LUBLIN STUDIES IN MODERN LANGUAGES AND LITERATURE Vol 50, No 3 (2026)
Maria Curie-Sklodowska University Press

E-ISSN 2450-4580

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DOI:10.17951/lsmll.2026.50.3.1-9

Variation in Language Structure: A View from the Minimalist Program

1. Language variation in Generative Grammar – from Universal Grammar to Externalisation

Language diversity has been a central research topic in linguistics. Questions concerning the limits, scope and locus of language variation have figured prominently in linguistic theorising. In Generative Grammar, in the framework of Principles and Parameters (P&P) of Chomsky (1981), variation among natural languages has been attributed to parameters of variation. Parameters of variation specify the range of options for a particular grammatical property. They constitute a part of Universal Grammar (UG), in addition to a set of universal principles, shared by all languages. In the P&P framework, both variant and invariant language properties are taken to form a part of the innate Faculty of Language (FL), which comprises UG. Chomsky (1981, p. 3) states that:

> The theory of UG must meet two conditions. On the one hand, it must be compatible with the diversity of existing (indeed, possible) grammars. At the same time, UG must be sufficiently constrained and restrictive in the options it permits so as to account for the fact that each of these grammars develops in the mind on the basis of quite limited evidence.

Parameters are conceived as UG-constraints (Roberts, 2019, p. 4) with open values that must be fixed in the course of language acquisition. The proposed parameters comprise the Null Subject Parameter (Rizzi, 1982), the *wh*-parameter, the Head Parameter, and the Polysynthesis Parameter (Baker, 1996). In the P&P model, parameters are held responsible for macrovariation, viz. global differences between typologically unrelated languages (Roberts, 2019, p. 57).

In the P&P approach, variation in natural languages was treated as systematic, predictable and restricted. However, further work on a wider range of languages demonstrated that there are some exceptions to the general tendency, which cannot be handled in terms of parameters. These finer differences, holding within

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The journal is financed by the Institute of Modern Languages and Literatures of Maria Curie-Sklodowska University.

one language group, called microvariation, turned out to be a serious problem for the P&P model.

The P&P framework has been severely criticised by Newmeyer (2004, 2005), Haspelmath (2008) and Boeckx (2011, 2016) on the grounds that "hardly any parameters have been established on which there is general agreement" (Roberts, 2019, p. 21). Additionally, the P&P view of UG is incompatible with the reductionist view of UG, advanced in the Minimalist Program of Chomsky (1993, 1995). Chomsky (2007, p. 4) characterises the shift of perspective as follows:

> Throughout the modern history of generative grammar, the problem of determining the character of FL has been approached 'from top down": How much must be attributed to UG to account for language acquisition? The M[inimalist] P[rogram] seeks to approach the problem 'from bottom up": How little can be attributed to UG while still accounting for the variety of I-languages attained?

In the Minimalist Program (MP), I-language corresponds to the system of knowledge possessed by an individual speaker. According to Chomsky (2004), there are three factors, which shape I-language:

(1) Factor I: genetic endowment
Factor II: experience
Factor III: laws of nature.

Factor I corresponds to UG. Factor II comprises the language data indispensable in the process of language acquisition. Factor III covers "general properties of organic systems" (Chomsky, 2004, p. 1), viz. laws of nature, not unique to language, such as computational efficiency. The MP strives to reduce to a minimum the properties associated with UG (Factor I) and to derive as many properties of language as possible from conditions associated with Factor III, not specific to language (for details, cf. Bondaruk, 2026). In the MP, UG is taken to be maximally simple and empty in order to account for the fact that the evolution of language was very quick, "an instant in evolutionary time" (Chomsky, 2021, p. 8).

Although the basic P&P architecture of grammar is maintained in the MP, the idea of minimally empty UG has made it necessary to radically rethink the concept of parameters of variation. In the MP, language variation is not treated as a part of the universal genetic endowment. In other words, language diversity is no longer determined by UG. Instead, parameters in the MP represent emergent properties of languages which result from the interaction of the three factors, mentioned in (1) above. The locus of variation among natural languages is the Lexicon, in accordance with the Borer-Chomsky Conjecture (BCC, the term due to Baker, 2008, p. 155), reproduced in (2) below:

(2) Parametric variation is restricted to the lexicon, and insofar as syntactic computation is concerned, to a narrow category of morphological properties, primarily inflectional (Chomsky, 2001, p. 2).

