LANGUAGE AND THE LEARNING CURVE: A NEW THEORY OF SYNTACTIC DEVELOPMENT. Anat Ninio. Oxford University Press, Oxford, 2006. pp. 206. Price: £26.00, US $59.50. ISBN 9780199299829.

How do children acquire the syntax of their native language? One popular view is that children are born with some knowledge of syntax and that acquisition consists largely of linking these abstract rules to the particular language that the child is learning (e.g. Pinker, 1989). The opposite view is that children form abstract syntactic constructions by abstracting across utterances in the input that instantiate them (e.g. Tomasello, 2003). Ninio rejects both these accounts, instead arguing that 'children learn a lexicalist syntax, in which the syntactic structure of the sentence is projected from the lexicon' (p. 6) and 'do not form abstract rules or schemas' (p. 4). In this review I will argue—on the one hand—that this account fails to address certain findings that are more easily explained by a construction-based account and—on the other—that the two accounts may be more similar than Ninio suggests.

Ninio's account is as follows: The adult grammar (Chapters 1 and 3) consists of the syntactic operation 'Merge' and a lexicon in which each entry (e.g. *see*) is annotated for its semantic relations (e.g. *seer, thing seen*) and its syntactic valency (e.g. *_see_*). Speakers construct sentences by recursively applying the Merge operation to pairs of words in accordance with these valency requirements (e.g. *saw* and *it* merge to form one constituent, *the* and *man* to form another, and these resultant constituents merge to form the sentence).

Children's two-word combinations (e.g. *saw it*) are Merge couples of this form. Producing a sentence using a valency-based frame (e.g. VO) is like any other cognitive skill: Practice facilitates future performance. Thus, when the cumulative number of verbs in a particular construction is plotted over time, a power-law speed-up function is seen (Chapter 2). Children do not generalize a verb's valency frame to semantically similar verbs (Chapters 3 and 4): The age at which a child will use a particular verb in a particular construction is predicted by the *overall* number of verbs—not by the number of *semantically similar* verbs— that she has previously used in this construction.

One problem for Ninio's account concerns the origin of the 'Merge' operation. The central claim of this account is that 'children do not form abstract rules' (p. 4), but what is a 'very general principle' (p .31) that can combine items as diverse as *the+man* and *saw+it* if not an abstract rule? Furthermore, Ninio assumes that 'children deduce the principles of Merge/Dependency from sentences adults say to them'. It is difficult to see how learning the 'principle' that generates (for example) V+O combinations such as *saw it* is different from an account under which children abstract from their input a VO schema (e.g. Tomasello, 2003), a claim that Ninio explicitly rejects. Furthermore, the fact that children say *the man* as opposed to *man the* is not—as Ninio claims—evidence for Merge; children could have simply acquired the phrase as a whole from the input.

The main problem with Ninio's account, however, lies with her rejection of construction semantics. Construction grammars posit the independent existence of constructions because they seem to be associated with meanings above and beyond the words that instantiate them. For example, Goldberg (1995) argues that part of the meaning of *He sneezed the napkin off the table* comes from the caused-motion meaning of the construction. Ninio's lexicalist account would have to posit a lexical entry for a caused-motion sense

of *sneeze* with three arguments, which is both implausible and circular.

Ninio herself recognizes that children's semantically based overgeneralizations (e.g. *They [grapes] just cough me*—presumably on semantic analogy with causative sentences such as *The man broke the stick*; Bowerman, 1988) are potentially problematic for her theory. However, such errors are dismissed as 'a late phenomenon', the product of a semantically based generalization process that 'does not serve children in the acquisition of the basic syntax of their language' (p. 103). Although such errors may be rare *in production* until later in development, evidence from preferential-looking studies suggests that children are aware of the semantics associated with particular argument structure constructions from as young as age 2 (e.g. Kidd, Bavin, & Rhodes, 2001).

Despite these differences, Ninio's account and accounts that assume that children are learning constructions in the form of semantics–syntax pairings (e.g. Tomasello, 2003) may be, in many respects, less different than Ninio assumes. In Chapter 2, Ninio shows that familiarity with a construction (e.g. SVO) facilitates subsequent performance with this construction (hence an accelerating learning curve). Ninio takes this as evidence against Tomasello's (1992) verb-island hypothesis, under which children's earliest utterances are produced using independent slot-and-frame schemas (e.g. *Cut X, Draw X*) until around age 2–6. However these data are compatible with more recent formulations of this hypothesis, under which children begin to link islands early in development to form weak schemas that strengthen as development proceeds (e.g. Tomasello & Abbot Smith, 2002).

In several places (e.g. pp. 35, 86), Ninio contrasts the view that sentences with novel items (especially verbs) are produced using abstract constructions with her own, under which they are produced on analogy with stored items.

However, one way of conceptualizing the 'constructions' posited by authors such as Tomasello (2003), Goldberg (1995), or Bybee and Hopper (2001) is as emergent generalizations over stored instances of the pattern. It is not clear that there is any conceptual difference between saying that speakers produce SVO utterances with novel verbs (1) on analogy with verbs that have been attested in the SVO pattern (Ninio) or (2) using an SVO construction that has been formed by analogizing across different instances of this pattern in the input ('abstraction' accounts).

In the end, although many researchers will not agree with Ninio's conclusions, this account makes an important contribution to the literature by emphasizing the need for constructivist theories to be more explicit about the representations that they assume (are 'constructions' simply a shorthand for analogies across stored exemplars?) and how these representations develop (what does it mean to say that early constructions are partially lexically specific and partially abstract?). In conclusion, Ninio's account forces the reader to examine his or her own (perhaps implicit) views on the nature of syntax and its acquisition, and is therefore required reading for all researchers working in this area.

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