

Zrinka Kolaković, Edyta Jurkiewicz-Rohrbacher, Björn Hansen, Dušica Filipović Đurđević, and Nataša Fritz. *Clitics in the Wild: Empirical Studies on the Microvariation of the Pronominal, Reflexive and Verbal Clitics in Bosnian, Croatian, and Serbian*. Berlin: Language Science Press, 2022. 461 pp. [Open Slavic linguistics, 7.] ISBN 978-3-98554-032-7 (hardcover).

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The reviewed book offers an empirically oriented description of Bosnian, Croatian, and Serbian (BCS) clitics, with a focus on those features that are subject to parametric microvariation in regional varieties of BCS and across them (p. 5). Descriptive grammars of BCS include a brief mention of BCS proclitics, including the conjunctions *i*, *a*, and the negator *ne* (Browne and Alt 2004: 15), but the authors of the reviewed book restrict their analysis to BCS clustering enclitics representing two kinds of sentence categories—oblique pronouns and auxiliaries. BCS is traditionally described as a language with 2P clitics, where the clustering clitics do not take the clausal left edge ($\# \dots \text{CL} \dots \ast \# \text{CL} \dots$) and behave as strict enclitics, i.e., they always need a *non-clitic* host to their left ($X/XP = \text{CL}$).² The authors confirm this view and state that clitic-first (1P) orders do not occur in any standard regional variety of BCS, though some Neo-Štokavian dialects license clustering clitics after initial proclitics (cf. *I = su.AUX.3PL = ga.3SG.M strelali.PTCP.3PL* ‘and they shot him’), while the Banatsko-pomoriški subdialect, Kosovsko-resavski, Prizrensko-južnomoravski, and

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² The strict enclisis phenomena in Romance and Slavic languages are often explained by the so-called Tobler-Mussafia law, i.e., a presumably non-syntactic condition excluding the clustering object pronouns and auxiliaries from the clausal left edge and leaving them in 2P in some clausal types, e.g., in imperative clauses in French, Italian, Romanian, or Macedonian, etc., or in all types of clauses, e.g., in Bulgarian and BCS (cf. Franks 2008, 2017: 188). However, strict enclitics do not necessarily take 2P.

Timočko-lužnički dialects³ license clustering clitics in the absolute initial position (pp. 160–62).⁴

In §2.3 the authors specify that they are interested in “systemic microvariation, which is defined as purely language-internal”, and not in sociolinguistic triggers of variation (p. 14). The reviewer has tried to apply a similar approach to other Slavic languages⁵, although there is no obvious way to eliminate the external factors completely, since all kinds of supra-individual variation are in a broad sense sociolinguistic. This difficulty is confirmed by the high frequencies of some sociolinguistic terms in the reviewed book. The authors adopt the distinction of *diatopic* variation, depending on space; *diaphasic* variation, depending on the modes of language (oral vs. written, standard vs. sub-standard); and *diastratic* variation, reflecting the use of different social groups from the classic work by Coseriu (1980). They use the first two terms consistently. The term “diatopic” occurs 47 times, while the term “diaphasic” is used 57 times. The term “diastratic” occurs only 7 times, which is in accord with the explicit wish of the authors not to deal with language strata (p. 6). However, they state that the inflected forms of the conditional clitics *bih*, *bismo*, etc., in place of the uninflected *bi*, are better preserved in the corpus of spoken Bosnian by more educated speakers, which is then an instance of diastratic variation (pp. 191–92).

The book’s conception is introduced in Chapter 2, entitled “Terms and Concepts in the Light of Theoretical Approaches to the Study of Clitics in BCS”. The authors briefly characterize the notions of “clitic” and “clitic cluster” and state that BCS is a language with “clitic clusters” (pp. 18–22). There are two main aspects of clitic syntax in languages of this class—clitic-internal ordering, i.e., the structure of clitic clusters projected by template rules (Franks and King 2000; Zaliznjak 1993: 282), and clitic-external ordering, i.e., the placement of clusters and clustering clitics in a single clause or complex of clauses. The authors focus on clitic-external ordering, since there seems to be only a limited, dialect-bound variation in the internal organization of

³ The non-translated names of BCS dialects are given here as they are used in the reviewed book (see Figure 7.1 on p. 129 of the reviewed book for a dialectal map and Table 7.1 on p. 130 for alternative dialectal divisions).

