

## Chapter 11

# Head directionality in Old Slavic

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This paper investigates the issue of head directionality in Old Slavic. This issue has played an important role in diachronic studies on Germanic, in which a switch in head directionality was assumed to have triggered word order changes in the history of these languages. Within Slavic, Old Bulgarian and Old Church Slavonic have been claimed to partly feature head-final grammars by Pancheva (2005; 2008) and Dimitrova-Vulchanova & Vulchanov (2008), in contrast to contemporary Slavic languages, which are head-initial. This paper shows that there is little evidence for head-finality in Old Slavic.

**Keywords:** directionality parameter, clitics, participle movement, Old Church Slavonic, Old Bulgarian

## 1 Head directionality

The hypothesis of head directionality has its roots in Greenberg's (1963) empirical generalizations concerning the position of the verb with respect to the direct object in the verb phrase and the correlation between object placement and the ordering of other elements. Greenberg observed that the order within VP has typological implications: VO languages have prepositions, whereas OV languages have postpositions. Within the framework of Principles and Parameters, this correlation is straightforwardly captured through the postulate of the head parameter, which implies that languages show variation concerning the order of the head with respect to its complement (see Vennemann 1972 and Dryer 1992; 2007 for discussion). On the assumption that in spite of crosslinguistic variation the head-complement order within a single language is invariant, in head-initial languages the complement always follows the head, hence the object follows the verb and the preposition precedes its nominal complements. Correspondingly,



in head-final languages the object precedes the verbal head, the way a nominal complement precedes its postposition.

It has been observed, however, that not all languages display a consistent setting of the head parameter (see Hawkins 1980; 1982). For instance, a well-known case of inconsistency is that of German. Although German is predominantly head-initial, the verb is final in non-finite verb phrases, while adjective phrases may be both head-final and head-initial. In diachronic studies, it has been postulated that the setting of the head parameter may switch in language history. For instance, Pintzuk (1991) shows that although Old English (OE) featured mainly OV (head-final) structures, there were also minor instances of VO orders, as evidenced by exceptional structures involving particles, see (1a), and personal pronouns following the verb, see (1b).

- (1) a. þa wolde seo Sexburh æfter syxtyne gearum don hire swustor  
then wanted the Sexburh after sixteen years take her sister's  
ban of ðære byrgene **up**  
bones from the burial.place up  
'After sixteen years Sexburh wanted to take up her sister's bones  
from their burial-place'
- b. We wyllað secgan **eow** sum bigspell  
We want tell you a parable  
'We want to tell you a parable' (OE, Fischer et al. 2004: 141)

On Pintzuk's analysis, the post-verbal placement of particles and objects is indicative of the head-initial setting of VP, which in Old English constitutes a minority pattern. This pattern is assumed to be in competition with the more common head-final VP order instantiated by OV structures.

The hypothesis of grammar competition was postulated by Kroch (1989) in order to capture a period of diachronic variation between two structures that are not compatible with each other within a single grammar. Such two structures are assumed to represent two contradictory parameter settings (such as head-final versus head-initial constructions), or, within the Minimalist framework, the presence of lexical items with contradictory features (see also Pintzuk 2002: 278). The postulate of grammar competition has resulted in many fruitful analyses of diachronically unstable structures. For example, Haeberli & Pintzuk (2006) investigate the position of the main verb and the auxiliary with respect to adjuncts and complements in verb clusters in Old English and attribute the observed word order variation to a switch in head directionality of functional projections in Old English.

Within Slavic, a switch in head directionality is assumed to trigger a change in the cliticization in Pancheva's (2005) analysis. This paper argues for a different view, and it is organized as follows. §2 examines the arguments for head finality provided by Pancheva (2005) on the basis of a diachronic modification of cliticization patterns in Bulgarian. §3 overviews Pancheva's (2008) argumentation related to participle–auxiliary orders and the position of negation in Old Church Slavonic.<sup>1</sup>

## 2 Pancheva's (2005) analysis of head directionality in Old Slavic

Most analyses of Old Church Slavonic syntax (Willis 2000; Jung 2015; Jung & Migdalski 2015; Migdalski 2016) assume that it was head-initial on a par with Modern Slavic languages. The exceptions are accounts due to Dimitrova-Vulchanova & Vulchanov (2008), who postulate that it was  $X^0$ -final in the VP-domain and  $X^0$ -initial in the CP-domain, as well as Pancheva (2005; 2008), who argues that it was  $T^0$ -final on the basis of the position of pronominal clitics, negation, and participles with respect to the auxiliary. However, a challenge that these analyses face is the fact that a switch in head directionality should have triggered a major modification of the syntactic structure of these languages. Such a modification did not occur; moreover, in contrast to Germanic languages, all contemporary Slavic languages are strictly head-initial. In view of this, the subsequent section will show that there is little evidence for head-finality in Old Slavic. In §2.1 I provide an overview of Pancheva's analysis of diachronic Bulgarian data. In section §2.2 I present a criticism of her account.

### 2.1 Pancheva's (2005) study the diachrony of cliticization patterns in Bulgarian

Pancheva (2005) provides a detailed analysis of the diachrony of cliticization patterns in the history of Bulgarian. She establishes that in the earliest stages (9<sup>th</sup>–13<sup>th</sup> c.), Old Bulgarian displays largely the same distribution of clitics as Old Church Slavonic. Namely, the clitics occur after the verb, as shown in (2). As the verb does not need to be located clause-initially, they are clearly not second position clitics. Although contemporary Bulgarian also features verb-adjacent cliticization, it normally disallows post-verbal clitic placement.

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<sup>1</sup>This paper presents a further development of the analysis proposed in Migdalski (2016).

- (2) svęťb bô mōžb stvorilb ja jestb  
 holy because man create.PART.M.SG them.ACC is.AUX  
 ‘Because a holy man has created them’ (9<sup>th</sup> c. Bg, Pancheva 2005: 139)

Pancheva assumes, following Kayne (1991), Chomsky (1995), and corresponding analyses of verb-adjacent cliticization that underlyingly pronominal clitics are generated as VP arguments. They move from XP-positions in VP and left-adjoin to T<sup>0</sup> as heads. Crucially, the fact that the accusative pronominal clitic precedes the auxiliary verb in (2) leads her to assume that Old Bulgarian is a T<sup>0</sup>-final language, but all the other heads are initial.