A slightly different formulation of the BCC, due to Roberts (2019, p. 58), is provided in (3):

(3) All parameters of variation are attributable to differences in the features of the functional heads in the Lexicon.

The features that are subject to variation, mentioned in the BCC in (3), correspond to formal features (FF) in the sense of Chomsky (1995, p. 6), viz. features relevant for syntactic derivation, which may or may not have phonological and semantic correlates. They comprise φ-features, case, tense, aspect, mood, categorial features like N or V, a *wh*-feature, quantificational features, topic, focus, clause typing features such as 'interrogative', 'declarative', etc. Since only FFs can vary, the domain of parametric variation is narrowly restricted. The set of FFs is treated as universal (Chomsky, 2001). According to Chomsky (2001, p. 10), each language makes a 'one time selection' from the set of universal features. A given FF is absent unless activated by the language data in the course of language acquisition. Consequently, language variation emerges from the interaction of Factor I (a universal set of FFs) and Factor II (primary linguistic data), depicted in (1) above.

The merits of the BCC lie in that it reduces the content of UG and it attributes variation among languages to the feature make-up of functional heads in the Lexicon. Since differences applying to individual FFs can yield small scale variation, the BCC can easily account for cases of microparametric variation, which constituted a problem for the P&P approach. The approach to language variation rooted in the BCC has produced a large number of studies of syntactic phenomena in non-standard language varieties, whose culmination is the theory of left periphery, called Cartography (Cinque, 1999; Rizzi, 1997, 2004). However, the BCC faces a problem when confronted with macroparametric variation (Baker, 2008). One way out of this problem, adopted in the MP, is to view macroparametric effects as derived from microparameters (Boeckx, 2008). In other words, macroparameters are often seen as "aggregates of microparametric settings" (Roberts & Holmberg, 2010, p. 39).

In the MP, the locus of language variation, particularly of the macroparametric kind, is most commonly associated with the interfaces. Language structures formed in the brain by I-language interface with two external systems – the system of thought, the Conceptual-Intentional (CI) system – and the system of sound (sign), the Sensory-Motor (SM) system. The CI interface is responsible for the system of thought, including interpretation, inference and planning. The SM interface controls the externalisation of language structures in sound or sign, including production and parsing. Chomsky (2023, 2024) treats I-language to be

primarily a thought-generating system. Hence, the CI interface is superior to the SM interface, which is seen as "an ancillary process" (Chomsky, 2023, p. 34). Consequently, there is an asymmetry between the interfaces – the CI interface "shapes the syntax to its own demands" (Richards, 2008, p. 145), whereas the SM interface must adapt to the requirements of syntactic expressions it receives. In other words, the mapping between syntax and the SM interface, called externalisation, is imperfect, which opens up the way for language variation. Berwick and Chomsky (2011, p. 37) state that:

> Parametrization and diversity, then, would be mostly – possibly entirely – restricted to externalization. That is pretty much what we seem to find: a computational system efficiently generating expressions interpretable at the semantic/pragmatic interface, with diversity resulting from complex and highly varied modes of externalisation, which furthermore, are readily susceptible to historical change.

The FL is optimally designed to meet the requirements of the CI interface, but it is imperfect with respect to externalisation at the SM interface. Hence, variation is expected to arise in the morpho-phonological component. For instance, variation may result from the way languages linearize at the SM interface the hierarchical structures generated in the syntax (Richards, 2008, p. 146), which corresponds to the Head Parameter of the P&P model.

In the MP, parameters of variation have no independent status in the design of FL, the way they did in the P&P era. They are conceived as emergent properties of the language system, which result from an imperfect mapping between syntax and the SM interface. The upshot of this approach is the restriction of language variation to externalisation at the SM interface, and the total lack thereof at the CI interface. If there is no variation in the CI interface, the question arises how to handle semantic parametrisation (Chierchia, 1998) and pragmatic variation (Matthewson, 2006). It seems that the status of semantic parameters needs to be rethought in the system, currently in force in the MP, which treats parameters as emergent language properties.

2. Language variation in the papers included in this volume

The vast majority of the papers included in this volume focus on language variation in the domain of syntax. The theoretical model adopted in these works is the Minimalist Program, briefly characterised in Section 1. The languages examined include Croatian, English, Hungarian, Polish and Ukrainian.