⁴ These options displayed by different BCS dialects have different historical explanations. The 1P orders in the Kosovsko-resavski, Prizrensko-južnomoravski, and Timočko-lužnički dialects are likely due to contacts with word-order systems having *v*P-internal clitics, where the Tobler-Mussafia law does not hold, while the proclitic-enclitic complexes in Neo-Štokavian might be a remnant of Proto-Slavic syntax, since some Old Slavic idioms have this feature as well.

⁵ Cf. Zimmerling 2018 and Zimmerling 2022 for Modern Russian and Early Old Russian, respectively, and Ivanova and Zimmerling 2019 for a contrastive analysis of Russian and Bulgarian.

BCS clitic clusters,⁶ cf. the short sections 6.4 and 7.5. For the same reason, the authors do not discuss the syntax of the polar ‘yes-no’-question particle *li*, despite its being part of the BCS cluster—“there is no variation of the CL particle *li* in BCS varieties” (p. 99).

Clitic studies is a research field that calls for a great variety of terms referring to different dimensions of clitic classification; cf. “simple clitics” vs. “special clitics” (Zwicky 1977), “syntactic clitics” vs. “phonetic clitics” (Zaliznjak 2008: 8), “root-like clitics” vs. “affix-like clitics” (Aikhenvald 2002), “2P clitics” vs. “head-adjacent clitics” (Bošković 2001; Peng and Billings 2006; Franks 2008), “clustering clitics” vs. “non-clustering clitics” (Zimmerling and Kosta 2013), “clause-level clitics” vs. “phrase-level clitics” (Spencer and Luís 2012; Zimmerling 2013: 71), “ditropic clitics” (Cysouw 2005), “exoclitics” vs. “endoclitics” (Harris 2002), etc. The book’s terminology is standard, apart from the terms “diacclisis” and “pseudodiacclisis” introduced in Chapter 2 and illustrated in §8.10. They describe word orders in which clustering clitics linked with the same clausal head (*diacclisis*) or with different clausal heads (*pseudodiacclisis*) do not assume a contact position; cf. example (23) on p. 34: *po gradovima* =su¹ *predsednici opština* =se¹ *odjednom opredeljivali*¹ ‘in the cities, the municipality presidents were suddenly deciding...’ (Bosnian). A regular trigger of pseudodiacclisis in BCS is clitic climbing, when the climbed clitic does not reach the position of clusterization in the higher clause. This option is discussed at length in the second part of the reviewed book (cf. pp. 227, 266–73, 292, 307–9, 318–20, 371). Meanwhile, true clause-bound diacclisis is apparently a more marginal phenomenon in BCS (p. 168). A straightforward explanation of this asymmetry is that in a class of the world’s languages including BCS, contact position of the same clause’s clustering clitics is the default principle, while in configurations with clitic climbing, the contact position of the matrix- and embedded-clause clitics is just a tendency; although the matrix-clause clitic template has slots for all classes of the climbed elements, i.e., for BCS or

⁶ In contrast to Franks and King 2000 and the subsequent tradition in Slavic studies, the authors of the reviewed book do not use the label “AUX” for verbal clitics, since they see no difference in the ordering of copular and auxiliary forms of BCS *biti* ‘be’ (p. 19). I believe this is merely a question of the “depth” of analysis in terms of Haspelmath 2019, i.e., the linguist’s readiness to implement the apparatus of formal theories: clitic templates can be analyzed both as generalizations over text data and as ordering algorithms. In most Slavic languages, the constraints on placement of auxiliary present-tense forms of the verb BE, especially in the 1st and 2nd person, are more rigid compared to the copular uses of BE. Therefore, the uses of auxiliary present-tense BE-clitics in the Slavic perfect provide diagnostic contexts for the identification of clusters. In some Slavic languages, there is no marked contrast between auxiliary and copular present-tense BE-clitics; some languages also extend this analogy to other types of auxiliaries. That means that the AUX slots diagnosed by the auxiliary uses of present-tense BE-clitics can attract other clustering elements representing more recent layers of Slavic clitics, cf. the BCS future auxiliary *htjeti*.

Czech reflexives and pronominal argument clitics, the extracted clitics do not always reach these slots by movement and are sometimes left in intermediate positions.