- (3) [TP [vP [V' t<sub>i</sub> V<sup>0</sup> ]] [T CL<sub>i</sub> T<sup>0</sup>]] (Pancheva 2005: 139)

Another assumption made by Pancheva (2005: 146) is that although in Old Bulgarian lexical verbs leave vP, they do not reach T<sup>0</sup> but only Asp<sup>0</sup> located below T<sup>0</sup>. This means that her evidence for the final T<sup>0</sup> comes from the position of the auxiliary ‘be’ (such as *estb* in (2)) located in T<sup>0</sup> with respect to pronominal clitics (such as *ja* in (2)).

The post-verbal cliticization was the dominant pattern in Bulgarian until the 13<sup>th</sup> century. Subsequently, Wackernagel (second position) cliticization prevailed and remained the default type until the 17<sup>th</sup> century. Pancheva attributes this change to a switch in the head parameter of T<sup>0</sup>, which became head-initial. She claims that as a result of the switch pronominal clitics begin to appear in front of T<sup>0</sup> and their position with respect to the verb becomes reversed, as shown in the derivation in (4a). Since other elements may now occur between the verb and the clitic, the verb is no longer analyzed as the clitic host by the speakers. The clitics remain phonologically enclitic and receive prosodic support from their new hosts located in SpecTP, see (4b) and (4c), or SpecCP.

- (4) a. [TP [TP (CL) [TP XP =CL T [AspP [Asp V Asp]]]]] (Pancheva 2005: 151)  
 b. tova se pomoli Juda bogu  
 that.TOP REFL ask.PART.SG.M Judas God  
 ‘Judas asked God that.TOP’ (18<sup>th</sup> c. Bg, Pancheva 2005: 154)  
 c. a tĩa gy zľe mōčaše  
 and she them.ACC badly tortured  
 ‘She tortured them badly’ (17<sup>th</sup> c. Bg, Pancheva 2005: 123)

Pancheva notes a syntactic restriction on the lexical elements preceding second position clitics during this period. She observes that in contrast to contemporary

Slavic languages with Wackernagel clitics, the clitics in the Bulgarian corpus data from that period occur strictly after the first word, which in some cases results in Left Branch Extraction. There are no instances of clitics following the first branching phrase. The same observation is made by Radanović-Kocić (1988: Chapter 3) for the earliest stages of the development of Wackernagel cliticization in Old Serbian. Second position cliticization with clitics preceded by unambiguous phrasal elements became available in Serbian only at a later stage. I take this correlation to mean that the Old Bulgarian data analyzed by Pancheva (2005) exemplify the initial stage of the emergence of second position cliticization, which was not completed. Incidentally, this syntactic restriction on second position cliticization cannot be captured by Pancheva's derivation presented in (4a), given that she assumes that the pre-clitic element is located in an XP-projection: SpecTP or SpecCP.<sup>2</sup>

The third stage of the diachronic change investigated by Pancheva takes place from the 17<sup>th</sup> c. onwards, when second position clitics in Bulgarian are reanalyzed as preverbal clitics. This pattern prevails in the 19<sup>th</sup> century and continues to be the default cliticization type in contemporary Bulgarian. Pancheva points out that this change was contemporaneous with the loss of obligatory topicalization to SpecTP. The topicalization affected a number of unrelated categories, including the demonstrative *tova* in (4b) and the subject *tia* in (4c). Pancheva argues that the decline of topicalization had repercussions for the syntax of clitics: as SpecTP became filled less frequently, the clitics were no longer analyzed as hosted in second position by a constituent located in SpecCP or SpecTP. Instead, the clitics started to appear more frequently adjacent to the verb. In syntactic terms this meant, in Pancheva's view, that they were reinterpreted as items merged in X<sup>0</sup> positions, adjoined to functional heads in the extended projections of the verb,

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<sup>2</sup>In some Slavic languages, such as Serbo-Croatian, the second position clitic *li*, which functions as a focus or interrogation marker, may also be preceded exclusively by single words, as illustrated in (i), following Bošković's (2001: 27) observation.

- (i) Skupe (li) knjige (\*li) Ana čita?  
 expensive Q books Q Ana reads  
 'Does Ana read expensive books?' (S-C, Bošković 2001: 27)

Bošković (2001: 31ff.) attributes the restriction to the syntactic deficiency of *li* in Serbo-Croatian, which is not able to support a specifier, and the focus feature of *li* may only be checked through head movement. In fact, this is a special property of "operator clitics" expressing the illocutionary force of a clause, which in many Slavic languages display special requirements concerning the categorial and syntactic status of their preceding element, in contrast to pronominal and auxiliary second position clitics. See Migdalski (2016: Chapter 3) for discussion.

see (5a), rather than as XP elements that move from argument positions within VP and head-adjoin to T<sup>0</sup>.<sup>3</sup> With the loss of second position interpretation, the clitics could be located lower in the structure, next to the verb, as shown in illustrated in (5b) for the reflexive clitic *sa*, which is left-adjacent to the verb *javi*.

- (5) a. [TP ...T<sup>0</sup>...[XP [X CL X<sup>0</sup>] ... [vP V<sup>0</sup> ]]] (Pancheva 2005: 137)  
 b. i archangel Michailъ pak sa javi Agari  
 and archangel Michael again REFL appeared Agara  
 ‘And Archangel Michael appeared to Agara again’  
 (18<sup>th</sup> c. Bg, Pancheva 2005: 120)

## 2.2 Empirical problems with Pancheva’s (2005) analysis

Pancheva’s analysis addresses a remarkably large set of data, covering different cliticization patterns in the history of Bulgarian. Although her empirical observations are impressive, the analysis suffers from a number of serious shortcomings.

First, the postulated link between head directionality and a cliticization pattern does not receive any support from synchronic considerations. As is well-known, contemporary Slavic languages display two distinct patterns of cliticization (see, e.g., Franks & King 2000). On the one hand, Czech, Serbo-Croatian, Slovak, and Slovenian feature second position clitics, which obligatorily occur after the clause-initial element virtually irrespective of its category. This type of clitic distribution is illustrated in (6) for a sequence of auxiliary and pronominal clitics in Serbo-Croatian. The clitics can be preceded by a number of different categories, including the subject, see (6a), a *wh*-element, see (6b), and an adverb, see (6c).

- (6) a. Mi smo mu je predstavili juče.  
 we are.AUX him.DAT her.ACC introduce.PART.PL yesterday  
 ‘We introduced her to him yesterday.’  
 b. Zašto smo mu je predstavili juče?  
 why are.AUX him.DAT her.ACC introduce.PART.PL yesterday  
 ‘Why did we introduce her to him yesterday?’  
 c. Juče smo mu je predstavili.  
 yesterday are.AUX him.DAT her.ACC introduce.PART.PL  
 ‘Yesterday we introduced her to him.’ (S-C, Bošković 2001: 8–9)

<sup>3</sup>An anonymous reviewer points out that Pancheva’s account on the reanalysis of clitics fits into the economic factor assumed in grammaticalization, “Merge as a head, not a phrase.” However, Jung & Migdalski (2015) show that this factor is challenged by the degrammaticalization of pronominal clitics into weak pronouns, which occurred in Old Russian and Old Polish.

