proposed in Roeper (1999) to second language acquisition. As stated in the Introduction, the idea of Multiple Grammars (MG) is in some sense obvious in the context of second language acquisition, and in my opinion, it also accounts well for the increasing number of findings from psycholinguistic studies that the L1 continues to affect the L2 even at very advanced stages of acquisition. I am also very sympathetic to the Full Transfer/Full Access approach and the goal of dealing with apparent optionality in terms of more formal representations and testable predictions. In this commentary, I focus on some aspects of the theory which are left somewhat unclear. The issues that I address are the nature of complexity and the "size" of rules as well as the question of what constitutes conflicting (sub-)grammars. I also compare the MG theory to my own model of micro-cues (Westergaard 2009a, b), discussing some similarities and differences, the latter mainly due to the micro-cue model claiming that the rules of early child language are smaller and more specific than has previously been assumed.

Complexity and the 'size' of rules

The rationale behind the MG theory is the minimalistic principle *Avoid complex rules*. This is an appealing concept, and fundamentally correct, to my mind, although complexity is difficult to define. A&R argue that simple rules should not contain exceptions and should not be contradictory. This is similar to the micro-cue model (Westergaard 2009a, b), where rules are formulated in such a way that they do not overlap.

It is thus not difficult to accept that the rule provided in (3) in A&R is a complex rule, combining English S-aux inversion in questions and quotative inversion in declaratives. But it is not obvious to me that the two types of inversion are contradictory, if the S-aux rule is stated in terms of interrogative C (which I believe it should be). Thus, this complex rule seems to be combining two different phenomena, and there is very little motivation for merging them in the first place, in my view, not even a historical one, as the two processes arguably involved verb

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movement to different functional heads in Old and Middle English.[1] The MG approach to this is to link the rule of quotative inversion to a more general V2 rule applying in other languages, e.g. German, but with the relevant verbs undergoing this rule in English marked with a diacritic. But I wonder why the S-aux rule is not also linked to the V2 rule. After all, also auxiliaries move to C in German, not just lexical verbs, and S-aux inversion in English could thus be considered to be a sub-rule of that. In some sense S-aux inversion is in fact more similar to V2 in German in that it involves verb movement to C, while quotative inversion presumably reflects movement to a lower functional head (Collins & Branigan 1997).

A related question is whether complexity should be linked to the generality or "size" of a rule, i.e. the number of contexts that it applies in. For example, is S-aux inversion in English more or less complex than the V2 rule in German? The MG theory classifies rules as either productive or lexically restricted. But rules can also be something in between; in fact, the S-aux rule applies to a subclass of verbs, not verbs that need to be individually marked. In the parametric hierarchy of Biberauer & Roberts (2012), who propose that parameters may be macro, meso, micro or nano, S-aux inversion corresponds to a micro-parameter. For Biberauer & Roberts, a rule is more complex the lower in the hierarchy it is. The MG theory also seems to favor maximum generality in the formulation of rules, as A&R state that simple rules should not contain subcategories. If *Avoid complex rules* is a learning strategy, then children should be trying to maximize generality by extending inversion to other verbs. In the micro-cue approach, on the other hand, the claim is that young children hardly ever overgeneralize, but instead make even finer distinctions than in the adult language, e.g. between auxiliaries and *be* with respect to inversion in English (Westergaard 2009b, Westergaard & Bentzen 2010).