A linguist needs valid research tools and resources like language corpora in order to measure the variation and, last but not least, have models that can be evaluated on text collections. These issues are discussed in Chapter 3, where the authors argue for a “triangulation of methods” using the scheme INTUITION/THEORY—OBSERVATION—EXPERIMENT and state that many theoretical claims concerning BCS clitics remain controversial and have not been checked properly against empirical data (p. 56). Most observations made in the reviewed book are based on existing BCS corpora; cf. Chapter 8 for Bosnian, Chapter 13 for Serbian, Chapter 14 for Croatian, and general preliminaries for corpus analysis in chapters 4 and 12. An experiment conducted with 336 Croatian speakers is presented in Chapter 15. The design of this experiment is somewhere in between socio- and psycholinguistics. On the one hand, the authors test a set of stimuli with and without clitic climbing and get the acceptability judgments of the experimental subjects. On the other hand, they measure the subjects’ reaction time post-operationally: as Figure 15.5. (p. 383) shows, the processed reaction time is in the range from 1,000 to 8,000 ms, i.e., from one to eight seconds. In this situation, both cover terms—“sociolinguistics” and “psycholinguistics”—are possible. The authors opt for the latter (pp. xii, 16, 49, 53, 57, 59), which is not surprising given their stance on not aligning their project with sociolinguistics⁷. Chapter 4 concludes the opening third of the book entitled “Preliminaries” and serves as a brief guide to the existing Bosnian, Croatian, and Serbian corpora providing data about the regional varieties of BCS.

The main part of the book is divided into two parts. Part 2 (chapters 5–9), entitled “Parameters of Variation”, offers a detailed discussion of most parameters, except for those related to clitic climbing. The latter are discussed in Part 3, “Clitic Climbing” (chapters 10–15). This subdivision has two motivations. First, as the authors argue, most systemic variation, i.e., variation within one and the same idiom of BCS, is attested in configurations licensing clitic climbing. Second, the descriptions of clitic climbing in Slavic languages bring in additional syntactic factors, such as the distinction of raising vs. control predicates, internal structure of finite and non-finite embedded complements of a different type, clause restructuring, etc. These factors are less relevant for the parameters of clitic ordering discussed in Part 2. Chapter 17 provides a general summary to parts 2 and 3. Appendices A and B contain details about the design of the stimuli used in Chapter 15 and explain the statistical measures used in chapters 14 and 15.

⁷ The term “sociolinguistic” is used in the book 22 times, the term “psycholinguistic” 38 times.

Turning back to the second part of the book, I would like to comment on three chapters. It was a wise move to dedicate a special chapter (Chapter 6) to linguistic traditions behind the descriptions of BCS clitics. There is little variation in the inventory of clustering clitics, but only one linguist—the Bosnian author Ridjanović (2012: 440)—openly claims that the reflexive marker *se* (historically an accusative form of the Proto-Slavic reflexive pronoun) lacks case in Modern BCS, since the parallel dative form *si*, which is widely used in Croatian, can hardly be found elsewhere in BCS territory (p. 99). This echoes the situation in Old Russian, where the accusative reflexive form *sja* is a highly frequent clitic, while its dative counterpart *si* occurs rarely and is not characteristic for vernacular Old Russian texts close to oral speech (Zaliznjak 1993: 284; 2008: 35). However, Zaliznjak puts the reflexive clitics *sja* and *si* in the same slots, ACC and DAT, that host Old Russian argument clitics. His decision is motivated by the fact that there are no Old Russian examples where *sja* and non-reflexive accusative pronouns (cf. *mja*.1SG.ACC, *tja*.2SG.ACC, *i*.3SG.ACC.M, *ju*.3SG.ACC.F, etc.) combine,⁸ and the same restriction holds for ORus *si* and non-reflexive dative pronouns (cf. *mi*.1SG.DAT, *ti*.2SG.DAT⁹). To assess the claim that BCS *se* and BCS/Croatian *si* lack morphological case, I would like to get more genuine examples where *se* and BCS accusative clitics, Croatian *si*, and dative clitics occur as parts of the same cluster.¹⁰ Such sentences are scattered elsewhere in the book, but it would be helpful to put them together. Other issues with templatic orders are the ordering of accusative and genitive clitics¹¹ and the dropping of the auxiliary *je*.AUX.3SG in the sequence *se je*. On

⁸ For modern Slavic languages, the recognition of REFL as a separate template slot different from ACC is based on two facts: (i) the template order for the argument pronominal clitics in most Slavic idioms is DAT ACC, while the reflexive marker generally precedes dative clitics in the cluster with the order REFL [CL_{ARG} DAT ACC]; and (ii) the accusative and dative reflexive clitics are generally ordered the same way.