On the other hand, two Slavic languages, Bulgarian and Macedonian, have verb-adjacent clitics, which may not be separated from the verb by any intervening material, see (7a). As shown in (7b), these clitics do not need to target second position.

- (7) a. Vera **mi go** (\*včera) dade.  
 Vera me.DAT it.ACC yesterday gave  
 ‘Vera gave it to me yesterday’
- b. Včera Vera **mi go** dade. (Bg, Franks 2010: ex. (111d,c))

The Slavic languages that display these two cliticization patterns differ in a number of ways. For instance, only the languages with verb-adjacent clitics have definite articles (see Bošković 2016) and tense morphology (see Migdalski 2015; 2016). Crucially, they are all head-initial irrespective of their cliticization system.

Diachronically, the verb-adjacent pattern of clitics predates second position cliticization. It has been observed by Radanović-Kocić (1988) and Pancheva (2005) that in Old Church Slavonic pronominal clitics were predominantly verb-adjacent, as shown for the dative clitic *mi* in (8a) and for the accusative clitic *te* in (8b).

- (8) a. Oca moego vь těxъ dostoitъ **mi** byti  
 father.GEN my.GEN in these be.appropriate.INF me.DAT be.INF  
 ‘I had to be in my Father’s house?’  
 (OCS, Luke 2:49, Pancheva et al. 2007)
- b. Ašte desnaě tvoě rōka sьblašněetъ **te**  
 if right your hand sin.PRES.1SG you.ACC  
 ‘If your right hand causes you to sin’  
 (OCS, Matthew 5:30, Radanović-Kocić 1988: 154)

Although pronominal clitics could occur in second position in Old Church Slavonic, especially when the clause-initial element was a verb (and hence they were verb-adjacent), Radanović-Kocić (1988) points out that only three clitics appeared in second position without exception: the question/focus particle *li*, the complementizer clitic *bo* ‘because,’ and the focus particle *že*, see (9a)–(9c).

- (9) a. Približi **bo** se crstvie nbskoe.  
 approach.AOR.3SG because REFL kingdom heaven  
 ‘For the kingdom of heaven is at hand.’  
 (OCS, Matthew 3:2, Radanović-Kocić 1988: 152)

- b. Mati že jeho živěaše blizъ vratъ.  
 mother FOC his live.IMP.3SG near gates  
 ‘And his mother lived near the gates.’  
 (OCS, Radanović-Kocić 1988: 152)
- c. Ašte li oko tvoě lōkavo bōdetъ  
 if Q eye your evil be.PRES.SG.N  
 ‘If your eye should be evil’  
 (OCS, *Matthew* 6:23, Radanović-Kocić 1988: 151)

I observe in Migdalski (2016) that the second position clitics exemplified in (9a)–(9c) form a natural class of sentential (operator) clitics. The semantic property that unifies them is that they all encode the illocutionary force of a clause. The counterparts of these clitics in contemporary Slavic languages also target second position, regardless of whether their pronominal and auxiliary clitics also occupy Wackernagel position or whether they are verb-adjacent. Thus, as shown in (10), although Bulgarian has verb-adjacent clitics, the clitic *li* is in second position, separated from the accusative clitic *ja* and the auxiliary clitic *je*.

- (10) Včera li Penka ja e dala knjigata na Petko?  
 yesterday Q Penka her.REFL is.AUX give.PART.F.SG book.the to Petko  
 ‘Was it yesterday that Penka gave the book to Petko?’  
 (Bg, Tomić 1996: 833)

The fact that Pancheva (2005) disregards the categorial status of clitics located in respective positions in her estimates of the different types of clitic placement is a major drawback of her analysis. In fact, this problem has been also pointed out by Dimitrova-Vulchanova & Vulchanov (2008), who, referring to Pancheva’s (2005) analysis, note that in *Codex Suprasliensis* (a late Old Church Slavonic relic) the distribution of clitics is quite consistent and regular, and it does not seem to be a matter of statistical frequency or choice. Dimitrova-Vulchanova & Vulchanov observe that in *Codex Suprasliensis* clitics are found in second position if SpecCP is filled, otherwise they are post-verbal. Although Dimitrova-Vulchanova & Vulchanov do not provide any data in support of their observation, it is likely that that SpecCP is filled in the presence of operator clitics of the type exemplified in (9), which are uniformly hosted in second position.

In Migdalski (2016) I further observe that Pancheva’s analysis is challenged by synchronic and diachronic cliticization data from Slavic. On the synchronic side, a problematic empirical fact is that the clitic forms of the auxiliary verb ‘to be’ in South Slavic languages occupy a different position with respect to pronominal



clitics depending on their person feature content. Namely, as indicated for Serbo-Croatian in (11), the 3<sup>rd</sup> person auxiliary clitic (such as *je* in (11a)) is located to the right of the pronominal clitics, while all the other auxiliary variants (such as the 1<sup>st</sup> person form *sam* in (11b)) are hosted to the left of the pronominal clitics.

- (11) a. On **mu ih je** dao.  
 he him.DAT them.ACC is.AUX give.PART.SG.M  
 ‘He gave them to him.’
- b. Ja **sam mu ih** dao.  
 I am.AUX him.DAT them.ACC give.PART.SG.M  
 ‘I gave them to him indeed.’ (S-C, Tomić 1996: 839)

If Pancheva’s account of cliticization were to be adopted to account for the auxiliary clitic placement, it would imply that in contemporary South Slavic languages  $T^0$  is head-final in the structures with the 3<sup>rd</sup> person singular auxiliary, and that  $T^0$  is head-initial with all the other auxiliary forms. This is not a welcome result given that the auxiliaries assume a different position in the structure purely depending on their person/number feature specification. The nature of this morphological contrast suggests that it does not involve alleged competition between two grammars that differ with respect to  $T^0$ -initial and  $T^0$ -final placement but rather that the contrast is entirely synchronic.