Birtić and Matijević analyse the differences in the binding properties of dative and accusative experiencers in Croatian. They primarily concentrate on experiencers attested with non-verbal predicates realised as adverbs, such as žao 'sorry', *dobro* 'well', etc., or as noun phrases, such as *strah* 'fear', *sram* 'shame', etc.. The binding of two reflexive items – the reflexive possessive *svoj* 'self's' and the reflexive

pronoun *sebe* 'self' – by the two above-mentioned types of experiencers is scrutinised in two Croatian language corpora. The corpus search has demonstrated that both dative and accusative experiencers can bind the two types of reflexives with non-verbal predicates. The preliminary analysis of the binding properties of dative and accusative experiencers, found with verbal predicates in Croatian, has revealed a difference between the two experiencer types. Whereas dative experiencers with verbal predicates can serve as anaphor binders, the binding potential of accusative experiencers in the analogous context is highly limited.

Sočanac and Batinić Angster analyse a case of microvariation found in a dialect of Croatian, spoken in the area of Zadar. They focus on multi verb structures, consisting of a volitional verb *htjeti* 'to want' and another lexical verb, both of which are finite and agree in person and number. The structure under scrutiny seems to resemble Serial Verb Constructions (SVCs), present in a wide range of typologically unrelated languages of West Africa and Southeast Asia. SVCs can also be found in Croatian (Joseph & Sočanac, 2023). The multi verb structures in the Zadar dialect of Croatian share a number of properties with SVCs, such as restrictions on the first verb and the lack thereof on the second verb, finiteness of both verbs, agreement in person and number between the two verbs, and a mono-clausal structure. Despite these similarities, the SVC status of the structure analysed is far from being certain. The authors argue that the structure under consideration might be viewed as an instance of complementation with a silent complementiser *da*. Cases of subordination with *da*-omission are frequent in Balkan languages and they show mono-clausal properties. This makes it difficult to determine whether multi verb structures with volitional verbs in Croatian represent SVCs or subordinate structures. More work is needed to ascertain which of the two above-mentioned options is valid for the multi verb structures, analysed in the paper.

Trawiński investigates variation in Polish conditional clauses, associated with two different structural patterns, called the auxiliary verb construction (AVC) and the simple verb construction (SVC). The most easily noticeable difference between these two types of structure lies in the position of the conditional marker *by*, which is placed to the left of the verb in AVCs, and to the immediate right of the verb in SVCs. The large-scale corpus study carried out in the paper has demonstrated an uneven distribution of the two structural patterns. Although the two constructions coexist in Polish, there is a clear preponderance of the SVC over the AVC, which indicates that there is an ongoing transition from the latter to the former type of structure. However, the two structures of conditional clauses are not in free variation, but their distribution is sensitive to a verb class and to a type of register. Modal verbs and highly grammaticalised verbs are more readily found in SVCs, while lexical verbs tend to be used in AVCs. This implies that the conditional system in Polish seems to be undergoing gradient reorganization at the interface between syntax, morphology and prosody.

Mokrosz addresses the question whether focus correlates with word order variation in Polish. The study is couched in the cartographic approach to information structure (Rizzi, 1997, 2004), mentioned in Section 1 above. Four types of focus are examined – Information Focus, Corrective Focus, Contrastive Focus and Mirative Focus – in order to check whether there is a co-relation between a particular type of focus and the likelihood of fronting. The Polish data are analysed against the backdrop of the corresponding types of focus in Romance languages, such as Italian and Spanish. The quantitative study based on an acceptability-judgement experiment has demonstrated that native speakers of Polish do not readily accept focus fronting but they favour the realisation of the four above-mentioned focus types in their canonical positions. This way, the study undermines the widespread claim (Cruschina, 2021) that foci with the higher degree of contrast are more likely to undergo fronting.

Szecsenyi examines the role of the epithet test in demarcating the difference between subordination and coordination cross-linguistically, with the special focus on Hungarian. The licensing of epithets is shown to depend on two factors, viz. (i) the universal principles of the Binding Theory, in particular Principle C, and (ii) co-reference, constrained by antilogophoricity, subject to cross-linguistic variation. Antilogophoricity is understood as a requirement that the epithet be disjoint from the logophoric center in a particular context (Yashima, 2015). What counts as a logophoric center follows from a number of factors, including a verb type and a clause type, which differ from one language to another. The epithet test is demonstrated to be reliable for distinguishing subordination from coordination once the role of structural and non-structural factors in epithet licensing is recognised. The structural conditions and the antilophoricity requirement on epithets are also considered to underlie varied native speakers' grammaticality judgements.