⁹ Unlike modern South and West Slavic languages, Proto-Slavic and Old East Slavic dialects lacked 3rd-person dative clitics. The same gap is found in Old Church Slavonic and the oldest texts written in Old South Slavic idioms.

¹⁰ Browne (1975/2004: 257) points out that *se* and same-clause accusative clitics combine in reflexive impersonal sentences like *Veterani su uvidjeli, da =ih =se vara* 'The veterans realized that people were fooling them', accepted by some Croatian grammarians. This construction is mentioned by the authors of the reviewed book on p. 45, where they provide a colloquial Croatian parallel *Čuje*.3SG =SE.REFL *kišu*.ACC 'One hears the rain' to standard BCS *Čuje*.3SG =se.REFL *kiša*.NOM. However, they do not give examples like *Čuje*.3SG =je.3SG.F =se.REFL 'One hears it', where the accusative argument of the impersonal reflexive verb is realized by a clitic.

¹¹ The sets of BCS accusative and genitive clitics are almost identical, with the exception of 3SG.F forms, where the accusative clitic, but not the genitive one, has the allomorph *ju* (Browne and Alt 2004: 33). However, according to the authors of the reviewed book, who sum up the recommendations of Bosnian, Croatian, and Serbian

p. 100 the reader learns that there is a disagreement between two groups of BCS authors. The authors from the first group (cf. Piper and Klajn 2014: 452; Milićević 2007: 105) postulate two slots with the order ACC > GEN and accept sentences like *Lišili*.PTCP.3PL =SU.AUX.3PL =ih.3PL.ACC =je.3SG.F 'They_i deprived them_j of it' as standard. The authors from the second group (cf. Mrazović and Vukadinović 2009: 659; Ridjanović 2012: 565) deny that accusative and genitive clitics combine in standard BCS,¹² which means that there is only one ACC/GEN slot in their BCS idioms.¹³ Regarding the haplology rule *se je* > *se* called "haplology of unlikes" (pp. 104–05), the reported facts suggest that it is not a local phonetic modification, but a syntactic process. The default overt form of the 3rd-person singular perfect auxiliary is replaced by the zero auxiliary *je*.AUX.3SG > Ø.3SG; according to Ridjanović (2012: 564), standard Bosnian always retains the *se je* sequence in sentences like *Dobro*.PRED =se.REFL =je.3SG *nadati*.INF 'It is good to hope', where =*je* is not a perfect auxiliary, but a copula.¹⁴ The rest of Chapter 6 is devoted to two aspects of clitic-external ordering in BCS—first-word vs. first-constituent variation and delayed clitic placement¹⁵, when the clitics skip the initial constituent. Remarkably, the authors leave very short comments about delayed placement (p. 113), despite it being a more complicated mechanism that involves restructuring of the whole clause. This is probably due to the authors' plan to minimize the apparatus before the corpus study in Chapter 8, which is aimed at measuring the proportion of 2P and delayed clitic placement in the corpus of spoken Bosnian. Regarding normative descriptions of BCS, the authors state (p. 123) that Serbian linguists generally understand 2P, i.e., the default position of the clustering clitics, as the position posterior to the first spelled-out phrase (XP CL), while Croatian and Bosnian linguists generally understand it as the position posterior to the

grammarians on pp. 94–95, this morph disappears from many BCS idioms. The nouns have non-homonymic forms of ACC and GEN, except for the singular forms of masculine animate nouns.

¹² As far as one can tell from the reviewed book, this split of judgments is not between the regional BCS varieties, but between two modes of description: Serbian authors are found in both competing lines of analysis.

¹³ Clustering clitics *x*, *y* are put in the same template slot, if they meet two conditions: (i) they do not combine in a cluster, and (ii) they are ordered the same way regarding all other clustering clitics *u*, *w*.

¹⁴ The asymmetric behavior of the 3rd-person auxiliaries vs. 3rd-person BE-copulas is attested both in Modern and in Old Slavic languages. For example, Old Russian/Old East Slavic grammaticalized the zero 3rd-person perfect auxiliary in all number forms but retained overt 3rd-person copulas with nominal predicates in the same group of vernacular texts (Zaliznjak 2008: 259).

