

THE TAMING OF THE CLITICS

Zrinka Kolaković, Edyta Jurkiewicz-Rohrbacher, Björn Hansen, Dušica Filipović Đurđević & Nataša Fritz. 2022. *Clitics in the wild: Empirical studies on the microvariation of the pronominal, reflexive and verbal clitics in Bosnian, Croatian and Serbian* (Open Slavic Linguistics 7). Berlin: Language Science Press. 461 p.

Reviewed by Anton Zimmerling

The reviewed book offers an empirically-oriented description of Bosnian, Croatian and Serbian (BCS) clitics, with 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 negation *ne* (Browne & 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 ($\#...CL... * \#CL...$) and behave as strict enclitics, i.e. always need a <non-clitic> host to their left ($X/XP = CL$)¹. 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 *Timočko-lužnički* dialects license clustering clitics in the absolute initial position (pp. 160 – 162)².

In section 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 languages³, 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 classical 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

¹ 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.

² These options displayed by different BCS dialects have different historical explanations. The 1P orders in *Kosovsko-resavski*, *Prizrensko-južnomoravski* and *Timočko-lužnički* dialects are likely due to contacts with word order systems having vP-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.

³ Cf. Zimmerling (2018) and Zimmerling (2022) for Modern Russian and Early Old Russian respectively and Ivanova & Zimmerling (2019) for a contrastive analysis of Russian and Bulgarian.

not to deal with language strata (p. 6). However, on pp. 191 - 192 they state that the inflected forms of the conditional clitics *bih*, *bismo*, etc., instead of the uninflected *bi*, are better preserved in the corpus of spoken Bosnian by more educated speakers, which is then an instance of *diastatic* variation.

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 (p. 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 & 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 BCS clitic clusters⁴, cf. the short sections **6.4.** in *Chapter 6* (pp. 101 — 105) and **7.5.** in *Chapter 7* (pp. 147 — 152). 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 & Billings 2006; Franks 2008), 'clustering clitics' vs 'non-clustering clitics' (Zimmerling & Kosta 2013)] 'clause-level clitics' vs 'phrase-level clitics' (Spencer & Luís 2012; Zimmerling 2013: 71), 'ditropic clitics' (Cysouw 2005), 'exoclitics' vs 'endoclitics', cf. Harris (2002), etc. The book's terminology is standard, apart from the terms 'diacclisis' and 'pseudodiacclisis' introduced in *Chapter 2* and illustrated in section **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. ex. (23) on p. 34: *po gradovima* = *su¹ predsjednici opština* = *se¹ odjednom opredeljivali¹* '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 - 273, 292, 307 - 309, 318 - 320, 371, etc. Meanwhile, true clause-bound diacclisis is apparently a more marginal phenomenon in BCS, cf. p. 168. A straightforward explanation of this asymmetry is that in a class of the world's languages including BCS, contact position

⁴ In contrast to Franks & 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 - 2nd persons, 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 *hijeti*.

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 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 fig. 15.5. on p. 383 shows, the processed reaction time is in the range from 1000 to 8000 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 (p. XII, 16, 49, 53, 57, 59 and *passim*), which is not surprising given their stance on not identifying their project with sociolinguistics⁵. *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 sections. Section II (*chapters 4* to *9*, pp. 87 - 221) entitled 'Parameters of Variation' offers a detailed discussion of most parameters except for those related to clitic climbing. The latter are discussed in Section III, 'Clitic climbing' (*chapters 10* to *15*, pp. 223 - 407). 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, as e.g. 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 Section II. *Chapter 17* provides a general summary to Sections II-III. *Appendices A-B* contain the details about the design of the stimuli used in *Chapter 15* and explain statistical measures used in *Chapters 14 & 15*.

Turning back to Section II, 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 Bosnian, Croatian

⁵ The term 'sociolinguistic' is used in the book 22 times, the term 'psycholinguistic' 38 times.

