On language innate building blocks:
An open letter to Martin Haspelmath

Dear Martin:

These days I have been reading some of your recent contributions: comments on Facebook and Twitter, several blogposts and interviews from your blog (dlc.hypotheses.org), including one that you kindly made with me (dlc.hypotheses.org/1595), and a recent paper (Haspelmath 2020[1]). In these contributions you evaluate the scientific adequacy of Generative Grammar (GG), especially in comparison with the functional comparative approach that you defend. My feeling is that there is a central misunderstanding about the scientific nature of GG that limits the scope of your conclusions: You assume that GG and functional linguistics offer alternative or competing answers to the same questions, when the truth is that they arise different questions, because they are approximations with different objectives, different methodology and, above all, different objects of study. Therefore, I believe that your evaluation of the merits of GG is inadequate. I will try to explain why in some detail in this letter, but the essential idea is that you are judging GG as if it were oriented to the same objectives as the functional comparative approach, and this is incorrect. You are right that GG is not useful for your scientific interests, but that's not GG's fault.

Is the Faculty of Language a "rich innate grammar blueprint"?

In all these contributions you suggest that a basic assumption of GG (and, therefore, the main source of its alleged insufficiency) is the "idea that the building blocks of languages (features, categories, and architectures) are part of an innate blueprint for Human Language" (Haspelmath 2020). Similarly, in one of your recent blogposts (dlc.hypotheses.org/2282), you claim that generative grammarians "usually presuppose that language comparison must be based on the same categories that are used in language description" and that "[t]hese categories must be part of a rich innate grammar blueprint". As you point out in the same post, "[t]he idea is that there is a set of innate building blocks of grammar of which all languages are composed, just as all stuff is made of the chemical elements", which is why you refer to that approach as a "Mendeleyevian vision". You insist on saying that this vision is incompatible with Chomsky's Minimalist Program (in what I think you're right), and that many generative grammarians operate with that assumption even if they don't say it, and even if they don't realize they think it (with which I disagree).

In fact, generative grammarians do not assume that there is "a rich innate grammar blueprint". (Where would it have come from?) Nor do they assume that languages are composed of innate building blocks of grammar. What they assume is that if the capacity of language is innate (as you also admit), then it would be very surprising that this capacity did not channel, condition or restrict the design space available to children who have to acquire the language of the environment. That the capacity to learn language is special is an objective fact, not an assumption, in the sense that learning the mother tongue is not like the capacity to learn to play chess or to learn to play the piano. All normally constituted human beings learn their first language in a (very early) short period, regardless of social

and educational environment, family income, and the degree of attention received from parents or caregivers. However, a specific dedication, as well as a systematic and explicit stimulus, are needed to learn how to checkmate or to interpret a Mozart sonata at the piano. Of course, skills that are not specific to these tasks are used for learning to play chess or learning to play the piano, but these skills are not enough to explain the development of language in children (although, without a doubt, non-specific skills are also used to learn languages). Therefore, it is lawful to speak of a capacity, an instinct, of language, and it is not sensible to speak of the capacity -or instinct- of chess or of playing the piano. But if the capacity of language is innate, it is evident that the brain and cognitive structures that support this process impose a certain structural uniformity in the knowledge systems (I-languages) that people end up developing.

In that sense, your notion of "Human linguisticality", as defined in Haspelmath 2020 ("the instinct to communicate, to imitate and to extract patterns from observed speech signals is innate"), is insufficient to explain the formal structure of human languages: Many other organisms have the same instinct to communicate, to imitate, and to extract patterns from sequential signals, but they don't speak like Humans. As GG has discovered, the principles of human syntax (and therefore of the construction of the meaning of sentences) are not based on linear sequences (although that is the evidence presented to children), but on hierarchical structures that are beyond the computational power of organisms that have an instinct to communicate and that can mimic sophisticated sequential patterns.

Generative Grammar is a branch of science, not a creed

GG is a branch of science, which anyone is free to practice or not. It is not based on a creed or, of course, on the opinions, beliefs or revelations of a single person, however influential that person is. (And no, its extension and influence cannot be explained as the uncritical and unthinking acceptance of thousands of researchers across the planet.)

The only basic assumption of GG (as a part of cognitive science) is strictly methodological: Human language must be studied with the methodology of natural sciences, that is, with the hypothetico-deductive model. This assumption has no substantive content: It is not assumed that language should have innate components, nor that all languages should be made of the same pieces, nor that there are innate grammatical structures (if that notion has any sense). The only thing that is presupposed (and I think it is not controversial) is that what enables people to speak and understand any language is a knowledge system that people possess (their I-languages). Since all people (except pathological cases), and only people, are capable of possessing such knowledge systems, it is assumed that the study of these systems is part of the study of human nature and that, therefore, they must be addressed with the same methodology as the study of other knowledge systems (such as memory or vision), both of humans and other organisms. In the absence of a previous delimitation of the mind-body boundary, this knowledge system must be approached exactly the same as any other body organ. So far, these ones are the assumptions common to the practice of GG. The rest are *discoveries*, regardless of whether they are well understood or if they are properly formulated. The objective of this branch of cognitive science is to construct theoretical models of these knowledge systems, and to submit these

models to empirical falsification by any methods, as in any other area of natural science. If, as a consequence of this task, proposals for certain "innate building blocks" emerge, these may be considered discoveries (if reasonably confirmed) or hypotheses to be falsified, but not initial assumptions of the theory.