Newson analyses the structural positions of possessors in Hungarian with a view to determining whether they result from movement. Possessors in Hungarian may be found in three distinct positions, such as (i) the lower position, internal to the possessive DP, marked for nominative, (ii) the higher DP-internal position, marked for dative, and (iii) the position external to the possessive DP, marked for dative. The three positions associated with Hungarian possessors have been derived by movement, based on the lack of number agreement between the possessor and the possessee; the so-called anti-agreement (cf. den Dikken, 1999). Newson demonstrates that the anti-agreement facts may be accounted for without resorting to movement. Instead, he proposes an alternative analysis in which no possessor movement takes place. Nominative possessors are generated in the specifier of the n head, internal dative possessors appear in the specifier of the AgN phrase, and external dative possessors are projected in the specifier of the Appl head (Cuervo, 2020). The analysis proposed in the paper has repercussions for case marking. There is no change from nominative to dative case for external

possessors in Hungarian, which get their inherent dative from Appl. This kind of case change only takes place for internal dative possessors.

There are three papers in this volume, which do not examine syntactic variation, but instead they center around language variation in phonology, semantics and pragmatics.

Cyran analyses variation in voicing of Ukrainian obstruents against the backdrop of other Slavic languages, including Polish and a group of South Slavic languages comprising Bosnian, Croatian, Serbian and Montenegrin (BCSM). Although the paper mainly focuses on inter-language variation, it also describes and offers an account for intra-language variation among different varieties of Ukrainian. The analysis is restricted to two voicing phenomena, viz. final obstruent devoicing and regressive voice assimilation, whose effects seem to be co-related. In contradistinction to Polish, but in line with BCSM, Ukrainian lacks final devoicing entirely. As regards regressive voice assimilation, Ukrainian differs from other Slavic languages analysed in the paper in that it only allows assimilation of voiceless obstruents. Cyran proposes that the patterns of variation in voicing mentioned above testify to the existence of a phonological parameter. Adopting a minimalist standpoint, Cyran assumes the emergent nature of the phonological module. He argues that in Polish and BSCM, variation in voicing results from a phonological mechanism, while in Ukrainian it is conditioned by phonetics.

Dąbrowska studies variation in construing through metaphor the meanings of *fear* and *sadness* by Polish university students. She examines how the constructed meanings differ across cohorts and genders. Dąbrowska's analysis is couched within the framework of Cognitive Grammar. She adopts the extended Conceptual Metaphor Theory of Kövecses (2017), in which metaphorical meaning is organised across multiple levels of schematicity. In this model, contruals based on highly schematic image-schema interact with frame-based patterns and mental-space elaborations, dependent on the context. This multi-layered model is particularly well-suited to account for divergent meaning construals. Dąbrowska's study demonstrates that the students' metaphorical construals of *fear* and *sadness* vary across different levels of schematicity. The metaphors used by students to construct the meanings of the two emotions under scrutiny are neither uniform nor static. They emerge from the interaction between shared conceptual structures and context-sensitive elaborations.

Sak-Wernicka concentrates on variation operating at the interface between semantics and pragmatics, found in the domain of scalar implicatures associated with numerals and quantifiers in English. A uniform approach to quantifiers and numerals has been recently questioned, and evidence has been adduced that the two types of expression differ in their interpretation, acquisition and processing. The paper provides further support that numerals and quantifiers cannot be treated alike. The differences between numerals and quantifiers lie primarily in the

internal structure of the scales they form. Whereas numerals form a scale that is structurally uniform and internally consistent, quantifiers lack a comparable scale. Instead, quantifiers exhibit a high degree of variability in their interpretation. Even within their own class, quantifiers do not behave in the same way, but they display internal heterogeneity. The differences in the interpretation of quantifiers result from two mechanisms – the pragmatic and the lexical one. The former corresponds to a general mechanism responsible for evaluating stronger alternatives, while the latter relies on lexical properties of individual quantifiers.

To sum up, the papers collected in this volume centre around language variation in syntax, phonology, semantics and pragmatics. They focus on macrovariation and microvariation, observed in inter-language and intra-language domains. They actively contribute to the current debates, present in the Minimalist Program, concerning the source of language variation, its place in the language system, and its relation to language universals. They will undoubtedly serve as inspiration for further works on the intriguing, but highly intricate, topic of language variation.

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Lublin, September 2026