¹⁵ The abbreviation "DP = delayed position", introduced earlier on p. 28, is not optimal because of the association with the term "Determiner Phrase" (DP).

first phonetic word (2W) and favor the configurations with phrase splitting (X_1 CL $X_2 \dots X_n$) and delayed placement (X/XP Y CL).

Chapter 7, entitled “Clitics in Dialects (Bosnian, Croatian, Serbian)” (pp. 127–71), is a welcome complement to normative descriptions of BCS. The information rendered here can be broadly classified into two unequal groups: (i) the usage in Štokavian dialects close to regional BCS varieties, where the parameter settings for clitics (e.g., phrase-splitting and delayed placement conditions, haplology rules, etc.) can, with few adjustments, be derived from the settings of BCS grammar; and (ii) autonomous clitic systems incompatible with BCS. A large majority of facts pattern with the first group, with the exception of 1P orders in the absolute clause-initial position ($\#X$ CL...)—cf. examples (75–82) on pp. 160–62—and the dialects with endoclititics discussed on pp. 163–64.¹⁶ There are reasons to assume that endoclitisis, i.e., a configuration where clitics are inserted into morphological structure, is not an inherent feature of clitics, but a feature of certain *clitic bases* hosting the clitics. No languages where any elements are invariably realized as endoclititics are attested: in all known cases, endoclitisis is a side effect of some proclitics or enclitics attaching to special clitic bases, combining the features of syntactic and morphological structures. These criteria apply to splitting of superlative adjectives like *nâj* ↓ *drăži* ‘dearest’,¹⁷ which can be realized in BCS dialects with endoclititics as *nâj* ↓ =*mi*.1SG.DAT =*je*.AUX.3SG *drăži* ‘He is my dearest’; cf. examples (84–86). One more possible endoclititic basis is the future auxiliary *htjeti*: here, the ‘yes-no’ clitic marker *li* is inserted between the stem and the inflection; cf. example (89), reproduced below in a slightly modified notation:

- (1) Će ↓ =*li* =š jütre rivät tò storit? (Čakavian)
 FUT FOC 2SG tomorrow manage.INF that get.done.INF
 ‘Will you be able to do it tomorrow?’

It is better to exclude examples (87) and (88), since the negator *ne* is traditionally considered a syntactic element, especially if it assumes a distant position from the verb.

Chapter 8 presents data retrieved from the corpus of spoken Bosnian. It is large enough to contain around 3,400 single clitics and 430 clusters, but nevertheless too undersized to provide statistics on clusters consisting of three elements or more. That means that in order to get all combinatorics of BCS

¹⁶ The authors do not specify whether BCS dialects with *vP*-internal clitics of the Romance type, where the distant position of clitics and verbs is banned ($*V$ X CL, $*CL$ X V) and the clitics lack a fixed position with respect to the clausal left boundary (“V-systems” according to Zimmerling and Kosta (2013), “verb-adjacent clitics” in traditional notation), are attested in the Štokavian area shown on p. 129.

¹⁷ The arrow ↓ marks the locus of endoclititic insertion.

clitics, one needs a much larger corpus. The combination *se*.REFL + *je*.AUX.3SG occurs in the Bosnian corpus only six times, with the order $=se$.REFL $=je$.AUX.3SG predicted by the BCS template, while the reverse order, $=je$.AUX.3SG $=se$.REFL, is attested 25 times. The haplological variant *se*.REFL + *je*.AUX.3SG > $=se$ \emptyset .3SG, where the auxiliary is deleted, occurs around 80 times (pp. 193–95). These figures are too small to establish whether the variation $=se$.REFL $=je$.AUX.3SG \sim $=je$.AUX.3SG $=se$.REFL represents non-identical template rules by different speakers or the lack of rigid ordering in the regional Bosnian variety of BCS. However, they indirectly confirm that the spelled-out combination *se* + *je* is undesirable, though not completely blocked in BCS. The authors measure the external position of Bosnian clustering clitics and find no difference in the placement of single clitics and clusters: around 94–95% of them end up in 2P, and in 77% of clauses, the clitics are placed after the first word (2W). The rate of delayed placement labeled “3P” is 4% (181 clauses). Twenty-six clauses (1%) pattern with the category “1P”¹⁸. These are not true instances of clause-initial clitics, but examples with clitics placed after parenthetical insertions; cf. example (55) on p. 211, reproduced below in a slightly modified notation:

- (2) Jedan drug #Musliman # $=me$ $=je$ (BCS, Bosnian)
 one friend Muslim me.1SG.ACC AUX.3SG
 zvaó...
 called.PTCP.SG.M
 ‘One friend, a Muslim, called me...’

