Review of Ljiljana Progovac 'Evolutionary Syntax'

Review of Ljiljana Progovac, *Evolutionary Syntax*

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Summary

In this monograph, Progovac argues for an incremental evolution of cognitive capacities underpinning syntactic structure, with Conjoin (a binary, nonrecursive operation immune to movement and embedding) anteceding recursive Merge. This distinction plays out over four stages, described in Chs.1–4, with Merge only visible in stage 4.

1. Single words;
2. Two-word combinations, e.g. *Case closed*;
    2a. Binary combinations of two-word combinations, e.g. *Nothing ventured, nothing gained*;
3. 'Proto-coordination', where linkers like English *as* or Mandarin *de* mark binary predicate–argument relations;
4. Specific functional categories, permitting recursive syntactic structures.

Progovac's primary evidence comes from syntactic analysis of constructions, such as those above, identified as linguistic fossils (Jackendoff, 1999). However, most chapters contain sections on 'corroborating evidence', summarizing findings from acquisition, imaging studies, and other related fields, although the interpretation of such evidence is often inconclusive (Boeckx, 2016).

There are several innovations in the details. For example, the stage 2 grammar, which creates binary verb–noun combinations, is claimed to have no subject–object distinction (resulting in 'absolutive' grammar in Progovac's terms). This is reflected in English and Serbian VN compounds, where a *rattlesnake* is a snake that rattles, while *rotgut* is alcohol that rots guts. Similar indeterminacy is demonstrated in Tongan and Riau Indonesian. A second novel claim is that the capacity for binary protosyntactic combination *within* a 'clause' (stage 2) is linked to binary combination *of* clauses (stage 2a), giving a strictly finite device which can mimic subordination to a limited extent. Likewise, linkers at stage 3 may appear between predicate and argument, or between clauses.

Many of these novel accounts of individual constructions are genuinely insightful and thought-provoking. Progovac argues that constructions which look quirky and

cussed from the perspective of modern syntactic theory may be elegantly analysed within the terms of less expressive models of syntax. As well as the VN compounds mentioned above (discussed at length in Ch.6), Ch.5 sketches an account of island constraints which assumes that movement dependencies are bounded by default (Postal, 1997), with unbounded dependencies only possible in a small set of evolutionarily recent structures. This is a creative appropriation and extension of Postal's otherwise puzzling theory of locality constraints. The monograph can be seen as a spirited attempt to use the notion of linguistic fossils to make sense of the idea that these less expressive syntactic structures coexist today with the general, recursive syntax that is the focus of most theoretical research.

Discussion

This is an extremely ambitious book: few works attempt to track the evolution of an entire component of linguistic cognition, especially when the synchronic nature of the object of study is still under debate. The only way to work on this scale is to simplify: there's simply no time for details.

Below, I discuss three respects in which the simplifications made by Progovac are problematic. Together, they make me unconvinced of the merits of this reconstruction of a complex series of language-specific, biological evolutionary steps.

The syntactic theory The use of both Merge and Conjoin implies a distinctive syntactic theory. Conjoin produces structures which are unembeddable, which requires that Merge cannot target structures produced by Conjoin — otherwise, Conjoin-structures would be embeddable in larger Merge-structures. In other words, Conjoin creates *Case closed* and *Nothing ventured, nothing gained*; Merge creates *Who does John think that Sue kissed?*; and never the twain shall meet.

However, several phenomena apparently show interleaving of Conjoin and Merge In particular, Ch.4 implicates Conjoin in the creation of larger structures, involving adjunction, conjunction, and correlatives, which relate elements of arbitrarily internal complexity. Those internally complex elements must be created by Merge, in Progovac's terms. Moreover, although adjuncts and conjuncts resist movement to an extent, they are not robust islands (for adjuncts, see Truswell 2011; for conjuncts, Ross 1967; Kehler 2002): examples of extraction from these constructions include *What tune did John arrive [whistling __]?* and *What food should we [[go home] and [eat __]]?*. As movement is treated as a subcase of Merge (Chomsky, 2001), this is an instance of Merge operating over Conjoin-structures.

In other words, the synchronic data are more gradient than Progovac's account leads us to expect, with no clear bifurcation between Conjoin-structures and Merge-structures.[1] This problematizes the assumption of two such distinct operations.

[1]The same applies to stage 3, where den Dikken (2006) argues that linkers lexicalize recursive Merge-based structures, in contrast to Progovac's 'proto-coordination' stage.

The role of semantics Conjoin is claimed to produce strictly bipartite structures. VN compounds have precisely two elements, and constructions like *Nothing ventured, nothing gained* become less interpretable if a third element (... *nothing lost*) is added.

