**Omnivorous representation might lead to indigestion**

Commentary on Amaral and Roeper (2013)

Roumyana Slabakova

University of Southampton and University of Iowa

The keynote article by Amaral and Roeper, henceforth A&R, attempts to provide a more explicit mechanism of the process of second language acquisition within the generative framework: The Multiple Grammars Theory. The question of exactly what happens when a linguistic property transferred from the native grammar encounters the equivalent property in the target grammar is the most important, but also the most difficult question regarding this acquisition process. It is the *quintessential* transition theory question: how do we go from one knowledge state to another in a second language, and how is the first knowledge state affected by the existence of the second. For example, at what point does a learner of German decide that the language she is acquiring has a V2 constraint, as opposed to her native English, which allows V3? What kind of input (and in what quantity) is necessary for the resetting of an L2 parameter value?

 Other L2 researchers have attempted to answer this question before. For example, Carroll’s (2001) Autonomous Induction Theory defines the triggers for acquisition mechanisms and proposes some linguistic and psycholinguistic constraints on how these mechanisms operate. Her induction-learning mechanism works on symbolic representations and can revise them “so that they are consistent with information currently represented in working memory” (p. 170). Analyzing a novel form involves competition between various alternative representations, possibly belonging to different levels of analysis, the best representation gaining the upper hand.

 Truscott and Sharwood Smith’s MOGUL framework contains the Acquisition by Processing Theory (Truscott & Sharwood Smith, 2004; Sharwood Smith & Truscott, 2005), which proposes that there are no other acquisition mechanisms but the parser. The competition among alternative representations is expressed as levels of activation, borrowing a crucial facet from connectionist models. In the competition between alternative representations, the one that is ultimately chosen to be retained will have “a small lasting increase in its resting level [of activation], the effect of which is that it becomes more readily available for future processing” (Truscott & Sharwood Smith, 2004, p. 6). Competition among activation levels in processing leads to acquisition.

 In comparison with these two previous proposals for a transition theory, A&R’s Multiple Grammars is a more linguistically satisfying theory. Unlike Carroll, the authors believe in the existence of parameters and adding new parameter settings in the L2. Unlike Sharwood Smith and Truscott, Amaral and Roeper believe in linguistic representations in the mind as separate from the parser, although the latter is dependent on them. In this sense, this keynote article is a welcome step in the direction of engaging the field of generative SLA in discussing this most important of research questions. However, the new proposal’s strength on the linguistic side is offset by the little elaboration of the psychological mechanisms in L2 acquisition. Adding discussion of the weighting and reweighting of the various representations in the mind of the speaker will allow for more rigorous predictions with respect to speaker behavior.

 The Multiple Grammars rationale starts very convincingly with the observation that the input to child language acquisition can be misleading with respect to some properties, so that two competing representations must be formed in the child’s mind/brain (p. 5), and those get reweighted when more evidence becomes available, or when the available evidence gets to some critical mass. The example of the German grammar-wide rule of V2 and the English rule of lexically restricting V2 to quotes is a persuasive illustration. On p. 9, A&R say: “Suppose that an L1 English speaker learning German transfers only the “Quote rule”; this would demonstrate an example of positive transfer. Then, we could hypothesize that the next step would be for the speaker to generalize this rule moving in the direction of the target German V2 rule.”

 We can certainly hypothesize that, but let us try to elaborate on exactly how this process unfolds. The L1 English-L2 German speaker will have two rules in the beginning of acquisition (V3 and lexically-restricted V2) and three rules at the putative end of acquisition (V3, lexically-restricted V2, and generalized V2). I completely agree with the point A&R make on p. 37 that optionality in a speaker’s grammar should mean that this speaker has two sub-grammars corresponding to each optional linguistic behavior. In other words, optional linguistic behavior is not a performance effect and is not due solely to processing difficulties. One excellent confirmation of this proposal comes from the results of Bohnacker’s (2006) study. She studied knowledge of the V2 rule in the oral production of Swedish native speakers who were beginning learners of German. Since both languages exhibit the V2 rule, no other rule is expected to be part of their interlanguage grammar. This prediction was confirmed for the three subjects who did not speak any other language but Swedish and German: they used no V3 structures. However, three other subjects had prior knowledge of English, and these individuals exhibited up to 45% V2 violations, indicating that the addition to a V3 sub-grammar (of a second language) makes a substantial difference in the performance of their third language.

 Bohnacker’s study supports the suggestion that our idealized English-German bilingual speaker operates with three rules regarding the position of the verb in declarative sentences. But how is the learner going to distinguish these partially overlapping rules in the production of English? Or in German, for that matter? Without further elaboration, A&R’s contention that representation rules are just added to the grammar will inevitably result in *massive* optionality in production and comprehension. Furthermore, enriching the hypothetical learner’s grammar with a generalized V2 rule should affect her native English as well, leading her to reject V3 structures at least some of the time. If the omnivorous learner just adds rules to her grammar whenever her native language or her second/n-th language makes supporting input available, she will end up with too many sub-grammars that will inevitably lead to haphazard and indiscriminate choice of V2 and V3 in both/all of her grammars. However, we do not see such pervasive optionality, and we certainly do not see a huge optionality in the native language of bilinguals or multilinguals.

 It is evident that the different representations in the mind of the learner do not have the same status; native rules should be somehow distinguished from target language rules. The obvious solution to this problem would be to postulate that the learner adds a language diacritic to the three rules, marking them as V3ENGLISH, V2-restrictedENGLISH, and V2GERMAN. Observing the minimalist Borer-Chomsky Conjecture postulating that all language variation is located in the functional lexicon, we have to assume that this learner has three instances of a C head, respectively. A&R’s Multiple Grammars approach has to add an explicit provision of how speakers with multiple and conflicting sub-grammars manage to keep them apart.

 But that is not enough! Our intuition and countless studies on the L2 acquisition process tell us that a native rule is much more stable, secure, and accessible in processing than a subsequently added L2 rule. In our example, the V3 and the residual V2 rules should be “stronger” rules than the generalized V2 rule. All theoretical proposals of the L2 acquisition process should be able to capture this indisputable observation, but the Multiple Grammars theory does not seem to have such a provision. Something along the lines of Sharwood Smith and Truscott’s different levels of activation of competing representations would be useful in this respect. In fact, Yang’s Variational Learning Model (Yang 2002, 2009, 2010) provides exactly such a metric, with the advantage that it is grammar-based. The model unifies parameter setting with general learning mechanisms based on frequency of relevant evidence in the input. The main idea is that a parameter supported with abundant and unambiguous evidence in the input will be learned earlier than a parameter for which the supporting evidence is scarce. More concretely, this learning model considers the frequency of unambiguous input (what Yang calls a parameter “signature”) in proportion to all the input relevant to that parameter. An example of a very early set parameter is that of *wh*-movement in English.

Supporting evidence for this parameter amounts to about 25% of all child-directed input (Stromswold, 1995, see Table 1 in Yang 2004: 455). On the other hand, Yang gives the V2 parameter in German as an example of a late acquired parameter. It is unambiguously evidenced only by sentences where the object or some other constituent is in the sentence-initial position and the verb precedes the subject. Such data only comes at the frequency of 1.2% in child-directed speech, which results in a relatively late acquisition at the 36–38th month (Clahsen, 1986). Of course, within the Multiple Grammars approach, this experience-based metric would only provide *relative* viability, or accessibility, of the sub-grammars.[[1]](#footnote-1)

 Now, if Yang’s metric is on the right track for the establishment of the generalized V2 rule in the second language, we should find experimental evidence for late V2 acquisition in adult learners as well. Wahlstrom McKay (2001) tested oral production of beginning to intermediate instructed learners of German (3 and 4th semester of German classes). She found that students violated V2 in 49.3% of obligatory contexts. However, Conradie (2006), Prévost (1999) and Tran (2005) present evidence for successful acquisition of the V2 rule. Conradie used a battery of tests to investigate knowledge of V2 in African-English-speaking learners of Afrikaans and argued that parameter resetting in her learners’ grammars is complete by the time of testing. Prévost (1999) tested Spanish-native intermediate learners of German on a variety of properties, including V2. His learners obtained 100% accuracy for verb placement on the production task. Prévost showed that these learners were also accurate in rejecting V3 structures (possible in Spanish) and they only rejected correct V2 utterances where an argument was fronted (topicalized) without sufficient context. Finally, Tran’s (2005) study tested English-native children (aged 9-13) learning German in an instructional setting. Her experimental data consists of oral productions of fronted (topicalized) time adverbials and direct objects. Her results indicate that the high proficiency learners make very few errors with the V2 placement of the finite verb. The results of all four studies mentioned above point to initial difficulties and subsequent successful acquisition of the generalized V2 rule.