From the perspective of clausal structure, examples like (2) are a special case of 2P with parentheticals intervening between clitic hosts ([_{NP/DP} *jedan drug*]) and clitics/clusters.¹⁹ However, the tag “3P”, referring to delayed placement in languages like BCS, can be taken at face value, since there is no obvious way to claim that the initial phrase is extraclausal. If the initial element has an effect on the end position of 2P clitics, shifting them to the right, it is a *barrier* in terms of Zaliznjak 2008 (esp. p. 48) and Zimmerling and Kosta 2013. Preliminary observations on diverse languages with clitics indicate that clitic orders

¹⁸ In Reinkowski 2001 (esp. p. 191), the term “initial position” (Ger *Anfangstellung*) is used differently; it refers to the placement of BCS clustering clitics after the first phonetic word. The authors of the reviewed book justly identify this option as a special case of 2P.

¹⁹ An analysis like this proceeds from the assumption that parentheticals split the already generated well-formed combinations of the 2P enclitics and their host category: X/XP = CL, # Y# \Rightarrow X/XP # Y# = CL (cf. a similar approach in Franks 2017: 189–93). Some languages license post-syntactic insertions of this kind, others do not, but no language with clustering clitics licenses parenthetical insertions inside the cluster (Zimmerling 2013: 303–05).

with barriers have information-structural triggers, so that delayed placement configurations in BCS can be associated with some marked types of information structure.²⁰ The authors of the reviewed book do not delve into the issues of communicative-syntactic interface; they measure the heaviness of clause-initial elements and actual clitic hosts in clauses with 2P and 3P by the number of segments (graphemes). This measurement has been implemented in corpus studies of Old Czech clitics in Kosek et al. 2018. With 2P, the most frequent clitic host in spoken Bosnian is just two “graphemes” long,²¹ while with 3P, the initial element is three graphemes long, and the actual host, four graphemes long (p. 202). The deviations in the data are caused by rare over-long initial constituents ($n > 20$ graphemes). The authors exclude them from the sample, calculate the Wilcoxon signed-rank coefficient, and arrive at the conclusion that delayed placement in spoken Bosnian results from significantly long initial constituents that block 2P placement (p. 204). As far as I see, the procedure applied is correct, but additional data is needed to interpret the correlation between the length of constituents and 3P in linguistic terms. First, one needs a larger sample, where the length of initial constituents in both groups (2P and 3P) can be measured based on the number of words, not the number of graphemes. Second, one must try the alternative hypothesis that short initial constituents consisting of one or two words can trigger 3P, if they have some special communicative value.

The last third of the book opens with a brief introduction to the theory of clitic climbing (Chapter 10) and an extended comparison of clitic climbing phenomena in two Slavic languages: Czech and BCS (Chapter 11). The contrastive perspective is explained by the fact that the conditions for clitic climbing in Czech are better studied as compared to BCS (see the important works of Junghanns 2002; Rezac 2005; Hana 2007; and Rosen 2014 for Czech; and Stjepanović 2004 and Aljović 2005 for BCS), while the morphosyntax of both languages is similar. The necessary, but not sufficient condition for clitic climbing in languages like BCS or Czech is that the clitic template of the matrix/higher clause has slots for categories represented by the clitics extracted from embedded clauses.²² There are three groups of factors that

²⁰ Cf. the syntactic approach to clitic-third orders in Croatian (Ćavar and Wilder 1999) and an equivalent analysis of Croatian idioms in terms of barriers in Zimmerling 2013 (esp. pp. 454–63).

²¹ This result depends on the chosen transcription. For processing, the authors use the phonetic tags, like /De/ instead of the normalized spelling *gdje* (p. 187).