However, some larger structures are attributed to Conjoin. Adjunction, conjunction, and right-headed compounds can all relate arbitrariliy many elements, as Progovac acknowledges. It is also not clear that *Nothing ventured, nothing gained* has special status compared to *Veni, vidi, vici* or *No shoes, no shirt, no service*.

An alternative hypothesis is that the bipartite nature of many Conjoin-structures reflects the binary semantic relations that they express. *Nothing ventured, nothing gained* expresses a conditional relation $P \rightarrow Q$; many adjunction and conjunction structures express coordination ($P \wedge Q$), etc. Of course, such semantic relations can be nested arbitrarily (*No shoes, no shirt, no service* has the form $(P \vee Q) \rightarrow R$), but prosody alone often cannot disambiguate such nested structures. Narratives such as *Veni, vidi, vici* are an exception: unbounded narrative progression is easily expressed paratactically.

In sum, semantic considerations may explain the typically bipartite nature of the structures that Progovac attributes to Conjoin. If this alternative is viable, Conjoin loses another distinctive property.

Biology and culture Progovac intends her fossils to provide insight into the biological evolution of syntactic cognition, but we could equally construe them as idealized snapshots of the cultural evolution of language; in other words, as a radical kind of historical linguistics. This may be more parsimonious: there is widespread agreement that many linguistic properties can evolve culturally without concomitant domain-specific biological evolution (Tamariz & Kirby 2016 and references therein), so there is arguably a burden of proof on accounts which also require biological evolution.[2]

Progovac discusses this alternative (§7.3.5), and argues that gradual biological evolution of such a cognitive capacity is possible or plausible, apparently in response to saltationist scenarios of the sort often attributed, rightly or wrongly, to Chomsky. To my mind, though, this misses the point: do the fossils discussed here tell us about biological evolution, cultural evolution, or both?

To sharpen this question, consider some common hypotheses about the syntax of Proto-Indo-European (PIE), spoken c.5,000 years ago. PIE is often claimed (e.g. Clackson 2007) to lack embedded relative clauses, and to use paratactic and adjoined structures instead — built with Conjoin instead of Merge, in Progovac's terms. In particular, attested early IE languages make heavy use of correlatives, bipartite structures with a relative clause left-adjoined to the host clause, rather than embedded within it. Belyaev & Haug (2014) have reconstructed a diachronic source for correlatives in asyndetic conditional structures of the sort discussed above. Correlatives are not unique to IE languages, but they are rare (Dryer 2013 has them in $< 3\%$ of 824 languages) and overrepresented in IE languages (De Vries, 2002, 388), so IE correlatives and related bipartite structures may not be typologically representative. Accordingly, the binarity

[2]This statement is even compatible with the position outlined in Chomsky (2010), where some genomic change gives us the cognitive capacity for unbounded Merge, originally utilized in structured thought, and the problem of 'externalizing' structures created by Merge to give observable E-languages is 'addressed by existing cognitive processes, in different ways, and at different times.'

that Progovac attributes to Conjoin may partially reflect a distinctive property of a particular language family, rather than a biological evolutionary process.

This raises two concerns. Firstly, languages change, and diversify, very quickly, relative to typical timescales for biological evolution, and yet PIE and attested early IE languages appear more 'protosyntactic' than modern languages, in that they rely more on Conjoin. No-one, to my knowledge, has attempted to ground developments in IE over the last few millennia in a *biological* evolutionary process, so we can conclude that it is possible for culture alone to drive a partial replacement of Conjoin-structures by Merge-structures. Secondly, although Progovac is careful to include non-IE examples of the most important phenomena she discussed (e.g. the Twi and Hmong AB–AC constructions on pp.96–7), the book lacks the typological balance needed to distinguish species-wide phenomena from contingent properties of specific language families. This reinforces the suspicion that much of what Progovac describes reflects cultural, rather than biological, evolutionary processes.

Conclusion

Progovac argues for a gradual biological evolution of the cognitive underpinnings of syntactic competence. I find her arguments overstated in two respects:

1. Conjoin and Merge are presented as separate operations, with the capacity for the former emerging before the latter. However, the linguistic evidence does not indicate two distinct types of syntactic structures, but rather a continuum from 'more paratactic' to 'more hierarchical'.

2. The evidence adduced does not distinguish between cultural and biological evolution. Accordingly, inferences about biological evolution are unwarranted.

Nevertheless, the linguistic fossils that Progovac identifies are enlightening in their own right (particularly the 'absolutive' constructions of stage 2, and the correlative-like structures of stage 2a). This suggests that an investigation of such fossils in the context of cultural, rather than biological, evolution, may be fruitful. Such an approach, a nonuniformitarian investigation of the diachrony of abstract syntactic structures, would complement Heine & Kuteva's (2007) nonuniformitarian reconstruction of the grammaticalization of syntactic categories, and help to better isolate what, if anything, in this progression must be attributed to biology.

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