On the diachronic side, Pancheva’s proposal of the switch in the head directionality of  $T^0$ , which relies on the position of pronominal clitics with respect to the auxiliary, is seriously challenged by the timing of the diachronic modification of the auxiliary placement in the history of Bulgarian. I report in Migdalski (2016: 283–284), following Sławski’s (1946) observations, that in Old Bulgarian all auxiliary forms followed pronominal clitics, as in the pattern in (2) above, which is used by Pancheva as evidence for the  $T^0$ -final order. Two additional Old Bulgarian examples in which a non-third person auxiliary follows the pronominal clitics are given in (12). At first sight they may seem to lend support to Pancheva’s analysis, since in contrast to contemporary Slavic languages, all auxiliary forms are located to the right of the pronominal clitics.

- (12) a. pustila **mę sta** oba carě  
 let.go.PART.F.DUAL me.ACC are.AUX.2DUAL two tsars  
 ‘Two tsars have sent me’ (14<sup>th</sup> c. Bg)
- b. tvoè zlàto što **mu si** pròvodilь  
 your gold that him.DAT are.AUX.2SG send.PART.SG.M  
 ‘Your gold that you have sent to him’ (17<sup>th</sup> c. Bg, Sławski 1946: 76)

However, in the 17<sup>th</sup>–18<sup>th</sup> century the auxiliary placement in Bulgarian underwent a modification: the first and second auxiliary forms shifted across the pronominal clitics, adopting the current distribution (Sławski 1946: 76–77), as exemplified in (13). The timing of the modification is a problem for Pancheva (2005), as it took place when according to her analysis Bulgarian had featured T<sup>0</sup>-initial grammar for several centuries, with no second position clitics left.

- (13) a. *deto si sē javilь na mòata žena*  
where are.AUX.2SG REFL appear.PART.SG.M to my.the wife  
'Where you have appeared to my wife' (17<sup>th</sup> c. Bg, Sławski 1946: 77)
- b. *nó sa gi zváli gotii*  
and are.AUX.3PL them.ACC.PL call.PART.PL Goths  
'And they called them Goths' (18<sup>th</sup> c. Bg, Sławski 1946: 77)

I observe that the timing of the switch of the auxiliary forms indicates that second position cliticization is not related to the alleged loss of T<sup>0</sup>-finality or the position of pronominal clitics with respect to the auxiliary. The lack of the correlation between these properties is also independently confirmed by Jung's (2015) study of the auxiliary placement in Old Russian data. Jung points out that even though Old Russian had second position clitics until the 14<sup>th</sup> century, the first and second person forms of the auxiliary rigidly followed the pronominal clitics throughout this period. Furthermore, in Migdalski (2015; 2016) I develop an analysis of a diachronic switch from verb-adjacent to Wackernagel clitics in Serbo-Croatian, Slovenian, and Polish, showing that it was contemporaneous with the loss of tense morphology, analyzed as the loss of TP. It remains to be determined whether a related analysis can be applied to the Old Bulgarian facts noted by Pancheva (2005).

### 3 Pancheva's (2008) arguments for the final T<sup>0</sup> related to participle-auxiliary orders and the distribution of negation

This section examines the arguments for the T<sup>0</sup>-finality of Old Church Slavonic that Pancheva (2008) provides in her later work. They are related to the syntax of compound tenses formed with the *l*-participle and the auxiliary 'be' and the interaction between negation and verb placement.

### 3.1 Participle–auxiliary orders in Old Church Slavonic

Most South and West Slavic languages feature a compound tense construction formed with the auxiliary ‘be’ and the *l*-participle; see (14a) for Bulgarian. The *l*-participle may be fronted across the auxiliary, as in (14b).

- (14) a. Az sŭm čel knjigata.  
I am.AUX read.PART.SG.M book.the  
‘I have read the book.’
- b. Čel sŭm knjigata.  
read.PART.SG.M am.AUX book.the  
‘I have read the book.’ (Bg)

This operation has received considerable attention in the literature since Lema & Rivero’s (1989) analysis of the fronting in terms of Long Head Movement, which on their account proceeds via head raising of the *l*-participle from  $V^0$  to  $C^0$  across the auxiliary located in  $I^0$ , as shown in (15).

- (15) [<sub>CP</sub> [<sub>C</sub> Part<sub>*i*</sub>] [<sub>IP</sub> Aux [<sub>VP</sub> [<sub>V</sub> t<sub>*i*</sub>] DP]]]

The operation has also been analyzed as head adjunction of the participle to  $C^0$  (Wilder & Čavar 1994), to Aux<sup>0</sup> (Bošković 1997), or to a focus projection Delta<sup>0</sup> (Lambova 2003). I proposed in my previous work (Broekhuis & Migdalski 2003; Migdalski 2006) that the movement involves predicate inversion, which proceeds via XP remnant movement of the *l*-participle to SpecTP. This proposal accounts for a number of properties of the movement that had been unexplained in the previous analysis, such as the dependency of the phrasal movement on the presence of the auxiliary ‘be’ and the subject gap requirement, a property that will be important for the analysis presented in the remainder of this article.

Pancheva (2008) addresses similar cases of clause-initial participle placement in Old Church Slavonic, as illustrated in (16b).

- (16) a. iže bĕaxŏ prišŭli otъ vsĕkoje vsi  
who.FOC be.PAST.3PL come.PART.PL from every village  
‘who had come from every village’ (OCS, *Luke* 5.17)
- b. učenci bo ego ošŭli bĕaxŏ vъ gradъ  
disciples for his go.PART.PL be.PAST.3PL in town  
‘because his disciples had gone to the town’  
(OCS, *John* 4.8, Pancheva 2008)

In principle, the Old Church Slavonic structure in (16b) most likely illustrates a counterpart of participle fronting attested in Modern Slavic, as has been argued for by Willis (2000: 325–327). Pancheva (2008) postulates, however, that on the assumption that Old Church Slavonic was  $T^0$ -final, the ordering presented in (16b) could be taken to be the basic one, whereas the auxiliary–participle pattern in (16a) could be derived via rightward participle movement. In order to determine which order is the derived one, she calculates the ratio of both patterns.

Importantly, Pancheva (2008) notes that the participle–auxiliary order may be more frequent than the auxiliary–participle when the auxiliary is a clitic that needs prosodic support to its left. In order to limit the impact of the prosodic requirements on word order, she chooses to restrict her analysis to the structures involving the past tense auxiliary, which has a strong, non-clitic form. Furthermore, she assumes that the pattern that is a result of an optional operation will be statistically less common than the one that instantiates the basic order.

The results of her quantitative study show that both orders occur in a balanced proportion in Old Church Slavonic, though the participle–auxiliary pattern is less common than the auxiliary–participle pattern: 41% versus 59%. By contrast, in Modern Bulgarian the auxiliary–participle order is considerably more frequent and constitutes 97% of the data investigated by Pancheva, versus 3% of the participle–auxiliary orders. Pancheva states that on the assumption that Modern Bulgarian is  $T^0$ -initial and that participle–auxiliary sequences are a result of participle movement to the left, the contrast in the ratio of the two constructions across the centuries indicates that Old Church Slavonic was a  $T^0$ -final language.