and Serbian 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 *сѧ* is a highly frequent clitic, while its dative counterpart *cu* 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 *сѧ* and *cu* 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 ORus. *сѧ* and non-reflexive accusative pronouns, cf. *мѧ*_{1SG.ACC}, *мѧ*_{2SG.ACC}, *у*_{3SG.ACC.M}, *ю*_{3SG.ACC.F}, etc. combine⁶, and the same restriction holds for ORus. *cu* and non-reflexive dative pronouns, cf. *му*_{1SG.DAT}, *му*_{2SG.DAT}⁷. 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 cluster⁸. 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 clitics⁹ and the dropping of the auxiliary *je*_{AUX.3SG} in the sequence *se je*. On p. 100 the reader learns that there is a disagreement between two groups of BCS authors. The authors from the first group, cf. Piper & Klajn (2014: 452) and 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 & Vukadinović (2009: 659), Ridjanović (2012: 565) deny that accusative and genitive clitics combine in standard BCS¹⁰, which means that there is only one ACC/GEN slot in their BCS idioms¹¹. Regarding the haplology rule *se je* > *se* called ‘haplology of unlikes’ on pp. 104-105, 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} > \emptyset ^{3SG}: according to Ridjanović (2012: 564), standard Bosnian always retains the *se je* sequence in sentences like

⁶ For Modern Slavic languages, the recognition of REFL as a separate template slot different from ACC is based on two facts: 1) 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]; 2) the accusative and dative reflexive clitics are generally ordered the same way.

⁷ 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.

⁸ 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.

⁹ 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 & Alt 2004: 33). However, according to the authors of the reviewed book, who sum up the recommendations of Bosnian, Croatian and Serbian 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.

¹⁰ As far as one can tell from the reviewed book, this split of judgements is not between the regional BCS varieties, but between two modes of description: Serbian authors are found in both competing lines of analysis.

¹¹ Clustering clitics *x*, *y* are put in the same template slot, if they meet two conditions: i) they do not combine in a cluster; ii) they are ordered the same way regarding all other clustering clitics *u*, *w*.

*Dobro*_{PRED} = *se*_{REFL} = *je*_{3SG} *nadati*_{INF} ‘It is good to hope’, where =*je* is not a perfect auxiliary, but a copula¹². 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 placement¹³, when the clitics skip the initial constituent. Remarkably, the authors leave very short comments about delayed placement on p. 113 despite its being a more complicated mechanism involving the 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 on 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 first phonetic word (2W) and favor the configurations with phrase splitting (X₁ CL X₂... X_n) and delayed placement (X/XP Y CL).

Chapter 7 entitled ‘Clitics in dialects (Bosnian, Croatian, Serbian)’, pp. 127 - 171 is a welcome complement to normative descriptions of BCS. The information rendered here can be broadly classified into two unequal groups: 1) 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; 2) autonomous clitic systems incompatible with BCS. A large majority of facts pattern with the first group, with the exceptions of 1P orders in the absolute clause-initial position (#X CL...), cf. examples (75) — (82) on p. 160 - 162 and the dialects with endoclitics discussed on pp. 163 - 164¹⁴. There are reasons to assume that endocclisis, 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 endoclitics are attested: in all known cases, endocclisis 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* ↓ *drăžī* ‘dearest’¹⁵, which can be realized in BCS dialects with endoclitics as *nâj* ↓ =*mi*_{1SG.DAT} =*je*_{AUX3.SG} *drăži* ‘He is my dearest’, cf. examples (84) — (86). One more possible endoclitic basis is the future auxiliary *htjeti*: here, the yes-no clitic marker *li* is inserted between the stem and the inflexion, cf. example (89) reproduced below in a slightly modified notation:

(1) Će ↓ =*li* =š jütre rivät tō storīt?

¹² The asymmetric behavior of the 3rd person auxiliaries vs 3rd person BE-copulas is attested both in Modern and in Old Slavic languages. E.g. 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).

¹³ The abbreviation ‘DP = delayed position’ introduced earlier on p. 28 does not look felicitous because of the association with the term Determiner Phrase (DP).

¹⁴ 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 & Kosta (2013), ‘verb-adjacent clitics’ in traditional notation) are attested in the area shown on p. 129.

¹⁵ The arrow ‘↓’ marks the locus of endoclititic insertion.

FUT FOC 2SG tomorrow manage.INF that get.done.INF

‘Will you be able to do it tomorrow?’ (Čakavian)

It is better to exclude examples (87) and (88), since the negation *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 ca. 3400 single clitics and 430 clusters, but nevertheless too undersized to provide statistics on clusters consisting of 3 elements or more. That means that in order to get all combinatorics of BCS clitics, one needs a much larger corpus. The combination $se_{REFL} + je_{AUX.3SG}$ occurs in the Bosnian corpus only 6 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 $se_{REFL} + je_{AUX.3SG} > =se \emptyset^{SG}$, where the auxiliary is deleted, occurs ca. 80 times (pp. 193 - 195). These figures are too small to establish whether the variants $=se_{REFL}=je_{AUX.3SG} \sim =je_{AUX.3SG}=se_{REFL}$ represent non-identical template rules by different speakers or the lack of rigid ordering in the regional Bosnian BCS variety. 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: ca. 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). 26 clauses (1%) pattern with the category ‘1P’¹⁶. These are not true instances of clause-initial clitics, but examples with clitics placed after parenthetical insertions, cf. the ex. (55) on p. 211 reproduced below in a slightly modified notation:

(2) Jedan drug # Musliman # =me_{1ACC.SG} =je_{AUX.3SG} Zva_{OPTCP.SG.M...}

‘One friend, a Muslim, called me...’ (BCS, Bosnian)

From the perspective of clausal structure, examples like (2) are a special case of 2P with parentheticals intervening between clitic hosts, cf. $[_{NP/DP} jedan drug]$ and clitics/clusters¹⁷. On the contrary, 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: 48); Zimmerling & Kosta (2013). Preliminary observations on diverse languages with clitics indicate that clitic orders with barriers have information-structural triggers, so that delayed placement configurations in BCS can be

¹⁶ In Reinkowski (2001: 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.

¹⁷ 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 -193). Some languages license post-syntactic insertions of this kind, other do not, but no language with clustering clitics licenses parenthetical insertions inside the cluster (Zimmerling 2013: 303 - 305).

associated with some marked types of IS¹⁸. 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’ long¹⁹, 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 overlong 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 which 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*, pp. 236 - 284). The contrastive perspective is explained by the fact that the conditions for clitic climbing in Czech are studied better as compared to BCS, cf. the important works (Junghanns 2002; Rezac 2005; Hana 2007; Rosen 2014) for Czech and (Stjepanović 2004; 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 clauses²⁰. There are three groups of factors that can block clitic climbing: 1) the embedded clause is an island, cf. a survey of Czech and BCS data on pp. 238 - 250; 2) certain types of predicates impose more severe restrictions on clitic climbing than other types, notably, object control verbs favor word orders without clitic climbing (p. 252); 3) the type of the clitic category, e.g. its case, person features and animacy as well as selectional restrictions, e.g. haplology of segmentally identical elements have impact on the choice of word orders with or without clitic climbing (pp. 255 - 269). The authors also briefly discuss the impact of sentential negation and information structure on pp. 274 - 276. I would like to point out that two observations made in the

¹⁸ Cf. the syntactic approach to clitic-third orders in Croatian (Ćavar & Wilder 1999) and an equivalent analysis of Croatian idioms in terms of barriers in Zimmerling (2013: 454 - 463).

¹⁹ This result depends on the chosen transcription. For processing, the authors use the phonetic <reg> tags like /De/ instead of the normalized spelling *gdje* (p. 187).

²⁰ Standard word order systems with 2P clitics (W-systems in the notation of Zimmerling & Kosta (2013), 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 for word order systems of the Bulgarian – Philippine type, where the 2P condition is combined with the clitic-verb adjacency (#X — CL — V ~ #V — CL — V, *#CL, *X — Y — CL, *X — CL — Y — W), cf. Bulgarian, Tagalog, Cebuano, Binukid (Billings 2004; Peng & Billings 2006). Such word order systems are labeled W⁺-systems in Zimmerling & Kosta (2013) and Zimmerling (2021: 438).

preceding literature — Bošković’s idea that clitic climbing does not take place in BCS if the infinitival complement is fronted (Bošković 2001) supported by Stjepanović (2004: 182), who provides the example (3) and Junghanns’s idea that clitic climbing in Czech does not take place if the infinitival complement as a whole is the focus of the sentence or part of the focus, cf. the example (4) — get a uniform explanation in terms of communicative barriers. If the initial constituent(s), be it an InfP or something else, is a topical barrier, it shifts the clitic domain to the right. This mechanism triggers 3P orders both in (3) and (4), where the vacant clausal-second position can be filled by the verb hosting the clitics, which is shown in (4). In the notation of (3) — (4), I use curly braces for communicative constituents²¹.

(3) BCS

- a. $\text{BARRIER} \{ \text{TOPIC} [\text{InfP } \underline{\text{Sresti}}_{\text{INF}}^2 = \text{ga}_{\text{ACC.SG.M}}^2 \text{ u Kanadi}] \}, \{ \text{Focus } \text{Dragan} = \text{je}_{\text{AUX.3SG}}^1 \underline{\text{želio}}_{\text{PTCP.SG.M}}^1 \}.$

‘Dragan wanted¹ to meet² him in Canada.’