 How about the other learning direction? Predicting differences in acquisition directions is another advantage of a rule viability metric. Perhaps losing the V2 constraint (in the acquisition of English as a second language) is easier than acquiring it? The answer should only depend on the amount of unambiguous evidence that learners encounter in the input. If Robertson and Sorace (1999) report residual V2/V3-optionality for German learners of English, who retain a V2 constraint in their interlanguage grammars even at advanced levels of proficiency. The results of Westergaard (2003) are revealing here, too. Westergaard analyzes the production and judgments of child Norwegian learners acquiring English (ages 7 to 12) and documents massive transfer from Norwegian and high levels of inaccuracy in V2 sentences for even the most advanced learners. Following Lightfoot (2009),[[2]](#footnote-2) she argues that XP-fronting constructions, the only evidence for losing the V2 constraint, are much rarer in English than in Scandinavian languages (where they are up to 30%). With the evidence supporting lack of generalized V2 being so scarce, unlearning the V2 might be even harder than learning it. The studies I mention here are just pointers to the rich predictions that the Multiple Grammars approach could yield if it includes some metrics for calculating the relative strength of the sub-grammars coexisting in the learner’s mind.

 In sum, A&G’s Multiple Grammars approach cannot generate rigorous predictions about learner behavior if it does not specify how learners distinguish between the competing L1 and L2 rules. In addition, a transition theory should be able to predict relative developmental patterns: how long should it take an L2 rule to be established securely in interlanguage competence in order to produce target-like behavior.

References

## Bohnacker U (2006) When Swedes Begin to Learn German: From V2 to V2. *Second Language Research* 22(4): 443-486.

Carroll S E (2001) *Input and Evidence: The Raw Material of Second Language Acquisition*. Amsterdam: John Benjamins.

Clahsen H (1986) Verbal inflections in German child language: acquisition of agreement markings and the functions they encode. *Linguistics* 24: 79–121.

Conradie S (2006) Investigating the acquisition of the Split-IP parameter and the V2 parameter in second language Afrikaans. *Second Language Research* 22(1): 64–94.

Lightfoot D (1999) *The Development of Language: Acquisition, Change and Evolution*. Malden and Oxford: Blackwell.

Prévost P (1999) The Second Language Acquisition of the Split CP Structure. In: Klein E C and Martohardjono G (eds) *The development of second language grammars: A generative approach*. Amsterdam: John Benjamins, pp 45-79.

Robertson D and Sorace A (1999) Losing the V2 constraint. In: Klein E and Martohardjono G (eds) *The development of second language grammars: A generative approach*. John Benjamins, 317–61.

Stromswold K (1995) The acquisition of subject and object questions. *Language Acquisition* 4: 5–48.

Tran J (2005) Verb Position and Verb Form in English-Speaking Children's L2 Acquisition of German. *Proceedings of the Annual Boston University Conference on Language Development* 29(2): 592-603.

Truscott J and Sharwood Smith M (2004) How APT is your theory: present status and future prospects. *Bilingualism: Language and Cognition* 7(2): 43-47.

Sharwood Smith M and Truscott J (2005) Stages or continua in second language acquisition: A Mogul Solution. *Applied Linguistics* 22(2): 219-240.

Wahlstrom McKay L (2001) The Acquisition and Use of Verb-Second Structures by Second-Language Learners of German. Unpublished PhD Thesis, University of Iowa, USA.

Westergaard M (2003) Unlearning V2: Transfer, markedness and the importance of input cues in the acquisition of word order in English by Norwegian children. *EUROSLA Yearbook* 3: 77**–**101.

Yang C (2002) *Knowledge and Learning in Natural Language*. Oxford University Press, New York.

Yang C (2004) Universal grammar, statistics, or both. *Trends in Cognitive Sciences* 8(10): 451–456.

Yang C (2010) Three factors in language variation. *Lingua* 120: 1160–1177.

1. Yang assumes that after some competition, the target rule competitors are driven to extinction. The length of the competition until one rule is finally selected is based on how incompatible with the input the competitor rules are (Yang 2004: 454). However, this proposal is for L1rules, and it is not at all incompatible with the Multiple Grammars approach to L2 acquisition, where L1 and L2 rules will co-habit as sub-grammars. [↑](#footnote-ref-1)
2. Lightfoot’s (1999) claim is based on corpus studies. [↑](#footnote-ref-2)