The diachronic contrast in the ratio of participle–auxiliary orders is certainly interesting and requires an explanation, though it should be noted that even in Old Church Slavonic the participle–auxiliary pattern is less frequent. Pancheva (2008) makes use of additional argumentation to support her analysis. Namely, she acknowledges the fact that the different ratios of the participle/auxiliary patterns across centuries may have been due to different discourse factors that are reflected through these two orders rather than due to the switch in the  $T^0$ -head parameter setting. Thus, it may well be the case that a particular discourse context started or ceased to be expressed through participle movement at a certain point in the history of Bulgarian. Yet, she ultimately rejects this possibility, referring to an observation of different ratios between active and passive participles preceding the auxiliary. She shows that in *Codex Marianus*, an Old Church Slavonic relic, active participles are placed in front of the auxiliary in 16% of cases, while passive participles precede the auxiliary in as many as 67% of cases. In Modern Bulgarian the rate is not that high. Pancheva argues that this contrast

may point to a situation in which two grammars ( $T^0$ -final and  $T^0$ -initial) are in competition, and that the switch in the setting of the  $T^0$ -head parameter was initiated among active participles, which as a result gave rise to a higher rate of the active participle–auxiliary orders.

I would like to propose an alternative explanation of the observed diachronic frequency contrast in the participle–auxiliary orders. As has been examined in detail by Lambova (2003), participle fronting in Modern Bulgarian triggers different discourse conditions depending on whether it occurs across the present perfect auxiliary clitic (see (17a) below as well as (14b) above) or the strong past perfect auxiliary, as in (17b). Given that the auxiliary in (17a) is prosodically deficient and needs to be supported to its left, the fronting of the participle (or of some other element) to the position in front of the clitic is obligatory. In contrast, movement of the participle across the non-clitic auxiliary, as in (17b), is optional. As was mentioned above, Pancheva restricts her diachronic analysis to the orders involving participle fronting across the past tense auxiliary, which correspond to the one in (17b), and in this way she avoids a potential influence of the clitic prosodic requirement on word order possibilities.

- (17) a. Gledali            sa            filma.  
 watch.PART.PL are.AUX.3PL movie.the  
 ‘They have watched the movie.’
- a’. \*Sa            gledali            filma.  
 are.AUX.3PL watch.PART.PL movie.the  
 Intended: ‘They have watched the movie.’
- b. Gledali            bjaxa            filma.  
 watch.PART.PL were.AUX.3PL movie.the  
 ‘They had WATCHED the movie.’
- b’. Bjaxa            gledali            filma.  
 were.AUX.3PL watch.PART.PL movie.the  
 ‘They had watched the movie’ (Bg, Lambova 2003: 111–112)

Lambova (2003) points out that whereas the participle movement across the auxiliary clitic illustrated in (17a) is perceived as neutral, the fronting across the past tense auxiliary exemplified in (17b) necessarily produces detectable semantic effects and is perceived as “marked.” This fact is reflected in the translation of (17b), with the main verb capitalized to show a focused interpretation. Lambova (2003: 113) argues that participle fronting across the past tense auxiliary is felicitous when “the speaker is presenting the activity under discussion as an alternative.” Thus, the sentence in (17b) can be produced in a situation in which “the discourse

contains either explicit or implied reference to the movie being in possession, i.e. rented or owned.” (Lambova 2003: 113). In such a scenario, a potential paraphrase of this example is ‘They have only seen the movie.’ The main verb is pronounced with a high tone, as is typical of contrastively focused constituents in Bulgarian. These properties lead Lambova to suggest that when the participle raises across the past tense auxiliary, it lands in a higher projection than it does during the fronting across the auxiliary clitic. She terms this projection Delta Phrase and assumes it is a discourse-related projection located above CP, where focus is licensed.

In Modern Bulgarian participle fronting across the past tense auxiliary results in a special discourse effect, so it is not surprising that it is not often found in the corpus examined by Pancheva. What needs to be determined is whether a related discourse effect was produced by the corresponding participle reordering in Old Church Slavonic. It is likely that it did not. In fact, in §2.1 above I refer to a discourse-related syntactic change reported in Pancheva (2005: 153–154), which occurred in Bulgarian between the 17<sup>th</sup> and the 19<sup>th</sup> centuries, and which involved the decline of obligatory topicalization targeting SpecTP. This change was accompanied by a reinterpretation of Wackernagel pronominal clitics as preverbal elements. Examples of the obligatory topicalization are given in (4) above and (18)–(20) below, and they include clauses with a topicalized object, see (4b), an adverbial participle, see (18), a finite verb, see (19), and an adverb, see (20). Pancheva notes that in Modern Bulgarian the corresponding structures are not felicitous.<sup>4</sup>

- (18) *i otvęštavъ starecъ reče emu: ... i vъ drugōđ ned(ě)lę priide*  
 and answering old.monk told him and in other Sunday came  
*starecъ kъ bratu*  
 old.monk to young.monk  
 ‘And in response, the old monk told him: ... And the next Sunday, the old  
 monk came to the young one’ (14<sup>th</sup> c. Bg)
- (19) *se priōtъ b(og)ъ pokaanie tvoe*  
 thus accepts God repentance your  
 ‘Thus God accepts your repentance’ (14<sup>th</sup> c. Bg)

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<sup>4</sup>Dimitrova-Vulchanova & Vulchanov (2008) observe a high frequency of structures of this type in Old Church Slavonic, which leads them to assume that VP is head-final in this language. However, they do not exclude the possibility of VP being head-initial, with the topicalization derived via movement.

- (20) *pakъ utide angelъ i vtoriju patъ*  
 again went angel and second time  
 ‘The angel went there again for the second time’ (18<sup>th</sup> c. Bg)

Even though the topicalization data provided by Pancheva (2005: 153–154) does not include examples with clause-initial *l*-participles, it is quite likely that they were also subject to the rule of obligatory topicalization. Broekhuis & Migdalski (2003) and Migdalski (2006) argue on the basis of Modern Bulgarian that fronted *l*-participles target SpecTP. If the same analysis can be applied to Old Church Slavonic (see Willis 2000) and Old Bulgarian, the historically high ratio of participle movement receives a straightforward explanation: it is a product of the obligatory topicalization to SpecTP.

