

Arsenijević & Hinzen (2010) (henceforth A&H) discuss the role recursion plays in the overall architecture of the Faculty of Language. In a DGfS workshop¹ held in 2008, they presented a paper including the following three main theses:

1. Recursivity in human language is primarily engendered by a
 - “confluence of a number of different factors in language design, all having to do with the interfaces that the computational system of grammar forms with other linguistic and certain extra-linguistic systems (e.g., the discourse representation, the lexicon, the planning capacity” (166).

They state that there are empirical findings that support the claim that grammars are not building structures recursively independent (autonomous) of any of the mentioned interfaces.

 - I conclude that grammar necessarily has to interact with the interfaces to get recursion started. **It also follows that recursion is not part of FL(N) proper. Note that Hauser et al. (2002) directly mention this possibility** – a far-sighted point made indeed. I deem problematic the actual lack of empirical evidence refuting the claim that recursivity is part of FL(N) and, of course, the lack of positive data underpinning A&H's claims.
2. A&H claim that direct recursion (X embeds in X)
 - “never occurs within the structure-building grammatical computations, which speaks in favour of a templatic view of this process (similar to views of language in certain types of construction grammar)” (166).
 - It would be good to know what they mean by “structure-building grammatical computation”.
3. Recursive structures may be derived from other properties. “The cyclicity of derivations, the categoriality of syntactic constituents, and the way reference to discourse entities is determined at cyclic boundaries” (167).
 - **Is it not more likely that cyclicity is a result of recursion and not vice versa?** After all, from a historical point of view, the notion of recursion had been around before the idea of syntactic operations being cyclic entered the stage. One would at least have to investigate the theoretical connections and interrelations between **recursivity** and **cyclicity**.

A&H claim narrow structure-building procedures are not recursive. But, following van der Hulst (2010) we may just say that they are **generally recursive**. What A&H are talking about are instances of **specific recursion**. Van der Hulst writes: “[A] complex syntactic object K, if well-formed, can be recursively defined into combinations of (smaller) syntactic objects (which may be complex of² simplex)” (van der Hulst 2010: xx). Now, the counterpart is specific recursion. This may not be a basic property: “What *is* basic is the possibility of containing non-atomic objects within larger non-atomic objects *of the same complexity* and thus the idea of unbounded hierarchical structure” (van der Hulst 2010: xi). A&H's (1a-c) are all cases of specific recursivity. (1a) and (1c) are right-tail recursive and (1b) is a nested construction.³

1 It is unfortunate that this short paper is all we can get. The editorial (Zaufferer & Poeppel 2010) and the “Mitteilungen” (Zaufferer & Poeppel 2008) are not really illuminating the presentation, and, as far as I can see, A&H do not yet have anything pertaining to the discussion on their manuscript desks.

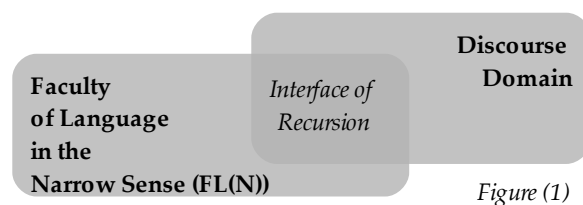
2 *Sic!* Probably a typo.

3 Apart from (1b) being bracketed very idiosyncratically.

A&H are certainly right in that X embedded in X (which means embedded in same type of category and complexity) lacks certain features. For instance, in (2a), truth value is only attributed to matrix CP and not to the embedded CPs. As John is only suspecting some state of affairs, we cannot tell whether the state of affairs is true or not. I would like to argue that with intentional states in general, attribution of truth values becomes gravely difficult. I can never know for sure (truth value *true* or *false*) if some person X is in intentional state Y. Presupposition triggers are sometimes like speech acts: *Hello y'all!* This greeting can hardly be evaluated for its truth values.⁴ If this is not all too wrong-headed then truth values in matrix CPs of presuppositional structures become a nuisance to analysis.⁵

Architectural Considerations

Drawing on Bever's (2009) interpretation of the EPP, A&H believe recursion to be situated on the edge of FL(N) and some discourse faculty. Note that the language discourse has to be a modular structure just like FL(N) as A&H specifically refer to this domain of knowledge. It somehow presupposes that the Discourse Domain is available at all as a distinct structure. Take a look at Figure (1).