- b. **Sresti ga je Dragan želio.*

(4) Czech

- a. $\dots \text{BARRIER} \{ \text{TOPIC} [\text{WH } \text{kterí}] [\text{AdvP } \text{čas od času}] \} \{ \text{FOCUS } \underline{\text{přicházeli}}_{\text{PTCP.PL}}^1 = \text{se}_{\text{REFL}}^2 \text{ } = \text{mu}_{\text{DAT.SG.M}}^2 \underline{\text{posmívat}}_{\text{INF}}^2 \}.$

‘Who came to mock him from time to time.’

- b. $?? \{ \text{TOPIC } \text{kterí čas od času} \} \text{ se } \text{mu přicházeli posmívat.}$

Franks & 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 & 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 in subjunctive clauses, cf. (Joseph 1983; Stjepanović 2004; Todorović 2015; Mitkovska, Bužarovska & 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: 39). Since they focus on clitic climbing out of finite tensed complement clauses into tensed matrix clauses, they exclude matrix

²¹ Note that one communicative constituent, i.e. topical or focal phrase, can correspond to several syntactic constituents.

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 — 309).

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 the infinitive clitic and its case are not relevant (p. 325). *Chapter 15* again deals with the regional Croatian BCS variety 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 - 338). At the output the authors get two types of data — the acceptability judgments and the 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 empirical result achieved by the authors is that they got a statistical confirmation that clitic climbing is not obligatory in BCS with any types of predicates including raising verbs (≈ ‘restructuring predicates’), although the speakers had marked preferences for the clitic climbing order in this group of STPs (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 reflexives²² (*bojati se*, *vratiti se*, etc.), where climbing is marginally possible (p. 386). *Chapter 16* concludes Section III. The authors state that the conditions licensing clitic climbing are

²² This label is first introduced on p. 48-49.

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 & 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 the world’s languages like BCS, Czech, Pashto, Ossetic, Warlpiri, etc. it is 2P (X/XP — CL). The $X \sim XP$ variation in 1P licensed in BCS or Warlpiri but not in Czech or Ossetic is a 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 & 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, i.e. lowering, cf. Zimmerling (2021: 431)²³. 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 IS-value, cf. the 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 not²⁴. 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

²³ 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.

²⁴ An increase in frequency of the marked order can lead to its reanalysis as the new default setting. This happened, e.g. to Old Russian accusative reflexive *ся*, which was a 2P clitic in the XI-XII centuries but ended up in the postverbal position in the XV-XVI centuries due to Barrier rules shifting it to the right (Zaliznjak 2008: 169 - 220).

1903 up to 1995. These discrepancies of data can be explained by at least three different factors: 1) the oral vs written contrast; 2) 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; 3) the size of the corpus.

I conclude that “Clitics in the wild” is a valuable contribution to Slavic studies. This book gives the reader what has been announced — 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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References

- Aikhenvald, Alexandra. (2002) "Typological parameters for the study of clitics, with special references to Tariana". R. M. V. Dixon and A. Y. Aikhenvald, eds. *Word: a cross-linguistic typology*. Cambridge: Cambridge University Press, 42–78.
- Aljović, Nadira. (2005) "On clitic climbing in Bosnian/Croatian/Serbian". Nedžad Leko, ed., *Lingvistički vidici*, vol. 34, 58–84. Sarajevo: Forum Bosnae.
- Billings, Loren. (2004) Review of *On the Nature of the Syntax-Phonology Interface: Cliticization and Related Phenomena*. *Journal of Slavic Linguistics* 12(1–2), 285–321.
- Bošković, Željko. (2001) *On the nature of the syntax-phonology interface: Cliticization and related phenomena*. Amsterdam: Elsevier.
- Browne, Wayles. (1968) "Srpskohrvatske enklitike i teorija transformacione gramatike". *Zbornik za filologiju i lingvistiku* (Novi Sad) 11, 25-29.
- Browne, Wayles. (1975/2004) "Serbo-Croatian enclitics for English-Speaking learners". Rudolf Filipović, ed., *Contrastive analysis of English and Serbo-Croatian (Kontrastivna analiza engleskog i hrvatskog jezika I)*. Zagreb, Institute of Linguistics, 1975, 105 -134. Reprinted in *Journal of Slavic Linguistics* 12(1-2), 2004, 249 — 283.
- Browne, Wayles. (1986) *Relative Clauses in Serbo-Croatian in Comparison with English*. (Yugoslav Serbo-Croatian-English Contrastive Project. New Studies, 4.) Zagreb: Institute of Linguistics 1986, pp. v + 165.