Another factor that may have given rise to the higher frequency of participle-initial orders in Old Church Slavonic is the fact that the complex tense structures formed with the *l*-participle and the auxiliary ‘be’ were considerably less common in Old Church Slavonic than they are in the contemporary South Slavic languages. Thus, Dostál’s (1954: 599ff.) estimates indicate that the *l*-perfect tense was used sporadically in Old Church Slavonic, and usually in subordinate clauses. Dostál’s corpus study lists 10 thousand usages of the aorist, 2300 of the imperfect tense, and approximately only 600 instances of the perfect tenses (that is, approximately 5% of all the tense forms). The scarcity of the usage of the *l*-perfect compound tense in Old Slavic has been attributed to a number of factors (see Migdalski 2006: 26–27 for discussion). For instance, Bartula (1981: 100; see also Damborský 1967) notes that there are few examples of present perfect structures in the earliest Old Church Slavonic relics. They become more frequent in later manuscripts, such as *Codex Suprasliensis* and *Savvina kniga* (both from the 11<sup>th</sup> century). Most likely, the structures formed with the *l*-participle may have felt too novel and innovative for formal biblical texts. The fact that these structures were far less common in Old Slavic than in present-day Slavic languages may have repercussions for the different ratios in the participle–auxiliary patterns investigated by Pancheva (2008).

### 3.2 The position of negation in Old Church Slavonic

The final observation used by Pancheva (2008) to support of her T<sup>0</sup>-final analysis of Old Church Slavonic is related to the interaction between negation and verb placement. It has been observed in the literature (see e.g. Rivero 1991) that in Modern Slavic negation may attract and incorporate into verbs, as a result of which the two elements form a single prosodic word. The process of incorpora-

tion is evidenced by the placement of second position clitics in languages such as Serbo-Croatian, which follow the sequence of negation and the finite verb, as in (21).

- (21) Ne {\*ga} vidim {ga}  
 NEG him.ACC see.PRES.1SG him.ACC  
 ‘I don’t see him’ (S-C, Rivero 1991: 338)

As will be discussed in more detail below, contemporary Slavic languages differ with respect to whether negation attracts the (finite) auxiliary verb or the *l*-participle. Pancheva (2008) shows that in Old Church Slavonic negation may attract finite verbs, see (22a), including the auxiliary, see (22b), and, in contrast to Modern Bulgarian, in some cases also the *l*-participle, see (22c).

- (22) a. ne ostavitъ li devęti desetъ i devęti vъ pustyni  
 NEG leaves Q nine ten and nine in wilderness  
 ‘Does he not leave the ninety-nine in the wilderness?’  
 (OCS, *Luke* 15.4)
- b. sego avraamъ nęstъ sъtvorilъ  
 this Abraham NEG.IS.AUX do.PART.SG.M  
 ‘Abraham did not do this’ (OCS, *John* 8.40)
- c. ne moglъ bi tvoriti ničesože  
 NEG can.PART.SG.M be.COND.3SG do.INF nothing  
 ‘He couldn’t do anything’ (OCS, *John* 9.33, Pancheva 2008)

Pancheva assumes that in Old Church Slavonic NegP is located above TP. In view of this assumption, the fact that negation may attract the *l*-participle and as a result produce the negation–participle–auxiliary pattern is taken by Pancheva to indicate a potential T<sup>0</sup>-final structure. According to her analysis, a T<sup>0</sup>-final structure can also be postulated for negation–auxiliary–participle orders on the assumption that negation attracts the auxiliary across the participle. Importantly, Pancheva claims that since Old Church Slavonic shows variation in the verbal structures involving negation, allowing both negation–participle and negation–auxiliary orders, it is likely that Old Church Slavonic features two grammars (T<sup>0</sup>-final and T<sup>0</sup>-initial), which are in competition.

I observe that Pancheva’s (2008) hypothesis of the two competing grammars, posited on the basis of the distribution of negation, is challenged by diachronic and empirical facts.

Diachronically, the position of negation with respect to the verb exhibits categorical and semantic contrasts, which suggests that it is not related to grammar



competition. Thus, Večerka (1989: 34; quoted in Willis 2000: 328) observes that the negation–auxiliary order is four times as frequent as the negation–participle order. Correspondingly, Willis (2000: 329) shows that the auxiliary–negation–participle pattern is not found in matrix clauses. This type of variation is unexpected if grammar competition is involved.<sup>5</sup>

Furthermore, in subordinate clauses the position of the conditional auxiliary *bi* is related to the semantics expressed by the complementizer, which in turn may have a repercussion for the position of negation with respect to the auxiliary and the *l*-participle. As observed by Willis (2000: 330), in Old Church Slavonic complementizers may attract the conditional auxiliary. The attraction is obligatory in the case of complementizer *a*, which introduces conditional clauses, see (23), but not with the complementizer *da*, which introduces indicative clauses, see (24).

- (23) a. A **by** byľъ съде  
if COND.3SG be.PART.SG.M here  
'If he had been here'
- b. A **by** съде byľъ  
if COND.3SG here be.PART.SG.M  
'If he had been here'
- c. A **by** byľъ пророкъ  
if COND.3SG be.PART.SG.M prophet  
'If he had been the prophet' (OCS, Vaillant 1977: 219)

- (24) a. Дръѡаахѡ i da ne **bi** отъшеľъ отъ нихъ  
held.3PL him that NEG COND.3SG leave.PART.SG.M from them  
'And they held him, so that he would not leave them'  
(OCS, *Codex Marianus*, Willis 2000: 330)
- b. Дръѡаахѡ i da **bi** ne отъшѡъ отъ нихъ  
held.3.PL him that COND.3SG NEG leave.PART.SG.M from them  
'And they held him, so that he would not leave them'  
(OCS, *Codex Zographensis*, Willis 2000: 330)

It can be assumed then that in subordinate clauses headed by the complementizer *a*, there will be no instances of the negation–auxiliary pattern, and that only the negation–participle order will be observed. Such a contextual, semantic-dependent restriction would be surprising if the variation were due to grammar

<sup>5</sup>An anonymous reviewer points out though that embedded contexts may pattern differently in processes of language change. They may be more conservative than non-embedded contexts in the case of diffusion of a change.

competition. Rather, it seems that at least in the environments presented in (23) and (24), the position of negation with respect to the verb is dictated by a syntactic mechanism, which in specific contexts becomes obligatory.<sup>6</sup>

Synchronically, Pancheva's assumption of the potential relation between the position of negation and the directionality of T<sup>0</sup> is challenged by properties of complex tense structures in contemporary Polish and Czech. Polish, which is clearly a T<sup>0</sup>-initial language, permits negation to either precede the auxiliary or the participle. The type of possible order depends on the type of the auxiliary involved. For example, negation attracts the future auxiliary (which morphologically is the perfective form of the verb 'be'), as shown in (25), but it adjoins to the *l*-participle rather than the perfect auxiliary in structures characterizing past events, as indicated in (26).