²² Standard word-order systems with 2P clitics (“W-systems” in the notation of Zimmerling and Kosta 2013 and Zimmerling 2013) manifest identical sets of clustering clitics in root and embedded clitics, but clitic climbing is theoretically possible even if these sets are non-identical. The same holds true for word-order systems of the Bulgarian–Philippine type, where the 2P condition is combined with clitic-verb

Franks and King (2000: 245) and Stjepanović (2004) argue that clitic climbing is only possible with clause restructuring when the predicative complement lacks the full properties of an autonomous clause. This is a viable alternative to the assumption that the complement always forms a clause on its own (Spencer and Luís 2012). Indeed, if a clitic cluster is a real syntactic object and not just a sequence of phonetically adjacent weak-stress elements, the clustering clitics must obey the One-Domain-Principle (Zimmerling 2021: 483), although it is a priori not clear whether this domain corresponds to a single clause or to a clause union. The authors of the reviewed book seem to adopt the restructuring hypothesis and try to prove it empirically. In Chapter 12, they introduce the design of the corpus studies and specify the details for retrieving and processing embedded finite *da*-clauses containing clitics. It is customary in Balkan studies to distinguish the uses of the particle *da* in indicative and subjunctive clauses (cf. Joseph 1983; Stjepanović 2004; Todorović 2015; Mitkovska, Bužarovska, and Ivanova 2017), but the authors stick to synonymous labels *da*₁ (for tensed indicative *da*-clauses) vs. *da*₂ (for tense-less subjunctive *da*-clauses) that go back to Browne 1968, 1986, 2003 (esp. p. 39). Since they focus on clitic climbing out of finite tensed complement clauses into tensed matrix clauses, they exclude matrix predicates with *da*₁-complements from the sample (p. 292). They also exclude two unwanted types of *da*₂-predicates: reflexive and polyfunctional. The list of complement-taking predicates (CTPs) checked in the remaining types of BCS *da*₂-clauses includes 17 items: the authors deleted the most frequent raising verbs from the list in order to make it more balanced, since object control verbs have a much lower frequency (ibid.). The corpus study of clitic climbing out of *da*₂-clauses in Chapter 13 is based on a Serbian corpus. The authors conclude that Serbian *da*₂-clauses marginally allow clitic climbing in raising and subject control contexts, but it is probably blocked with object control. There is no evidence that the reflexive *se* can climb out of *da*₂-clauses in any context. Clitic climbing out of tensed *da*₂-clauses is a marginal construction in Serbian, but the future/past-tense markers, contrary to previous claims, do not block it completely (pp. 308–09).

The impact of the raising vs. control asymmetry for clitic climbing out of infinitival complements is studied in Chapter 14 on Croatian data. In order to check these issues, one needs to take those BCS varieties where the use of infinitival complements is a living phenomenon: the distinction of Standard and Colloquial Croatian represented by different corpora adds an extra dimension. The list of verbs tested in this chapter is a bit larger and includes 24 items. The results show that clitic climbing occurs more frequently in Standard Croatian, where the difference between raising and simple control verbs is statistically significant, while clitic climbing with reflexive subject control CTPs is significantly less frequent in all registers of Croatian. The type of infinitive clitic and its case are not relevant (p. 325). Chapter 15 again

deals with the regional Croatian variety of BCS and the same input data—the infinitival complements with clitics—but the method is different. The authors test the set of stimuli on 336 Croatian speakers (non-linguists, students of Zagreb University, with the average age of 21.5 years). The set includes 40 verbs: 8 raising verbs, e.g., *moći* ‘can’, *trebati* ‘have to’, *počinjati* ‘start’; 8 non-reflexive subject control verbs, e.g., *znati* ‘know’, *uspijevati* ‘succeed’; 8 non-reflexive object control verbs, e.g., *pomagati* ‘help’, *dozvoljavati* ‘allow’; 8 reflexive object control verbs with the marker *si*, e.g., *braniti si* ‘forbid oneself’, *dozvoljavati si* ‘allow oneself’; and 8 reflexive object verbs with the marker *se*, e.g., *učiti se* ‘teach oneself’, *spremati se* ‘prepare oneself’ (pp. 335–38). At the output, the authors get two types of data—acceptability judgments and reaction time. The data of both types are processed by the same regression measure as in Chapter 14 (p. 315, 325, 354). The most important presented empirical result is that they got statistical confirmation that clitic climbing is not obligatory in BCS with any type of predicate, including raising verbs (\approx “restructuring predicates”), although the speakers had marked preferences for the clitic climbing order in this group of CTPs (p. 384). Morphological case of the infinitive clitic is relevant. If the controller is in the dative and the infinitival clitic is in the accusative, clitic climbing is possible, but the acceptability rate is still under 50%. The object control reflexive constraint, first postulated by Hana (2007), proved relevant to BCS, apart from the so-called lexical reflexives²⁴ (*bojati se* ‘be afraid’, *vratiti se* ‘return’, etc.), where climbing is marginally possible (p. 386). Chapter 16 concludes Part 3. The authors state that the conditions licensing clitic climbing are heterogeneous and argue that their interaction, as well as the optionality of many rules, is a case of systemic complexity in the spirit of Rescher 1998 and Miestamo, Sinnemäki, and Karlsson 2008.