- Browne, Wayles. (2003) "Razlike u redu riječi u zavisnoj rečenici". *Wiener Slawistischer Almanach* Sonderband 57. 39–44. slavistik-portal.de/datenpool/ebseesdb.html?data=96506.
- Brown[e], Wayles and Theresa Alt. (2004) *A Handbook of Bosnian, Croatian and Serbian*. Slavic and East European Language Research Center (SEELRC), Duke University.
<http://www.seelrc.org:8080/grammar/mainframe.jsp?nLanguageID=1>
- Ćavar, Damir and Chris Wilder. (1999) "Clitic Third" in Croatian. Henk van Riemsdijk, ed. *Clitics in the Languages of Europe*. Berlin: Mouton de Gruyter, 429-467.
- Coseriu, Eugenio. (1980) „Historische Sprache“ und „Dialekt“. Joachim Göschel, Pavle Ivić and Kurt Kehr, eds. *Dialekt und Dialektologie: Ergebnisse des Internationalen Symposions „Zur Theorie des Dialekts“* (Zeitschrift für Dialektologie und Linguistik. Beihefte. Neue Folge Nr. 26 der Zeitschrift für Mundartforschung). Wiesbaden: Steiner, 106-122.
- Cysouw, Michael. (2005) "Morphology in the wrong place. A survey of the preposed enclitics". W. Dressler, ed. *Morphology and its demarcations. Selected papers from the 11th Morphological Meeting. February, 2004*. Amsterdam/Philadelphia: John Benjamins, 41–104.
- Franks, Steven. (2008) "Clitic placement, prosody and the Bulgarian verbal complex". *Journal of Slavic linguistics* 16(1): 91–137.
- Franks, Steven. (2017) *Syntax and Spell-Out in Slavic*. Bloomington, IN: Slavica.
- Franks, Steven and Tracy Holloway King. (2000) *A Handbook of Slavic clitics*. New York/Oxford: Oxford University Press. (Oxford Studies in Comparative Syntax.)
- Gärtner, Hans-Martin and Jens Michaelis. (2007) "Some remarks on the locality conditions and minimalist grammars". Uli Sauerland and Hans-Martin Gärtner, eds. *Interfaces + Recursion = Language? Chomsky's minimalism and the view from syntax-semantics*. Berlin: De Gruyter, 162–195. (Studies in Generative Grammar, 89.)
- Hana, Jiřka. (2007) *Czech clitics in higher order grammar*. Charles University in Prague. (Doctoral dissertation).
- Haspelmath, Martin. (2019) "Ergativity and depth of analysis". *Rhema*, 2019(4), 108-130.
- Harris, Alice. (2002) *Endoclititics and the Origins of Udi Morphosyntax*. Oxford: Oxford University Press.
- Ivanova, Elena and Anton Zimmerling. (2019) "Shared by all speakers? Dative Predicatives in Bulgarian and Russian". *Bulgarian language and literature*. 2019(4), 353–363.
- Joseph, Brian D. (1983) *The Synchrony and Diachrony of the Balkan Infinitive: A Study in Areal, General, and Historical Linguistics*. Cambridge: Cambridge University Press.
- Junghanns, Uwe. (2002) "Clitic Climbing im Tschechischen". *Linguistische Arbeitsberichte* 80, 57–90.