- (25) a. Nie będziesz parkował tutaj samochodu.  
NEG be.PERF.1SG park.PART.SG.M here car  
 'You won't park your car here.'
- b. \* Nie parkował będziesz tutaj samochodu. (PI)
- (26) a. Nie parkowali-śmy tutaj samochodu.  
NEG park.PART.PL.M-AUX.1PL here car  
 'We didn't park the car here.'
- b. \* Nie-śmy parkowali tutaj samochodu. (PI)

A corresponding variation is observed in Czech, which is also a T<sup>0</sup>-initial language. Thus, negation is adjoined to the *l*-participle, and it may not be adjoined to the auxiliary 'be'. However, negation adjoins to the verb 'be' when it is used as a copula. The distributional contrast is presented in (27) and (28).

- (27) a. Přišel jsi.  
come.PART.SG.M are.AUX.2SG  
 'You have come.'
- b. Nepřišel jsi.  
NEG.come.PART.SG.M are.AUX.2SG  
 'You haven't come.'

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<sup>6</sup>An anonymous reviewer provides an additional empirical fact that challenges Pancheva's assumption of a link between the position of negation, cliticization, and head directionality. Namely, Old North Russian displayed both the negation-participle order (though negation could directly precede the copular 'be') and second position clitic system until the 14<sup>th</sup> century. On Pancheva's analysis the co-occurrence of these two properties would indicate that Old North Russian was simultaneously T<sup>0</sup>-initial and T<sup>0</sup>-final.

- c. \* Nejsi                      přišel.  
 NEG. are. AUX. 2SG come. PART. SG. M  
 Intended: ‘You haven’t come.’ (Cz, Toman 1980)
- (28) a. Jsi        hlupák / zdráv / na řadě.  
 are. 2SG idiot    healthy    on row  
 ‘You are an idiot / healthy / It’s your turn.’
- b. Nejsi        hlupák / zdráv / na řadě.  
 NEG. are. 2SG idiot    healthy    on row  
 ‘You’re not an idiot / healthy / It’s not your turn.’
- c. \* Jsi        nehlupek / nezdráv / ne na řadě.  
 are. 2SG NEG. idiot    NEG. healthy    NEG on row  
 Intended: ‘You’re not an idiot / healthy / It’s not your turn.’  
 (Cz, Toman 1980)

Since in Czech auxiliaries and copula verbs are morphologically identical (except for the fact that the auxiliary form is null and the copula form is overt in the 3<sup>rd</sup> person singular and plural), the position of negation is clearly related to the categorial distinction between these two variants of the verb ‘be’. Thus, in both Czech and Polish the position of negation and the verb is evidently contextually dependent.<sup>7</sup> It is not a result of statistical frequency and it is not contingent on the head directionality of TP.

## 4 Conclusion

To conclude, this paper examined arguments provided in the literature, mainly by Pancheva (2005; 2008), in favor of head finality in Slavic on the basis of diachronic changes in the placement of clitics in the history of Bulgarian as well as the syntax of participles and the position of negation in Old Church Slavonic. It has showed that there is little evidence in support of head finality in Old Slavic, and that this claim is also challenged by empirical facts concerning the distribution of the auxiliary ‘be’ in the history of Bulgarian. Furthermore, the diagnostics used in favor of the head final analysis have been demonstrated to give wrong predictions when applied to the same patterns found in Modern Slavic.

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<sup>7</sup>According to an anonymous reviewer, another factor that favors a categorial distinction between the copula and the auxiliary is the different timing of their loss in East Slavic languages such as Russian.

## Abbreviations

AOR	ao­rist	N	neuter
AUX	auxiliary	NEG	negation
Bg	Bulgarian	OE	Old English
CL	clitic	OCS	Old Church Slavonic
COND	conditional	PART	participle
Cz	Czech	PAST	past tense
DAT	dative	Pl	Polish
DUAL	dual number	PL	plural
F	feminine	PRES	present
FOC	focus particle	Q	question particle
GEN	genitive	REFL	reflexive
IMP	imperfect tense	S-C	Serbo-Croatian
INF	infinitive	SG	singular
M	masculine	TOP	topic

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## References

- Bartula, Czesław. 1981. *Podstawowe wiadomości z gramatyki staro-cerkiewno-słowiańskiej na tle porównawczym*. Warszawa: Państwowe Wydawnictwo Naukowe.
- Bošković, Željko. 1997. *The syntax of nonfinite complementation: An economy approach*. Amsterdam: Elsevier.
- Bošković, Željko. 2001. *On the nature of the syntax–phonology interface: Cliticization and related phenomena*. Amsterdam: Elsevier.
- Bošković, Željko. 2016. On second position clitics crosslinguistically. In Franc Marušič & Rok Žaucer (eds.), *Formal studies in Slovenian syntax: In honor of Janez Orešnik*, 23–53. Amsterdam/Philadelphia: John Benjamins. DOI:10.1075/la.236.02bos

- Broekhuis, Hans & Krzysztof Migdalski. 2003. Participle fronting in Bulgarian. In Paula Fikkert & Leonie Cornips (eds.), *Linguistics in the Netherlands 2003*, 1–12. Amsterdam/Philadelphia: John Benjamins. DOI:10.1075/avt.20.04bro
- Chomsky, Noam. 1995. *The minimalist program*. Cambridge, MA: MIT Press.
- Damborský, Jiří. 1967. *Participium l-ové ve slovanštině*. Warszawa: Państwowe Wydawnictwo Naukowe.
- Dimitrova-Vulchanova, Mila & Valentin Vulchanov. 2008. Old Bulgarian syntax: The basics. In Svetlina Nikolova (ed.), *Proceedings of the 25th Cyrillo-Methodian Centre Anniversary Conference*, 243–259. Sofia: Bulgarian Academy of Sciences Publishing.
- Dostál, Antonín. 1954. *Studie o vidovém systému v staroslověnině*. Praha: Státní pedagogické nakladatelství.
- Dryer, Matthew S. 1992. The Greenbergian word order correlations. *Language* 68(1). 81–138. DOI:10.1353/lan.1992.0028
- Dryer, Matthew S. 2007. Word order. In Timothy Shopen (ed.), *Language typology and syntactic description*, vol. 1, 61–131. Cambridge: Cambridge University Press. DOI:10.1017/CBO9780511619427.002
- Fischer, Olga, Ans van Kemenade, Willem Koopman & Wim van der Wurff. 2004. *The syntax of Early English*. Cambridge: Cambridge University Press. DOI:10.1017/CBO9780511612312
- Franks, Steven. 2010. Clitics in Slavic. In Steven Franks (ed.), *Glossos 10: Summer 2010*, 1–157. Durham, NC: Duke University.
- Franks, Steven & Tracy Holloway King. 2000. *A handbook of Slavic clitics*. New York: Oxford University Press.
- Greenberg, Joseph H. 1963. Some universals of grammar with particular reference to the order of meaningful elements. In Joseph H. Greenberg (ed.), *Universals of language*, 73–112. Cambridge, MA: The MIT Press.
- Haeberli, Eric & Susan Pintzuk. 2006. Revisiting verb (projection) raising in Old English. *York Papers in Linguistics* 2(6). 77–94. DOI:10.1093/acprof:oso/9780199582624.003.0011
- Hawkins, John A. 1980. On implicational and distributional universals of word order. *Journal of Linguistics* 16(2). 193–235. DOI:10.1017/S0022226700006551
- Hawkins, John A. 1982. Cross-category harmony, X-bar and the predictions of markedness. *Journal of Linguistics* 18(1). 1–35. DOI:10.1017/S0022226700007210
- Jung, Hakyung. 2015. Null subjects and person in the Old Novgorodian dialect. *Russian Language and Literature* 49. 193–228.