As A&H suppose that recursion is not an element of the narrow syntactic component, FL(N) may be better re-conceptualized as a set of syntactic templates. They are obviously inspired by a construction-grammatical approach á la Goldberg (1995). When they say on page 168 that they have shown recursion to be epiphenomenal, they have not shown anything. They have just stipulated this. I would have liked to see some actual arguments from their talk. In fact there seems to be one point where they get clearer and somewhat more concrete: Recursion in spatial cognition following Arsenijević (2008).

Arsenijević (2008)

The outcome of the paper is the crystallization of “the possibility that language has evolved from the spatial cognition capacity, with the crucial step being an extension of the spatial computation to a domain-general use” Arsenijević (2008: 4). Now, it is commonly assumed that spatial cognition is older from an evolutionary perspective than the Faculty of Language, and it is also generally assumed that it is a feature many vertebrates share (monkeys, rats, birds etc.). If we now find true recursion in the domain responsible for spatial cognition, chances are at least given that some spill-over to the Faculty of Language may have happened. Now let's look for recursion in the spatial domain. In fact, I could find only one example of such spatial recursion:

(a) The construction is *the water near the home*. Coded as:

[_{PATH} goal [_{PLACE} [_{DESCRIPTION} water, near [_{PLACE} [_{DESCRIPTION} home]]]]]⁶

4 A greeting would be true iff it is a greeting. *Hi alle!* is true iff *Hello y'all!* Or iff I am in a state of greeting – which would amount to saying *Hello y'all!*

5 Note that in short stretches of discourse, embedded CPs appear to really have truth values. *Peter believes that 2+2=5*. We can pick out the embedded CPs and obviously talk about its being true or not.

6 He closes with six brackets, I believe it should be five (nitpicker me).

Let me update Figure (1).

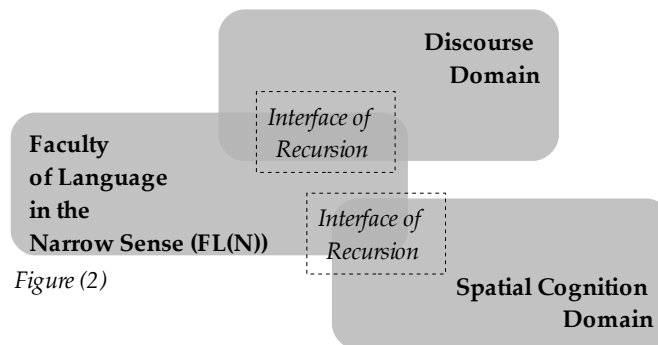


Figure (2)

Note that (a) is, as claimed by the author himself highly speculative. No word about this is said in A&H's text. Take the following passage:

“[W]e need to consider that capacities like planning or spatial cognition, which are both older than language and more broadly distributed in the animal world are argued to include recursive computations” (A&H 2010: 169).

A&H reference the discussed paper without saying that it is highly speculative. Arsenijević (2008) himself emphasizes the need for further and deeper neuro-cognitive data. And if gathering support for this claim has not happened in two year's time you just cannot presuppose it to be true – or to work somewhat for the benefit of your thesis.

It is remarkable that Arsenijević apparently is largely inspired by Cognitive Linguistic considerations. There it is commonly assumed that we tend to conceptualize one domain of knowledge in terms of another. Cognition of planning, for example, may be seen as movement through three-dimensional space. It may now be that the spatial cognition domain is fundamental for language cognition in general. Becoming fundamental in the previously mentioned spill-over may have happened over a short period of time; this could represent a non-gradual shift.

This should suffice. What remains could possibly be boiled down to the following:

- ◆ **moving recursion out from FL(N) to FL(B) domains**
- ◆ **reconsideration of memorization of constructional templates in FL(N)**
- ◆ **recursion instantiated via domain/module interactions, interface activities**

Questions:

- ◆ as mentioned in text: **evidence and stipulations**
- ◆ Attempts at bridging the gap between Cognitive and Generative approaches are laudable. Still, key notions have to be translated or at least be made translatable. **What is it with domains and modules? A&H rather speak of domains than of modules. Stricter usage?**
- ◆ **What remains in FL(N) if we remove the alleged core property of recursion?**

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