- Kosek, Pavel, Radek Čech and Olga Navrátilová. (2018) "Starobylá dativní enklitika *mi, si, ti* ve staročeské bibli 1. redakce". Petr Malčík, ed., *Vesper Slavicus: Sborník k nedožitým devadesátinám prof. Radoslava Večerky*. Praha: Nakladatelství Lidové noviny, 137–151.
- Miestamo, Matti, Kaius Sinnemäki and Fred Karlsson, eds. (2008) *Language complexity: Typology, contact, change*. Amsterdam, Philadelphia: John Benjamins Publishing Company, vii–xiv. (Studies in Language Companion Series 94)
- Milićević, Jasmina. (2007) "Co-occurrence of Serbian second-position clitics: Syntactic and morphonological constraints". Nabil Nathout and Fabio Montermini, eds. *Morphologie à Toulouse. Actes du colloque international de morphologie 4èmes Décembrettes*. Munich: Lincom Europa, 99–121.
- Mitkovska, Liliana, Eleni Bužarovska and Elena Ju. Ivanova. (2017) "Apprehensive epistemic Da-Constructions in Balkan Slavic". *Slověne*, 2017(2), 57-83.
- Mrazović, Pavica and Zora Vukadinović. (2009) *Gramatika srpskog jezika za strance*. Sremski Karlovci, Novi Sad: Izdavačka kuća Zorana Stojanovića.
- Peng, Adam and Loren Billings. (2006) "Binukid pronominal clisis". Paper presented at the Tenth conference on Austronesian linguistics, 17–20 January 2006. Puerto Princesa City. URL: <http://www.sil.org/asia/Philippines/ical/papers.html> (accessed on: 20.02.2020).
- Piper, Predrag and Ivan Klajn. (2014) *Normativna gramatika srpskog jezika*. Novi Sad: Matica srpska.
- Reinkowski, Ljiljana. (2001) *Syntaktischer Wandel im Kroatischen am Beispiel der Enklitika*. Munich: Otto Sagner.
- Rescher, Nicholas. (1998) *Complexity: a philosophical overview*. New Brunswick, N.J.: Transaction Publishers.
- Rezac, Milan. (2005) "The syntax of clitic climbing in Czech". Lorie Heggie and Francisco Ordóñez, eds., *Clitics and affix combinations. Theoretical perspectives*. Amsterdam: John Benjamins Publishing Company, 103–140.
- Ridjanović, Midhat. (2012) *Bosnian for foreigners with a comprehensive grammar*. Sarajevo: Rabic Publishing Company.
- Rosen, Alexander. (2014) "Haplology of reflexive clitics in Czech". Elżbieta Kaczmarska and Motoki Nomachi, eds., *Slavic and German in contact: Studies from areal and contrastive linguistics. Slavic Eurasian Studies 26*. Hokkaido: Slavic Research Center, 97–116.
- Spencer, Andrew and Ana R. Luís. (2012) *Clitics: An Introduction*. Cambridge: Cambridge University Press.

- Stabler, Edward. (1997) "Derivational minimalism". Christian Retoré, ed., *Logical Aspects of Computational Linguistics. First International Conference, LACL '96, Nancy, France, September 23-25, 1996. Selected Papers*. Berlin: Springer, 68–95.
- Stabler, Edward. (1998) "Acquiring languages with movement". *Syntax* 1(1), 72–97.
- Stjepanović, Sandra. (2004) "Clitic climbing and restructuring with “finite clause” and infinitive complements". *Journal of Slavic Linguistics* 12(1-2), 173–212.
- Todorović, Nataša. (2015) *The indicative and subjunctive da-complements in Serbian: A syntactic-semantic approach* (Potsdamer Linguistische Untersuchungen Band 16). Frankfurt am Main: Peter Lang.
- Zaliznjak, Andrej A. (1993) "K izučeniju jazyka berestjanyx gramot". Valentin L. Janin and Andrej A. Zaliznjak. *Novgorodskie gramoty na bereste. Iz raskopok 1984–1989 godov*. Moscow: Nauka, 191–319.
- Zaliznjak, Andrej A. (2008) *Drevnerusskie enklitiki*. Moscow: Jazyki slavjanskoj kul'tury.
- Zimmerling, Anton V. (2013) *Sistemy porjadka slov slavjanskix jazykov v tipologičeskom aspekte*. Moscow: Jazyki slavjanskoj kul'tury.
- Zimmerling, Anton V. (2018) "Dva dialekta ruskoj grammatiki: korpusnye grammatiki i model'". *Computational linguistics and intellectual technologies. Issue 17 (24). Proceedings of the international conference “Dialogue 2018”*, 818–830.
- Zimmerling, Anton V. (2021) *Ot integral'nogo k aspektivnomu*. Moscow- St.Petersburg: Nestor-Istoria.
- Zimmerling, Anton V. (2022) "Historical Text Corpora and the Conclusiveness of Linguistic Analysis." *Computational linguistics and intellectual technologies, Issue 20. Proceedings of the International Conference "Dialogue 2022"*. Moscow, 586 – 593.
- Zimmerling, Anton and Peter Kosta. (2013) "Slavic clitics. A typology." *Sprachtypologie und Universalienforschung (STUF)*. 66(2), 178–214.
- Zwicky, Arnold. (1977) *On clitics*. Bloomington, Indiana: Indiana University Linguistics Club.

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