The inevitable active lexicon

There is an abundance of regularity in the mapping between the semantics of verbs, their syntactic argument structure, and their morphology. *Lexicon-driven* approaches aim to capture such regularities by postulating a module, the *(active) lexicon*, that, according to a set of operations, actively computes and outputs fully specified verbal entries (i.e. tuples of meaning, argument structure and, sometimes, morphology) before any syntactic computation takes place. *Syntax-driven* approaches, on the other hand, aim to capture the regularities syntactically, postulating a *passive* storage of purely semantic, category-neutral roots, and a set of morphosyntactic templates or functional projections into which these roots may be inserted. The conceptual and empirical differences between lexicon-driven and syntax-driven approaches have given rise to a heated debate, and no concensus is in sight. I present a new, interdisciplinary analysis of the issue that shows that an active lexicon is inevitable regardless of the approach. The analysis consists of (i) identifying a serious problem for a prominent lexicon-driven theory, (ii) resolving it by reformulating the theory's core postulates and (iii) applying the resulting theory to syntax-driven approaches.

The lexicon-driven approach in question is the Theta System, a wide-coverage, formal theory developed by Reinhart and others [4]. At the heart of the Theta System is the *Lexicon Uniformity Hypothesis*, which states that of each verb concept, only one thematic form is actually stored in the lexicon, while the other forms are derived by a set of operations. For instance, a 'decausativization' operation derives inchoative forms from causative forms. As I will argue, this Lexicon Uniformity Hypothesis is problematic: the thematic forms that are in the lexicon must be either innate (Chomsky, Fodor) or acquired, but the Lexicon Uniformity Hypothesis is inconsistent with both possibilities. Therefore, this core assumption cannot be maintained, and the Theta System must be reformulated in a way that does not rely on it.

In the Theta System, the operations, as well as the linking procedure that assigns syntactic positions to a verb's arguments, are assumed to be *innate*. As it turns out, a consequence of dropping the Lexicon Uniformity Hypothesis is that these innateness assumptions must be abandoned in favour of the view that lexicon operations and the linking procedure are *acquired*. As I will show, this partially non-nativist reformulation of the Theta System, though unorthodox, is compatible with (but not dependent on) the core assumptions of generative linguistics. The compatibility crucially relies on the distinction between (potentially innate) lexicon and (acquired) vocabulary [2], and on the insight that linking regularities are required only for inter-personal communication, not for private thought.

A non-nativist perspective on lexicon operations and the linking procedure gives rise to a chicken-and-egg problem: which came first, the lexicon operations and the linking procedure, or the patterns in language from which they are acquired? The solution to this puzzle lies in *iterated learning*, a theory of how overgeneralization by language learners, generation after generation, leads to the accumulation of regularities in a language [3]. By combining iterated learning with Rosch's notion of category utility [6], the Theta System's postulates can be explained as a consequence of gradually accumulating language change. These include the general division of labour between lexicon and syntax [5], the particulars of lexicon operations (e.g. the derivation of inchoatives from causatives rather than vice versa), the workings of the linking procedure (yielding e.g. split intransitivity) and the existence of supposedly derived thematic forms without a source [2].

Moreover, an explanation along the same lines is available for, among other things, the observation that verbs always assign distinct thematic roles to different arguments, and the observation that morphology is not always indicative of the direction of derivation.

As it turns out, any collection of lexical entries will over time obtain the kinds of regularities that, when presented to a language learner, result in an active lexicon. That is, given a lexicon-like storage, an active lexicon is inevitable. In fact, the operations and the linking procedure in this active lexicon will be precisely as described in the Theta System. This means that lexicon-driven approaches, and the (reformulated) Theta System in particular, are very parsimonious. Syntax-driven approaches, on the other hand, suffer a serious blow from this result. Although syntax-driven approaches do not postulate a lexicon as such, they do require, lest they overgenerate, the existence of a substantial number of acquired exceptions, or *idioms*, which, like lexical entries, are tuples of semantics, argument structure and morphology [1]. Since the language learner cannot possibly foresee which verbs will turn out to be exceptions, the learner has to store all encountered verbs as potential idioms, and this requires a lexicon-like storage. It follows that even for syntax-driven approaches, an active lexicon is inevitable.

References

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