There may be a tension between maximum generality and what A&R argue about transfer: One reason why it is important to keep rules simple is that they can then be utilized in a second language, while subparts of (complex) rules cannot be transferred. This claim makes interesting predictions and means that data from SLA could provide evidence for the way rules are stored in speakers' L1 grammars. The example of this given by A&R is again the English rule in (3), which is too complex, as English learners might transfer only one part of the rule when learning V2 in German. But then it seems to me that the MG theory would consider partial transfer of V2 by German speakers into their L2 English as evidence that the German rule must also consist of several sub-rules. There are findings showing that speakers of V2 languages such as German or Norwegian transfer verb movement in subject-initial declaratives (moving the verb across an adverb) more extensively and for a considerably longer time than in questions or non-subject-initial declaratives (moving the verb across the subject, i.e. inversion). Furthermore, it has been shown that transfer of V2 is more persistent with auxiliaries than lexical verbs (Robertson & Sorace 1999, Rankin 2012, forthcoming). It would be interesting if this could be

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[1] It is often argued that inversion in questions (which was categorical in Old and Middle English) was verb movement to C, while inversion in most declaratives involved verb movement to a lower head (e.g. Fischer et al. 2000, van Kemenade & Westergaard 2012).

taken as evidence that the German V2 rule should also be split up into several smaller rules.

Contradictory sub-grammars

I support the MG theory and A&R's idea that learners develop distinct grammars when confronted with contradictory input. However, I think it is important to discuss what constitutes conflicting input and at what stage in the acquisition process a learner will posit two different grammars. Investigating complex variation in Old Italian, Poletto (forthcoming) argues "that we should be very careful in using the idea of competing grammars to account for optional phenomena. The reason is that simply dismissing optionality as a competition between two different systems prevents us from looking at more details which reveal an emerging pattern that can be explained within a single grammar." I share this concern and believe that it is necessary to distinguish between linguistic variation and true optionality. Variation that is dependent on linguistic factors should be formulated as separate non-conflicting rules, which can thus be stated in a single grammar. To provide an example: There is considerable variation with respect to V2 in Norwegian dialects, dependent on various linguistic factors. A North Norwegian child will thus e.g. be exposed to obligatory V2 in questions with phrasal wh-elements and variable V2 (dependent on information structure) after short wh-elements (heads). Given that the linguistic contexts for the two word orders are clear, the sub-rules are not contradictory, and according to the micro-cue model, they should therefore be accommodated within a single grammar. Acquisition data from Norwegian children show that they make the fine distinctions in syntax and information structure that are relevant in the adult language from early on (e.g. Westergaard 2009a, b). This is found also when children acquire variation that is not considered to be due to a parameter, e.g. different subject positions in Norwegian (e.g. Westergaard 2013). Admittedly, these findings are based on production data only, and further research using other methods should be able to provide new insights in this area.

Discussing the task of the linguist, Poletto (forthcoming) also states that "the assumption that a speaker can have more than one system competing is unavoidable, but … it has to be used as a sort of "last resort" hypothesis, which can only be invoked when we have already tried to make sense of the data on the basis of a single grammar." In my view, grammar competition should also be a last resort for the learner: When confronted with seemingly contradictory evidence, the child's first response is not to posit two conflicting grammars, according to the micro-cue model, but to try to figure out the nature of this variation and to formulate specific rules that may be turned into more general rules based on positive evidence in the input. Only in cases where there is no principled system underlying this variation (i.e. when there is true optionality) will the child posit two conflicting grammars. The MG theory takes the opposite approach, as A&R argue that English-speaking children being exposed to certain null-subject sentences in the input activate a pro-drop grammar, and that this is the cause of their production of null subjects at an

early stage.[2] However, by the same logic, English-speaking children should also activate a full V2 grammar on exposure to S-aux inversion and other inversion structures, but to my knowledge, there is no evidence of overgeneralization of verb movement in English child data.

The MG theory raises many important issues in language acquisition and will clearly inspire much further research. I would like to emphasize that most of my comments are related to monolingual first language acquisition and that, despite certain reservations, I think that MG is a very promising theory, especially within the field of bilingualism and second language acquisition.

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[2] Based on a comprehension study, Hyams (2011) provides evidence in support of a grammatical account of null subjects in early child English. However, to my mind, these findings do not show that English children have mis-set a parameter or entertain two different null-subject grammars. Furthermore, in this study, there is a clear correspondence between the children's production and comprehension, unlike in the second language study reported in A&R.

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