The title of the reviewed book asserts that it is about “clitics in the wild”, i.e., clitics as they are. One could say that it is a successful attempt at *taming* the clitics and making a bridge between theoretical models and empirically oriented linguistics. Turning to complexity, I would like to add two dimensions. The first one is the perspective of (mathematical) formal grammars. Clitic ordering apparently corresponds to three classes of them. Clause-bound cluster orders (in a different terminology, template orders) can be generated by A(utomaton)-grammars based on the immediate predecessor relation; they produce the string stepwise from the edge slot to the adjacent one and look up one single template slot per step, but if the ordering is rigid, this algorithm works. The 2P placement principle can arguably be modeled by a broader class of grammars—context-free grammars—given the reliable assumption that clitics cluster in dedicated syntactic positions; in languages like BCS, Czech, Pashto, Ossetic, Warlpiri, etc., it is 2P (X/XP — CL). The X ~ XP variation in 1P licensed in BCS or Warlpiri, but not in Czech or Ossetic, is a

²⁴ This label is first introduced on pp. 48–49.

special form of the 2P condition and a parametric setting characteristic of a subclass of 2P languages. However, the orders with delayed placement (\approx 3P) and clitic climbing can hardly be generated by context-free grammars. The main reason is not that the rules of delayed placement and clitic climbing are non-obligatory, but that they involve reordering of the already generated structure due to such context factors as topicality of the initial phrase or some active lexical or grammatical feature, etc. This reordering can only be done by context-sensitive grammars, or at best, mildly context-sensitive grammars with movement operators (Stabler 1997, 1998; Gärtner and Michaelis 2007). Mildly context-sensitive grammars generate the structure bottom-up but capture both right-to-left movement, i.e., raising, and left-to-right movement, e.g., lowering (cf. Zimmerling 2021: 431).²⁵ The second dimension is interface phenomena. Although both information layering and syntactic derivation are complex processes, the principles of the communicative-syntactic interface must be simple; otherwise, the speakers would not be able to apply them. It is tempting to assume that reordered clauses with clitics are also communicatively marked. This is likely for delayed clitic placement, since initial barriers in languages with fixed-position clitics are generally topical, i.e., add a fixed information-structural value (cf. sentences (3a) and (4a) above), but less evident for BCS clitic climbing data; the status of neutral vs. communicatively marked word orders has to be established for different groups of complement-taking predicates with embedded-clause clitics on a separate basis. The overall ratio of the default and marked orders and its dynamic are important; they show whether a word-order system is diachronically stable or not.²⁶ According to the reviewed book, the ratio of delayed placement order in the corpus of spoken Bosnian totals only 4–5% (p. 197), while the historical study of Reinkowski (2001: 182, 201), mentioned on p. 114, shows that delayed placement orders are “dominant” in the corpus of Serbian and Croatian journalistic texts from 1903 up to 1995. These discrepancies of data can be explained by at least three different factors: (i) the oral vs. written contrast; (ii) the level of text complexity—the journalistic texts are likely more complex and provide more opportunities to use initial topical barriers than the fragments included in the spoken corpus—and (iii) the size of the corpus.

²⁵ The unilateral restriction on the movement vector does not change the efficiency of Stablerian mildly context-sensitive grammars. The Minimalist program, as is well known, accepts only right-to-left movement.

²⁶ An increase in frequency of the marked order can lead to its reanalysis as the new default setting. This happened, for example, to Old Russian accusative reflexive *sja*, which was a 2P clitic in the 11th to 12th centuries but ended up in the postverbal position in the 15th to 16th centuries due to barrier rules shifting it to the right (Zaliznjak 2008: 169–220).

I conclude that *Clitics in the Wild* is a valuable contribution to Slavic studies. This book gives the reader what has been promised—an analysis of microvariation in BCS clitic syntax—and serves as a modern guide to a number of issues in general grammar. I am happy to recommend the book to all Slavicists and other linguists.

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