Language Universals: Mental grammars vs. social grammars

Martin, contrary to what you seem to assume, GG does not aim to "allow rigorous and objective testing of universal claims", at least not in the sense of universal claims you are referring to. As I've pointed out elsewhere (Mendívil-Giró 2018[2]), already in 1965 Chomsky[3] argued that the grammar of a particular language had to be "supplemented by a universal grammar that expresses the deep-seated regularities which, being universal, are omitted from the grammar itself" (Chomsky 1965: 6). According to him "the main task of linguistic theory must be to develop an account of linguistic universals" that reveals "the properties of any generative grammar" and is not "falsified by the diversity of languages" (1965: 27–28). So, Chomsky does not refer to properties common to all languages (in the style of Greenberg's universals), but to properties *common to the grammars that generate languages*: regularities "need not be stated in the grammar" of a language, but "only in general linguistic theory as part of the definition of the notion 'human language'" (Chomsky 1965: 117).

In fact, in one of your recent posts (dlc.hypotheses.org/2282), you say that generative grammarians build models of "mental grammars", and you contrast that approach (considering it insecure and subjective for the purpose of allowing "rigorous and objective testing of universal claims") with the analysis of the "social grammars" that, according to you, are the only ones that "we can readily describe". I have nothing to object, but it should be noted that then you are changing the object of study. As you put it, the object of study of functional comparative linguistics is not knowledge of language (mental grammars), but the product of that knowledge, the result of its use for social interaction and communication. Such an objective is lawful and interesting, but alien to GG and its research questions. From its origin until today, GG does not aim to describe or explain how languages are used for certain purposes, how they change over time, how they vary depending on social, geographical or climatic factors, or why there are more or less right-headed languages than left-headed ones (although all of them are interesting questions, and all of them are questions to which the theory of language developed by GG can provide interesting clues).

The distinction you make between "mental grammars" and "social grammars" clearly shows the difference between these two research programs. The object of study of comparative functional linguistics is not mental objects, knowledge systems, but social and cultural objects, that is, it is an externalist approach. The externalist character of this approach explains the notion of Human linguisticality that you defend. An externalist scenario suggests that languages are outside minds and brains (they are social objects in Saussure's sense) and that people have the instinct to learn and use them, transmit them from generation to generation, etc. From this point of view, an inductive approach to linguistic universals is expected, since the notion of Human Language itself is inductive.

From the generativist point of view, this is an incomplete (and probably insufficient) vision. As you know well, the internalist perspective implies the

construction of theoretical models of mental grammars, with the essential objective of helping to understand what their structure is, how they develop in the organism, how they are used and, ideally, how they are implemented in the brain and how the brain evolved to develop the capacity of language. From this point of view, the approach is not inductive, but deductive: from language to languages, and not from languages to language.

Therefore, I think you judge the merits of GG based on how it can help an objective description of "social grammars" (and with a "common sense" terminology based on phonetic or conceptual substance), an objective for which GG is not oriented and for which, logically, is not adequate.

When generative grammarians compare languages (and comparison in this area is also crucial, although it is not an objective in itself), they do not really compare social grammars, but rather compare (theoretical models of) mental grammars. This activity is very different from the type of comparison that you propose, and the universals that are discovered are not substantive, but formal (an essential distinction that in Haspelmath 2020 you reject in a footnote). The objective is not, therefore, to find the common innate building blocks that form each language (an expression that is meaningless in this context), but the common formal principles that limit or channel the development of each knowledge system that we call 'I-language'.

Language and language externalization

Another argument that pervades your recent contributions is the idea that the description of particular languages (p-linguistics) "is not necessarily relevant to general linguistics (or 'g-linguistics', the study of Human Language), because the properties of individual languages are historically accidental". But this is correct only if we identify (or confuse) mental grammars and social grammars. If we do not make this identification, we will have to admit that only some properties of particular languages are historical accidents, but not all. We must exclude all the properties which are not subject to historical change.

In fact, from the generativist point of view, the object of study of functional comparative linguistics (social grammars) corresponds to the product of *language externalization* (usually for communication). Indeed, as Chomsky has repeatedly argued, language diversity probably occurs in the externalization of language for communication (at the interface between the computational system and the sensorimotor system). The idea is that the connection between the internal use of language and the sensorimotor system (the externalization interface) is developed through learning from the environment and is, therefore, susceptible to historical change and group diversification[4].

Of course, the data from the externalization of language for communication (the social grammars) are the data that generative grammarians use as essential clues to their task of constructing theoretical models of the mental grammars (which in themselves are inaccessible), and hence the literature on comparative linguistics is very useful for this type of researchers. But, as I said before, these social objects are not the object of study of GG, but only a (privileged) access route to it.

If we accept an externalist approach like the one you defend, it is necessary to share your statement that "[t]he difficulty with the natural-kinds program is that different languages do not have the same building blocks". But it should be clear

that we are talking about the building blocks of language externalization, not about the formal principles that determine the structure of the human faculty of language (that is, that determine how the intentional-conceptual, computational, and sensorimotor systems interact with each other to form mental grammars), and which constitute the object of study of the internalist program.

Innate building blocks as natural kinds

Another assumption present in your contributions is that the methodology of GG only makes sense if there are innate building blocks of language that can be considered natural classes. It would give the impression that the task of generative grammarians is to dig in the earth to find a certain mineral, a task that is obviously absurd if that mineral does not exist or if it is too deep.

But the objective of generative grammarians is not to show that there are innate grammatical structures, nor to look for them, but to build increasingly better linguistic theories (that is, empirically adequate models of mental grammars). In this task, generative grammarians *postulate* the existence of entities, principles or structures, as in any inquiry that follows the hypothetico-deductive model. Such entities may or may not be natural classes, and may or may not be innate. The linguist (qua linguist) cannot know.

When certain entities, principles or structures postulated in a theory resist comparison with other theories (mental grammars), and, at the same time, they are not very likely to have been learned from the environment, it is possible to end up postulating that they are natural classes (in the sense that they are cognitive, not biological or chemical natural classes), and that they are innate (which does not necessarily imply that they are genetically encoded: they may be the result of epigenetic processes, developmental factors, or simple consequence of natural laws or general principles of computation).

You also suggest, Martin, that it is strange that there are still "traditional" generative grammarians, once the minimalist Chomsky, supposedly, has renounced to postulate the existence of a "rich innate grammar blueprint" for the sake of evolutionary adequacy ("Darwin's problem"). But obviously, Chomsky does not have the ability to simplify people's mental grammars, nor can he give up assumptions that he has never defended (that is, that grammatical constructions, case systems, demonstratives, inflection or any other possible building blocks of languages are innate natural classes).

When generative grammarians construct a theoretical model of a mental grammar, they do so by including in their model *all the necessary and sufficient components of the Faculty of Language*, that is, their object of study is the famous Faculty of Language in the Broad Sense (FLB), not just the FL in the Narrow Sense (FLN). The distinction between FLB and FLN is an attempt to clarify the problem of linguistic specificity within human cognition, and to facilitate comparative studies with other species, mainly in the area of the study of the evolution of the FL. But it is not intended to reduce or limit the object of study of generative grammarians to FLN.

If the object of study is the FLB, in the construction of theories of languages (models of mental grammars) the generative grammarian introduces in his/her theories the elements and principles necessary to account for the form and meaning of linguistic expressions, independently of whether these are innate or not, language-specific or not, universal or not. Only the comparison with other

(models of) mental grammars can help to decide if these postulated elements or principles are generalizable (or perhaps universal). Therefore, the success or failure of the generative grammarian does not depend on whether or not there are innate building blocks, but on whether or not his/her model is capable of predicting (in the simplest and most empirically adequate way) the form and meaning of the expressions of the analysed language.
Of course, given that the capacity of language is partly innate, it would be very strange that the comparison of various models of mental grammars did not reveal common aspects of design, that is, "common building blocks". But these building blocks cannot be identified with morphemes, words or constructions, which are units of language externalization. Building blocks will surely be elements of the interacting conceptual, sensorimotor and computational systems, without prejudging whether they are innate or not.

To conclude

I agree with your conclusions, according to which "it seems more advisable to adopt a less speculative approach in terms of comparative concepts that are defined uniformly at the level of observation, not at a level of abstract analyses in terms of innate building blocks", but the inefficiency of a theory to meet objectives for which it is not designed cannot serve to determine the superiority of one approach over another, especially when they do not really compete in the same league (and probably not even in the same sport).

Yours sincerely,

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[1] Haspelmath, M. (2020). Human Linguisticality and the Building Blocks of Languages. *Front. Psychol*. 10:3056. doi: 10.3389/fpsyg.2019.03056
[2] Mendívil-Giró, J.L. (2018). Is Universal Grammar ready for retirement? A short review of a longstanding misinterpretation. *Journal of Linguistics*, 54(4), 859-888. doi:10.1017/S0022226718000166
[3] Chomsky, N. (1965). *Aspects of the Theory of Syntax*. MIT Press, Cambridge (MA).
[4] For references and discussion, see Mendívil-Giró, J.L. (2019). Biology and Culture in Language, *Inference*, 4 (4), https://inference-review.com/letter/biology-and-culture-in-language