- Jung, Hakyung & Krzysztof Migdalski. 2015. On the degrammaticalization of pronominal clitics in Slavic. In Małgorzata Szajbel-Keck, Roslyn Burns & Darya Kavitskaya (eds.), *Formal Approaches to Slavic Linguistics 23: The First Berkeley Meeting 2014*, 143–162. Ann Arbor, MI: Michigan Slavic Publications.
- Kayne, Richard. 1991. Romance clitics, verb movement and PRO. *Linguistic Inquiry* 22(4). 647–686. <http://www.jstor.org/stable/4178745>.
- Kroch, Anthony. 1989. Reflexes of grammar in patterns of language change. *Journal of Language Variation and Change* 1(3). 199–244. DOI:10.1017/S0954394500000168
- Lambova, Mariana. 2003. *On information structure and clausal architecture: Evidence from Bulgarian*. University of Connecticut dissertation.
- Lema, José & María-Luisa Rivero. 1989. Long head movement: ECP vs. HMC. In Tim Sherer (ed.), *Proceedings of NELS 20*, 333–347. Amherst, MA: GLSA Publications.
- Migdalski, Krzysztof. 2006. *The syntax of compound tenses in Slavic*. Tilburg University dissertation. [http://www.lotpublications.nl/Documents/130\\_fulltext.pdf](http://www.lotpublications.nl/Documents/130_fulltext.pdf).
- Migdalski, Krzysztof. 2015. On the loss of tense and verb-adjacent clitics in Slavic. In Theresa Biberauer & George Walkden (eds.), *Syntax over time: Lexical, morphological, and information-structural interactions*, 179–196. Oxford: Oxford University Press. DOI:10.1093/acprof:oso/9780199687923.003.0011
- Migdalski, Krzysztof. 2016. *Second position effects in the syntax of Germanic and Slavic languages*. Wrocław: Wydawnictwo Uniwersytetu Wrocławskiego.
- Pancheva, Roumyana. 2005. The rise and fall of second-position clitics. *Natural Language & Linguistic Theory* 23(1). 103–167. DOI:10.1007/s11049-003-2510-y
- Pancheva, Roumyana. 2008. Head-directionality of TP in Old Church Slavonic. In Andrei Antonenko, John F. Bailyn & Christina Bethin (eds.), *Formal Approaches to Slavic Linguistics 16: The Stony Brook Meeting 2007*, 313–332. Ann Arbor, MI: Michigan Slavic Publications.
- Pancheva, Roumyana, Agnieszka Łazorczyk, Jelena Krivokapić & Yulia Minkova. 2007. *Codex Marianus*. USC Parsed Corpus of Old South Slavic.
- Pintzuk, Susan. 1991. *Phrase structures in competition: Variation and change in Old English word order*. University of Pennsylvania dissertation.
- Pintzuk, Susan. 2002. Verb-object order in Old English: Variation as grammatical competition. In David Lightfoot (ed.), *Syntactic effects of morphological change*, 276–299. Oxford: Oxford University Press. DOI:10.1093/acprof:oso/9780199250691.003.0016

- Radanović-Kocić, Vesna. 1988. *The grammar of Serbo-Croatian clitics: A synchronic and diachronic perspective*. Urbana-Champaign: University of Illinois dissertation.
- Rivero, María-Luisa. 1991. Long head movement and negation: Serbo-Croatian vs. Slovak and Czech. *The Linguistic Review* 8(2-4). 319–351. DOI:10.1515/tlir.1991.8.2-4.319
- Sławski, Franciszek. 1946. *Miejsce enklityki odmiennej w dziejach języka bułgarskiego*. Kraków: Polska Akademia Umiejętności.
- Toman, Jindřich. 1980. Weak and strong: Notes on ‘be’ in Czech. In Gunter Brettschneider & Christian Lehmann (eds.), *Wege zur Universalienforschung: Sprachwissenschaftliche Beiträge zum 60. Geburtstag von Hansjakob Seiler*, 305–310. Tübingen: Gunter Narr.
- Tomić, Olga Mišeska. 1996. The Balkan Slavic clausal clitics. *Natural Language & Linguistic Theory* 14(4). 811–872. DOI:10.1007/BF00133364
- Vaillant, André. 1977. *Grammaire comparée des langues slaves, Tome V: La syntaxe*. Paris: Éditions Klincksieck.
- Večerka, Radoslav. 1989. *Altkirchenslavische (altbulgarische) Syntax I: Die lineare Satzorganisation*. Freiburg: U. W. Weiher.
- Vennemann, Theo. 1972. Analogy in generative grammar: The origin of word order. In Luigi Heilmann (ed.), *Proceedings of the Eleventh International Congress of Linguistics, Bologna-Florence, Aug. 28-Sept. 2, 1972, vol. II*, 79–83. Bologna: Mulino.
- Wilder, Chris & Damir Ćavar. 1994. Long head movement? Verb movement and cliticization in Croatian. *Lingua* 93(1). 1–58. DOI:10.1016/0024-3841(94)90352-2
- Willis, David. 2000. Verb movement in Slavonic conditionals. In Susan Pintzuk, George Tsoulas & Antony Warner (eds.), *Diachronic syntax: Models and mechanisms*, 322–348. Oxford: Oxford University Press.

