

The Emergent Nature of Parametric Variation

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One of the key points in the biolinguistic agenda concerns the nature of linguistic (parametric) variation. The relevant literature makes reference to three possible loci: (i) parameters that are part of the mental lexicon by being localized on functional heads (lexical parameters), (ii) parameters that are syntactic in that they pertain to narrow syntax variation (NS parameters), and (iii) parameters that are morphophonological variants; viewed as the product of the externalization process (PF ‘parameters’). From the three possible answers to the question about the locus of variation, the most minimalist is the third one and it is the one explored in the current state of development of the biolinguistic enterprise (Berwick & Chomsky 2011).

Other recent works address the emergent nature of parametric variation, usually in relation to the role of environmental factors that affect this emergence. This view entails that variation is related to the externalization process, neatly alluding to a non-overspecified Universal Grammar (UG) as well as to the nature of parameters as emergent properties (Roberts 2011). Empirically showing that parameters are indeed emergent properties would be a further step in the direction of shifting the locus of variation from the innermost components of FL (i.e. the lexicon, UG, NS) to PF operations. The present work draws on instances of recent (sign) language emergence in order to argue that certain core properties of language, even properties traditionally treated as unparametrized principles and design characteristics, emerge as a response to environmental, (post-)externalization-related factors.

Chomsky (1986 *et seq.*) argued that a distinction should be made between I(nternal)-language and E(xternal)-language, viewing language from a cognitive and a socio-cultural perspective respectively. Details of the evolution of I-language are largely unidentified and different accounts in the literature lay emphasis on different aspects of the I- vs. E-language distinction, most of them, however, agree that such a distinction is viable. Lassiter (2008) and Mondal (2011) have recently made an attempt to reconcile internalism and externalism through suggesting a mutual reinforcement of the two. Mondal took the reinforcement to be between biology and culture, however in the present discussion the interplay is assumed to exist between the biological nature of language and environmentally driven adaptations. It is argued that the complex dynamics of this interplay can be best illustrated with respect to human language, in cases of recently emerged (or even still emerging) E-languages because in such instances, the relation between I- and E-language is in its earliest stages and the latter has not undergone significant adaptations yet. One such language is Al-Sayyid Bedouin Sign Language (ABSL), a language that emerged in the last 70 years in a relatively isolated, tight-knit community in Israel.

On the contrary to what one observes in the literature coming from linguistics, in the biology literature, the robustness of the link between the genetic makeup of an organism and the environmental influences that affect its development is made explicit when one examines the phenotypical properties of an organism, even in the case of language. Genes determine the capacities of organisms, yet the limits of these capacities may never be explored, depending on how adequate the environmental factor eventually proves to be; in other words, ‘human beings can speak because they have the right genes and the right environment’ (Lewontin 2000). Linguists, on the other hand, have often followed Chomsky (1986) when arguing that a distinction should be made between I- and E-language, viewing language from a cognitive and a socio-cultural perspective respectively. Yet, linguistic data coming from cases of language emergence in its earliest stages show an area of intersection between what lies behind the terms ‘I-/E-language’; an intersection that reflects the point where the development of biological traits (I-properties) gets affected by environmental, externalization-related triggers (E-factors).

More specifically, this work reflects on how certain properties of language emerge gradually due to the need to meet communicative, post-externalization needs. It is argued that this observation points to the surfacy, PF nature of parameters as emergent properties. The underlying assumption here is that if language emergence is in its earliest stages, the time that has elapsed is not enough for it to have already undergone significant environmentally driven adaptations. The prediction that follows is that some I-properties would be still under development into these recently emerged languages. ABSL is one such case: fieldwork on this language suggests that manifestations of properties like grammaticalization and complexity, but also of design properties of language such as signifier/signified-consistency (else known as ‘semanticity’ in Hockett 1960) are absent from the production of the first-generation signers and develop gradually. Their development is subject to environmental factors (e.g., time, input from previous cohorts, etc.) and reflects environmental needs (e.g., size of the community, distribution of signers, degree of interaction, etc.). If grammaticalization — which involves the development of finer grammatical markers — is shown to develop gradually and in response to environmental factors, then the markers themselves — which are points of variation across grammars, traditionally referred to as ‘parameters’ — develop gradually and in response to environmental factors as well, and under these assumptions, the link between points of variation and the externalization process is hard to miss.

To give a concrete example, with respect to grammaticalization and the emergent nature of parametric variation, according to Meir *et al.* (2010), ABSL first-generation signers have the tendency to break an event that requires two arguments into two clauses which come along with two verb signs that each predicates of a different argument. For example, a description of girl feeding a woman would be realized with two SV clauses rather than a single SOV. SOV is the word-order that is largely preferred among ABSL signers, unlike the closest languages around it, which are SVO (Sandler *et al.* 2005). It is worth stressing that SOV is the *prevalent* order from the second generation of signers onwards but variation still exists given that Sandler *et al.* (2005) report the existence of some (S)VO patterns. Moreover, verbs are predominantly final in this language, but if there is a noun and modifier in a phrase, the order is noun-modifier. The fact that SOV patterns became robust in the second generation of signers illustrates the existence of variation when certain grammatical properties of the language are still emerging. This variation is an indication that word-order should indeed be better viewed a surfacy PF-decision that allows for varying realizations, rather than a fixed, deeply rooted NS or UG parameter. In this context, it seems theoretically plausible and motivated to describe grammatical markers called ‘parameters’ as realizational/PF variants rather than as the outcome of parametrized syntactic operations or as UG-specified principles with unfixed values.

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