The relation between the linguistic competence and performance and the architecture of the grammar

The competence-performance distinction has always been crucial for the generative grammar. While its general importance is hardly controversial, there can be different views on what it means for the relation between the grammar and the systems of production and comprehension. The grammar and the performance systems can be seen as theories of the same object, but at different levels of description (this approach is elaborated in (Neeleman and van de Koot 2010)). However, usually the grammar is seen as a knowledge base consulted by these systems. Although under this approach they are related only indirectly, we will argue that what we know about performance systems does pose some constraints on our grammar models even in this case.

The grammar model assumed in (Chomsky 1995, 2001, 2008) and most other minimalist theories is a bottom-up derivational model that takes lexical items (words, morphemes or submorphemic units, depending on the theory), constructs a syntactic structure out of them and sends this structure to the SM and C-I interfaces. Thus, the process of syntactic derivation is not isomorphic to the processes that take place during production and comprehension. In comprehension, we recover syntactic structures with their meanings from linear strings. It is more difficult to describe what happens in production. Existing models, such as (Levelt 1989), claim only that we go from intention to articulation through a formulator that has access to the lexicon and uses grammatical rules, but do not specify how this formulator works. Obviously, we cannot start with the full-fledged meaning of a sentence and then build the corresponding syntactic structure because the former, being compositional, relies on the latter. Most probably, syntax and semantics go hand in hand: we elaborate our intention while building the syntactic structure of the sentence.

Given the competence-performance distinction, such non-isomorphism per se is not a problem (as long as one remembers about it: syntactic derivations are often described as if they were happening in real time). A simple analogy with proving a theorem can be used: we can first decide what we need to prove and then select the axioms to rely on, but when the proof is ready, the axioms will precede the conclusions in its internal hierarchy. However, certain consequences of this non-isomorphism do appear to be problematic.

The standard minimalist grammar model takes as input only the information that comes with lexical items and their features. One thing that is (almost) universally assumed not to be encoded by features is scope. As a result, all theories of scope involve indeterminacy, overgeneration or look-ahead, all of which contradicts the core minimalist principles. E.g. Fox (1995) has to conclude that “syntax must see the semantic effects of the relative scope of two quantifiers.” Nevertheless, no such problems arise during production: once two relevant elements are selected, we know which scopes over which. Hence, these problems are an artifact of the current grammatical model. What can be done to get rid of them? Unlike in the standard T-model, it should be possible to use the syntax-semantics interface during the derivation. Then a simple rule “if A scopes over B, move A over the B” would be enough.

Another area where a notorious look-ahead problem can be solved is information structure. In most generative models (e.g. Bródy 1990, 1995; Laka 1990; Ouhalla 1994; Rizzi 1997; Tsimpli 1995; Tuller 1992; Vilkuna 1995), IS notions are encoded by features like Top, F etc., but it is left unexplained how these features are put on lexical items – it would be strange to assume that words have ‘forms’ inherently specified for these features, like case forms or tense forms. Alternative models rely on configurations rather than on features, but have difficulties explaining what drives the derivation of these configurations (e.g. Neeleman and van de Koot 2008; Neeleman & Reinhart 1998; Reinhart 1995, 2006; Slioussar 2007; Szendrő 2001).

Finally, the modified grammar model will be better suited to describe language production. As we said above, most probably we elaborate the semantics of the future sentence and build its syntactic structure simultaneously. Of course, under certain approaches to the competence-performance distinction, this is not a necessary feature of a grammar model, but still a welcome result.
References: