



How seriously should we take Minimalist syntax?

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Lasnik's review of the Minimalist program in syntax [1] offers cognitive scientists help in navigating some of the arcana of the current theoretical thinking in transformational generative grammar. One might observe, however, that this journey is more like a taxi ride gone bad than a free tour: it is the driver who decides on the itinerary, and questioning his choice may get you kicked out. Meanwhile, the meter in the cab of the generative theory of grammar is running, and has been since the publication of Chomsky's *Syntactic Structures* in 1957. The fare that it ran up is none the less daunting for the detours made in his *Aspects of Theory of Syntax* (1965), *Government and Binding* (1981), and now *The Minimalist Program* (1995). Paraphrasing Winston Churchill, it seems that never in the field of cognitive science was so much owed by so many of us to so few (the generative linguists).

For most of us in the cognitive sciences this situation will appear quite benign (that is, if we don't hold a grudge for having been taken for a longer than necessary ride), if we realize that it is the generative linguists who should by rights be paying this bill. The reason for that is simple and is well-known in the philosophy of science: putting forward a theory is like taking out a loan, which must be repaid by gleaning an empirical basis for it; theories that fail to do so (or their successors that might have bought their debts) are declared bankrupt. In the sciences of the mind, this maxim translates into the need to demonstrate the psychological (behavioral), and, eventually, the neurobiological, reality of the theoretical constructs. Many examples of this process can be found in the study of human vision, where, as in language, direct observation of the underlying mechanisms is difficult; for instance, the concept of multiple parallel spatial-frequency channels, introduced in the late 1960s, was completely vindicated by purely behavioral means over the following decade (see, for example, [2]).

In linguistics, the nature of the requisite evidence is well described by Townsend and Bever: 'What do we test today if we want to explore the behavioral implications of syntax? ...the psychological basis for the two primary and ever-present operations, merge and move.' (Ref. [3], p.82). Unfortunately, to our knowledge, no experimental evidence has been offered to date that suggests that *merge* and *move* are real (in the same sense that the spatial-frequency channels in human vision are). Generative linguists typically respond to calls for evidence for the reality of their theoretical constructs by claiming that no evidence is needed over and above the theory's ability to

account for patterns of grammaticality judgments elicited from native speakers. This response is unsatisfactory, on two accounts. First, such judgments are inherently unreliable because of their unavoidable meta-cognitive overtones, because grammaticality is better described as a graded quantity, and for a host of other reasons [4]. Second, the outcome of a judgment (or the analysis of an elicited utterance) is invariably brought to bear on some distinction between variants of the current generative theory, never on its foundational assumptions. Of the latter, the reality of *merge* and *move* is but one example; the full list includes assumptions about language being a 'computationally perfect' system, the copy theory of traces, the existence of Logical Form (LF) structures, and 'innate general principles of economy'. Unfortunately, these foundational issues have not been subjected to psychological investigations, in part because it is not clear how to turn the assumptions into testable hypotheses.

Lasnik is optimistic that Minimalism, which is "as yet still just an 'approach', a conjecture about how human language works ('perfectly')" (Ref. [1], p. 436), can be developed into an 'articulated theory of human linguistic ability.' Such optimism would seem to require that the foundational issues be thoroughly addressed, but to our surprise they are not on Lasnik's list of 'Questions for future research'. This might explain why Minimalism is not even mentioned in recent reviews of, and opinions on, various aspects of language research in this journal, ranging from sentence processing and production [5–7] and syntactic acquisition [8,9] to the brain mechanisms of syntactic comprehension [10–12]. We believe it would be in the best interests of linguistics and of cognitive science in general if the linguists were to help psychologists like ourselves to formulate and sharpen the really important foundational questions, and to address them experimentally. This, we think, would help cognitive scientists take Minimalist syntax more seriously.

References

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